Family Options Study

Short-Term Impacts of Housing and Services Interventions for Homeless Families

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In partnership with
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July 2015

ACKNOWLEDGMENTS

DISCLAIMER

FOREWORD

Family homelessness has stubbornly persisted despite more than three decades of federal investment. The 2010 release of *Opening Doors: Federal Strategic Plan To Prevent and End Homelessness* established an ambitious goal to end homelessness among children, families, and youth by 2020. Until now, HUD had little empirical evidence comparing outcomes across interventions to guide policy and program decisions toward this goal.

The Family Options Study, launched by HUD in 2008 (and still under way), is a rigorously designed experimental study intended to provide the strongest evidence possible about the effectiveness and relative costs of four main interventions available to homeless families—permanent housing subsidy, project-based transitional housing, community-based rapid re-housing, or usual care. More than 2,200 homeless families, including more than 5,000 children in 12 communities, were randomly assigned to one of four interventions. The families are being tracked for a minimum of 3 years and were extensively interviewed at baseline, 18 months after random assignment, and again 36 months after random assignment to assess outcomes related to housing stability, family preservation, adult well-being, child well-being, and self-sufficiency.

This report documents outcomes at 18 months, presenting striking *evidence of the power of offering a permanent subsidy to a homeless family*. Families who were offered a housing voucher experienced significant reductions in subsequent homelessness, mobility, child separations, adult psychological distress, experiences of intimate partner violence, school mobility among children, and food insecurity at 18 months. Moreover, the benefits of the voucher intervention were achieved at a comparable cost to rapid re-housing and emergency shelter and at a lower cost than transitional housing.

The study design is both rigorous and ambitious, and the random assignment and subsequent contrasts in program use will provide a strong basis for informing future federal policy addressing family homelessness. Results at 36 months will reveal if the study findings are sustained over time. In the interim, this report provides unprecedented evidence that housing vouchers measurably improve outcomes for homeless families.

It is impossible to thank individually all the people who have contributed to this report and the broader study since its inception in 2008, so I simply echo the appreciation expressed in the report's acknowledgments. I would be remiss, however, if I did not explicitly thank Anne Fletcher for her amazing diligence as the Government Technical Reviewer for this important but potentially unwieldy study or if I did not remind readers of the true generosity of the families who continue to participate in this study.
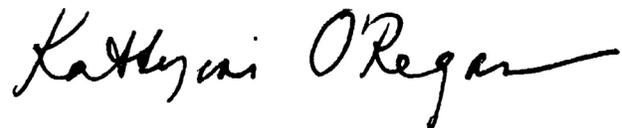
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Assistant Secretary for Policy Development & Research
U.S. Department of Housing and Urban Development

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LIST OF ACRONYMS AND ABBREVIATIONS

AHAR	Annual Homeless Assessment Report
AMI	Area Median Income
ARRA	American Recovery and Reinvestment Act
ASQ-3	Ages and Stages Questionnaire
CBRR	community-based rapid re-housing intervention
CDC	Centers for Disease Control and Prevention
CoC	Continuum of Care
DAST-10	Drug Abuse Screening Test
FDS	Financial Data Schedule
FWER	familywise error rate
GED	general educational development
HCV	housing choice voucher
HMIS	Homeless Management Information System
HOME	Home Observation for Measurement of the Environment (inventory)
HPRP	Homelessness Prevention and Rapid Re-Housing Program
HTKS	Head Toes Knees Shoulders (task)
ITT	intention to treat
NCS-R	National Comorbidity Survey Replication
NSHAPC	National Survey of Homeless Assistance Providers and Clients
PBTH	project-based transitional housing intervention

PDS	Posttraumatic Stress Diagnostic Scale
PHA	public housing agency
PIC	Public and Indian Housing Information Center
PSH	permanent supportive housing
PTSD	post-traumatic stress disorder
RAPS4	Rapid Alcohol Problems Screen
SCHIP	State Children's Health Insurance Program
SDQ	Strengths and Difficulties Questionnaire
SHIFT	Service and Housing Interventions for Families in Transition
SHP	Supportive Housing Program
SNAP	Supplemental Nutrition Assistance Program
SSDI	Social Security Disability Insurance
SSI	Supplemental Security Income
STAIC	State-Trait Anxiety Inventory for Children
SUB	permanent housing subsidy intervention
TANF	Temporary Assistance for Needy Families
TRACS	Tenant Rental Assistance Certification System
UC	usual care
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children
WJ III	Woodcock-Johnson III

EXECUTIVE SUMMARY

The U.S. Department of Housing and Urban Development (HUD) undertook the Family Options Study to gather evidence about which types of housing and services interventions work best for homeless families. The study compares the effects of three active interventions—permanent housing subsidy (SUB), community-based rapid re-housing (CBRR), and project-based transitional housing (PBTH)—to one another and to the usual care (UC) available to homeless families. SUB, CBRR, and PBTH are distinguished from one another by the duration of housing assistance provided and the type and intensity of social services offered. UC consists of emergency shelter and housing or services that families access without immediate referral to one of the three active interventions.

From September 2010 through January 2012, 2,282 families enrolled in the Family Options Study across 12 communities[1] after spending at least 7 days in emergency shelter. After providing informed consent and completing a baseline survey, the families were randomly assigned to one of the three active interventions or to UC. Random assignment yielded groups of families with no systematic differences in baseline characteristics. Families were free to take up their assigned interventions or to make other arrangements, so families used a mix of programs, often including programs other than the type to which they were assigned. Nonetheless, patterns of program use among the groups of families contrasted substantially, and the study provides a strong basis for conclusions about the relative impacts of the interventions on several aspects of family well-being.

The Family Options Study will follow the full set of 2,282 study families for 36 months. The study team conducted short tracking surveys with the families 6, 12, and 27 months after random assignment. The study team also conducted a more extensive followup survey approximately 20 months after random assignment to collect detailed information about family outcomes. Another followup survey will be conducted

approximately 36 months after random assignment. The first of the extensive followup surveys achieved a response rate of 81 percent, with 1,857 families responding to the survey.[2]

This report presents the short-term impacts of the interventions in five domains related to family well-being: (1) housing stability, (2) family preservation, (3) adult well-being, (4) child well-being, and (5) self-sufficiency. The report also describes the relative costs of the interventions based on program use during the first followup period. A subsequent report in 2016 will present impacts on study families 36 months after random assignment along with intervention costs over the longer period.

Study Interventions

The study examines four interventions:

1. *Permanent housing subsidy, or SUB,* usually a housing choice voucher (HCV), could include assistance to find housing but no other supportive services.

2. *Community-based rapid re-housing, or CBRR,* provides temporary rental assistance, potentially renewable for up to 18 months, paired with limited, housing-focused services to help families find and rent conventional, private-market housing.

3. *Project-based transitional housing, or PBTH,* provides temporary housing for up to 24 months in agency-controlled buildings or apartment units, paired with intensive supportive services.

4. *Usual care, or UC,* is defined as any housing or services that a family accesses in the absence of immediate referral to the other interventions. This intervention typically includes at least some additional stay in the emergency shelter from which families were enrolled.

The study team analyzed all six possible contrasts among these four interventions, as shown in Exhibit ES-1. The

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[1] The 12 communities participating in the study are Alameda County, California; Atlanta, Georgia; Baltimore, Maryland; Boston, Massachusetts; Bridgeport and New Haven, Connecticut; Denver, Colorado; Honolulu, Hawaii; Kansas City, Missouri; Louisville, Kentucky; Minneapolis, Minnesota; Phoenix, Arizona; and Salt Lake City, Utah.

[2] This report analyzes short-term impacts of the interventions. The study team attempted to contact families for the study's first followup survey beginning in the 18th month after random assignment. The median time from random assignment to the followup survey was 20 months. Analysis of program use and cost of total program use used data over a median of 21 calendar months. Data collection for the second followup survey was completed in early 2015 and achieved a 79-percent response rate.

Exhibit ES-1. Six Pairwise Comparisons Among the Four Interventions
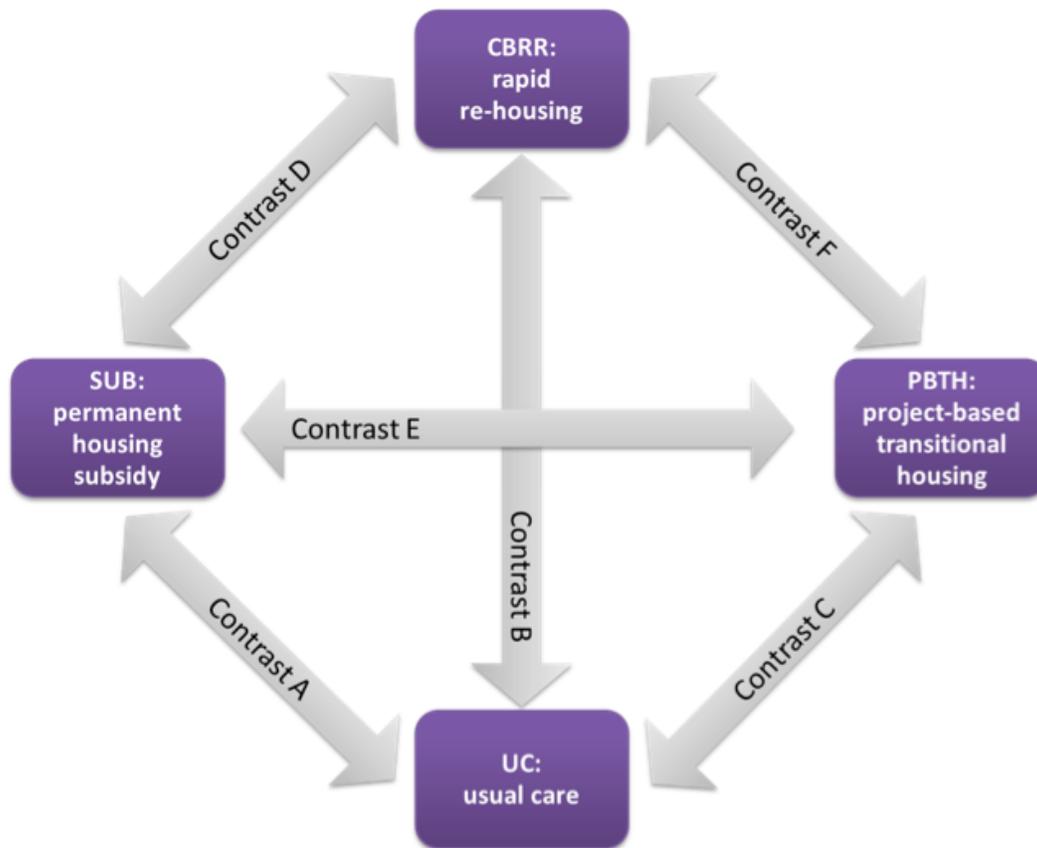
order of the presentation of findings for the various pairwise comparisons is reflected in the alphabetic ordering of the arrows (for example, discussion begins with "Contrast A" between SUB and UC).

Random Assignment Design

To be eligible for the study, families had to include at least one child age 15 or younger and had to have resided in emergency shelter for 7 or more days. The study team excluded families who left shelter in fewer than 7 days because the interventions examined may not be necessary for families who can resolve a housing crisis quickly. As soon as was feasible after the 7-day mark, the evaluation team randomly assigned families to SUB, CBRR, PBTH, or UC.

Implementing the random assignment design presented several challenges. In the original design, each family was to have had a chance of being assigned to all four groups (SUB, CBRR, PBTH, or UC). A number of factors prevented the study from being implemented exactly as planned. First, 3 of the 12 sites were able to provide only two of the three active interventions. Second, the random assignment groups

available to families were confined to groups for which a provider had an available slot at the time of randomization. Third, some service providers had unique eligibility requirements for families. Before random assignment, the study team screened families against the eligibility criteria of providers that had available slots. The purpose of this screening was to minimize the likelihood of assigning families to interventions they would not be eligible to receive. As a result, for an intervention option to be available to a family undergoing random assignment, at least one slot needed to be available at an intervention provider for which the family appeared to meet provider-specific eligibility requirements based on preliminary screening.

These factors cumulatively resulted in most study families not having all four options available to them at random assignment. Of the 2,282 families enrolled in the study, 474 had all four randomization options available, 1,544 families had three randomization options, and 264 families had two randomization options. All analyses were conducted pairwise, contrasting an active intervention to another active intervention or to UC. Only families who were eligible for both interventions in a pairwise comparison (for example, SUB

and CBRR) and randomized to one of them were included in each comparison. Hence, each comparison can be thought of as a two-way experiment between two well-matched groups that differ only in the intervention to which they were assigned.

Exhibit ES-2 shows the total number of families assigned to each intervention. The exhibit also shows the number of families who responded to the followup survey conducted

approximately 20 months after random assignment; this set of families is included in the impact analyses in this report.

Data Sources

The impact findings reported here about the 1,857 families are based on data from several sources described in Exhibit ES-3.

Exhibit ES-2. Total Number of Families Assigned to Each Intervention and Number of Followup Survey Respondents

Intervention	Families Assigned	Families Responding to the Followup Survey	Response Rate (%)
Permanent housing subsidy (SUB)	599	530	88.5
Community-based rapid re-housing (CBRR)	569	455	80.0
Project-based transitional housing (PBTH)	368	294	79.9
Usual care (UC)	746	578	77.5
Total	**2,282**	**1,857**	**81.4**

Sources: Random assignment records; Family Options Study 18-month followup survey

Exhibit ES-3. Data Sources Used in the Analysis of Short-Term Impacts

Study implementation records	
Random assignment enrollment data	Random assignment enrollment data contain identifiers for enrolled families, responses to eligibility screening questions, information about intervention availability at the time of random assignment, and random assignment result.
Study families	
Baseline survey	The baseline survey conducted immediately before random assignment provides information about the adult respondent and the family.
Tracking surveys	Tracking surveys conducted 6 and 12 months after random assignment contain updated contact information and details about family composition and housing status.
18-month followup survey	The 18-month followup survey conducted with adult respondents at a median duration of 20 months measures family outcomes. Adults reported on themselves and up to two children, called focal children, who were part of the family at the time of study enrollment. Focal children were randomly selected within specified age groups.
Child assessments	Child assessments, which were conducted with focal children ages 3 years, 6 months to 7 years, 11 months in conjunction with the adult followup survey, measure child well-being outcomes.
Child survey	The child survey conducted with focal children ages 8 to 17 years in conjunction with the adult followup survey measures child well-being outcomes.
Study intervention providers	
Enrollment verification data	Enrollment verification data collected from study providers measure use of the assigned intervention for each family.
Program information	Program information about the housing and services offered during the study period collected from intervention providers describes the interventions.
Cost information	Cost information collected from intervention providers measures costs of overhead, rental assistance, facility operations, supportive services, and capital costs.
Administrative data systems	
HMIS records	Homeless Management Information System (HMIS) records provide indicators of study families' participation in homeless assistance programs.
HUD's PIC records	HUD's Public and Indian Housing Information Center (PIC) records measure receipt of housing assistance from the Housing Choice Voucher program, public housing programs, and project-based voucher programs.
HUD's TRACS records	HUD's Tenant Rental Assistance Certification System (TRACS) records measure receipt of housing assistance through project-based Section 8 programs.

Previous Findings From the Family Options Study

A previous study report (Gubits et al., 2013) provides information about the baseline characteristics of the study sample and insights regarding the homeless assistance system in the study communities.

Baseline Characteristics of the Study Sample

The baseline survey collected information about all 2,282 families enrolled in the Family Options Study.[3]

Family Composition

The typical family in the study consisted of an adult woman, 29 years old, living with one or two of her children in an emergency shelter. At baseline, 30 percent of families had more than one adult present. Nearly all families with two adults present were headed by couples.

A plurality of families (43 percent) had only one child younger than age 18 with them in the shelter, another 30 percent had two children present, and 27 percent had three or more children present. One-half of the families had a child younger than age 3 in the shelter, and 10 percent of adult respondents reported that they were pregnant.

Housing Stability and History of Homelessness

Most families in the study (79 percent) were not homeless immediately before entering the shelter from which they were recruited into the study. About 63 percent of family heads in the study had experienced homelessness at some other point in their lifetime, with 16 percent of adult respondents having experienced homelessness as a child. An even greater proportion (85 percent) indicated that they lived doubled up at some point as an adult, defined in the survey as "staying with family or friends because you couldn't find or afford a place of your own."

Employment and Other Sources of Income

The employment, income, and program participation of families at baseline provide insight into the severity of income barriers that families face in emergency shelters. Most family heads were not working at the time of random assignment (83 percent), and more than one-half had not worked for pay in the previous 6 months. The median annual household income of all families in the study at baseline was $7,410.

Most families in the study received some form of public assistance at the time of random assignment. Most (88 percent) received assistance from the Supplemental Nutrition Assistance Program, or SNAP, and 41 percent received assistance from Temporary Assistance for Needy Families, or TANF. Most families in the study (86 percent) reported receiving some combination of Medicaid benefits, state health insurance benefits, and the State Children's Health Insurance Program, or SCHIP.

Other Barriers to Finding Housing or Increasing Income

The baseline survey asked families explicitly about factors that would affect their ability to find a place to live. Many reported that they either had a poor rental history (26 percent had been evicted) or had never been a leaseholder (35 percent). In 11 percent of families, the family head had a previous felony conviction.

Approximately 22 percent of adult respondents gave survey responses that indicated symptoms of post-traumatic stress disorder, or PTSD; 22 percent reported symptoms of serious psychological distress; and 30 percent reported evidence of one or the other. A history of drug use in the year before random assignment was indicated by the survey responses of 14 percent of the adult respondents; survey responses also suggested alcohol abuse within the past year for 11 percent of respondents.

Intervention Eligibility Screening and Family Decisions

Gubits et al. (2013) also examined intervention availability and family eligibility at randomization for the 2,282 families in the Family Options Study. Both availability of interventions and family eligibility, according to screening before random assignment, were most constrained for PBTH. CBRR was more available than SUB but had slightly more restrictive eligibility requirements. All families were eligible for UC by definition.

For a family to use the program to which it had been assigned, it had to (1) pass an eligibility determination conducted by the program to which it was assigned and (2) choose to take up the program. Gubits et al. (2013) found that some of the families who passed the initial screening by the study were later deemed ineligible by the programs to which they were assigned. Other fully eligible families chose not to take up the assigned program. Compared with CBRR and SUB, PBTH had both the highest proportion of families found ineligible

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[3] Gubits et al. (2013) compare the characteristics of Family Options Study families with national estimates for homeless families from HUD's 2010 Annual Homeless Assessment Report and the 1996 National Survey of Homeless Assistance Providers and Clients.

after random assignment and the highest proportion of families who chose not to take up the assigned program. Considering both initial screening by the study and later eligibility screening by programs, SUB was the most accessible to families and PBTH was the least accessible to families.

Gubits et al. (2013) concluded that homeless assistance programs in the study communities imposed eligibility criteria that hampered their ability to serve families in shelter who needed the assistance. Even when programs had space available, the programs often screened out families in shelter based on eligibility criteria such as insufficient income, substance abuse, criminal histories, and other factors that presumably contributed to the families' homelessness. Moreover, families who are homeless do not always pursue the programs offered to them, which suggests that some programs deliver assistance that some families perceive as less valuable to them than other assistance available in their communities.

Hypothesized Effects of the Interventions

The study team developed hypotheses about the potential effects of the interventions based on the conceptual framework underlying the SUB, CBRR, and PBTH interventions. The interventions reflect different implicit theories about the nature of family homelessness and the approaches best suited to address the problem. These implicit theories arise from different understandings of the origins of homelessness, the needs of homeless families, the effect of family challenges on achieving residential stability, and the appropriate role of the homeless assistance system.

Some theories posit that household challenges—for example, trauma, substance use problems, mental health issues, lack of job skills—must be addressed first for families to succeed in housing. Others posit that progress on these issues is likely to be achieved only after families are stabilized in permanent housing.

The different perceptions of the homeless assistance system's role result in different emphases among three central goals of interventions for homeless families: (1) ending the immediate episode of homelessness and preventing returns to shelter; (2) fostering longer term residential stability; and (3) promoting other outcomes, including self-sufficiency, family preservation, and adult and child well-being.

Conceptual Framework for SUB and CBRR

It is appropriate to consider the conceptual rationales for SUB and CBRR together because proponents of both SUB and

CBRR believe that the key goal of homeless interventions should be ending homelessness swiftly, reducing returns to shelter, and restoring families to housing stability. This position follows from their view that family homelessness is largely a consequence of housing costs that outstrip the incomes of poor families, a problem that housing subsidies can solve. Subsidies—whether the permanent subsidies of the SUB intervention or temporary subsidies such as CBRR—can help families obtain and maintain stable housing.

SUB was not created as a response to homelessness. Instead, SUB already existed as an element of the broader social safety net at the time the homeless service system came into being in the late 1980s. Resource constraints mean that, outside the context of this study, SUB is rarely accessible by families at the outset of an episode of homelessness unless they already have a place near the top of a waiting list. By contrast, CBRR was developed specifically as a response to homelessness. Because SUB is unlikely to become widely available to families at the time they are experiencing homelessness, proponents of CBRR argue that limited resources dedicated to homelessness could be stretched to create the best outcomes for the most people by making subsidies temporary (Culhane, Metraux, and Byrne, 2011).

Proponents of CBRR emphasize restoring families to conventional housing as swiftly as possible (the "rapid" in rapid re-housing), thereby reducing time in shelter and on the street, which they see as harmful. In addition, they focus on preventing returns to homelessness. Proponents of SUB focus more on long-term stability and question whether the short-term subsidies provided by CBRR are sufficient to foster such stability. Proponents of CBRR argue that a temporary subsidy may induce families to strive to become economically self-sufficient sooner.

Advocates of both types of subsidies acknowledge that homeless families, like other poor families, must contend with a variety of challenges, but these advocates believe that such challenges are better addressed by mainstream community agencies rather than by specialized homeless services. Proponents of both types of subsidies argue that stable housing provides a platform from which families can address other problems on their own using community resources, if they need to and choose to do so, while reserving scarce housing dollars for housing. The stability provided by either a short-term or permanent housing subsidy may have radiating effects on other aspects of family well-being.

The study team developed four hypotheses for comparisons involving SUB, CBRR, and UC that derive from this conceptual framework.

Hypotheses for Comparisons Involving SUB, CBRR, and UC

SUB Versus UC

Relative to UC, SUB will reduce shelter use and improve housing stability and may improve family preservation, adult well-being, and child well-being.

CBRR Versus UC

Relative to UC, CBRR will reduce shelter use and may improve housing stability, employment and earnings, family preservation, adult well-being, and child well-being. It will reduce the length of the shelter stay at the time of study entry and may be less costly.

SUB Versus CBRR

Relative to CBRR, SUB will reduce shelter use and improve housing stability and may improve adult and child well-being.

Relative to SUB, CBRR will reduce the length of the shelter stay at the time of study entry and will be less costly. It may improve employment and earnings.

Conceptual Framework for PBTH

Proponents of PBTH have a different understanding of the origins of family homelessness and the appropriate role of the homeless service system than do proponents of SUB and CBRR. Although the housing market is difficult for poor families, most families do not experience homelessness. Proponents of PBTH emphasize that many families who do become homeless have barriers in addition to poverty that make it hard for them to secure and maintain housing. Thus, housing subsidies alone may be insufficient to ensure housing stability and other desirable outcomes, particularly for families who have been in shelter for at least 7 days (for example, Bassuk and Geller, 2006). Family needs may arise from poverty, health, disability, or other problems that led to homelessness to begin with or from the disruptive effects of homelessness on parents and children.

Proponents of PBTH believe that by addressing these barriers and needs in a supervised residential setting, PBTH lays the best foundation for ongoing stability. Basing their work on family needs, case managers coordinate the services (on site or by referral) to lay the essential groundwork for later independence.

Different PBTH programs focus on different issues, but all provide supportive services designed to reduce barriers to housing, enhance parents' well-being, and bolster their ability to manage in ordinary housing after they leave programs

(Burt, 2010). Practitioners' goals for PBTH, as documented in the literature (for example, Burt, 2006), thus extend beyond housing stability to adult well-being and aspects of family self-sufficiency. Although some PBTH programs provide services directly to children, family preservation and child outcomes are usually seen as more distal outcomes. Given this conceptual framework for PBTH, the study team defined five hypotheses about the potential effects of PBTH when compared with UC, SUB, and CBRR.

Hypotheses for Comparisons Involving PBTH

PBTH Versus UC

Relative to UC, PBTH will reduce shelter use and improve housing stability, employment, earnings, education, and adult well-being and may improve family preservation and child well-being.

PBTH Versus SUB

(From the perspective of PBTH proponents), relative to SUB, PBTH will improve employment, earnings, education, and adult well-being and may improve long-term housing stability, family preservation, and child well-being. (Stability effects may not emerge at 18 months.)

(From the perspective of SUB proponents) relative to PBTH, SUB will reduce shelter use and improve housing stability and may improve family preservation, adult well-being, and child well-being.

PBTH Versus CBRR

(From the perspective of PBTH proponents) relative to CBRR, PBTH will improve employment, earnings, education, and adult well-being and may improve long-term stability, family preservation, and child well-being. (Stability effects may not emerge at 18 months.)

(From the perspective of CBRR proponents) relative to PBTH, CBRR will reduce shelter use and may improve housing stability, family preservation, adult well-being, child well-being, employment, and earnings. It will reduce the length of time families spend in places not meant for human habitation and in shelters, which are costly.

Even if the longer housing subsidies of SUB or the more extensive social services of PBTH are important for some families, an important question is whether all families need such intensive involvement in the homelessness assistance system. Thus the study team also developed hypotheses that the more intensive interventions would have larger effects on outcomes for families who faced more housing barriers and greater psychosocial challenges.

Meaning of Impact Comparisons

The inherent strength of the experimental research design employed in the Family Options Study is the assurance that the groups that are created through the random assignment process will be similar to each other. Because it is not possible to account for, or to use statistical methods to control for, all the variability that may exist among individual families, randomly assigning a large number of families to different interventions is the most certain way to ensure that the groups will be comparable.

The Family Options Study tests for the impacts of three different potential emphases in federal or local assistance policy to homeless families; that is, What impact would priority access to project-based transitional housing (the PBTH arm of the experiment) have on families in shelter who are not able to resolve their episodes of homelessness quickly? How does this policy compare with providing access to community-based rapid re-housing (the CBRR arm) and to permanent housing subsidies (the SUB arm)? In each case, the corresponding policy question is, "What impact would this policy emphasis have on the outcomes of families in shelter relative to UC or another policy emphasis?"

The followup data for study participants tell us what would happen when each of these ways of targeting offers and access were pursued as federal or local policy. The pairwise comparisons between active interventions show the impact of offering families priority access to one intervention rather than another. The data also allow for the comparison of each option with current policies that do not create priority access to any particular form of housing assistance (that is, the UC arm). The pairwise comparisons between active intervention arms and UC show the impact of referring a family to a specific type of program compared with the impact of letting families pursue assistance on their own.

The analysis in this report measures the impact of having been offered a particular intervention regardless of whether or not the family involved actually received the intervention. The findings reflect the real way in which the homeless assistance system interacts with families, in that families are offered an intervention rather than mandated to accept the assistance being offered. Whether families participate in an assigned program reflects the relative desirability and accessibility of the interventions for families within the context of the other options they may choose to pursue on their own.

As the report shows, a substantial number of families did not use the active intervention to which they were referred, and some used other interventions. The full experimental sample for a given arm collectively shows how different forms of housing assistance are used when families are given priority access to one particular program type while simultaneously having the freedom to use other forms of assistance available in their communities. Including all the families randomly assigned to UC similarly reveals the range of programs used when no priority access is provided. The programs (including the interventions examined in this study) that UC families used exist in communities and would each continue to exist even with a stronger federal or local push for only one of them. Thus, the full-sample comparisons between random assignment arms—known as "intention to treat," or ITT, impact estimates—provide the best guide to policymakers in a messy, complex world and are reported here as the main study findings.[4]

Study Findings

Program Use During the Followup Period

To assess the impact of offering priority access to the interventions, each active intervention (SUB, CBRR, and PBTH) was compared with UC and with each of the other interventions (SUB versus CBRR, SUB versus PBTH, and CBRR versus PBTH), resulting in six pairwise comparisons. This structure of reporting impact estimates in each of the six pairwise comparisons is used throughout the report.

Exhibit ES-4 documents the program use of the 1,857 study families who responded to the 18-month followup survey— the sample for the impact analysis. The exhibit shows the percentages of families who ever participated in several types of housing assistance programs between random assignment and the followup survey response. The columns in Exhibit ES-4 are organized by pairwise comparison. The exhibit displays the number of families included in each

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[4] Policymakers may also want to know the impact of a particular type of homeless intervention on only the families who participate in the intervention as information important to individual families and in guiding program improvement. The study is considering investigating such questions concerning the SUB and CBRR interventions in two future papers, subject to statistical limitations in isolating the direct effects of participation in the experimental data.

Exhibit ES-4. Program Use Since Random Assignment for All Pairwise Impact Comparisons

Type of Housing Assistance	Percent of Families Who Ever Used Program Type From RA to 18-Month Followup Survey[a]											
	SUB	UC	CBRR	UC	PBTH	UC	SUB	CBRR	SUB	PBTH	CBRR	PBTH
Permanent housing subsidy (SUB)[b]	84.2	12.4	9.0	9.8	5.7	6.9	84.4	9.7	82.7	4.8	6.1	6.1
Community-based rapid re-housing (CBRR)	13.3	20.4	59.7	19.6	10.1	12.2	16.5	64.1	6.7	8.5	50.9	12.6
Transitional housing[c]	6.4	21.2	18.8	24.2	53.6	29.1	5.9	16.0	7.8	52.3	24.3	54.6
Permanent supportive housing	0.8	5.4	5.1	7.5	6.4	7.8	0.4	6.5	0.9	7.2	4.0	6.1
Public housing	0.9	8.0	5.2	6.1	4.7	4.9	0.5	5.5	1.2	5.0	5.2	2.9
Project-based vouchers/Section 8 projects	1.2	3.8	3.4	4.1	4.4	7.0	0.8	3.6	1.6	4.4	2.6	3.5
No use of homeless or housing programs[d]	4.8	26.9	11.9	27.4	20.4	30.4	4.5	9.2	6.8	21.5	18.6	21.4
N	530	415	455	451	294	262	381	308	230	187	179	197

PBTH = project-based transitional housing. UC = usual care. RA = random assignment.

Notes: Percentages are regression adjusted, controlling for site and randomization ratio. Percentages, means, and medians are weighted for survey nonresponse to represent full comparison sample.

[a] Percent of families who ever used a type of assistance program during the period from the month of RA to the month of 18-month followup survey response (median period duration: 21 months). Percentages do not add to 100 percent because some families use more than one program type during the followup period.

[b] Subsidy assistance is housing choice vouchers plus site-specific programs offered to families assigned to SUB group in Connecticut and Honolulu.

[c] Transitional housing includes both PBTH and other forms of transitional housing.

[d] No use of homeless or housing programs (ever used) indicates no use of the six program types in this exhibit during any of the followup period and no use of emergency shelter after the first 6 months after RA. No use in the month of the followup survey response indicates no use of any of these seven program types.

Source: Family Options Study Program Usage Data

comparison (see row 8) and details their program use during the followup period (see rows 1 to 7). It accounts for six types of programs:

1. Subsidy (that is, the programs that comprise the SUB intervention in this study: HCVs, public housing in Honolulu, and project-based vouchers in Bridgeport).

2. Rapid re-housing (that is, CBRR).

3. Transitional housing.[5]

4. Permanent supportive housing.

5. Public housing in places other than Honolulu.

6. Project-based vouchers and units in Section 8 projects.

The experimental contrasts in use of these programs are depicted in the exhibit.

Exhibit ES-4 shows that the intervention assignments created substantial contrasts between groups, particularly in their use of programs that reflect the intended contrast (the shaded boxes). For example, in the SUB-versus-UC comparison, 84 percent of families assigned to SUB used SUB, whereas only 12 percent of families assigned to UC used SUB. The durations of assistance were also longer for the assigned interventions (not shown in the exhibit). In the SUB-versus-UC contrast, families assigned to SUB who used SUB did so for an average

of 16 months, whereas UC families who used SUB without priority access used it for only 11 months, on average. These findings generally reflect the longer time it took UC families to obtain access to SUB, if they did so at all. Similarly, in the CBRR-versus-UC comparison, families assigned to CBRR who used CBRR did so for an average of 8 months, whereas UC families who used CBRR without priority access did so for an average of 7 months. In the PBTH-versus-UC comparison, PBTH families who used transitional housing of any kind did so for an average of 12 months, whereas the UC families who used transitional housing without priority access did so for 8 months, on average.

Usual Care

The experiences of families assigned to UC inform policymakers about what typically happens to families (in the 12 study communities) who have been in shelter for at least 7 days and who do not receive priority access to designated assistance. These data show that, on average, UC families spent 4 months in emergency shelter during the followup period. For some families assigned to UC, the emergency shelter was their only interaction with the homeless or housing assistance systems. As Exhibit ES-4 shows, however, UC families in each comparison ultimately found their way to

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[5] Some transitional housing programs are based in projects or facilities that families leave after exiting the program. These programs are studied here, hence the term project-based transitional housing. Other transitional housing programs use residential units in the community so that families can "transition in place" to unassisted housing without having to move after supports are no longer needed. Transition-in-place programs of this sort share many of the same characteristics of CBRR, so we did not include them as programs to which PBTH families could be directed following random assignment. This decision was made to provide a stronger contrast between the PBTH and CBRR interventions studied. Some PBTH programs to which families were assigned provided units in the community (called "scattered-site" units) without the opportunity to transition in place. The Homeless Management Information System records, an important data source for observing program use, unfortunately do not distinguish between project-based and transition-in-place transitional housing. Therefore, some of the transitional housing use shown in Exhibit ES-4 may have been in transition-in-place units.

other types of assistance. Of the UC families who responded to the followup survey (578, not shown in Exhibit ES-4), 18 percent received rapid re-housing, 25 percent received transitional housing, and 28 percent used some form of permanent subsidy (housing choice vouchers, public housing, permanent supportive housing, a project-based voucher, or assistance in a Section 8 project).[6]

Only 28 percent of UC families did not use any rapid re-housing, transitional housing, or any form of permanent subsidy during the followup period or emergency shelter after the first 6 months beyond random assignment.

The outcomes for UC families indicate that they were not faring well 20 months after study enrollment. One-half of UC families reported having spent at least 1 night staying in a shelter or a place not meant for human habitation or doubled up in the 6 months before the survey or had a stay in shelter in the year preceding followup data collection. In months 7 to 18 after random assignment, 28 percent had stayed in emergency shelter. In the 6 months before the survey, 15 percent of families had been separated from a child who was with the family in shelter at study outset, and 4 percent had children in foster care. Of UC family heads, 32 percent reported fair or poor health and 31 percent worked in the week before the followup survey. At the time of the survey, 15 percent reported alcohol dependence or substance abuse and 12 percent had experienced intimate partner violence in the past 6 months. More than one-third of families (36 percent) were food insecure.

Impact Estimates for Pairwise Comparisons

Before seeing the results of the analysis, the study team pre-specified impacts on 18 key outcomes in the six pairwise comparisons to present in the executive summary. This step was taken to prevent the selective presentation of statistically significant results in the executive summary from among the 73 outcomes examined for each comparison in the body of the report (438 impact estimates). The outcomes deemed most central to the study and those anticipated a priori to be most likely to be affected by the interventions were selected for this executive summary presentation. Impacts on the full set of outcomes are presented in Chapters 6 through 9 of the report.

Exhibit ES-5 reports estimated impacts for the 18 prespecified outcomes for each pairwise comparison. The exhibit rows are organized into five panels corresponding to each outcome domain. The exhibit columns show the mean value of each outcome for the entire UC group, followed

by impact estimates for each outcome in each of the six pairwise comparisons. Asterisks to the right of the impact estimates denote the statistical significance of the estimates, with more asterisks indicating higher levels of statistical significance.

Within each domain, Exhibit ES-5 presents impacts on three or four outcomes. For the first four outcome domains (housing stability, family preservation, adult well-being, and child well-being) the outcomes are specified so that lower values indicate improvements. That is, for these domains impact estimates with negative values indicate reductions in unfavorable outcomes or improvements for families. For the self-sufficiency domain, the goals of the interventions are to achieve higher values for each outcome. Thus, positive values for self-sufficiency impact estimates indicate improvements. Detailed definitions for the full set of outcomes are in Chapter 5 and Appendix B of the report.

Now we turn to the results of the pairwise comparisons. The evidence of intervention effects is strongest for comparisons in which a larger number of impact estimates are significantly different from zero. The study thus provides the strongest evidence of intervention effects across the outcome domains for comparisons involving SUB. The number of significant effects is higher and the pattern of effects across domains more consistent in the SUB-versus-UC, SUB-versus-PBTH, and SUB-versus-CBRR comparisons than is true for the other three pairwise comparisons.

SUB Versus UC

The most notable effect of SUB relative to UC was its reduction of stays in shelter and places not meant for human habitation and reduction in doubled-up housing situations in the 6 months before the followup survey. Assignment to SUB after 7 days in emergency shelter reduced subsequent shelter stays by nearly one-half. Assignment to SUB reduced by more than one-half the proportion of families who reported having spent at least 1 night in shelter or in places not meant for human habitation in the 6 months before the followup survey. SUB also produced large and consistent effects across every measure of housing stability and doubling up (including those shown in Chapter 6 and those selected for the executive summary). Compared with UC, SUB also reduced the number of places lived since random assignment.

Indirect benefits occurred for selected family preservation indicators and child and adult well-being measures. Relative to UC, SUB led to improvements in family preservation. For families with a child present at baseline, SUB reduced

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[6] In the entire study, 746 families were randomly assigned to UC. Of these families, 578 responded to the followup survey. Different subsets of these 578 families form the comparison groups for SUB, CBRR, and PBTH.

Exhibit ES-5. Summary of Impacts for Six Policy Comparisons

Outcome	Mean All UC Group	ITT Impact Estimates SUB vs. UC	CBRR vs. UC	PBTH vs. UC	SUB vs. CBRR	SUB vs. PBTH	CBRR vs. PBTH
Housing stability (intervention goal: lower values)							
At least 1 night homeless[a] or doubled up in past 6 months or in shelter in past 12 months[b] (%)	50.1	− 28.0***	− 3.5	− 7.7*	− 27.3***	− 31.2***	7.5
At least 1 night homeless[a] or doubled up in past 6 months (%)	40.2	− 24.9***	− 3.0	− 4.6	− 20.9***	− 27.3***	9.1
Number of places lived in past 6 months	1.76	− 0.37***	− 0.09	− 0.09	− 0.24***	− 0.38***	0.02
Any stay in emergency shelter in months 7 to 18 after RA (%)	27.8	− 12.9***	− 2.1	− 8.2**	− 13.2***	− 13.9***	1.4
Family preservation (intervention goal: lower values)							
Family has at least one child separated in past 6 months[c] (%)	15.4	− 7.1***	− 2.0	− 0.6	− 1.2	− 6.3*	0.7
Spouse/partner separated in past 6 months, of those with spouse/partner present at RA[d] (%) [limited base]	36.5	0.7	9.4	1.2	− 15.7**	− 5.1	7.1
Family has no child reunified, of those families with at least one child absent at RA[e] (%) [limited base]	72.9	− 5.0	− 6.1	− 1.9	2.4	− 27.7**	− 6.7
Adult well-being (intervention goal: lower values)							
Health in past 30 days was poor or fair (%)	31.5	0.1	− 3.8	1.9	0.5	− 5.3	− 11.3**
Psychological distress[f]	0.00	− 0.15***	− 0.07	0.01	− 0.07	− 0.23***	− 0.28***
Alcohol dependence or drug abuse[g] (%)	14.5	− 4.5*	− 3.1	− 0.5	− 0.4	− 4.7	− 6.8*
Experienced intimate partner violence in past 6 months (%)	11.6	− 6.7***	− 1.1	− 1.1	− 6.7***	− 3.9	− 1.1
Child well-being (intervention goal: lower values)							
Number of schools attended since RA[h]	1.96	− 0.21***	− 0.05	− 0.07	− 0.25***	− 0.16*	− 0.01
Childcare or school absences in last month[i]	0.95	− 0.15*	− 0.13*	0.06	− 0.02	− 0.12	− 0.14
Poor or fair health (%)	4.6	0.5	− 0.1	2.5	− 0.3	− 1.2	− 4.4
Behavior problems[j]	0.58	− 0.12	− 0.13	− 0.13	0.10	0.14	− 0.02
Self-sufficiency (intervention goal: higher values)							
Work for pay in week before survey (%)	31.3	− 5.7**	− 0.1	3.1	− 4.1	− 11.0**	− 6.8
Total family income ($)	9,067	− 460	1,128**	818	− 978*	− 1,490*	− 18
Household is food secure (%)	64.5	9.9***	6.1*	2.7	4.4	7.9*	7.7
Number of families	**578**	**944**	**870**	**709**	**795**	**644**	**594**

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention to treat. RA = random assignment.

*/**/*** Impact estimate is significantly different from zero at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test (not adjusted for multiple comparisons).

[a] The definition of "homeless" in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing. Additional impacts on the use of transitional housing are provided in Appendix E.

[b] After adjustment for multiple comparisons, the impact on the confirmatory outcome is not statistically significant for the PBTH versus UC comparison and is statistically significant at the .01 level for the SUB versus UC, SUB versus CBRR, and SUB versus PBTH comparisons.

[c] Percentage of families in which a child who was with the family at baseline became separated from the family in the 6 months before the 18-month survey.

[d] Percentage of families in which a spouse or partner who was with the family at baseline became separated from the family in the 6 months before the 18-month survey.

[e] Percentage of families in which at least one child was separated from the family at baseline and no child was reunited with the family at the time of the 18-month survey.

[f] Psychological distress is measured with the Kessler 6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress. Impacts shown as standardized effect sizes. Effect sizes were standardized by dividing impacts by standard deviation for the UC group.

[g] Measures evidence of alcohol dependence or drug abuse using responses to the Rapid Alcohol Problems Screen (RAPS-4) and six items from the Drug Abuse Screening Test (DAST-10).

[h] Number of schools outcome is topcoded at four or more schools.

[i] Absences outcome is defined as 0 = no absences in past month; 1 = one to two absences; 2 = three to five absences; 3 = six or more absences.

[j] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire, or SDQ.

Notes: Impact estimates are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey and Program Usage Data

subsequent child separations by two-fifths (10 percent in SUB families compared with 17 percent in UC families). SUB also led to improvements in three of the four measures of adult well-being preselected for the executive summary presentation. SUB reduced psychological distress and reduced evidence of alcohol and drug problems. SUB also halved intimate partner violence compared with UC.

Assignment to SUB also caused improvements in two of the child well-being measures shown in Exhibit ES-5, both related to schooling. Relative to UC, SUB reduced the number of school absences for focal children in the month before the survey and also reduced the number of schools that the focal children attended. The study finds no evidence that SUB affected the health or behavior of focal children yet at this short-term followup point.

SUB *reduced* work effort relative to UC. SUB caused reductions in employment in the week before the survey by 6 percentage points compared with UC. This result is consistent with economic theory, given that housing subsidies lessened the need for disposable income and reduced the returns to work at the margin. SUB also caused improvements in food security, however, increasing the percentage of households classified as food secure by 10 percentage points relative to UC.

CBRR Versus UC

Almost all of the evidence suggests equivalent results for families given priority access to CBRR and families assigned to UC regarding housing stability, family preservation, and adult and child well-being. Most strikingly, relative to UC, CBRR did not affect subsequent stays in shelter or places not meant for human habitation or housing stability during the followup period. The reason for the lack of effects in this most strongly hypothesized area of potential impact is unclear. Indications about consequences for children are limited, with CBRR leading to a reduction in school or childcare absences.

Relative to UC, CBRR did lead to improved family income, with annual income (for the calendar year before the followup survey) for CBRR families $1,128 more than for UC families. CBRR also led to improvements in food security relative to UC.

PBTH Versus UC

Compared with UC, PBTH had effects only in the housing stability domain. PBTH reduced the proportion of families with a stay in emergency shelter in months 7 to 18 after random assignment from 27 percent to 19 percent. Impacts were much smaller than those of SUB. The study yields no evidence of effects of PBTH relative to UC in the other domains that were examined.

The lack of impacts on adult well-being and family self-sufficiency particularly matter, given the emphasis placed by PBTH programs on delivering supportive services in these areas. None of the eight indicators examined for results in this respect showed any impact from PBTH, nor did PBTH provide better family preservation or child well-being outcomes than UC. Overall, the study did not find evidence that the goals of PBTH as a distinctive approach to assisting families facing unstable housing situations were achieved relative to UC.

SUB Versus CBRR

The most noteworthy effect of SUB relative to CBRR was in its reduction of stays in shelter or places not meant for human habitation in the 6 months before the followup survey and in doubled-up housing situations. The impacts across

these measures were nearly as large as those for the SUB-versus-UC comparison. The greater stability afforded by the SUB assistance was also evidenced in a reduction in the number of places lived in the past 6 months relative to CBRR.

The other scattered effects shown by the SUB-versus-CBRR comparison mostly suggested more favorable outcomes for families assigned to SUB. SUB reduced separations of spouses and partners, domestic violence, and the number of schools attended by focal children relative to CBRR.

Evidence suggests that SUB caused a reduction in work effort relative to CBRR. SUB reduced the proportion of family heads who had worked for pay since study entry, the number of months worked since study entry, and average current earnings at the time of followup (not shown in the exhibit). Relative to CBRR, assignment to SUB also reduced total annual family income in the year before the survey.

SUB Versus PBTH

The comparison of SUB with PBTH yielded significant impacts on 11 of 18 outcomes examined. In most respects, the effects of SUB in comparison with UC were mirrored in the effects of SUB in comparison with PBTH. The most noteworthy effect of SUB relative to PBTH was in its greater prevention of stays in shelter or places not meant for human habitation in the 6 months before the followup survey and in doubled-up housing situations with impacts across these measures as large as those for the SUB-versus-UC comparison. The greater stability afforded by the SUB assistance was evidenced in a reduction in the number of places lived in the past 6 months compared with PBTH. Although PBTH provides an alternative place of residence that might be presumed stable, many families assigned to PBTH either did not use a PBTH program or had left the program by the time of the survey.

The SUB-versus-PBTH comparison showed effects on family preservation, adult well-being, and child well-being. The most notable effects of SUB relative to PBTH are a reduction in the proportion of families with a child separation in the past 6 months, a decrease in the psychological distress reported by family heads, and a reduction in the number of schools that focal children attended since random assignment.

In the self-sufficiency domain, the study found a number of effects of SUB relative to PBTH. SUB reduced the proportion of family heads who worked at the followup point (from 36 to 25 percent). Partly as a result of this lower work effort, SUB families had an average annual cash income of about $1,500 less than PBTH families ($9,000 compared with $10,500). On the other hand, the additional resources represented by the SUB housing assistance served to increase food security relative to PBTH families.

CBRR Versus PBTH

For a number of reasons, the CBRR-versus-PBTH comparison offers a weaker test than the other pairwise comparisons in the study. The number of families in this comparison sample is the smallest of the pairwise comparisons and so provides less statistical precision than the other tests.

The CBRR-versus-PBTH comparison does not yield a strong pattern of effects in any of the study domains. For the outcomes selected for the executive summary presentation, the CBRR-versus-PBTH comparison yields statistically significant effects only in the adult well-being domain. Perhaps surprisingly, given the focus of PBTH on these domains, results for the three of four significant tests for adult well-being all favored CBRR. In the adult well-being domain, CBRR appears to have reduced the proportion of adult respondents reporting poor or fair health in the 30 days before the survey and lowered the amount of psychological distress for family heads relative to PBTH. The percentage of adult respondents with evidence of alcohol dependence or drug abuse was also lowered by CBRR relative to PBTH.

In a result reported and discussed further in Chapter 9, CBRR increased the incidence of stays in shelters or places not meant for human habitation relative to PBTH.

Do Certain Interventions Work Better When Applied to Families Facing Greater Difficulties?

A central question motivating the Family Options Study is whether some interventions work better than other interventions for families with particular characteristics. As discussed previously, study findings have shown that, on average, the SUB intervention has substantial impacts relative to the other interventions, not only for housing stability but also for outcomes in other domains. Do all families who experience homelessness need a deep permanent housing subsidy, however, or might some do as well on their own, in UC, or with the shorter and often shallower subsidies of CBRR? Conversely, although on average PBTH had few impacts relative to other interventions, might some families who face greater challenges benefit more from its intensive social services? The more general form of this question is whether the relative benefits of the longer term or more intensive interventions (SUB and PBTH) might increase as families' reported difficulties increase. Because of the number of family characteristics that could lead to differential effects of interventions, the study team confined analyses to examination of two broad categories of family characteristics, summarized in indices of psychosocial challenges and barriers to housing.

The study team examined whether the impact of the interventions relative to each other and to UC increased as families' scores on these indices increase.

It is clear that families in this study experience high levels of both psychosocial challenges and barriers to housing, which was by design: the study enrolled families only after they had spent at least 7 days in shelter. The examination of potential moderator effects of difficulties of this sort does not provide evidence that any of the interventions studied work comparatively better for families who have greater psychosocial challenges or housing barriers than for families who face fewer difficulties. At this point the main study results on impacts across *all* families provide the study's clearest guidance for policy and practice.

Intervention Costs

The Family Options Study interventions were intended to vary in both intensity and duration. SUB programs provided a deep rental subsidy such that families' contributions to rent were limited to about 30 percent of monthly adjusted income. SUB did not provide supportive services, but the rental subsidy was for an indefinite duration. PBTH programs provided intensive housing and services support for a relatively long duration. CBRR programs provided a short-term rental subsidy with more limited supportive services, while emergency shelter programs often offered intensive supportive services and housing for a limited time. The study team compared the costs of the interventions using three measures of cost:

1. Per family monthly program cost.

2. Program cost per stay during the followup period.

3. Cost of all programs used during the followup period.

The first two measures provide information on the relative costs of funding different types of programs. The third measure provides context for interpreting the impacts of priority access to the active interventions presented in the pairwise comparisons in Chapters 6 through 9. This measure reflects the combined cost of all homeless and housing assistance programs accessed by families in each pairwise impact comparison.

Per Family Monthly Program Cost

Emergency shelter programs had the highest *average per family monthly program cost* at slightly more than $4,800. Supportive services made up 63 percent of ES costs, the highest share among the four program types. PBTH programs had an average cost of slightly more than $2,700 per family per month, with supportive services constituting on average 42 percent of PBTH program costs. SUB programs cost on

average slightly less than $1,200 per family per month. The cost of SUB consisted wholly of the cost of housing, because this intervention did not include supportive services. CBRR programs had the lowest per-family-per-month cost among the program types, with a program average of slightly less than $900. Housing costs made up, on average, 72 percent of CBRR program costs.

The study team found substantial variation in the costs of the individual programs that made up each study intervention. PBTH and ES programs had the greatest variation, driven largely by variation in supportive service costs but also by variation in capital costs and administrative expenses. For the 24 PBTH programs in the cost analysis, average per-family monthly program cost ranged from slightly more than $1,260 to slightly less than $6,300. Average per-family monthly program cost for the 45 ES programs ranged from slightly less than $1,900 to nearly $9,200.

Variation in CBRR and SUB costs across programs was driven largely by housing costs. For the 12 CBRR programs in the cost analysis, average per-family monthly program cost ranged from slightly more than $550 to slightly less than $1,400. Across the 10 sites with the SUB intervention, average per-family-per-month cost ranged from $770 to $2,100, largely reflecting differences in the local cost of rental housing.

Program Costs per Stay During the Followup Period

The study found a different cost ordering when estimating the costs of the typical duration of assistance in each intervention program type during the period from random assignment to the followup survey for families assigned to that program type (or in the case of emergency shelter, families assigned to UC).

This assessment applied the average monthly per-family cost of each intervention program to the total time spent in the intervention programs. Exhibit ES-6 shows average costs of each program per family who was randomly assigned to and used that program type, accounting for duration of assistance. The costliest program during the followup period was PBTH. The average cost of housing and support services in PBTH programs for a family who used PBTH was slightly less than $32,600 over an average duration of 13 months. Next, costs for SUB housing for families who used SUB averaged slightly more than $18,800 for an average duration of 16 months. Emergency shelter costs were on average slightly less than $16,900 per family based on an average length of stay of 4 months. Finally, per-family CBRR costs for families who used rapid re-housing averaged slightly more than $6,500 for an average of 7 months of assistance.

Total Costs of Programs Used Over the Followup Period

Exhibit ES-4 shows that families assigned to the four interventions used a variety of homeless and housing assistance programs during the followup period. The program use differed for each pairwise comparison because different families are included in each comparison. The study team combined information about program use with per-family monthly program costs to estimate the total costs of programs used for each intervention in the six pairwise comparisons. Exhibit ES-7 summarizes the results of this analysis. The exhibit shows that the total program use of families assigned to SUB cost about the same as the total program use of families assigned to UC and slightly more than for families assigned to CBRR. The cost of total program use for SUB families was clearly less than that for PBTH families, however. The near

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Exhibit ES-6. Average Program Cost per Stay During the Followup Period Across Program Types
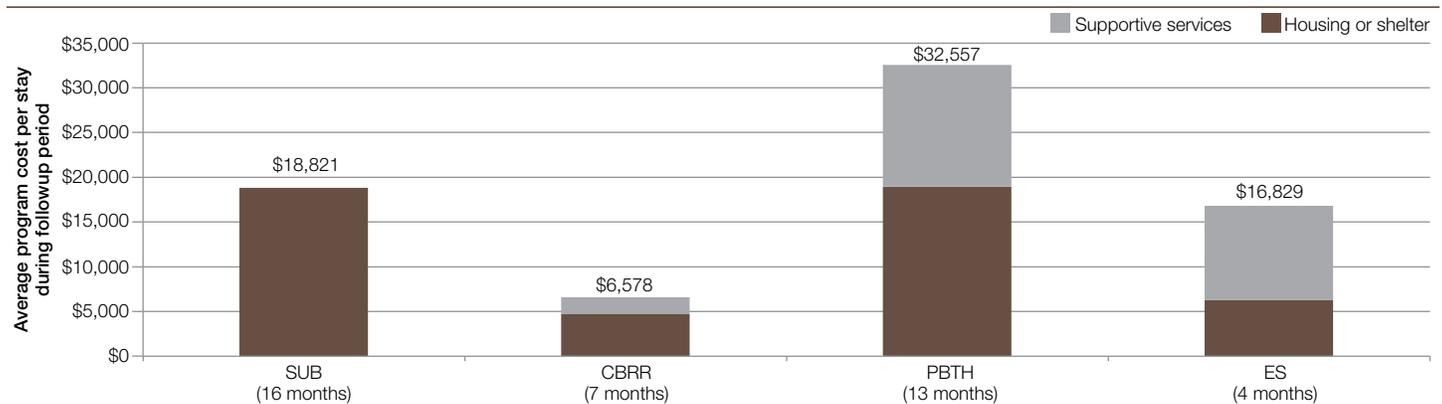
CBRR = community-based rapid re-housing. ES = emergency shelter. PBTH = project-based transitional housing. SUB = permanent housing subsidy.
ITT = intention to treat.
Note: The durations reported in this exhibit are weighted to align with the program-level cost data and so differ slightly from the durations reported for CBRR and PBTH in other exhibits.
Sources: Family Options Study cost data (CBRR, PBTH, and ES); Family Options Study 18-month followup survey (CBRR and PBTH); HUD Public and Indian Housing Information Center, Tenant Rental Assistance Certification System, and Financial Data Schedule records (SUB)

Exhibit ES-7. Cost of Program Use Since Random Assignment for Each Intervention Contrast

Legend: Other | SUB | CBRR | PBTH | ES

Panel A

SUB vs. UC — CBRR vs. UC — PBTH vs. UC

Y-axis: Cost of program use since random assignment ($0 to $35,000)

- SUB N = 530: $30,832
- UC N = 415: $30,336
- CBRR N = 455: $27,605
- UC N = 451: $30,629
- PBTH N = 294: $30,817
- UC N = 262: $28,295

X-axis: Assigned intervention

Panel B

SUB vs. CBRR — SUB vs. PBTH — CBRR vs. PBTH

Y-axis: Cost of program use since random assignment ($0 to $35,000)

- SUB N = 381: $31,158
- CBRR N = 308: $29,680
- SUB N = 230: $27,864
- PBTH N = 187: $30,914
- CBRR N = 179: $22,524
- PBTH N = 197: $30,510

X-axis: Assigned intervention

CBRR = community-based rapid rehousing. ES = emergency shelter. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

Notes: Averages are for all 18-month survey respondents in each arm of each pairwise comparison and are weighted for survey nonresponse to represent full comparison sample. Cost estimates assume a site-specific average cost per month based on the Family Options Study cost data and HUD administrative data. The *other* category includes permanent supportive housing, public housing, and project-based assistance (project-based vouchers or Section 8 projects).

Sources: Family Options Study cost data; HUD Public and Indian Housing Information Center, Tenant Rental Assistance Certification System, and Financial Data Schedule records; Family Options Study Program Usage Data

equivalent cost of SUB as compared with UC was driven both by decreased time in emergency shelter and by decreased use of relatively more expensive PBTH programs for families assigned to SUB. Similarly, the SUB and CBRR costs of total program use were nearly equivalent because the greater use of SUB programs by SUB families was offset by the greater use of transitional housing, emergency shelter, and other programs by CBRR families.

The SUB intervention usually lasts beyond the followup period for which we measure both impacts and costs in this report. Longer term housing assistance program costs are likely to change, and program use by SUB families may become relatively more costly. These subsequent costs will be addressed in the 36-month report, along with impacts measured at 36 months.

Conclusions

The Family Options Study's random assignment design for measuring intervention impacts is a stronger design than other studies of interventions for homeless families. As a result, the Family Options Study provides important new information about what happens to families who experience homelessness in the absence of any special offers of assistance and about the impact of priority access to three types of programs: SUB, PBTH, and CBRR. The experimental design of the study and the contrasts in program use during the followup period provide a solid foundation for estimating the impacts of enhancing access to different kinds of assistance. The study provides the first clear evidence about these effects and thus can serve as a solid basis for future policy decisionmaking.

Approximately 20 months after entry into shelter and random assignment, families assigned to SUB appear to be doing better than the families assigned to CBRR, PBTH, and UC. The benefits of priority access to SUB have been achieved at comparable cost with that of UC, slightly higher costs than CBRR, and at substantially lower cost than PBTH. Compared with those assigned to UC, the families randomly assigned to SUB on average have had fewer negative experiences (homelessness, child separations, and intimate partner violence). SUB families are also somewhat more likely to live in their own place. Moreover, children in SUB families move among schools less, and families experience greater food security and less economic stress. On the negative side, heads of these families exert less work effort. Families given priority access to CBRR do about as well as families assigned to UC, but they have substantially lower costs, mainly because CBRR lowers the rate at which families use costly transitional housing programs. PBTH is more costly and, at this point, has few advantages over other programs. Further, no evidence suggests that intervention impacts differ according to families' psychosocial challenges or housing barriers whatever form of active assistance is prioritized. The 36-month followup analysis will examine whether these differences among interventions continue to hold and whether new differences emerge after another 16 months elapse.

The study findings lend support for the underlying theoretical model for SUB. The striking impacts of SUB in reducing subsequent stays in shelter and places not meant for human habitation provide support for the view that, for most families, homelessness is a housing affordability problem that can be remedied with permanent housing subsidies without specialized homeless-specific psychosocial services. The findings also provide further support for the more tentative theoretical proposition that resolving homelessness would have a radiating impact, given the impacts found by this study of SUB on family preservation, adult well-being, and school stability compared with the impacts of UC. The temporary housing subsidies of CBRR do not appear sufficient to improve housing stability during the period studied and hence have little effect on outcomes presumed to emanate from achieving housing stability.

The study provides less support for the theoretical model underlying PBTH. PBTH is intended to address the root causes of homelessness by providing social services packaged with housing assistance. The study does not provide evidence that the intervention achieves this goal. PBTH led to modest reductions in homelessness when compared with UC, but it did not produce effects in other aspects of family well-being.

The Family Options Study is continuing to follow families for 36 months after study enrollment. This additional wave of data collection will address a number of important questions. The 36-month analysis will address whether the types of outcomes that are improved by SUB at this point are dependent on contemporaneous receipt of the housing assistance. Could effects fade if assistance ends? During the 20-month followup period reported here, 84 percent of SUB families had used SUB. By the time of the survey, SUB receipt had fallen to 74 percent. The 36-month analysis will examine whether families retain permanent housing assistance and retain its benefits. On the other hand, the reduced stress and greater stability observed for SUB families at 20 months might yield additional benefits for adult and child well-being over the longer term. Reductions in work effort in the short term might fade over the longer term as observed in the study of *Effects of Housing Vouchers on Welfare Families* (Mills et al., 2006). The 36-month analysis will answer these questions.

Similarly, the 36-month analysis will examine whether the focus of PBTH on addressing psychosocial challenges and enhancing skills leads to benefits over the longer term that were not evident at this point. The negative outcomes of PBTH relative to CBRR for adult well-being may be temporary, reflecting anxiety on the part of PBTH families that benefits

were coming to an end (or had recently ended). On the other hand, PBTH housing stability outcomes could fade after all families have left their PBTH programs.

At this point, the two major advantages of CBRR over other interventions are the comparatively lower cost of CBRR and the greater work effort observed among families assigned to CBRR. Work effort could lead families to better economic outcomes in the future, with radiating benefits for other outcomes. In any case, if CBRR continues to have similar outcomes to UC in most domains, but at lower cost, this result will be important.

The relative cost of the interventions seems particularly likely to change over time, because the SUB intervention usually lasts beyond the period for which we measure both impacts and costs in this report. Over the longer term, the continuing cost of SUB programs may or may not continue to be offset by reductions in use of shelter and other programs. These future costs will be addressed in the 36-month analysis in conjunction with impacts measured over the longer term.

CHAPTER 1.
INTRODUCTION

As part of its mission to "create strong, sustainable, inclusive communities and quality affordable homes for all," the U.S. Department of Housing and Urban Development (HUD) has supported a range of programs to provide shelter and services for families experiencing homelessness. The Department has also engaged in partnerships with other federal agencies to focus resources on eradicating homelessness. *Opening Doors: Federal Strategic Plan to Prevent and End Homelessness*, released in 2010 by the U.S. Interagency Council on Homelessness, articulates this collective commitment and lists four goals, one of which is to "prevent and end homelessness for families, youth, and children by 2020" (USICH, 2010).

During a 12-month period ending September 2013, more than 150,000 families with children in the United States (495,714 people) stayed in emergency shelters or transitional housing programs (HUD, 2014a). People in families accounted for 35 percent of the total sheltered homeless population (12-month estimate).

In its effort to develop the best available evidence on which to base policy decisions, HUD launched the Family Options Study in 2008, awarding a contract to Abt Associates, Vanderbilt University, and several other partners. The purpose of the study is to obtain evidence to support decisionmaking in the Department's efforts to help families leave homelessness and to create housing stability and other positive outcomes for families who have experienced homelessness.

The Family Options Study measures the relative impacts of four interventions commonly used to help families experiencing homelessness. The study investigates the relative effects of providing homeless families with priority access to *permanent housing subsidy* (SUB), *community-based rapid re-housing* (CBRR), or *project-based transitional housing* (PBTH). A sample of 2,282 families was randomly assigned to one of these three active interventions or to *usual care* (UC) in which families remained in emergency shelter without priority access to one of the active interventions. This report presents impact estimates for the first 20 months after

assignment to the interventions studied[7] and also presents information on the relative costs of the three active interventions and emergency shelter. This introductory chapter begins with a description of the homeless services system. It then provides an overview of the design of the evaluation. The chapter closes with a description of the characteristics of the families in the research sample at the time of enrollment and an overview of the organization of the remainder of the report.

1.1 Background on the Homeless Services System

A range of programmatic approaches is used to address family homelessness. This section describes the governance structures established in local communities to address homelessness and the evolving programs that have been used to provide families with shelter and to help them leave homelessness. Rather than conducting a demonstration to test a new program model, the Family Options Study tested the impacts of types of programs that have been employed by local communities to address family homelessness.

1.1.1 The Continuum of Care

The 1987 McKinney-Vento Homeless Assistance Act created the foundation for today's homeless assistance systems. It specifically funded the development of more sophisticated services than were previously available for people experiencing homelessness (Burt et al., 2002). As a result, shelter conditions improved, and many programs added services to address homeless families' barriers to maintaining housing. The McKinney-Vento Act was amended in 2009 to consolidate former homeless assistance grant programs into the Continuum of Care (CoC) Program. Both the amended act and the CoC Program regulations formally define the CoC, a group of representatives from relevant organizations within a specified geographic area, and the CoC's responsibilities, including homeless services system design, resource allocation, and system management.

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[7] Two other reports provide information about the Family Options Study. Gubits et al. (2012) described the research design and analysis plan. Gubits et al. (2013) documented study implementation findings and baseline characteristics of the research sample.

The term Continuum of Care, or CoC, is used informally to describe all of these related concepts: (1) the homeless services system itself, (2) the governance structure that leads the local planning and makes decisions about centrally allocated resources for the system, (3) the geography covered by the system, and (4) the federal CoC Program grants that HUD awards annually to fund parts of the system.

The CoC Program interim rule requires the composition of the CoC to include representatives from organizations such as "nonprofit homeless assistance providers, victim services providers, faith-based organizations, governments, businesses, advocates, public housing agencies, school districts, social service providers, mental health agencies, hospitals, universities, affordable housing developers, law enforcement, organizations that serve veterans, and homeless and formerly homeless individuals."[8] The members of the CoC must engage all of these organizations to help them determine what types of programs are needed in their community. Although the representation and level of engagement of different types of stakeholders vary from one community to another, it is universally understood that the CoC is the structure designated to lead system-level discussions and decisions about strategies for addressing homelessness in the community.

1.1.2 Programmatic Approaches

Homeless assistance programs funded by the CoC Program have residential and nonresidential components. Homeless assistance programs generally have been grouped according to their residential component rather than the types of nonresidential supportive services offered. The residential programs that were part of the homeless services system as of 2009 were categorized as "emergency shelter," "transitional housing," or "permanent supportive housing." Emergency and transitional housing are time-limited programs that rely on families moving on to stable housing situations, either subsidized or unsubsidized housing. Permanent supportive housing programs offer permanent housing subsidies coupled with intensive services and are available to families only when a parent has a qualifying disability. These are broad categorizations rather than closely defined program models. Among and within each of these three program types, there has been considerable variation in quality, housing structure and location, privacy and independence for participants, tenure, average and expected lengths of stay, services provided, rules, and expected outcomes (Locke, Khadduri, and O'Hara, 2007).

This study considers two of these three types of homeless assistance programs: emergency shelter and transitional housing. The study's sample of families was recruited from emergency shelters, and emergency shelters are the basis for the *usual care* (UC) arm of the study to which the active interventions, including *project-based transitional housing* (PBTH), are compared. Emergency shelter and transitional housing are discussed further in the balance of this section, as are two other types of programs: rapid re-housing and housing assistance programs.

Rapid re-housing has received funding from the homeless services system and from HUD, particularly since the enactment of the Homelessness Prevention and Rapid Re-Housing Program (HPRP) in 2009, which provided substantial resources to local programs following that model.[9] Also fundable under the CoC Program, it is the basis of the *community-based rapid re-housing* (CBRR) active intervention included in this study. Housing assistance programs are funded by HUD for a broader group of low-income families and individuals, not specifically focused on people experiencing homelessness. Thus they are outside the homeless services system, but they may be used to help families who have experienced homelessness. They are the basis of the *permanent housing subsidies* (SUB) intervention included in the study.

Because permanent supportive housing focuses on adults with disabilities and this study is not limited to families with disabled adults, permanent supportive housing programs were not selected as one of the interventions to be included in the Family Options Study.

Emergency shelters typically serve as the first response to homelessness. Emergency shelters for families frequently are open 24 hours a day and provide shelter in congregate settings with communal sleeping and eating space. In some emergency shelters, however, families may have individual rooms or apartments. Shelters vary in the amount and type of services they provide. Some shelters provide only basic services (such as meals, showers, clothing, and transportation), whereas other shelters provide basic services plus case management and referrals to specialized services (such as employment services or mental health and substance abuse treatment).

Throughout the country in 2013, 118,104 emergency shelter beds were available for people in homeless families (HUD, 2013b). Nationally, about one-quarter of families leave shelter on their own within a week, and about one-half leave within

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[8] CoC Program Interim Rule. CFR Part 578.5(a).

[9] HPRP was funded by the American Recovery and Reinvestment Act (ARRA).

a month, consistent with the intention of the program to provide temporary shelter to people in crisis.[10] *Transitional housing* programs offer homeless families a place to stay or a rent subsidy with supportive services for a longer period, generally 6 to 24 months. Often families are referred to transitional housing from emergency shelter when shelter workers determine they need more intensive or longer term assistance and meet eligibility criteria. Transitional housing programs may be rooms or apartments offered to several families in the same building, termed *project-based* transitional housing, or PBTH. Sometimes the housing is in clustered or scattered locations where the program maintains the lease and program participants must leave upon completion of the program. This model is referred to as *scattered-site* transitional housing.

Sometimes the housing is in scattered locations where families rent their own apartments with temporary financial assistance from the program and where they can stay after the transitional program ends, paying rent on their own. This model is called *transition-in-place*.[11]

The 2013 Annual Homeless Assessment Report (AHAR) reports a total of 101,843 transitional housing beds for people in homeless families. This number represents the sum of beds in project-based programs and scattered-site programs (separate counts for the number of beds in the two types of transitional housing do not exist). As expected, AHAR data show that stays in transitional housing are longer than those in emergency shelter. The median value for a family's stay in transitional housing during a single year was 151 nights in 2013 compared with 32 nights for emergency shelter (HUD, 2013b).[12]

Similar to emergency shelters, services provided through transitional housing vary substantially from one program to another. Services offered in transitional housing may be more intensive than the services offered in shelters and may include case management and referrals, benefit acquisition and retention, education and employment services, and mental health and substance abuse treatment; they sometimes include family reunification, childcare, and children's

services. The goal of most transitional housing programs is to place participants in stable housing at program completion. Some transitional housing programs also help families access mainstream housing assistance funded outside the homeless services system. This study measures the impacts of offering priority access to the project-based type of transitional housing and calls this intervention *project-based transitional housing* (PBTH).[13]

Families experiencing homelessness may also gain access to federally funded *housing assistance programs* for low-income households that are funded by HUD and operated outside the homeless services system. Housing assistance is provided in three ways. First, some households live in housing developments that are owned and operated by public housing agencies (PHAs) and are known as public housing. Second, some households receive housing assistance through the Housing Choice Voucher (HCV) program. The HCV program provides tenant-based rental subsidies that families can use to rent market-rate housing in the community. Third, housing assistance is sometimes provided in privately owned housing developments for which HUD provides rental assistance through contracts with private owners. All three of these forms of housing assistance (1) are indefinitely renewable, as long as the family remains eligible, and (2) have a common benefit structure that caps families' monthly costs for rent and utilities at approximately 30 percent of income. Housing assistance is often referred to as a deep rental subsidy.[14] This study measures the impact of an offer of priority access to permanent housing assistance, usually a Housing Choice Voucher, and calls this program type *permanent housing subsidy* (SUB).

Temporary rental assistance is increasingly used to assist families experiencing homelessness. This type of assistance is referred to as rapid re-housing and provides short-term subsidies (up to a maximum of 18 months, with quarterly recertification of eligibility). These programs provide some services, usually limited to assistance locating housing and maintaining self-sufficiency. The goal is to provide each family with only the level and length of assistance needed

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[10] Data, which are from the 1-year period from October 1, 2011, to September 30, 2012 (HUD, 2013a), show that, in 2012, 25 percent of people in families stayed 7 days or fewer in emergency shelter, 53 percent stayed from 1 to 6 months, and 10 percent stayed more than 6 months in the reporting period.

[11] Burt (2006) offers a thorough description of the range of transitional housing programs.

[12] Because AHAR uses a 1-year reporting period, PBTH stays that last longer than 1 year are truncated. As a result, the actual median length of stay is likely higher than the figure reported.

[13] That is, most of the programs studied in the PBTH intervention were project-based programs, also known as single site settings. A few programs provided scattered-site transitional housing, but *all* programs required families to relocate at the end of program participation. Transition-in-place programs were excluded. See Chapter 8 for more details.

[14] The term "deep rent subsidy" is used to distinguish this type of housing assistance from the "shallow" rent subsidy provided in housing developments funded by the Low-Income Housing Tax Credit Program or the HOME Investment Partnerships Program.

until the family can pay market rent. Toward that goal, subsidies are individually structured and may be shallow (that is, not necessarily reducing families' housing costs to as low as 30 percent of income) and short term. This type of assistance was funded at the federal level under the Homelessness Prevention and Rapid Re-Housing Program (HPRP) as part of the American Reinvestment and Recovery Act of 2009 but was based on earlier models implemented by some localities (Burt, Pearson, and Montgomery, 2005). It can also be funded under the CoC Program. This study measures the impact of the priority offer of rapid re-housing and calls this intervention *community-based rapid re-housing* (CBRR).

1.2 Evaluation Design

The objective of the Family Options Study is to provide evidence to help federal policymakers, community planners, and local practitioners make decisions about the best ways to address homelessness among families. The ultimate goal of the study is to determine what interventions work best to promote housing stability, family preservation, self-sufficiency, and adult and child well-being for families who have become homeless. The evaluation was designed to address these research questions—

1. What is the relative effectiveness of homeless interventions in ensuring housing stability of homeless families?

2. Are the same interventions that are effective for short-term stability of homeless families effective for longer term stability as well?[15]

3. What is the relative effectiveness of different homeless interventions in ensuring the well-being of homeless parents and self-sufficiency of homeless families?

4. Do some interventions promote family preservation and benefit children's well-being more than other interventions?

5. Are different homeless interventions more effective for some categories of homeless families than for others?

To address these research questions, the study uses an experimental design. From September 2010 through January 2012, the study team recruited 2,282 homeless families who had been in emergency shelter for at least 7 days across 12 sites.[16]

These families were randomly assigned to one of the three active interventions or to usual care. However, not every family had the chance to be randomly assigned to all three of the active interventions. Chapter 2 describes the random assignment process in detail.

Exhibit 1-1 shows the six pairwise contrasts among the interventions. Families were included in a comparison only if they were eligible for both interventions being compared and randomized to one of them. Thus, for example, all families who were ineligible for all PBTH programs in a site at the time of random assignment were excluded from contrasts involving PBTH, meaning contrasts C, E, and F shown in Exhibit 1-1. This random assignment design assures that comparisons of interventions involve well-matched groups across interventions. It follows that any observed differences in outcomes can be attributed to the differential assignment families receive and not to any preexisting differences among the families. Gubits et al. (2013) verified the baseline equivalence of the pairwise comparisons using characteristics of families at the time of random assignment.

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[15] The current report examines impacts estimated 20 months after enrollment. The study is collecting information on outcomes over a longer, 36-month followup period. These longer term impacts will be analyzed in 2015 and reported in 2016.

[16] The 12 communities participating in the study are Alameda County, California; Atlanta, Georgia; Baltimore, Maryland; Boston, Massachusetts; Bridgeport/New Haven, Connecticut; Denver, Colorado; Honolulu, Hawaii; Kansas City, Missouri; Louisville, Kentucky; Minneapolis, Minnesota; Phoenix, Arizona; and Salt Lake City, Utah. Altogether, the study team randomly assigned 2,307 families. On reviewing baseline data collected, however, the team determined that 25 families did not satisfy the family eligibility requirement of having at least one child age 15 or younger. They were thus enrolled in error. These 25 families were removed from the research sample without skewing the statistical equivalence of the interventions. The full sample size at the time of the 20-month impact analysis was therefore 2,282 families.

Exhibit 1-1. Six Pairwise Comparisons Among the Experimental Interventions
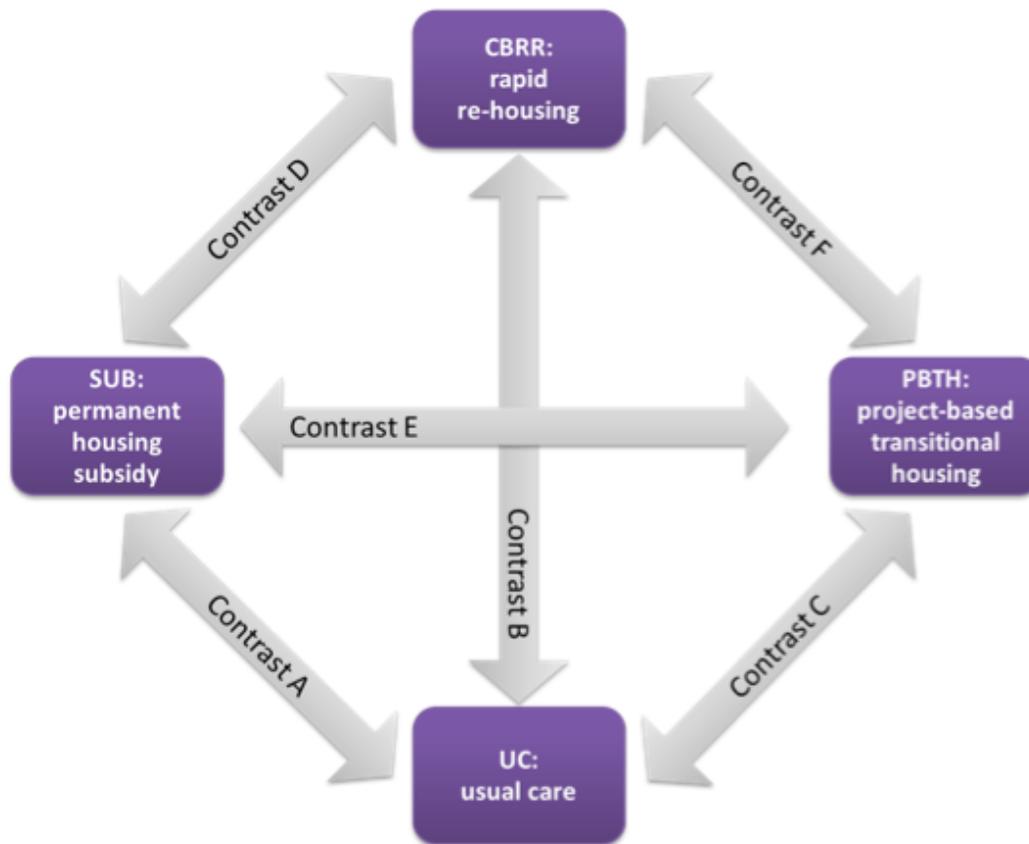
1.3 Baseline Characteristics of the Research Sample

At the time of enrollment in the study, all families completed a baseline survey, providing information about their household's characteristics. This section briefly reviews selected baseline characteristics to provide an overview of study families. Gubits et al. (2013) provides a more detailed description of the characteristics of the families at the time of enrollment.

To understand how the families in this study compare with the national homeless family population, this section compares the sample with two national estimates of family homelessness. The most recent source of that information is HUD's *Annual Homeless Assessment Report* (AHAR), which uses administrative data collected locally to produce national estimates of the number and characteristics of sheltered homeless families and of people who are in shelter as individuals. AHAR data describe families in shelter in 2010, when enrollment in the Family Options Study began (HUD, 2012). An older (1996) source of information on homeless families is the National Survey of Homeless Assistance

Providers and Clients (NSHAPC; Burt et al., 1999). Although less current, NSHAPC provides survey-based, nationally representative information that is not available in the AHAR on the characteristics and life histories of homeless families. NSHAPC also includes information on both sheltered and unsheltered families.

Families had to stay in a participating emergency shelter to be considered for enrollment in the Family Options Study (see Chapter 2 for more details about the enrollment process). Therefore, any eligibility requirements that emergency shelters placed on shelter entry also shaped the sample of families who were included in the study.

The most common restrictions, implemented by emergency shelter programs in 9 of the 12 sites, related to the composition of the family entering emergency shelter. Some programs were not able to accommodate adult men or married couples in their programs because the shelters provided congregate living situations. Other programs served only families with children younger than age 5 or did not accept adolescent-aged children. These eligibility requirements collectively limited the number of men, couples, and older children in

study families. Another eligibility requirement related to domestic violence. Some emergency shelter programs would not accept families fleeing domestic violence, because of concerns about their ability to ensure the safety of the families. The study team would expect that these requirements led to lower numbers of families facing domestic violence at baseline than otherwise might have been the case.

A typical family in the study consisted of a woman about 29 years old who had one or two children with her in the shelter (see Exhibit 1-2). More than one adult was present in 30 percent of families at baseline, and, in most instances, the second adult was the spouse or partner of the adult respondent. Nationwide, 78 percent of adults in sheltered families are women. The share of men in sheltered families has increased substantially since 2007, probably because increasing numbers of family shelters can accommodate them.

A plurality of families in the study (43 percent) had only one child younger than age 18 present, and another 30

percent had two children with them in the shelter. One-half of families included a child younger than age 3, and nearly 10 percent of adult respondents reported that they were pregnant at baseline. In study families, older children were more likely than younger children to be living separately from their parent who was in emergency shelter at the time of enrollment.

Characteristics of the study families are similar to characteristics of homeless families nationwide. Many families who become homeless have young children.

Rates of sheltered homelessness are higher for infants and other preschool children than for any other age group: 0.8 percent of infants younger than 12 months and 0.7 percent of children 1 to 5 years stayed in shelters and transitional housing programs over the course of the year.[17] Slightly over one-half of children in homeless families are younger than age 6. About one-fourth of all episodes of poverty in the United States start with the birth of a child; the poverty

Exhibit 1-2. Family Characteristics: Family Composition

Family Characteristic	Percent of Adult Respondents/ Percent of Families/Years
Family Composition	
Adults	
Hispanic	20.2
White, non-Hispanic	20.4
African-American, non-Hispanic	40.9
Asian/Pacific Islander, non-Hispanic	7.2
Mixed, non-Hispanic	11.2
Adult respondent is female	91.8
Average age of adult respondent	30.8 years
Median age of adult respondent	29.0 years
Adult respondent is age 24 or younger	27.4
Male adult respondent with no female wife/partner present	3.8
Two or more adults present in shelter	29.8
Second adult: spouse or partner	27.4
Spouse/partner is parent of (at least one) child with family	23.0
Second adult: adult child (age 18 or older)	1.4
Age of adult respondent at random assignment	
Less than 21 years old	8.2
21–24 years	19.2
25–29 years	24.0
30–34 years	18.5
35–44 years	22.3
45 years and older	7.8
Number of children present in shelter	
1 child	43.2
2 children	30.2
3 children	15.3
4 or more children	11.2
At least one child younger than age 3	50.4
Mother is pregnant	9.8

Source: Family Options Study baseline survey

[17] Calculated from AHAR for persons in shelter between October 2011 and September 2012 and U.S. Census Statistics for 2012.

results from forgone earnings and costs of care and from the need to stretch available income over more mouths to feed (Waldfogel, 2001). Thus, homelessness unsurprisingly is also more common among families with a newborn or preschool-aged child (Rog and Gutman, 1997; Weitzman, 1989).

The racial characteristics of families in the study sample are similar to those of homeless families nationwide, with an overrepresentation of African-Americans when compared with the poverty population overall (HUD, 2012). Approximately 41 percent of study families are African-American and not Hispanic or Latino, and 20 percent are Hispanic or Latino (all races). About 20 percent of the study families identified as White, non-Hispanic/non-Latino.

Another characteristic measured by the baseline survey was a family's past housing stability and history of homelessness. Exhibit 1-3 shows the baseline characteristics of the families on these measures. Most families in the study were not homeless immediately before entering the shelter from which they were recruited into the study. Only 21 percent described their preshelter living situation in a way that would be defined by HUD as homeless.[18] This rate is similar to the national rate of 24 percent (HUD, 2012). Instead, most families entered

shelter from housing—either their own housing unit or that of a friend or family member. About 63 percent of adult respondents in the study had experienced homelessness at some other point in their lifetime, with about 16 percent of adult respondents having experienced homelessness as a child. The majority of adult respondents (85 percent) indicated that they were doubled up at some point as an adult (defined as "staying with family or friends because you couldn't find or afford a place of your own").

National figures are not available for comparing the prior homelessness of the study sample to that of all homeless families in 2013. The rate is greater, however, than that measured in NSHAPC, which was 50 percent (Burt et al., 1999). Part of the difference may be explained by the fact that the NSHAPC survey was conducted about 15 years before this study's baseline enrollment period. Many of the adults surveyed in NSHAPC had come of age at a time when homelessness was less common. In addition, in an effort to target the study to families with at least moderate needs, all families in this study had been in shelter for at least 7 days.

Of the adult respondents in this study's sample, 27 percent had lived in foster care, a group home, or some institutional setting as a child. NSHAPC showed very similar patterns

Exhibit 1-3. Family Characteristics: Housing Stability and History of Homelessness

Family Characteristic	Percent of Adult Respondents
Housing instability and history of homelessness	
Housing immediately before shelter stay	
Owned or rented house or apartment	25.7
With friends or relatives, not paying rent	24.9
With friends or relatives, paying rent	21.1
Homeless[a]	20.5
Hotel or motel, paid by self	4.2
Partner's place	2.9
Treatment or permanent housing program	1.1
Homeless history	
Previous episode of homelessness	62.9
Total homelessness in life	Median: 6 months
Doubled up history	
Ever doubled up as adult because could not pay rent	84.7
Time doubled up past 5 years[b]	Median: 1 year
Childhood instability	
Homeless as child	16.1
Foster care, group home, or institution as child	27.1

[a] Living situations included in the definition of homeless are other emergency shelter (6.8 percent), voucher hotel or motel (4.0 percent), car or vehicle (3.1 percent), transitional housing (2.8 percent), domestic violence shelter (1.9 percent), anywhere outdoors. (1.6 percent), and abandoned building (0.2 percent).
[b] Time doubled up in past 5 years or time doubled up since age 18 for those ages 18 to 22 years.
Source: Family Options Study baseline survey

[18] Living situations considered to indicate literal homelessness are emergency shelter, voucher hotel or motel, car or vehicle, transitional housing, domestic violence shelter, anywhere outdoors, and abandoned building. This definition is consistent with the current HUD definition of homelessness, which includes living in emergency shelters, transitional housing, or public or private places not designed for or ordinarily used as a regular sleeping accommodation for human beings. See 24 CFR 91.5(1)(ii), the homeless definition final rule. https://www.onecpd.info/resources/documents/HEARTH_HomelessDefinition_FinalRule.pdf.

of childhood housing instability among people who sub-sequently became homeless, with about 25 percent of the adults in homeless families reporting that they had been in foster care, a group home, or another institutional setting as a child (Burt et al., 2001).

The baseline survey also included questions about the fam-ily's income and employment status (see Exhibit 1-4). Most adult respondents in the study were not working at the time of enrollment (83 percent), and more than one-half had not worked for pay in the previous 6 months. Approximately 45 percent had not worked in more than a year, and 30 percent had not worked in the past 2 years. For the 17 percent who were working at the time of enrollment, median hours at their main job were 30 hours a week. Looking at the employ-ment of all adults in the family, about 22 percent of families

had one adult working (either the adult respondent or another adult family member). The median household income of all families in this study was $7,410 at the baseline survey.

Most families in the study were receiving some form of public assistance at the time of the baseline survey. Eighty-eight percent of families in the study received Supplemental Nutrition Assistance Program (SNAP), 41 percent received Temporary Assistance for Needy Families (TANF), and 10 percent received Supplemental Security Income (SSI) for someone in the family. Many families in the study received Medicaid benefits (60 percent), state health insurance benefits (23 percent), or State Children's Health Insurance (SCHIP; 32 percent). About 86 percent of families participated in at least one of these health insurance programs.

Exhibit 1-4. Family Characteristics: Income Stability and Disability

Family Characteristic	Percent of Adult Respondents/Percent of Families
Income stability and disability	
Employment history of adult respondents[a]	
No work past 1 week	82.9
No work past 6 months	57.1
No work past 1 year	45.0
No work past 2 years	30.3
Job characteristics for 17 percent of adult respondents who are working	
Earnings at main job	Median: $11,960
Hours per week at main job	Median: 30.0
Employment of adults in family	
One adult working for pay	22.3
Two adults working for pay	2.1
Total family income during the past year	
20th percentile	$2,880
50th percentile (median)	$7,410
80th percentile	$15,000
Public program participation	
SNAP (food stamps) receipt	87.8
TANF receipt	41.4
SSI receipt	9.5
UI receipt	7.2
Child support receipt	14.2
WIC receipt	36.2
Medicaid receipt	60.0
State health insurance receipt	22.6
SCHIP receipt	32.4
At least one of Medicaid, state health insurance, or SCHIP receipt	86.2
Disability status	
Disability and/or disabled family member	38.7
Adult respondent has disability that limits or prevents work	21.3
Nonhead age 15+ has disability that limits or prevents work	7.0
Child younger than age 15 has disability	17.2

SCHIP = State Children's Health Insurance Program. SNAP = Supplemental Nutrition Assistance Program. SSI = Supplemental Security Income. TANF = Temporary Assistance for Needy Families. UI = unemployment insurance. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

[a] Rows are not mutually exclusive.

Source: Family Options Study baseline survey

Families in this study have a high rate of self-reported disability. Thirty-nine percent of families have at least one family member with a self-reported disability. About 21 percent of adult respondents said that they have a disability that would limit or prevent them working, and 7 percent of families have a family member age 15 or older with a disability that limits or prevents him or her from working.

Study families faced multiple barriers to increasing income or finding housing, as shown in Exhibit 1-5. Forty-nine percent of adult respondents in this study reported that they had experienced physical abuse or been threatened with violence by a spouse or partner at some time as adults. Other studies have shown even higher rates of domestic violence. For example, Bassuk et al. (1996) report results of a study of homeless and housed mothers receiving public assistance in Worcester, Massachusetts, indicating that 63 percent of homeless mothers, and almost as high a percentage of those who had not become homeless (58 percent), reported that they had been severely physically assaulted by an intimate partner as an adult. The Worcester study asked a detailed series of questions about such incidents as being slapped repeatedly, hit with a fist, hit with an object, or threatened with a knife or gun, whereas the baseline survey for this study asked only one general question about physical abuse or threats of violence.

Mental health and substance use issues are frequently identified as barriers that people experiencing homelessness face. These issues are more prevalent among homeless individuals than they are among homeless families, whereas employment status and broader economic challenges are more often identified as the central cause of family homelessness (Rog and Buckner, 2007). A history of drug use within the past year was identified by 14 percent of adult respondents, and 11 percent responded to survey questions in a way that suggested alcohol abuse within the past year.[19] These rates are substantially lower than those reported to NSHAPC by homeless adults in families (38 percent for drug use problems and 18 percent for alcohol use problems within the past year; Burt et al., 2001). In another study of homeless families, Rog and Buckner (2007) reported that 12 percent of adult respondents had used illicit drugs in the past year.

Approximately 22 percent of adult respondents gave survey responses that indicate symptoms of post-traumatic stress disorder (PTSD), 22 percent reported symptoms of serious psychological distress, and 30 percent reported evidence of one or the other.[20] In the Worcester study, Bassuk et al. (1996) reported similar rates of PTSD symptoms for both the homeless families (18 percent) and housed welfare families (16 percent). The rates of PTSD and serious psychological distress for homeless families are substantially higher than national

Exhibit 1-5. Family Characteristics: Barriers to Increasing Income or Finding Housing

Family Characteristic	Percent of Adult Respondents/Percent of Families
Barriers to increasing income or finding housing	
Exposure to violence and mental health	
Domestic violence by spouse or partner as an adult	49.0
PTSD symptoms	21.6
Psychological distress	22.1
Previous housing history—problems finding housing	
History of eviction[a]	25.9 big or small problem
Never a leaseholder[a]	34.8 big or small problem
Other barriers to housing	
Felony conviction of at least one adult family member	14.2
Felony conviction of adult respondent	11.3
Felony conviction of nonhead family member	4.8
Drug abuse	14.1
Alcohol abuse	11.1

PTSD = post-traumatic stress disorder.

[a] Information was collected on history of eviction and never having been a leaseholder only if the respondent thought these factors presented a problem in finding a place to live.

Source: Family Options Study baseline survey

[19] The baseline survey asked for responses to the four items in the Rapid Alcohol Problem Screen, or RAPS4 (Cherpitel, 2000). An affirmative answer to any of the four questions indicates an alcohol problem. The baseline survey also asked asked for responses to seven items regarding use of illegal drugs, six of which are included in the Drug Abuse Screening Test, or DAST-10 (Skinner, 1982). An affirmative answer to any of these seven questions indicates a drug problem.

[20] About 14 percent of adult respondents have both PTSD symptoms and high psychological distress.

rates of PTSD (5.2 percent for women and 1.8 percent for men) (NCS-R, 2005)[21] and serious psychological distress (3.9 percent for women and 2.9 percent for men) (CDC, 2012).[22]

Families enrolled in the study also reported that they had poor rental history (26 percent had been evicted) or that they had never been a leaseholder at all (35 percent).[23] Some families (14 percent) reported that at least one adult in the family had been convicted of a felony for drugs or other offenses. In 11 percent of families, the adult respondent reported having a felony conviction.

1.4 Organization of the Report

This first chapter of the report has provided an overview of family homelessness, the homeless services system, the evaluation design, and the baseline characteristics of the research sample. The balance of this report is organized as follows. Chapter 2 describes the interventions studied and the implementation of the Family Options Study. Chapter 2 also explains site selection and examines the characteristics of the study sites and the process used to conduct random assignment. Chapter 3 discusses the conceptual framework of the interventions and hypotheses about their potential effects. Chapter 4 presents the methodology and data sources. Chapter 5 describes the experiences of the usual care group. It also defines the outcomes derived from participant surveys and administrative data that are used to estimate intervention

effects. Chapters 6 through 9 then present findings about the impacts of the four interventions, organized by the six pairwise comparisons. In particular, Chapter 6 provides impact measures for SUB compared to UC, for the five domains of housing stability, family preservation, adult well-being, child well-being, and self-sufficiency. Chapter 7 presents findings from the comparison of CBRR to UC in the five domains and Chapter 8 does so for the comparison of PBTH to UC. Chapter 9 turns to the other pairwise comparisons, reporting impacts of SUB compared to CBRR, SUB compared to PBTH, and CBRR compared to PBTH. Chapter 10 discusses results about the relative impacts of groups of interventions based on pooled comparisons to illuminate other policy questions. Chapter 11 explores the variability of impacts across types of families, using indices related to psychosocial challenges and housing barriers constructed for each family. Chapter 12 describes the relative costs of the interventions. Chapter 13 discusses study conclusions. Several technical appendixes support the report. Appendix A provides details about the data sources and dataset construction. Appendix B discusses the construction of adult and child well-being outcomes. Appendix C presents technical details regarding the samples and analysis methods. Survey nonresponse analysis is documented in Appendix D. Appendix E contains supplemental tables showing use of transitional housing during the followup period. Appendix F presents exhibits showing the results of the pooled comparisons. Appendix G presents technical details about the cost data collection and analysis.

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[21] The statistic for PTSD is the national 12-month prevalence rate as measured in the National Comorbidity Survey Replication (NCS-R), which was fielded in 2001 and 2002. The NCS-R used a different instrument to measure PTSD than what was used in the Family Options Study.

[22] The statistic for the national rate of serious psychological distress is from the 2011 National Health Interview Survey. This survey used the same measure of psychological distress that was used in the Family Options Study.

[23] Percentages are of respondents who reported that a past eviction or no rent history at all presented a "big" or "small" problem for them in finding a place to live. The survey items did not capture whether a respondent had a past eviction or had no rent history at all if the respondent did not think these factors were problems in finding a place to live. Therefore, these percentages are lower bounds on the proportions of the respondent sample who had a history of eviction and who had never been a leaseholder.

CHAPTER 2.
IMPLEMENTING THE STUDY

This chapter discusses the implementation of the Family Options Study. It begins with an overview of the study interventions and the contrasting features that were envisioned in the study design. The next section addresses site recruitment and describes key characteristics of the 12 study sites. The remainder of the chapter then describes how the study team implemented random assignment.

2.1 Interventions Studied

The Family Options Study examines four interventions. The study team collaborated closely with HUD during the design phase of the study to determine what types of interventions should be studied and to define the distinguishing features. The study team defined the interventions to include contrasts in the type and duration of housing assistance and the presence of supportive services. The four interventions were defined as follows.

1. *Subsidy (SUB)* was defined as a permanent housing subsidy, usually a housing choice voucher (HCV). SUB could have included the assistance to find a unit that qualified for the voucher program that might be available to anyone who receives voucher assistance, but it did not include other supportive services.

2. *Community-based rapid re-housing (CBRR)* was intended to provide temporary rental assistance for 2 to 6 months (potentially renewable for up to 18 months) paired with limited, housing-focused services to help families find and rent conventional, private-market housing.

3. *Project-based transitional housing (PBTH)* was intended to provide temporary housing (for up to 24 months with average expected stays of 6 to 12 months) in agency-controlled buildings or apartment units paired with intensive supportive services.

4. *Usual care (UC)* is defined as any housing or services that a family accesses in the absence of immediate referral to the other interventions. UC typically includes at least some additional stay in the emergency shelter from which families were enrolled.

The intended contrasts across interventions in types of housing subsidies and of services, are shown in Exhibit 2-1.

Detailed findings from the pairwise comparisons of each active intervention (SUB, CBRR, and PBTH) to UC are presented in Chapters 6, 7, and 8. To assess the nature of the housing and services offered to families assigned to the interventions, the introductions to Chapters 6, 7, and 8 describe how the interventions were implemented in the study sites. Those descriptions use information about housing and services collected from the programs selected to operate the interventions. The intervention assessments also make use of data about the extent to which families received services from the assigned intervention and the duration of that assistance.

2.2 Site Selection

After defining the distinguishing features of the study interventions, the study team recruited sites. To select and recruit the sites, the study team canvassed a large group of

Exhibit 2-1. Intended Contrasts in Subsidy and Services for the Family Options Interventions and Usual Care Group

Housing Subsidy	Services Provided		
	Some[a]		None
Some	Heavy	Light	
Permanent	—	—	SUB
Temporary	PBTH	CBRR	—
None	UC[b]	—	—

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

[a] Outside of the heavy and light distinction, the *nature* of services also may differ between PBTH and CBRR. CBRR focuses on services to help with locating housing, leasing up, and settling in. By contrast, PBTH provides more comprehensive social services, such as assessments, provision of and referral to job-related services, counseling, substance abuse treatment, and family- and child-oriented services. See Sections 5-1, 6-1, 7-1, and 8-1 and Chapter 12 for details about the types of services offered.

[b] UC was intended to involve other assistance that families accessed on their own after emergency shelter. In many emergency shelters extensive services are provided. Information about services offered in emergency shelters is provided in Section 5-1 and in Chapter 12.

Continuum of Care (CoC) programs across the country to locate cities, counties, and metropolitan areas in which the number of families entering emergency shelter was considered sufficient to achieve enrollment goals and where the intervention models defined for the study were present.

Providers of SUB, CBRR, and PBTH in selected communities had to be willing to implement a random assignment evaluation. Participating in the study meant that programs had to agree to commit program slots to families in the study and to comply with random assignment as the method of determining which families would be referred to their programs from participating emergency shelters. The team worked closely with the CoC and local homeless system leaders to collect information about the homeless assistance system and then negotiated with program providers and public housing agencies (PHAs) to determine whether a sufficient number of program slots in each intervention were available in the site to make the study viable in the community.

The study team recruited 12 sites to conduct the study. The sites are displayed in Exhibit 2-2 with information about the number of CoCs and the geography covered by each site.

By definition, all sites had the UC option available in their communities, because the study sample was recruited from emergency shelters, and UC was defined as assistance that families accessed after a 7-day stay in emergency shelter without priority access to the active interventions (SUB, CBRR, and PBTH). The study team initially sought to select sites that had all three active interventions available. The study team subsequently determined that it would be acceptable to include some sites in which only two of the interventions were available. With assistance from HUD, the study team was able to obtain agreements with PHAs to make housing subsidies available for randomization to the SUB intervention in 10 of the 12 sites. HUD and local CoC stakeholders assisted the study team to secure CBRR slots for the study that might not otherwise have been available to families in shelter. Thus, the study increased the resources available to families who were experiencing homelessness in emergency shelters in participating communities.

Part of the site recruitment process involved confirming that all programs included in the study were good representatives of their defined intervention. The study team started by defining the distinguishing features of the interventions,

Exhibit 2-2. Family Options Study Sites

Site Name	Municipal Areas (cities/counties/geographic area) Included in the Study	CoCs Included in the Site
Alameda County, California	Berkeley Fremont Hayward Oakland Alameda County	CA-502 Oakland/Alameda County CoC
Atlanta, Georgia	Atlanta	GA-500 Atlanta Tri-County CoC
Baltimore, Maryland	Baltimore	MD-501 Baltimore City CoC
Boston, Massachusetts	Boston	MA-500 Boston CoC
Connecticut[a]	Bridgeport New Haven Norwalk Stamford Fairfield County	CT-503 Bridgeport/Stratford/Fairfield CoC CT-501 New Haven CoC CT-506 Norwalk/Fairfield County CoC CT-508 Stamford/Greenwich CoC
Denver, Colorado	Denver	CO-503 Metropolitan Denver Homeless Initiative
Honolulu, Hawaii	Island of Oahu	HI-501 Honolulu CoC
Kansas City, Missouri	Kansas City Jackson County	MO-604 Kansas City/Independence/Lee's Summit/Jackson County CoC
Louisville, Kentucky	Louisville Jefferson County	KY-501 Louisville/Jefferson County
Minneapolis, Minnesota	Minneapolis Hennepin County	MN-500 Minneapolis/Hennepin County
Phoenix, Arizona	Phoenix Maricopa County	AZ-502 Phoenix/Mesa/Maricopa County Regional CoC
Salt Lake City, Utah	Salt Lake City Salt Lake County	UT-500 Salt Lake City & County

CoC = Continuum of Care.

[a] The Connecticut site includes multiple metropolitan areas in the state.

Sources: Site recruitment data and HUD; CoC designations reported reflect designations in effect in September 2010 when study enrollment began; since that time, some CoCs have been reorganized and renamed

such as the housing assistance subsidy duration and level and presence of dedicated services linked to the housing assistance. The challenge in this endeavor was that short-hand terms used by practitioners and researchers, such as "transitional housing" or "supportive housing," do not reflect uniform approaches. In reality, as Rog and Randolph (2002) noted, even when programs of a particular "type" are specifically chosen for study, their characteristics can overlap considerably with other programs that nominally use an approach labeled in a different way. To address this challenge, during initial site selection, the team visited potential study programs (and interviewed some by phone), collected data on their operations, and completed an assessment for each candidate program. The study team selected programs that fit the study's definitions of the interventions based on these assessments, rather than based on programs' self-descriptions.

Before selecting programs to participate in the study, the study team identified minimum requirements for a program to be considered an example of each intervention. Selecting programs that met these requirements assured that families enrolled in the study would receive comparable levels of housing assistance and service support within an intervention regardless of site differences. Such comparability in turn allowed for the evaluation to test the outcomes associated with being randomly assigned to distinct interventions across multiple sites. Overall, the data collected from the participating programs confirm that the interventions were distinct from each other in the ways intended by the study's design (see Sections 5-1, 6-1, 7-1, and 8-1). Exhibit 2-3 tabulates the number of providers for each intervention that agreed to participate in the study at each site.

As indicated in the exhibit, all four interventions were offered in 9 sites. Two sites (Atlanta and Baltimore) did not offer SUB and one site (Boston) did not offer PBTH.

Exhibit 2-3. Number of Programs, by Site and Intervention

Site	SUB	CBRR	PBTH	UC
Alameda County, California	3	1	7	9
Atlanta, Georgia		4	7	4
Baltimore, Maryland		2	5	3
Boston, Massachusetts	1	2		8
Connecticut[a]	3	2	3	9
Denver, Colorado	2	1	3	5
Honolulu, Hawaii	2	6	7	6
Kansas City, Missouri	1	5	3	3
Louisville, Kentucky	1	1	4	3
Minneapolis, Minnesota	1	1	2	1
Phoenix, Arizona	2	1	4	5
Salt Lake City, Utah	2	1	1	1
Total	**18**	**27**	**46**	**57**

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.
[a] The Connecticut site includes multiple metropolitan areas in the state.
Source: Study program data

2.3 Characteristics of Participating Sites

The 12 study sites represent a diverse range of geographic locations, size, population, and housing and labor market characteristics. Gubits et al. (2013) provides a detailed review of population, income, and labor market conditions in the participating sites. To provide context for the impact analysis, this section discusses select housing market characteristics and rates of homelessness across the 12 sites at the time study enrollment began in 2010.[24] Although not a

randomly selected sample of communities, the sites are varied in geography and conditions that are related to homelessness. The sites are located in all four of the Census Bureau-designated regions in the country. Exhibit 2-4 displays the geographic coverage of the sites.

Housing market characteristics offer insight into the conditions for obtaining housing in each of the 12 study sites (see Exhibit 2-5). The rental vacancy rate serves as an indicator of how difficult it may be for a family to obtain rental housing.

[24] Ten of the study sites began enrollment in the fall of 2010; two sites (Baltimore and Louisville) began enrolling families into the study during the spring of 2011.

Exhibit 2-4. Location of Study Sites
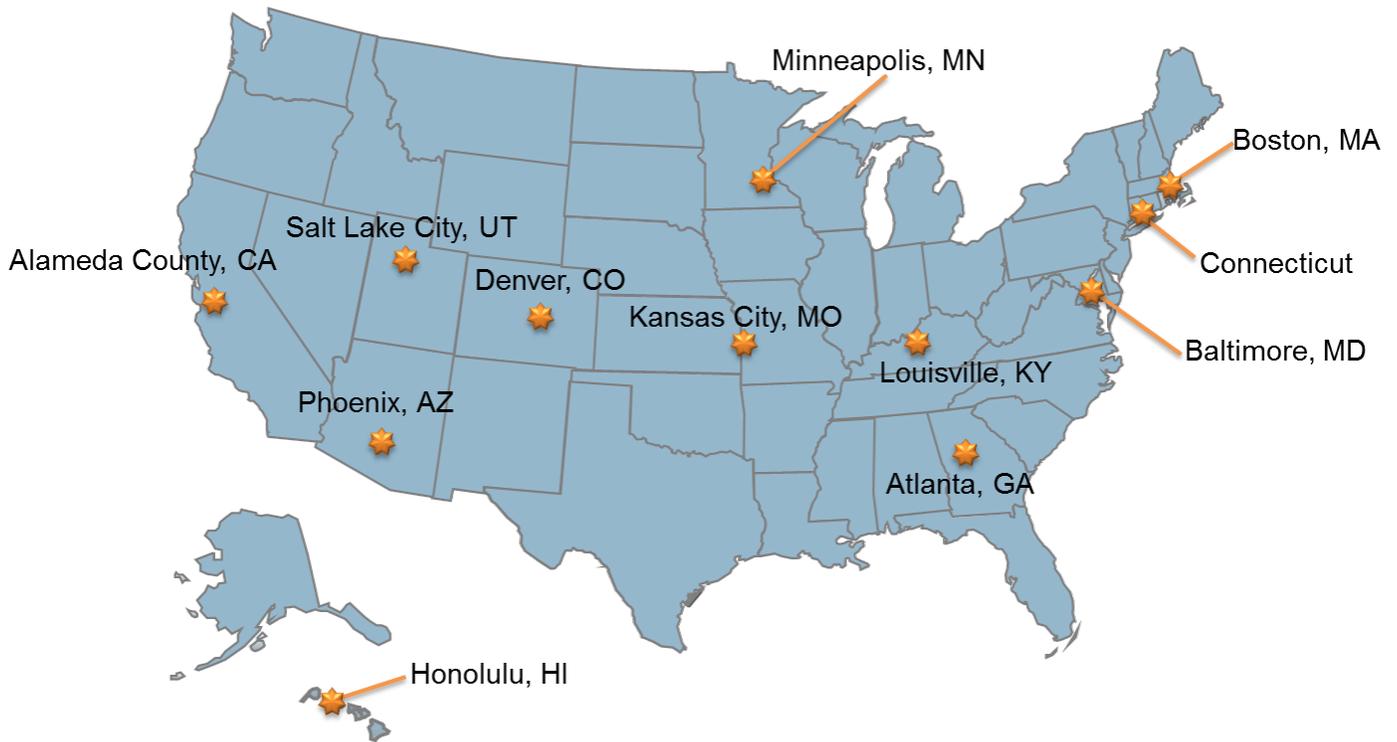
Exhibit 2-5. Housing Market Characteristics of Study Sites

Site	Rental Vacancy Rate (% 2010)	Median Monthly Gross Rent ($ 2010)
Alameda County, California[a]	5.6	1,198
Atlanta, Georgia	16.4	892
Baltimore, Maryland	7.5	874
Boston, Massachusetts	5.4	1,233
Connecticut[b]	12.3	1,047
Denver, Colorado	5.5	811
Honolulu, Hawaii	6.1	1,171
Kansas City, Missouri[a]	13.8	738
Louisville, Kentucky[a]	9.2	670
Minneapolis, Minnesota[a]	6.1	861
Phoenix, Arizona[a]	11.7	884
Salt Lake City, Utah[a]	7.5	832
United States	8.2	855

[a] Because these sites operated at the county level, the data presented are for the county where the study site is located.
[b] The site includes the cities of Bridgeport and New Haven, Connecticut. The figures shown are averages for the two cities.
Source: 2010 American Community Service 1-Year Estimates, U.S. Census Bureau

Areas with lower rental vacancy rates are considered less likely to have affordable rental housing. In 2010, the nationwide rental vacancy rate was 8.2 percent. Among the 12 study sites, Boston had the lowest rental vacancy rate (5.4 percent) and Atlanta had the highest rental vacancy rate (16.4 percent). Another 6 sites—Alameda County, Baltimore, Denver, Honolulu, Minneapolis, and Salt Lake City—had vacancy rates between 5 and 8 percent, and 3 had vacancy rates between 11 and 14 percent.

In 2010, the national median monthly gross rent was $855. Of the 12 study sites, 6—Atlanta, Baltimore, Denver, Minneapolis, Phoenix, and Salt Lake City—had median rents between $800 and $900, similar to the national rate. Another 2 sites—Kansas City and Louisville—had rates lower than the national average, and 4 sites—Alameda County, Boston, Connecticut, and Honolulu—had median rents above $1,000, well above the national average. Boston had the highest median rent of all 12 sites, at $1,233.

The prevalence of family homelessness also differed among the 12 study sites. To give a sense of the extent of homelessness from one study site to another, Exhibit 2-6 shows the proportion of the population that was homeless as reported in each study site for the point-in-time counts conducted in January 2011 as a percent of the study site's total population. Among the sites, Honolulu had the highest rate of homelessness (1.26 percent of the population), while Phoenix had the lowest (0.15 percent of the population).[25] Of the 12 study sites, 9 had a higher incidence of homelessness than the national rate of 0.20 percent. The exhibit also shows the number of homeless families (overall, not merely in the study) and the number of people in these households in the point-in-time count. Boston had the highest number of homeless families (987 families) and Louisville had the lowest (134 families) reported. The high incidence in Boston may reflect a Massachusetts "right to shelter" policy for homeless families, meaning that all families who apply for shelter, lack alternative housing options, and whose income does not exceed 115 percent of the federal poverty line are entitled

to shelter (Institute for Children and Poverty, 2010). The right-to-shelter policy might also increase lengths of stay in shelter in Boston.

Each site offers assistance to homeless families through emergency shelter and transitional housing programs. Exhibit 2-6 also shows the level of assistance available as measured by the number of emergency shelter and transitional housing beds that are dedicated to assisting people in homeless families.[26] These figures provide an indication of the local homeless service system's size and the relative prevalence of emergency shelter and transitional housing in each community's system for families. One-third of the sites had excess emergency shelter and transitional housing capacity on the night of the point-in-time count in January 2011, whereas the other two-thirds were using overflow capacity or had families who were unsheltered (that is, families that had to stay in cars, on the streets, or in other private or public places not designed for or ordinarily used as a regular sleeping accommodation for human beings).[27] Whereas roughly

Exhibit 2-6. Homeless Population in Study Sites

Site	Total Population in 2010	Homeless Population as Percentage of Total Population (based on 2011 total point-in-time person count)	Total Number of Homeless Families (2011 point-in-time count)	Total Number of Homeless Persons in Families (2011 point-in-time count)	Number of Emergency Shelter Beds Dedicated to Homeless Families (2011)	Number of Transitional Housing Beds Dedicated to Homeless Families (2011)
Alameda County, California[a]	1,510,271	0.28	376	1,136	447	852
Atlanta, Georgia[b]	1,612,474	0.42	365	1,073	484	1,489
Baltimore, Maryland	620,961	0.66	323	934	164	448
Boston, Massachusetts	617,594	0.89	987	2,926	2,648	435
Connecticut[c]	274,008	0.16	165	498	410	248
Denver, Colorado	600,158	0.80	924	2,609	727	1,635
Honolulu, Hawaii	337,256	1.26	558	2,235	675	1,733
Kansas City, Missouri[a]	674,158	0.41	407	1,548	494	663
Louisville, Kentucky[a]	741,096	0.22	134	386	178	275
Minneapolis, Minnesota[a]	1,152,425	0.27	467	1,572	1,279	823
Phoenix, Arizona[a]	3,817,117	0.15	683	2,238	1,130	1,381
Salt Lake City, Utah[a]	1,029,655	0.20	241	827	322	479
United States	308,745,538	0.20	76,653	234,079	110,679	110,364

[a] County-level data are presented for these sites because the study was implemented in the county in which the metropolitan area is located.

[b] Represents the population of DeKalb and Fulton Counties, because CoC GA-500 includes this larger geography, including Atlanta.

[c] Represents the population of New Haven and Fairfield County, whereas the CoC data represents the four CoCs that participated in the study: CT 501 New Haven; CT 503 Bridgeport; CT-506 Norwalk-Fairfield; and CT-508 Stamford/Greenwich.

Sources: 2010 American Community Service 1-year estimates; U.S. Census Bureau and 2010 Decennial Census (total population figures); 2011 CoC Housing Inventory Chart and Homeless Populations and Subpopulations Data, HUD (HUD, 2011b)

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[25] The homeless data from point-in-time counts are reported by the CoC and thus do not always align precisely with the geography of the study site.

[26] The housing inventory count of transitional housing beds includes all project-based and scattered-site transitional housing beds, because separate counts for the two models do not exist. The study defined the PBTH intervention as transitional housing in which the transitional housing operator maintained control of the housing and required families to move out of the assisted unit into other housing at the completion of the program, excluding transition-in-place models of transitional housing. The information in Exhibit 2-6 overcounts the number of transitional housing beds that meet the definition of transitional housing used for the study because transition in place, which is not included in the definition of transitional housing used for this study, is included in the counts provided in Exhibit 2-5.

[27] CoCs are required to conduct point-in-time counts during the final 10 days of January each year.

equal numbers of emergency shelter beds and transitional housing beds are in place for homeless families nationwide, 9 of the 12 study sites have more transitional housing beds than emergency shelter beds.

2.4 Implementing Random Assignment

This section describes the implementation of random assignment. The study team excluded families who left shelter in fewer than 7 days because the more intensive interventions considered in this study may not be necessary for families who can resolve a housing crisis quickly. During those first 7 days and up until the point of random assignment, it was expected that shelters would continue to provide all services and referrals they ordinarily provide to help families leave shelter. As soon after the 7-day mark as was feasible, the evaluation team randomly assigned families to the SUB, CBRR, PBTH, or UC interventions. In sites where permanent supportive housing (PSH) programs were operating and had open slots, families whom shelter staff deemed eligible for PSH were excluded from random assignment.[28] These exclusions were made only in the few sites where such programs were available and had slots. If no PSH programs had openings in a community, all families who met the other study criteria and who agreed to participate in the study were randomly assigned.

Implementing the random assignment design presented several challenges. In the original design of the study, each family was to have a chance of being assigned to all four groups (SUB, CBRR, PBTH, or UC). A number of factors prevented the study from being implemented exactly as planned. First, 3 of the 12 sites were able to provide only two of the three active interventions (see Exhibit 2-3). Second, families had interventions available to them only where at least one provider of the intervention type had an available slot. Third, some service providers had unique eligibility requirements for families. Before random assignment, the study team screened families for eligibility for the providers

that had available slots. The purpose of this screening was to minimize the likelihood of assigning families to interventions they would not be eligible to receive.[29] As a result, for an intervention option to be available to a family undergoing random assignment, at least one slot had to be available at an intervention provider for which the family met provider-specific eligibility requirements.

These factors cumulatively resulted in most study families not having all four assignment options available to them at the time of random assignment. Of the 2,282 families enrolled in the study, 474 had all four assignment options available to them at random assignment, 1,544 families had three assignment options, and 264 families had two assignment options. To preserve the integrity of the experiment, families were randomly assigned among available interventions, and all analyses are conducted pairwise, comparing families who were eligible for both interventions and randomized to one of them.

Exhibit 2-7 illustrates the random assignment model the study team used to allocate families to active interventions or to usual care.

As shown at the top of the exhibit, the study population is all families who had been in an emergency shelter for at least 7 days and who had at least one child age 15 or younger at enrollment. The latter restriction was imposed because children who reach adulthood by the time of the followup survey are not targets for the study. In each site, the study team screened for eligibility those families who met the basic study eligibility requirements (presence in shelter for more than 7 days and at least one child age 15 or younger) and who provided informed consent. Exhibit 2-8 lists the 12 sites and the number of families assigned to each intervention in each site.

The next chapter discusses the hypothesized effects of the three active interventions—SUB, CBRR, and PBTH—on family well-being in five domains: (1) housing stability, (2) family preservation, (3) adult well-being, (4) child well-being, and (5) self-sufficiency.

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[28] PSH is available only to families in which an adult has a qualifying disability.

[29] See Gubits et al. (2013) for a detailed description of the eligibility screening conducted prior to random assignment.

Exhibit 2-7. Random Assignment Design
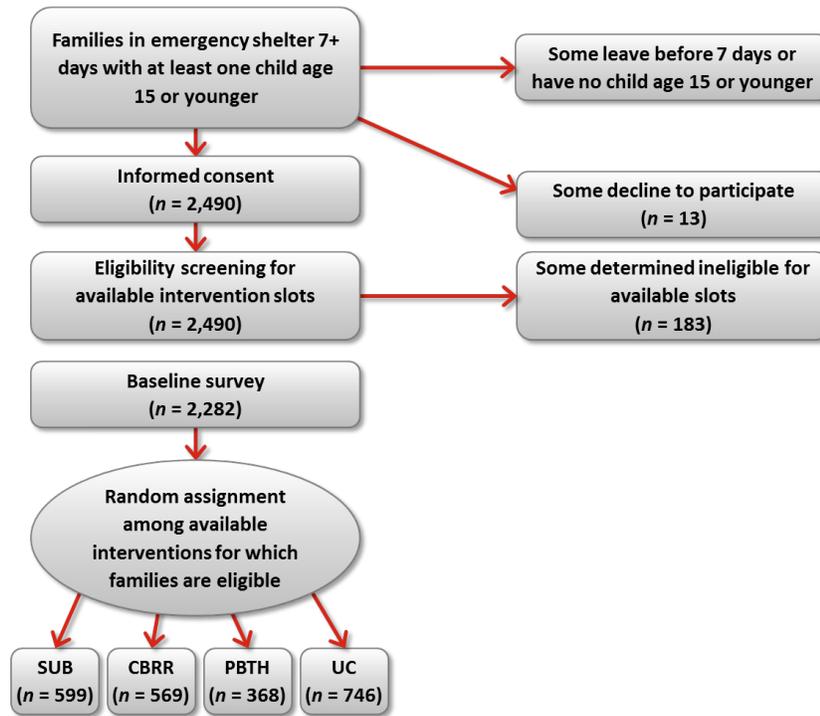
CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

Notes: 2,307 families completed the baseline survey and were randomly assigned. The study team subsequently determined that 25 of these families should not have been enrolled in the study, as they did not have at least one child age 15 or younger at enrollment. These 25 families were removed from the impact analysis sample.

Exhibit 2-8. Interventions Available and Participant Enrollment by Assignment and Site

Site	SUB	CBRR	PBTH	UC	Total Enrolled Participants
Alameda County, California	76	56	49	77	258
Atlanta, Georgia		73	41	75	189
Baltimore, Maryland		20	17	21	58
Boston, Massachusetts	64	53		64	181
Connecticut[a]	47	73	18	76	214
Denver, Colorado	76	8	23	65	172
Honolulu, Hawaii	43	44	66	65	217
Kansas City, Missouri	53	30	42	50	176
Louisville, Kentucky	32	18	24	35	109
Minneapolis, Minnesota	62	52	4	63	181
Phoenix, Arizona	71	62	65	81	279
Salt Lake City, Utah	75	80	19	74	248
Total	599	569	368	746	2,282

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

[a] The Connecticut site includes multiple metropolitan areas in the state.

Source: Random assignment enrollment data

CHAPTER 3.
HYPOTHESES ABOUT INTERVENTION EFFECTS (CONCEPTUAL FRAMEWORK)

This chapter of the report describes the conceptual framework for the permanent housing subsidy (SUB), community-based rapid re-housing (CBRR), and project-based transitional housing (PBTH) interventions under study. The chapter also posits specific hypotheses comparing the three active interventions each with the other and with the usual care (UC) intervention. The interventions reflect different implicit theories about the nature of family homelessness and approaches best suited to address the problem. These implicit theories arise from different understandings of (1) the origins of homelessness, (2) the needs of homeless families, (3) the effect of family challenges on achieving residential stability, and (4) the appropriate role of the homeless assistance system.

Some theories posit that household challenges—for example, trauma, substance use problems, mental health issues, lack of job skills—must be addressed first for families to succeed in housing. Others posit that progress on these issues is likely to be achieved only after families are stabilized in permanent housing.

The different perceptions of the homeless assistance system's role result in different emphases among three central goals of interventions for homeless families: (1) ending the immediate episode of homelessness and preventing returns to shelter; (2) fostering longer term residential stability; and (3) promoting other outcomes, including self-sufficiency, family preservation, and adult and child well-being.

To lay the background, this chapter begins with a discussion of the challenges that mothers and children who experience homelessness face. Next, it presents some evidence that homeless families are not homogenous; rather, they differ in patterns of homelessness and interactions with other service systems. The chapter then lays out the rationale for the interventions—first by describing the rationale for the two interventions with a central focus on housing (SUB and CBRR), and then by describing the rationale for PBTH, which focuses more on helping families address other challenges.

The balance of the chapter offers hypotheses about the effects of each intervention—from the perspective of its

proponents. The different rationales for the interventions suggest different and sometimes competing hypotheses about which outcomes each will affect. The chapter also offers hypotheses about the relative monetary costs of the approaches and closes with a discussion of possible differential effects of interventions for families with different characteristics; that is, the question of what works for whom.

3.1 Challenges That Families Experiencing Homelessness Face

This section begins by describing challenges that mothers experiencing homelessness face. It synthesizes information from several previous studies. Next, it describes challenges that their children encounter and the extent to which these challenges are unique to homelessness or are common to all poor children. The final portion of this section describes the heterogeneity in homeless families.

3.1.1 Challenges That Homeless Mothers Face

Numerous descriptive studies have shown that mothers who experience homelessness face many challenges in addition to residential instability. Some of these challenges are due to poverty. Indeed, on the whole, mothers experiencing homelessness resemble their low-income housed counterparts, but they are younger and have younger children (Rog and Buckner, 2007). Aside from living in poverty and needing housing, the other challenges that homeless families face are complex. Researchers and service providers debate whether these challenges are causes, consequences, or simply correlates of homelessness.

The descriptive studies in the literature cannot address this debate, nor is this debate the focus of the Family Options Study. Rather, this study estimates the impact of priority access to housing and service interventions on families' homelessness and residential stability, self-sufficiency, family preservation or reunification, and other aspects of adult and child well-being.

Although many mothers experiencing homelessness are similar to other women in poverty in that they have limited education and work histories (Rog and Buckner, 2007), mothers experiencing homelessness are substantially poorer. For instance, the most recent national study of homeless families, conducted in 1996 (the National Survey of Homeless Assistance Providers and Clients, or NSHAPC), reported the median income for a family experiencing homelessness was only 46 percent of the federal poverty level at that time (Burt et al., 1999). In addition, compared with mothers of families receiving public assistance, mothers experiencing homelessness come from much more difficult housing circumstances—including more frequent doubling up, overcrowding, and mobility (Shinn et al., 1998).

Mothers experiencing homelessness are likely to have had more difficult childhoods than low-income housed mothers. They are more likely to have grown up in poverty, to have spent time in foster care, and, based on some studies, to have had more exposure to violence (Bassuk et al., 1997; Shinn et al., 1998). In a study by Bassuk et al. (1996), more than 90 percent of mothers experiencing homelessness had suffered severe physical and sexual abuse, domestic violence, or random violence at some point in their lives, although they did not differ greatly from other poor mothers in this respect (Rog and Buckner, 2007). Mothers who are homeless multiple times, however, have been exposed to more violence than those who are homeless only once or than poor women who do not experience homelessness (Bassuk, Perloff, and Dawson, 2001).

Rates of diagnosable mental health problems, including major depression, anxiety disorders, and post-traumatic stress disorder (PTSD), are similar for homeless and other poor women (Bassuk et al., 1996; Bassuk, Rubin, and Lauriat, 1998), but they are much higher in both groups than in the general population (Bassuk, Rubin, and Lauriat, 1998). Furthermore, levels of PTSD predicted continued residential instability 30 months after program entry in the Service and Housing Interventions for Families in Transition (SHIFT) study of families in shelters, transitional housing, and permanent supportive housing (PSH) in Upstate New York (Hayes, Zonneville, and Bassuk, 2013). Mothers experiencing homelessness are more likely than other poor mothers, but less likely than single adults experiencing homelessness, to have substance use problems (Bassuk et al., 1997; Bassuk, Rubin, and Lauriat, 1998; Burt et al., 1999; Rog and Buckner, 2007). Levels of disability among adults in families experiencing homelessness are also high—18.6 percent versus 8.1 percent in all U.S. families (HUD, 2013b).

Findings regarding social networks are conflicting. Many studies found the networks of mothers experiencing homelessness to be weaker or more conflicted than those of housed women (for example, Bassuk et al., 1997). Other studies found that, at the time of a shelter request, women on the verge of homelessness reported more ties and more recent contact with families and friends than poor housed women (for example, Shinn et al., 1998).

3.1.2 Challenges That Children Experiencing Homelessness Face

As with their parents, children who experience homelessness face multiple challenges. Many studies have compared the characteristics of children in the midst of an episode of homelessness with those of children in low-income housed families and the U.S. child population as a whole. Fewer studies have assessed whether the experience of homelessness may create long-term adverse effects for children.

Children whose families become homeless experience high levels of both poverty and instability. Research on other populations shows that poverty and residential, school, and familial instability are associated with poor child adjustment across a number of domains, including school performance, behavior, and self-regulation (for example, Adam, 2004; Beatty, 2010; Chen, 2004; Evans, 2004; Fantuzzo et al., 2012; Herbers et al., 2012; Masten et al., 2012; McLoyd, 1998; Mehana and Reynolds, 2004; Obradovi et al., 2009; Pribesh and Downey, 1999; Voight, Shinn, and Nation, 2012; Yoshikawa, Aber, and Beardslee, 2012).

Many low-income children, housed and homeless, live with only one parent, but children experiencing homelessness are particularly likely to become separated or removed from their custodial parents. Park et al. (2004) matched agency records regarding homelessness and child protective services to show that, of 8,251 children who entered shelter with their parents for the first time in 1996 in New York City, 16 percent had experienced out-of-home placement within the next 5 years. Cowal et al. (2002) interviewed families in the same city and thus were able to document informal and formal separations. Their research found, over a similar timeframe, that 44 percent of a group of 251 mothers experiencing homelessness had been separated from at least one child compared with 8 percent of 292 housed mothers receiving public assistance. Only one-fifth of the 249 separated children who had been homeless returned to live with their mother by the end of the study period. Hayes, Zonneville, and Bassuk (2013) documented even higher levels of separation, especially for mothers in PSH. Separation of children from their parents has immediate consequences for children, families, and the protective services system. Moreover, separation from parents in the family of origin is a predictor of future homelessness in adults (Rog and Buckner, 2007).

Thus, the Family Options Study can make important contributions by identifying whether particular interventions can reduce rates of child separation from families who experience homelessness.

Most studies that examine how homelessness affects children consider only children who remain with their parents and often examine the children in the midst of an episode of homelessness. These findings have evolved over time. Early research on homeless children compared them with normative data on middle-class children and found large differences regarding health, mental health, behavior development, and academic performance (Rafferty and Shinn, 1991). Subsequent studies that included comparison groups of low-income housed children found that both children who experience homelessness and children living in poverty fared worse on all these dimensions than middle-class children or national norms, but the poor and homeless children differed less from each other (Buckner, 2008). For example, Buckner and Bassuk (1997) found that essentially the same proportions of homeless and housed, poor children older than age 9 had a psychiatric disorder with impairment, and that the proportion—nearly one-third—was far higher than the national norms. Two studies of early childhood development found differences between children experiencing homelessness and housed, poor children on a screening test based on parental reports, but a third study, based on a stronger assessment tool, did not.

Differences in academic outcomes and especially in health outcomes between children experiencing homelessness and housed children living in poverty were more consistent, although still not uniform, and again both groups differed from the general population. For example, Weinreb et al. (1998) found a higher frequency of health problems among children experiencing homelessness than among housed children living in poverty. Masten et al. (1993) described the overall pattern as reflecting a continuum of risk, with children living in poverty worse off than their middle-class peers and children experiencing homelessness often worse off than other poor children, although not always significantly so.

Buckner (2008) suggested that changes in research findings from earlier to later studies were not solely because of study design. The first families to become homeless, when housing markets were relatively benign, were more vulnerable than other poor families, but, as more and more poor families have become homeless, the differences have gotten smaller. He also suggested that shelter conditions in many

communities have improved, and school systems are doing a better job of accommodating children who are experiencing homelessness. Thus homelessness per se has become less important than some of the other stressors that poor and homeless children face, such as exposure to violence in their homes and communities (Buckner, Beardslee, and Bassuk, 2004).

Problems of children who become homeless may diminish over time. For example, Buckner et al. (1999) found in a cross-sectional analysis that children's psychiatric symptoms peaked at about 4 months in shelter; thereafter, children seemed to have adapted to the shelter environment. In a longitudinal study, Shinn et al. (2008) found few differences between housed children living in poverty and children who had experienced homelessness and remained with their families 5 years after shelter entry. Using board of education records for children in the same sample, Rafferty, Shinn, and Weitzman (2004) found that, both before becoming homeless and after returning to residential stability, children who experienced homelessness with their families did not differ significantly on standardized tests from continuously housed children living in poverty. While they were in shelter, however, the performance of the children experiencing homelessness was significantly lower than that of the continuously housed, poor children. The children who had experienced homelessness had more school mobility and greater grade repetition than continuously housed, poor children.

3.1.3 Heterogeneity Among Families in Patterns of Homelessness and Use of Other Services

Patterns of homelessness among families show considerable heterogeneity. Culhane, Metraux, et al. (2007) created a typology of these patterns for families entering shelter or transitional housing for the first time, based on the duration and number of subsequent homeless spells recorded in administrative data.[30] About three-fourths of families experienced "temporary" homelessness, marked by single episodes of homelessness of short duration, ranging from an average of 33 days in Columbus, Ohio, to 139 days in New York City. Another 20 percent had an average of less than 1.5 episodes of homelessness but longer durations. These "long stayers" averaged 187 days in Columbus and 552 days in New York. The remaining 2 to 8 percent experienced "episodic" homelessness characterized by multiple stays. Episodically homeless families had an average of three episodes during a 2- or 3-year followup period, and cumulative lengths of homelessness varied from 148 to 385 days (Culhane et al., 2007).

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[30] The analysis covered 2-year observation periods for the state of Massachusetts and city of Columbus, Ohio, and 3-year observation periods for Philadelphia, Pennsylvania, and New York City.

Culhane et al. (2007) also examined how these patterns were related to use of other services, including psychiatric and substance abuse treatment; Supplemental Security Income, or SSI, disability; Temporary Assistance for Needy Families (TANF); unemployment; and foster care. The temporary and long-stayer groups looked surprisingly similar in their use of services. It was episodically homeless families, those most likely to cycle in and out of housing and homelessness programs, who had the most intensive service needs. Thus, the researchers posited that lengths of stay for homeless families are more related to local homelessness policy, program structure, and funding than family need. They suggested restructuring homeless services to find a better match between household needs and different packages of rental assistance and services.

The 2012 Annual Homeless Assessment Report, or AHAR, also suggested considerable heterogeneity among families in patterns of shelter use. One-fourth of families (24.1 percent) who accessed emergency shelter (in this case, distinguished from transitional housing) remained a cumulative total of 7 or fewer nights during the 12-month observation period. Another 28.8 percent of families used emergency shelters between 8 and 30 days. At the other end of the distribution, 10.3 percent of families used shelter for 6 months or more (HUD, 2013a).

Existing research on the needs of families experiencing homelessness, for the most part, has failed to acknowledge the heterogeneity among the families, which extends to family challenges and patterns of shelter stay. Children who experience homelessness show similar heterogeneity, with some demonstrating problems across multiple domains and others showing resilience (Huntington, Buckner, and Bassuk, 2008). To address this heterogeneity, this study will examine whether the different interventions yield better outcomes for two types of families: those with more psychosocial challenges and those who reported more barriers to housing at study entry.

3.2 Conceptual Framework and Hypothesized Effects for the Family Options Study Interventions

The Family Options Study is the first experimental evaluation of the role that these interventions—SUB, CBRR, and PBTH—might play in ending homelessness among families. Although experimental evidence indicates (reviewed subsequently)

that subsidies can *prevent* homelessness, there is at best quasi-experimental evidence for the success of SUB and CBRR in *ending* homelessness.

This quasi-experimental evidence needs to be interpreted with care. When groups are not randomly assigned to treatments, the possibility always exists that outcomes reflect preexisting differences among groups rather than impacts of the interventions. Consistent with the possibility that some differences in outcomes are due to differences in the groups (or people) who receive each treatment, the interim report on the enrollment phase of the Family Options Study showed that CBRR and especially PBTH programs were more selective about the families they would serve than SUB programs (Gubits et al., 2013). Thus preexisting differences, also called selection effects, are plausible alternative explanations for many of the findings we review in this chapter.[31]

Most studies of PBTH lack any comparison group, much less one that has been randomly assigned, so it is difficult to know what would have happened in the absence of intervention. In what follows, we review the existing evidence to motivate our hypotheses and to set the stage for our experimental results, but we are cognizant of the limitations of that evidence.

3.3 Conceptual Rationale for SUB and CBRR

This section considers the conceptual rationale for SUB and CBRR. Considering these two interventions together is appropriate because proponents of both SUB and CBRR believe that the key goals of homeless interventions should be ending homelessness swiftly, reducing returns to shelter, and restoring families to housing stability. This position follows from their view that family homelessness is largely a consequence of housing costs that outstrip incomes of poor families, a problem that housing subsidies can solve.

An episode of homelessness may be precipitated by unpredictable trigger events such as a financial crisis or domestic conflict (NAEH, 2012; O'Flaherty, 2009). Middle-class families may find alternative housing quickly, but families already living on the margins may need help in recovering. Subsidies, whether they are the permanent subsidies of the SUB intervention or temporary subsidies such as CBRR, can help families obtain and maintain stable housing.

Resource constraints mean that, outside the context of this study, SUB is rarely accessible by families at the outset of an

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[31] As noted previously, to preserve the integrity of the Family Options Study experiment, all comparisons of interventions include only families who were eligible for the interventions in a given comparison and were randomly assigned to one.

episode of homelessness unless they already have a place near the top of a waiting list. SUB was not created as a response to homelessness. Instead, SUB already existed as an element of the broader social safety net at the time the homeless services system came into being in the late 1980s. Housing assistance is intended for a broader group of households than those who experience homelessness, and waiting lists for housing choice vouchers, or HCVs, and placements in public housing are long.

By contrast, CBRR was developed specifically as a response to homelessness. Because SUB is unlikely to become widely available to families at the time they are experiencing homelessness, proponents of CBRR argue that limited resources dedicated to homelessness could be stretched to create the best outcomes for the most people by making subsidies temporary (Culhane, Metraux, and Byrne, 2011). Proponents of CBRR emphasize restoring families to conventional housing as swiftly as possible (the "rapid" in rapid re-housing), thereby reducing time in shelter and on the street, which they see as harmful. In addition, they focus on preventing returns to homelessness. Proponents of SUB focus more on long-term stability and worry that short-term subsidies provided by CBRR may not be sufficient to foster such stability.

Advocates of both types of subsidies acknowledge that homeless families, like other poor families, must contend with a variety of challenges, but subsidy advocates believe that such challenges are better addressed by mainstream community agencies than by specialized homeless services.

Challenges do not strongly differentiate most families who experience homelessness from other poor families who stay housed, at least before they become homeless (Shinn et al., 1998, 2013). Homelessness and housing instability are likely to exacerbate families' challenges over time. Proponents of subsidies argue that stable housing provides a platform from which families can address other problems on their own, using community resources if they need to and choose to do so, while reserving scarce housing dollars for housing. This understanding is illustrated in Exhibit 3-1.

3.3.1 Predictions Regarding Housing Stability

Given this implicit argument for SUB and CBRR, what predictions would their proponents make about the effect of the interventions on housing stability? Proponents of both SUB and CBRR see the crisis of housing affordability as the root cause of homelessness among families. In 2011, 11.8 million renter households in the United States had extremely low incomes, defined as less than 30 percent of Area Median Income (AMI). More than one-half of them (52.7 percent) did not have housing assistance and either paid more than one-half of their income for housing, had severely inadequate housing, or experienced both (Steffen et al., 2013). Further, young adults starting families are not always able to break into the housing market—that is, they have never lived in a place of their own. American Housing Survey data suggest that in 2011 households consisting of more than one family totaled 3.6 million, reflecting the dramatic growth of

Exhibit 3-1. Conceptual Intervention Model for SUB and CBRR
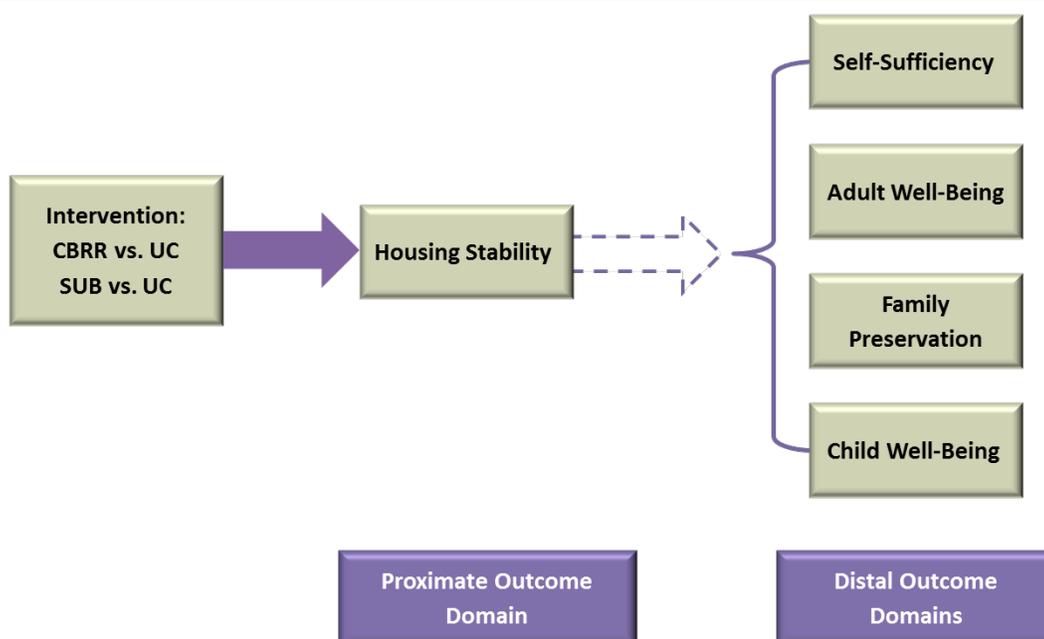
CBRR = community-based rapid re-housing. SUB = permanent housing subsidy. UC = usual care.

subfamilies during the recession.[32] Adults in the subfamilies, unsurprisingly, were less well educated and more likely to be unemployed than adults in one-family households (Eggers and Moumen, 2013).

Most families who become homeless are probably drawn from both subfamilies and families with extremely low incomes who pay more than one-half of their income for housing. Worst case needs reports show that unassisted renters with incomes at or below 30 percent of AMI, or roughly the poverty level, cannot afford market-rate housing. Households that become homeless are even poorer, on average.

As noted previously, in NSHAPC, the income for the median homeless family was 46 percent of the federal poverty level (Burt et al., 1999). The median annual family income of families in the Family Options Study was only $7,410 at the time of enrollment, or about 15 percent of the national median household income.

Although a national consensus calls for an end to homelessness, no similar consensus steps forward to address the broader problem of housing affordability. If this interpretation of the national consensus is correct, the operative question becomes this: Can we address homelessness without addressing the broader problem and, if so, what is the least costly way of doing so? Proponents of SUB believe that, because families who experience homelessness are very poor, they are likely to require long-term rental subsidies to remain stable. Such families are likely to have ongoing difficulties affording housing at market rates without assistance. Although one-fourth of families who experience homelessness exit shelter within 7 days, families in this study are likely to need more assistance. Families had to have been in shelter for at least 7 days to enroll in the Family Options Study and 63 percent of enrollees had experienced previous episodes of homelessness. Such families may need a longer period of subsidy than CBRR provides to regain and maintain stability.

Strong evidence suggests that ongoing subsidies that hold housing costs for rent and utilities to 30 percent of family income, as the SUB intervention does, both prevent and end homelessness (Khadduri, 2008). The most rigorous evidence for subsidies as primary prevention for families comes from the experimental *Effects of Housing Vouchers on Welfare Families* study (Mills et al., 2006; Wood, Turnham, and Mills, 2008). Researchers randomly assigned 8,731 families receiving TANF in six sites (Atlanta and Augusta, Georgia; Fresno, California; Houston, Texas; Los Angeles, California; and Spokane, Washington) to receive a voucher or to be placed on the public housing waiting list without a voucher

initially. Using a treatment-on-the-treated (TOT) analysis, which examined the effects of vouchers on those induced to use them by the experiment, the study showed that housing vouchers prevented homelessness, both narrowly and broadly defined. In a survey conducted 4.5 to 5 years after random assignment, 12.5 percent of the control group, but only 3.3 percent of the experimental group, reported living on the streets or in shelters in the previous year, and 44.8 percent of control households but only 9.3 percent of the experimental households lacked a place of their own or had lived with others in the previous year. Families in this study were TANF recipients but less than 2 percent were homeless (in shelter or transitional housing) at the time of random assignment.

Other nonexperimental studies suggest that housing subsidies effectively end homelessness for most families who have experienced it. Subsidies reduced returns to shelter as measured in administrative records in Philadelphia and New York City (for example, Culhane, 1992; Wong, Culhane, and Kuhn, 1997) but not in Georgia (Rodriguez, 2013). Subsidies also enhanced stability in survey data from a nonexperimental study of 256 families in New York City. Within 5 years after their initial shelter entry, 80 percent of families who received housing subsidies were stable (defined as in their own place without a move for at least a year) and, on average, the families had been in their current home for 3 years. Only 18 percent of families who did not receive subsidies attained stability. Although receipt of subsidies was not randomized, family characteristics at the time of shelter entry did little to predict receipt of subsidies (Shinn et al., 1998).

In the absence of sufficient long-term subsidies, rapid rehousing is an intervention involving temporary subsidies designed to achieve two important goals: (1) hastening exit from shelter as swiftly as possible and (2) assisting families to lease up in market-rate housing.

CBRR focuses on helping families overcome whatever crisis precipitated their shelter entry to end their homelessness rapidly and minimize the negative consequences of homelessness for families and children (NAEH, 2012). Proponents also argue that most families do not need long periods of preparation as in PBTH to be able to live independently (NAEH, 2012). About two-thirds of households nationwide (including both families and individuals) that were literally homeless upon entry into the Homelessness Prevention and Rapid Re-Housing Program (HPRP) in its first 2 years exited to housing that was deemed stable at the time of exit (64.2 percent of households who exited in year 1, 64.9 percent of households who exited in year 2; HUD, 2011a, 2013c).

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[32] The number of households with subfamilies grew 22.6 percent from 2003 to 2009; data changes preclude computation of percentage growth from 2009 to 2011.

No experimental evidence exists regarding CBRR's effects on return to shelter, but there is suggestive evidence from multiple sources. Perhaps the strongest evidence for the success of CBRR in preventing returns to homelessness comes from a nonexperimental study of more than 9,000 households, roughly one-half of which were families with children, that transitioned out of homelessness in Georgia. Homeless Management Information System (HMIS) records showed that, over a 2-year observation period, 17.1 percent of those who exited from rapid re-housing returned to shelter compared with 47.5 percent who exited from emergency shelters without additional help from the homeless services system. This study did not find any additional benefit of long-term subsidies (Rodriguez, 2013). Gale (2012) similarly documents returns to homelessness within 12 months among families with children in seven Continuums of Care (CoCs) in four states. That study found that returns to shelter were 4 percent for families receiving rapid re-housing compared with 11 percent for families receiving emergency shelter and 9 percent for families receiving transitional housing (Gale, 2012). A third study of the 23 communities that participated in the Rapid Re-Housing for Homeless Families Demonstration program found that only 10.4 percent of 483 families returned to shelter in the year following program exit (Finkel et al., forthcoming). This study had no comparison group. Households in these studies were not randomly assigned to programs, and, to the extent that rapid re-housing was reserved for households deemed likely to become stable with assistance, that might explain at least part of the substantial effects on returns to shelter.

It is less clear that CBRR leads to housing stability as opposed to reducing literal homelessness and returns to shelter. For example, in the evaluation of the Rapid Re-Housing for Homeless Families Demonstration program, 33 percent of 127 families who participated in a followup survey reported being doubled up in the year after exiting from rapid re-housing, and 76 percent of 380 for whom addresses could be verified had moved during that year. These numbers are likely to be underestimates because no address information could be found for 22 percent of participants (Finkel et al., forthcoming). The high rates of relocation and doubling up suggest that CBRR may not be sufficient to ensure these other aspects of housing stability and that SUB, an intervention that is not part of the homeless services system, may be superior to CBRR regarding these broader goals.

3.3.2 Predictions Regarding More Distal Outcomes

Proponents of both permanent and temporary housing subsidies (SUB and CBRR) make fewer claims about the effects of subsidies on outcomes other than housing stability. Proponents of SUB argue that subsidies should stabilize families in housing, thereby minimizing the harmful consequences of homelessness. Given stable housing, families can address any other problems they may experience using mainstream community resources or on their own. In advocating rapid re-housing, CBRR proponents also focus on reducing the length of time families spend in emergency shelter or on the street with a view to minimizing potentially harmful effects of shelter. The effects of subsidies on these more distal outcomes are likely indirect. Thus, additional hypotheses from the perspective of proponents of SUB and CBRR are stated more tentatively.

Family preservation. Perhaps the strongest claims for the value of SUB and CBRR on outcomes other than housing stability are for family preservation. Although several studies have documented extraordinarily high rates of separation of children from families who experience homelessness, very few studies have explained why homelessness is associated with family separation. Those that do are observational and cannot establish causality. Park et al. (2004) found that among families with any stays in homeless shelters in New York City, recurrent shelter entries and longer stays were the strongest predictors of involvement with child protective services. Other predictors (from administrative records) were domestic abuse and having fewer adults in the household, a younger parent, and more children. In a sample of 292 homeless mothers in Upstate New York, families with younger mothers and more children had more child protective services involvement within 30 months of program entry (Hayes, Zonneville, and Bassuk, 2013). Additional predictors were maternal mental health treatment, residential instability, unemployment, and attendance at Alcoholics Anonymous or Narcotics Anonymous (indicators for an alcohol or drug use problem). Cowal et al. (2002) found that drug dependence, domestic violence, and any institutional placement of the mother were associated with both informal separations and protective services involvement in both housed and homeless families in New York City, but homelessness was by far the most potent predictor.

Moving beyond correlates, Park et al. (2004) suggested the possibility of a "fishbowl effect" in which families in the homeless system are subject to heightened scrutiny from service providers, leading to reports to child protective services. Past studies have shown that observers are more likely to rate a behavior as abusive when performed by low-income rather than middle-income parents (McLoyd, 1990).

Results in Park et al. (2004) and Cowal et al. (2002) suggest an additional explanation. In the Park and Cowal studies (but not in the Hayes, Zonneville, and Bassuk [2013] study), rates of protective services involvement and more informal separations were low before the initial episode of homelessness. Child welfare involvement often began only after families left shelter or between episodes of shelter stay. These findings suggest that the stress, disruption, or heightened scrutiny caused by homelessness may be important and lasting. Data from 80 families who took part in a small qualitative field effort conducted as part of the broader Family Options Study provide additional support for both the stress and the scrutiny perspectives. Compared with independent living situations, both shelters and transitional housing disrupted families' routines and rituals. Families were subject to surveillance and sometimes explicitly threatened with involvement with child protective services (Mayberry et al., 2014). Whether separations are because of the stress and disruption of homeless programs or increased scrutiny of parenting behavior, families who are quickly rehoused in conventional housing with SUB or CBRR may have fewer separations. (Proponents of PBTH make the opposite prediction, as discussed subsequently.)

Child well-being. Reductions in instability and in parental stress may enhance child well-being more generally. As cited previously, both residential and school instability have been shown to be risk factors for children's academic performance and the central noncognitive skill of self-regulation. Residential stability is likely to be closely linked to school stability. To the extent that SUB and CBRR enhance both forms of stability, they should also have positive effects on additional child outcomes in these domains. A caveat is that such outcomes might take more than 18 months—the current followup point—to develop.

The discussion here about effects on child well-being is more logical than empirical. No studies of the effects of housing subsidies on homeless children have been conducted, so we turn to the limited evidence for the impact of subsidies on poor children more generally.

The study of *Effects of Housing Vouchers on Welfare Families* (Mills et al., 2006) found little relationship between housing subsidies and children's educational or behavioral outcomes.

A large-scale study of a randomized housing voucher lottery in Chicago that used administrative records also found very modest and mostly nonsignificant effects on school, arrest, and health outcomes. This study compared 18,347 children in families offered vouchers via the lottery with 48,263 children in families who applied for vouchers but did not receive them (Jacob, Kapustin, and Ludwig, 2014). There were mixed results in the nonexperimental Three-City Study (Coley et al., 2013), a 6-year longitudinal study of 2,400 low-income families from moderate and high-poverty neighborhoods in Boston, Massachusetts, Chicago, Illinois, and San Antonio, Texas. This study found associations between housing quality and children's behavior but inconsistent associations of outcomes with residential mobility and housing assistance. The study explained effects of housing quality statistically by associations of quality housing with lower parental stress.

In the Family Options Study, we might expect larger effects on child outcomes, at least by 36 months. Our sample is substantially poorer and less stable than the poor families in other studies, and families in our study face the additional challenge of homelessness. Thus the contrast between families who do and do not receive subsidies may be larger. If subsidies have larger effects on reducing mobility, improving access to better housing, and reducing parental stress in our sample than in other studies, then subsidies may be more likely to enhance child outcomes. To the extent that permanent subsidies provide greater stability or reduce parental stress more than temporary subsidies, effects of SUB may be larger than effects of CBRR.

Adult well-being. Reductions in instability produced by SUB or CBRR might reduce adult psychological distress, but effects on other measures of adult well-being, such as substance use problems and domestic violence, seem less likely. Proponents might argue that shortening shelter stays and restoring families to conventional housing would minimize the harm of homelessness. Particularly in the case of SUB, access to permanent subsidies might reduce financial stress and thus enhance adult well-being. In the study of *Effects of Housing Vouchers on Welfare Families*, housing subsidies reduced poverty and hardship, including residential crowding and homelessness, and increased spending on food. Qualitative findings suggest that the subsidies reduced fear of homelessness, even among families who had not been homeless at the outset. The smaller and shorter term subsidies of CBRR would be expected to lead to more modest reductions in stress. In fact, some qualitative evidence from early interviews with families in this study shows that the uncertainty around continuation of the CBRR subsidies creates anxiety for families while they are in CBRR (Fisher et al., 2014).

Self-sufficiency. Theory provides little reason to believe that ongoing housing subsidies would enhance employment rates or lead to gains in incomes.

Rather, proponents of SUB see subsidies as part of the social safety net that supports both people who cannot work and low-wage workers. With subsidies viewed as part of the social safety net, two considerations from neoclassical economic theory clearly predict that SUB should lower work effort. First, the value of SUB is equivalent to more income, implying less of a need to work and therefore less work (what neoclassical economic theory calls the "income effect"). Second, the rent formula implies that the value of SUB falls with income (that is, the additional net income is 30 percent lower for families receiving rental assistance than for other families). In fact, combined with low hourly pay, payroll taxes, and similar benefit formulas for other programs (for example, the Supplemental Nutrition Assistance Program, or SNAP, and TANF) and costs of work (transportation, childcare), the net increase in income from work will often be low and sometimes negative. Lower net pay for each hour of work would also be expected to lower work effort (the "substitution effect" for neoclassical economic theory). Evidence that earnings disregards in welfare programs are not effective inducements to increased work effort or income suggests that the substitution effect may not be important, perhaps because of imperfect recipient understanding (Matsudaira and Blank, 2013).

Consistent with this theory, a study in Chicago that took advantage of an allocation of housing vouchers by lottery found a persistent reduction in work effort by working-age people (Jacob and Ludwig, 2012). A study that used random assignment in a larger number of locations came to a different conclusion, but this study was based on a narrow set of households—those that were receiving TANF or were TANF eligible. The Welfare to Work Voucher demonstration program was supposed to link housing vouchers to employment services for TANF and TANF-eligible families, but pressures to expend funds quickly meant that, in practice, there was little link, so the study can be viewed as a pure test of the effect of vouchers, not of vouchers linked with services. (The name of the evaluation was changed to *Effects of Housing Vouchers on Welfare Families*.) The study found that receipt of vouchers reduced employment in the first few quarters after random assignment but had no effect over 3.5 years. Vouchers also increased use of public assistance (Mills et al., 2006).

Neither the Chicago study nor the voucher study focused on people experiencing homelessness or on people with disabilities, and it is hard to predict whether vouchers would have a greater or lesser effect on work effort for people with greater disadvantages—that is, people more like the family heads in this study. In an observational study of veterans with a major psychiatric disorder or a substance abuse disorder, the (mostly male) veterans who were housed with vouchers worked less and had lower incomes than those who had been able to rent housing independently without vouchers in the period following random assignment (Tsai, Kasprow, and Rosenheck, 2011). The authors suggest that the vouchers reduced incentives to work, but the non-experimental nature of the analysis makes the finding inconclusive.

Proponents of CBRR might expect that it would do more than SUB to enhance employment and earnings. One goal of HPRP—under which most CBRR was funded—was to enable families to achieve housing stability by attaining self-sufficiency (HUD, 2009). The fact that CBRR funds were time-limited may have been a further impetus to families to generate sufficient income so they could sustain housing without help after CBRR assistance ended. A quasi-experimental study in Washington State provides support for the impact of CBRR on self-sufficiency. Among working-age clients of the Department of Social and Health Services who became homeless, the 1,537 who received rapid re-housing were more likely to be employed and had higher earnings in the year following assistance than a carefully matched homeless comparison group who did not receive assistance from any shelter or transitional housing program (Mayfield, Black, and Felver, 2012). Thus CBRR may lead to better income and employment outcomes than SUB and UC.

3.3.3 Predictions Regarding Costs

Proponents of CBRR note that by giving families only as much help as they need to return to permanent housing (Culhane, Metraux, and Byrne, 2011), CBRR should reduce costs relative to open-ended subsidies provided by SUB, permitting more families to be served. Because the daily cost of remaining in emergency shelter is likely to be higher than the daily cost of CBRR, quick exits from shelter might make CBRR less costly than UC measured over an equivalent time period.

3.3.4 Hypotheses for Pairwise Comparisons Involving SUB, CBRR, and UC

In this section, we state hypotheses about SUB and CBRR relative to each other and to UC (see box), where UC consists of shelter and whatever other resources families can acquire on their own.

Hypotheses for Comparisons Involving SUB, CBRR, and UC

SUB Versus UC
H1. Relative to UC, SUB will reduce shelter use and improve housing stability and may improve family preservation, adult well-being, and child well-being.

CBRR Versus UC
H2. Relative to UC, CBRR will reduce shelter use and may improve housing stability, employment and earnings, family preservation, adult well-being, and child well-being. It will reduce the length of the shelter stay at the time of study entry and may be less costly.

SUB Versus CBRR
H3. Relative to CBRR, SUB will reduce shelter use and improve housing stability and may improve adult and child well-being.

H4. Relative to SUB, CBRR will reduce the length of the shelter stay at the time of study entry and will be less costly. It may improve employment and earnings.

We defer hypotheses involving PBTH to the next section, after introducing the conceptual rationale for that intervention. Central predictions from each perspective are indicated with "will." Where evidence is quite limited or hypothesized effects are indirect, we use "may."

Note that the Family Options Study examines multiple indicators of each of the key domains of housing stability, self-sufficiency, family preservation, and adult and child well-being, along with measures of costs. Some hypotheses refer to entire domains, and other hypotheses refer to specific indicators (such as homelessness or employment) within broader domains. In particular, predictions about the reduction of homelessness include (among other measures) the confirmatory outcome of at least 1 night homeless, doubled up in the past 6 months (from survey data), or at least 1 night in an emergency shelter in the past 12 months (primarily from HMIS records).[33] Outcome measures are described in Chapter 5 and Appendix B.

3.4 Conceptual Rationale for PBTH

Proponents of PBTH have a different understanding of the origins of family homelessness and the proper role of the homeless service system than proponents of SUB and CBRR. Although the housing market is difficult for poor families, most poor families do not experience homelessness. Proponents of PBTH emphasize that many families who do become homeless have additional barriers that make it hard for them to secure and maintain housing. Thus, housing subsidies alone may be insufficient to ensure housing stability and other desirable outcomes (for example, Bassuk and Geller, 2006). Family needs may arise from poverty, health, disability, or other problems that led to homelessness to begin with or from the disruptive effects of homelessness on parents and children.

Proponents of PBTH believe that by addressing these barriers and needs in a supervised residential setting, PBTH lays the best foundation for ongoing stability. For example, the high prevalence of domestic violence and trauma in homeless families' lives requires protected time and trauma-informed services in a structured residential setting for recovery. Families struggling with mental health and substance use problems similarly need help to address these issues in an environment that supports or requires sobriety. Barriers to work can be overcome with job training and assistance with job searches, helping families to increase employment and earnings. Families having trouble with budgeting and financial management need classes to enhance these skills and help with credit repair before they are ready to live independently. Services and classes also support parenting. Based on family needs, case managers coordinate the services (on site or by referral) to lay the essential groundwork for later independence.

Different PBTH programs focus on different issues, but all of the programs provide supportive services designed to reduce barriers to housing, enhance parents' well-being, and bolster their ability to manage in ordinary housing after they leave programs (Burt, 2010). Practitioners' goals for PBTH, as documented in the literature (for example, Burt, 2006), thus extend beyond housing stability to adult well-being and aspects of family self-sufficiency. Although some PBTH programs provide services directly to children, family preservation and child outcomes are usually seen as more distal outcomes, as shown in Exhibit 3-2.

Note that families in emergency shelter often receive services similar to those provided in PBTH, which could reduce the estimated impacts of all study interventions. We anticipate, however, that exposure to these services will be briefer in UC than in PBTH.

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[33] See Chapter 4 for details about the HMIS data used in the study.

Exhibit 3-2. Conceptual Intervention Model for PBTH
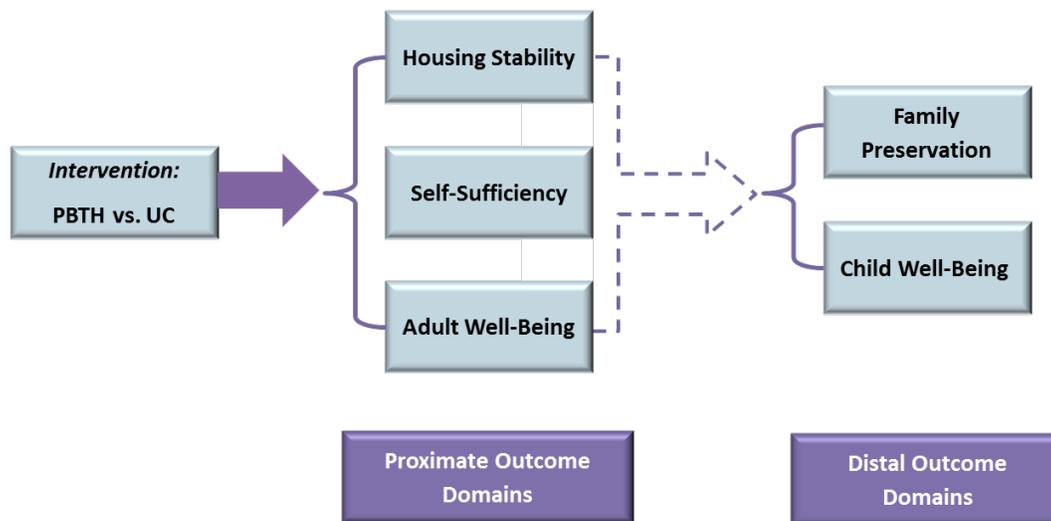
PBTH = project-based transitional housing. UC = usual care. vs. = versus.

3.4.1 Predictions Regarding Housing Stability

Proponents of PBTH argue that transitional housing enhances stability by reducing barriers to housing. Multiple descriptive studies of transitional housing or of housing with supportive services and without a time limit show strong housing outcomes (as reviewed by Bassuk and Geller, 2006; Bassuk et al., 2014). These studies rarely have comparison groups, however, much less random assignment, so it is hard to know what would have happened in the absence of the services and therefore the net impact of the intervention versus what would have happened in the absence of the intervention. Although not a study of PBTH, the multisite Homeless Families Program is one of the largest studies of a combined housing and services intervention (Rog and Gutman, 1997).

In the Homeless Families Program, in six sites with followup data, 88 percent of 601 families who received case management services in addition to housing subsidies remained in permanent housing for up to 18 months. In the one small nonexperimental study with a counterfactual, 84 high-risk homeless families who received intensive case management plus housing subsidies were compared with 85 high-risk families who received subsidies with less intensive services. At 1 year, the families receiving intensive case management were slightly more likely to be in their original apartment. Case management services were partially confounded with subsidy type, however, which was the strongest predictor of housing outcomes (Weitzman and Berry, 1994).

In the study of *Life After Transitional Housing for Homeless Families*, Burt (2010) interviewed 195 families considered "successful graduates" of transitional housing programs (both program-based and scattered-site models) in five communities across five states. Families were interviewed at the time of program exit and a year later. Of these successful graduates, 86 percent exited to their own place, including some who stayed in the same place they had lived in while in transitional housing. (This result will not be possible for the *project-based* transitional housing—PBTH—to which this study randomized families.) Of those with followup data, 60 percent were in their own place without a move for the year after exit, and only 4 families returned to homelessness. On the other hand, a move into permanent housing was often a major criterion for "successful graduation," so numbers would have been lower had all program participants been included. Participating programs estimated that 77 percent of the families served were successful (Burt, 2010; Appendix F and Chapter 5).

The SHIFT study compared 120 families recruited from 18 transitional housing programs with a nonequivalent group of 129 families recruited from 14 emergency shelters (and 43 from PSH not considered further here) in four communities in Upstate New York (Hayes, Zonneville, and Bassuk, 2013). The study counted families as being stable if they did not move or if they moved only once, with a subsidy. At 15 months after program entry, families from transitional housing programs were more stable (43 percent) than families from emergency shelters (14 percent), but, at 30 months, the groups did not differ (44 percent for transitional housing,

47 percent for emergency shelter). The low rates of long-term housing stability in both groups may be associated with the relatively high needs of the sample—48 percent of both groups of mothers met criteria for PTSD; 56 percent of women in emergency shelter and 48 percent of those in transitional housing had already lived apart from one of their children at program entry.

Proponents of PBTH conceptually would expect this intervention to foster higher rates of long-term stability than UC, CBRR, and possibly even SUB, because PBTH seeks to address barriers to housing stability and put families on track for better employment and earnings. As noted previously, proponents of SUB and CBRR make the opposite prediction. The only empirical studies comparing outcomes from PBTH against CBRR favored CBRR. In studies based on large samples in Georgia (Rodriguez, 2013) and on seven CoCs in four states (Gale, 2012), returns to homelessness were lower for CBRR across 2-year and 1-year followup periods, respectively. Again, participants were not randomized to interventions, so results could reflect preexisting differences rather than causal effects of programs.

Predictions relative to SUB are complicated by the fact that PBTH programs frequently attempt to enroll their families in housing subsidy programs when they exit from transitional housing; 53 percent of the families exiting transitional housing successfully in the *Life After Transitional Housing for Homeless Families* study (Burt, 2010) and 78 percent in the Sound Families Initiative (Northwest Institute for Children and Families, 2007) received subsidies.

In the *Life After Transitional Housing for Homeless Families* study, these subsidies were associated with greater residential stability and also stability in family composition. It seems likely, conceptually, that PBTH followed by a subsidy would lead to more stability than PBTH alone. Because families randomized to PBTH in our study were not further randomized to receive or not receive subsidies at the end of PBTH, we cannot test this prediction.

In the short term (at 18 months), predictions are further complicated by the fact that PBTH can last up to 2 years and CBRR up to 18 months. To the extent that families remain in PBTH or CBRR interventions at the time of followup or have only recently left them, little difference may emerge between these two interventions with respect to stability at 18 months. Furthermore, the fact that families must move out of PBTH programs might inflate the number of moves at 18 months. PBTH proponents would expect their efforts to strengthen families to have enduring benefits after the stay in transitional housing has ended.

3.4.2 Predictions Regarding Self-Sufficiency

Perhaps the strongest evidence for the success of PBTH is the self-sufficiency outcomes of education and employment. Two large-scale studies of transitional housing found substantial increases in employment between program entry and program exit among those families who completed the program. The Sound Families Initiative served 1,487 families in three counties in Washington State, with an average stay of slightly more than 12 months. Full-time case managers had average caseloads of 15 families and also offered referrals to offsite providers. Employment doubled from 22 percent at entry to 45 percent at exit, receipt of TANF decreased from 67 to 46 percent, and 48 percent of families increased their income during this same period of time (Northwest Institute for Children and Families, 2007). In the *Life After Transitional Housing for Homeless Families* study, a sample of mothers deemed successful by their transitional housing programs increased rates of employment substantially (from 18 to 61 percent) from program entry to program exit, again with a median stay of about a year (Burt, 2010). Mothers in two of five families completed a vocational, trade, or business program; an additional 12 percent were involved in vocational or business programs when they left; and a handful earned a high school diploma or general educational development, or GED, took college classes, or even completed a college degree. Although neither study had a comparison group and although families who exited the programs rather than successfully completing them were excluded, it seems unlikely that changes of this magnitude would have occurred without the programs. On the other hand, few families raised their incomes above the poverty threshold. Burt (2010: 90) concluded that, despite the gains in education and employment, "a period of time in a transitional housing program does not change the basic reality of poor, relatively undereducated mothers' earning power." Bassuk et al. (2014: 471) noted that, even where participants in housing and service interventions increased employment levels over time, "…employment tended to be characterized by multiple job changes, periods of unemployment, and low-wage part-time work."

3.4.3 Predictions Regarding Adult Well-Being

Adult well-being is a central focus of practitioners in many PBTH programs, as noted previously in the conceptual rationale for the intervention. Thus, proponents would expect to see improvements, particularly in areas of mental health and substance use. In the *Life After Transitional Housing for Homeless Families* study, adult well-being, especially related to mental health, improved between entry and exit from transitional housing (Burt, 2010). Again, there was no

counterfactual, so changes seem hard to attribute to transitional housing rather than to the passage of time, and few changes in child well-being occurred. Bassuk et al. (2014) found that methodological flaws precluded clear conclusions about adult well-being in the studies they reviewed.

3.4.4 Predictions Regarding Distal Outcomes

Most PBTH programs focus primarily on the well-being of parents, based on the assumption that parental well-being is central to child welfare. Some PBTH programs also provide families with or link families to services for children (especially childcare or after school services). Effects of PBTH on child outcomes and family preservation are thus likely to be indirect via improvements in family stability and parents' welfare and parenting skills.

Child well-being. Periods of homelessness and the circumstances that lead to them are often chaotic as families move from place to place. PBTH programs provide stability and structure for the families while they reside there, potentially reducing school mobility. In the Sound Families Initiative evaluation, the percentage of school-age children attending two or more schools within a single school year dropped from more than one-half (53 percent) at intake to less than one-sixth (17 percent) at exit (Northwest Institute for Children and Families, 2007), and similar reductions in school mobility were evident in the *Life After Transitional Housing for Homeless Families* study. Structured schedules, along with encouragement or monitoring by staff, might improve children's school attendance and completion of homework, at least while families remain in the program. Supports for parenting, including reductions in stress, parenting classes, and modeling of disciplinary practices, could enhance parenting. Although positive effects on children are plausible, little empirical evidence supports them, because of the observational designs and lack of comparison groups in studies of transitional housing and other housing and service interventions (Bassuk et al., 2014).

Family preservation. Transitional housing can also help with family reunification. In the study of *Life After Transitional Housing for Homeless Families*, 42 percent of children living apart from their mother at transitional housing entry rejoined the family during transitional housing (Burt, 2010). Caregivers and staff in the Sound Families Initiative "described transitional housing programs as central in helping to ensure parent-child reunification" (Northwest Institute for Children and Families, 2007: 9), although the report did not quantify how often reunification happened. Bassuk and Geller's (2006) review suggests that case management services like those provided in PBTH programs contribute to family preservation and reunification. How might that occur? Staff in programs may secure needed services for families, model good disciplinary practices, and offer instruction in parenting that should reduce separations to begin with. Stabilizing families in a residential program may be enough to enable children who are with other family members to return to their parents. In the case of more formal separations, PBTH staff may work with families and child protective services workers on requirements for reunification, such as supervised visits. Because staff are in a position to monitor families in PBTH, protective services workers may be more willing to allow children to stay with families in situations they regard as potentially risky or to return children who have been separated than would be the case in unsupervised settings. On the other hand, PBTH may lead to appropriate out-of-home placements of children because of heightened PBTH staff involvement and greater likelihood of observing children at risk in disorganized families. Basing our assessment on the *Life After Transitional Housing for Homeless Families* study (Burt, 2010), we predict a net reduction in separations.

3.4.5 Predictions Regarding Costs

The combination of time-limited housing and services provided by PBTH is likely to be more costly than the time-limited subsidies provided by CBRR. The tradeoff between PBTH's provision of services (making PBTH more costly than SUB) and the time limit on housing assistance (making PBTH less costly than SUB) makes predictions related to the overall costs of each intervention more difficult.

3.4.6 Hypotheses for Pairwise Comparisons

Rooted in the predictions about PBTH, the study team developed five hypotheses for pairwise comparisons involving PBTH (see box).[34]

Hypotheses for Comparisons Involving PBTH

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PBTH Versus UC
H5. Relative to UC, PBTH will reduce shelter use and improve housing stability, employment, earnings, education, and adult well-being and may improve family preservation and child well-being.

PBTH Versus SUB
H6. (From the perspective of PBTH proponents) relative to SUB, PBTH will improve employment, earnings, education, and adult well-being and may improve long-term housing stability, family preservation, and child well-being. (Stability effects may not emerge at 18 months.)

H7. (From the perspective of SUB proponents) relative to PBTH, SUB will reduce shelter use and improve housing stability and may improve family preservation, adult well-being, and child well-being.

PBTH Versus CBRR
H8. (From the perspective of PBTH proponents) relative to CBRR, PBTH will improve employment, earnings, education, and adult well-being and may improve long-term stability, family preservation, and child well-being. (Stability effects may not emerge at 18 months.)

H9. (From the perspective of CBRR proponents) relative to PBTH, CBRR will reduce shelter use and may improve housing stability, family preservation, adult well-being, child well-being, employment, and earnings.

3.5 What Works for Whom?

One goal of this study is to identify whether particular interventions are more effective for some groups of homeless families than for others. Because of the number of family characteristics that could lead to differential effects of interventions, we confine analyses to the examination of two broad categories of family characteristics, which we summarize in indices of psychosocial challenges and housing barriers.[35]

- The *psychosocial challenges index* is a count of the number of psychosocial challenges reported by families at the baseline survey immediately before random assignment, including health and mental health conditions, substance use problems, PTSD, intimate partner violence, felony conviction, history of foster care or institutional placement as a child, and disability of the parent or a child. Several of these factors predicted residential instability (across program type) in the SHIFT study (Hayes, Zonneville, and Bassuk, 2013).

- The *housing barriers index* is a count of 15 potential barriers—including unemployment, lack of income, past evictions or lease violations, lack of transportation, and family composition—that families reported at the time of the baseline survey to be at least small problems in trying to find housing. A similar list of barriers was associated with increased returns to homelessness for families in the evaluation of the Rapid Re-Housing for Homeless Families Demonstration program (Finkel et al., forthcoming). The barriers list was purged of items related to disability and criminal justice that overlapped with psychosocial challenges.

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[34] Most measures of housing stability reflect either the time of the followup survey or the 6-month period of time before the followup survey, which was conducted an average of 20 months after random assignment. When measuring outcomes for PBTH, a complicating factor is that HUD program rules consider a family to be homeless during a stay in transitional housing, whereas the outcome measures used in this study consider only shelter use or unsheltered homelessness as an episode of homelessness. The study of impacts after 36 months will not have this problem, because virtually all families given priority access to PBTH will have left transitional housing by that time. Further, whereas outside the context of this study, CBRR might reduce initial shelter stays relative to PBTH (proponents set a goal of getting families back into hosing in 30 days), in this study, families were not given priority access to PBTH unless the study identified an opening for which they appeared eligible. Families assigned to CBRR had to identify a housing unit in which to use the subsidy. Thus, it is plausible that PBTH would lead to faster exits from shelter in this study.

[35] The data collection and analysis plan called for measuring barriers to housing stability by developing an empirical index of family characteristics that predicted the central study outcome (at least 1 night homeless or doubled up in the past 6 months or in shelter in the past 12 months) in the UC group. Candidate variables for the index were those that predicted returns to shelter in previous studies, such as young age of family heads. The analysis was not successful in using those variables to predict the outcome, however, perhaps because of the multipart character of the outcome. Thus, for the analyses of what works for whom, we used the characteristics reported by the baseline survey respondent to be housing barriers rather than family characteristics that actually predicted housing instability.

We expect families who have more psychosocial challenges or housing barriers to have worse outcomes than other families. The question in this section is whether one or another of the interventions is particularly effective for families with greater challenges or barriers. Exhibit 3-3 illustrates what this result might look like for the effect of housing barriers on the outcome of residential stability. In the exhibit, assignment to Intervention A versus Intervention B has little effect on residential stability when families face few housing barriers (to the left of the exhibit); that is, the lines for Intervention A and Intervention B are close together. When families have high levels of housing barriers (to the right), however, Intervention A has a big impact relative to Intervention B; that is, the lines for Intervention A and Intervention B are far apart. Put differently, Intervention A mitigates the adverse effects of housing barriers on the outcome of residential stability.

Regarding the question of what works for whom, proponents of SUB suggest that it is likely to have its largest effects in comparison with all other interventions for families who have higher levels of housing barriers. By comparison with CBRR and UC, SUB might also have larger effects for families facing additional psychosocial challenges.

In a nonexperimental study in New York City, a variety of challenges and barriers predicted initial shelter entry among families receiving public assistance, but only housing subsidies

and maternal age predicted housing stability 5 years later among the group that experienced homelessness. Housing subsidies seem to have counteracted all other risk factors (Shinn et al., 1998). In the *Effects of Housing Vouchers on Welfare Families* study, reductions in homelessness were especially large for two vulnerable subgroups: those in which the head of household was unemployed and those who were nearing the end of eligibility for TANF at the time of random assignment (Mills et al., 2006). Differential effects for SUB are most likely for stability outcomes but might also extend to more distal outcomes.

PBTH is the only intervention that addresses families' psychosocial needs directly. Thus, we might expect PBTH to have larger effects relative to all other interventions for families with higher scores on the psychosocial challenges index. Proponents of PBTH additionally argue that services address other barriers to housing, so PBTH might be more successful for families with higher housing barriers. In the *Life After Transitional Housing for Homeless Families* study, personal characteristics mattered little to outcomes following transitional housing stays, suggesting that transitional housing effectively countered risks associated with such characteristics (Burt, 2010). Differential effects are hypothesized for all three primary outcomes of PBTH—stability, self-sufficiency, and adult well-being—and might extend to more distal outcomes.

Exhibit 3-3. Hypothetical Example in Which the Impact on the Outcome of Residential Stability of Intervention A Relative to Intervention B Is Larger for Families With High Housing Barriers
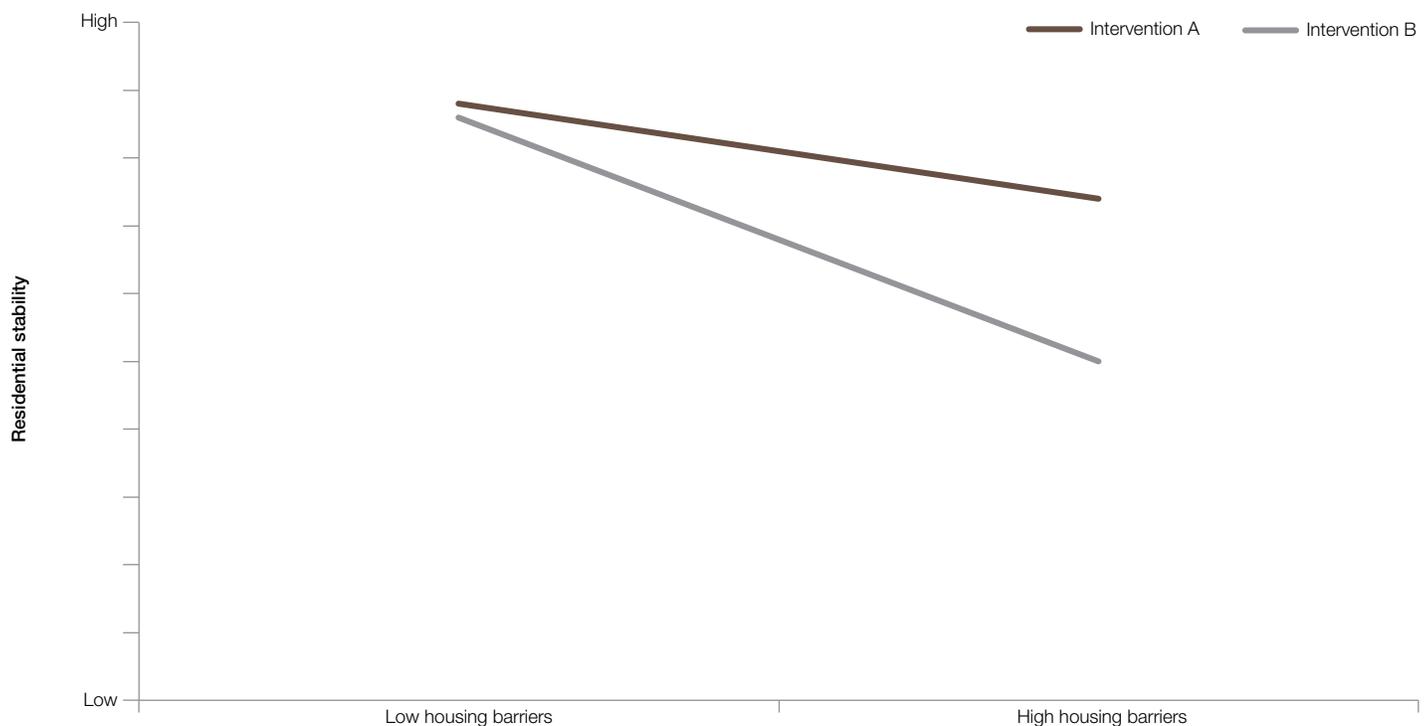
The rationale for CBRR suggests that, for most families, only short-term support is necessary to return to housing stability. Directions given to communities by HUD regarding HPRP that funded most of the CBRR in this study suggested that CBRR should go to families who needed it to restore housing stability but for whom a relatively modest intervention would be sufficient. This directive implies a belief that CBRR may be less successful for families with high scores on the housing barriers and psychosocial challenge indices. Some proponents of CBRR argue, however, that, while unable to prevent a return to homelessness for some families, CBRR might, over time, reduce the number and duration of episodes of homelessness. The Family Options Study was not designed to test the impact of repeated offers of CBRR to the same family.

Differential effects of the active interventions relative to UC should be observable at 18 months. Differential effects of the active interventions relative to each other are most likely to emerge after all families have exited the CBRR and PBTH programs. As a result, differential effects may be more visible at the time of the 36-month followup. In the case of residential stability outcomes, contrasts between the active interventions at 18 months will be reduced to the extent that families continue to participate in PBTH and CBRR programs from 13 to 18 months after random assignment.

3.5.1 Predictions Regarding What Works for Whom

The study team developed two hypotheses about the relative effects of the interventions on families with varying levels of housing barriers and psychosocial challenge (see box).

Hypotheses About Which Interventions Work for Whom

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From the Perspective of SUB Proponents
H10. Relative to all other interventions, SUB will have larger effects on stability for families with higher scores on the housing barriers index and may have larger effects on stability for families with higher scores on the psychosocial challenges index. Differential effects may extend to self-sufficiency, adult well-being, child well-being, and family preservation.

From the Perspective of PBTH Proponents
H11. Relative to all other interventions, PBTH will have larger effects on stability, self-sufficiency, and adult well-being for families with higher scores on the psychosocial challenges index and may have larger effects on these outcomes for families with higher scores on the housing barriers index. Differential effects may extend to child well-being and family preservation.

CHAPTER 4.
DATA SOURCES AND METHODOLOGY

This chapter describes the data sources and methodology employed in analysis of the 20-month impact estimates for the Family Options Study. The first section describes the data sources used to (1) measure program use by study families, (2) analyze the impacts of study interventions on families, and (3) describe study interventions and their costs. The second section provides an overview of the method used to estimate the impacts of interventions. Additional detail about the impact methodology is provided in Appendix C.

4.1 Data Sources

The study has collected data from a wide range of sources, including study families, intervention providers, and administrative data systems. Exhibit 4-1 shows the sources of data used in this report and provides information about how they were collected and their content. Key aspects of the data collection are described in the subsections that follow.

Exhibit 4-1. Data Sources Used in the Report (1 of 2)

Data Source	Collection Process	Data Source Collects or Measures…
From study implementation		
Random assignment enrollment data (n = 2,282)	• Recorded in web-based enrollment and random assignment tool, based on information entered by field interviewer and point-in-time intervention availability	• Name, date of birth, and Social Security number of family head and spouse or partner • Eligibility screening responses • Intervention availability at random assignment • Random assignment result
From study families		
Baseline survey (n = 2,282)	• In-person survey (40 minutes) conducted immediately before random assignment • Completed for the full sample of families randomly assigned	• Demographic characteristics • Preshelter housing • Housing barriers • Homelessness history • Employment • Family composition • Income and income sources • Family head: physical health • Family head: mental health and experiences of trauma
6- and 12- month tracking surveys (n = 1,671; n = 1,632)	• Telephone survey (10 minutes) conducted 6 and 12 months after random assignment	• Family composition • Current housing status • Use of homeless and housing programs
18-month followup adult survey (n = 1,857)	• In-person or telephone survey (60 minutes) conducted at least 18 months after random assignment	• Current housing status • Experience of homelessness • Use of homeless and housing programs • Housing quality and affordability of current unit • Employment and earnings • Income and income sources • Material hardship • Family composition and preservation • Adult well-being • Child well-being (for up to two focal children) • Receipt of services
18-month followup child assessments	• In-person child assessments (50 minutes) conducted for focal children who were ages 3 years, 6 months to 6 years, 11 months • Collection attempted only if family head responded to followup adult survey	• Verbal ability (Woodcock-Johnson III letter-word identification test; n = 876) • Math ability (Woodcock-Johnson III applied problems test; n = 846) • Self-regulation (Head Toes Knees Shoulders assessment; n = 780)

Exhibit 4-1. Data Sources Used in the Report (2 of 2)

Data Source	Collection Process	Data Source Collects or Measures…
From study families (continued)		
18-month followup child survey (n = 945)	• In-person or telephone survey (30 minutes) conducted for focal children who were ages 8 to 17 years • Collection attempted only if family head responded to followup adult survey	• Mental health • Experiences of traumatic events • Substance use • School effort • Arrests or police involvement
From study intervention providers		
Enrollment verification data	• Study team verified (by telephone and e-mail) whether families enrolled in the programs to which they were referred • Conducted from September 2010 to September 2012	• Use of assigned intervention
Program information	• Study team conducted site visits and staff interviews • Conducted from June 2011 to April 2012	• Provider information • Characteristics of housing assistance • Characteristics of services
Program cost information	• Study team conducted site visits and staff interviews • Collected audited expense statements, program budgets, staffing lists, partner commitment letters, and program staff estimates of costs not reflected in expense statements • Conducted from November 2012 to August 2013	• Overhead costs • Rental assistance costs • Facility operations costs • Supportive services costs • Capital costs
From administrative data systems		
Homeless Management Information System (HMIS)	• Individual-level records collected from community and government administrators of the Homeless Management Information System (HMIS; one or more per site)	• Participation in homeless assistance programs covered in HMIS (including emergency shelter, rapid re-housing, transitional housing, and permanent supportive housing)
HUD Public and Indian Housing Information Center (PIC)	• Individual-level data collected from HUD	• Receipt of housing assistance through HUD's Housing Choice Voucher (HCV) and public housing programs
HUD Tenant Rental Assistance Certification System (TRACS)	• Individual-level data collected from HUD	• Receipt of housing assistance through project-based Section 8 programs
From combination of sources		
Program usage data	• Combines data from seven sources: enrollment verification; 6-, 12-, and 18-month surveys; HMIS; HUD PIC; and the Tenant Rental Assistance Certification System (TRACS)	• Participation in seven types of homeless and housing assistance programs (by calendar month after random assignment)

Notes: All surveys conducted with family head collected or updated family contact information for tracking purposes. Additional information about data collection from study families provided in Appendix A. Additional information about program cost data collection provided in Appendix G.

4.1.1 Baseline Data Collection

Local field interviewers enrolled families into the study in person at the emergency shelters where the families were staying. Enrollment began in September 2010 and was completed in January 2012. During enrollment, the interviewer would first inform the family about the study. If the family consented to participate in the study, the interviewer would then ask eligibility screening questions for programs that had available program slots. Finally, the interviewer would administer the baseline survey using Computer-Assisted Personal Interviewing, or CAPI, software. All family heads who consented to participate in the study completed the baseline survey before random assignment.

In families with only one adult present, that individual was interviewed. For families headed by couples, the study team interviewed women. There were two reasons for this preference: (1) Some homeless assistance programs exclude men,

and in cases of family separations the children are more likely to remain with the mother; and (2) some outcome measures such as psychological distress have different distributions for men and women in the population at large, so this preference results in having greater homogeneity in the sample.

4.1.2 Followup Data Collection

The followup data collection effort was conducted from July 2012 through October 2013. The study team attempted to contact families for the study's followup survey beginning in the 18th month after random assignment. The median time from random assignment to the followup survey was 20 months. The followup period referred to in the report thus covers a period of 20 months after random assignment, although the survey is sometimes referred to as the 18-month followup survey. The data collection consisted of three components.

- Followup adult survey.
- Followup child assessments.
- Followup child survey.

The study attempted to complete the adult survey with all 2,282 family heads. For families headed by couples, the same adult interviewed at baseline was interviewed at followup. Up to two focal children per family were randomly selected during the administration of the adult survey.[36] Information about the well-being of the focal children was collected from the parent in the adult survey and directly from appropriately aged children in either the child assessments or the child survey. The adult survey needed to be completed before attempts were made to complete child assessments and the child survey with focal children (both so parental consent could be given and so focal children could be selected).

Focal children needed to—

1. Have been either identified in the baseline survey as part of the family or born after random assignment.
2. Have been ages 1 to 17 years at the time of the followup adult survey.
3. Have been with the family at the time of the followup adult survey or had enough contact with the family head so that their parent (the family head) was knowledgeable about key aspects of their lives.[37]

The focal child selection process oversampled children who were ages 3 to 17, and with the family at both baseline and followup, in order to maximize the number of children from whom data were directly collected (in the child assessments and child survey).[38]

4.1.3 Construction of Program Usage Data

To construct a new dataset with information about program usage, the study team combined data from seven sources: enrollment verification; 6-, 12-, and 18-month surveys; the Homeless Management Information System (HMIS); the HUD Public and Indian Housing Information Center (PIC); and the Tenant Rental Assistance Certification System (TRACS).

The dataset contains monthly participation information for the entire period of observation (from random assignment to the time of the followup survey), spanning seven program types. Exhibit 4-2 shows the seven program types and the data sources for each type.

The data are structured so that they count 1 month of participation in a program type if the family uses that program type for at least 1 night during the month. The data contain 3,573 spells of program use for the 1,857 followup survey respondent families.[39] The structure of the data could bias estimates of program duration upward (relative to true use) because (1) program entries are spread throughout the calendar month and (2) program exits for emergency shelter, transitional housing, and permanent supportive housing are typically spread throughout the calendar month (rather than occurring at the end of the calendar month). To address this upward bias, each program spell is adjusted slightly downward in measures of duration. (See Appendix A for full details.)

These data are known to miss at least some program use. The baseline stay in emergency shelter does not appear in the data for 20 percent of survey respondent families. The missing data rate for subsequent stays in emergency shelter is unknown. The study team expects that HMIS records on community-based rapid re-housing, transitional housing, and permanent housing to be at least as complete as the baseline emergency shelter records (at least 80 percent). Because the data on these three program types also rely on enrollment verification (for the referred program) and up to three self-reports, the study team expects the vast majority of program spells of these types to be captured in the data.

The data on use of subsidy, public housing, and project-based vouchers or Section 8 projects should be essentially complete because they are based on HUD administrative records. Additional detail about the construction of the program usage data is provided in Appendix A.

The remainder of the chapter describes the methodology used to calculate the 20-month impact estimates in the report.

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[36] The survey software randomly selected the focal children immediately after the focal child screener, the first module in the adult survey. The subsequent module on child well-being then asked items about the focal child or focal children who had been selected.

[37] About 530 children (out of about 4,200 total) screened for selection as focal children were living with the family head less than half the time. The family head was knowledgeable regarding only 60 of these 530 children. Thus, in accordance with the focal child selection protocol, these 60 children were selected as focal children (along with 2,724 other selected focal children who were living with the family head at least half of the time). During analysis, however, it was decided that such a small number of children would not allow estimates to generalize to the whole group of largely absent children. Therefore, these 60 children were not included in impact analyses. As a result, the child impact results generalize only to children living with the family head half of the time or more at the time of the adult survey.

[38] The oversampling criterion of being with the family at baseline was included so that oversampled children would be directly affected by the study's random assignment. Children needed to be with the family at followup for the study team to attempt collection of child assessments or the child survey. (The study did not attempt to locate children separated from the family.)

[39] A spell of program use is a continuous period of use, with a single starting month and a single ending month.

Exhibit 4-2. Program Types and Their Data Sources in the Program Usage Data

Program Type	Data Sources
Emergency shelter	• HMIS records • 6-, 12-, and 18-month surveys
Subsidy (housing choice voucher)[a]	• HUD PIC and TRACS records • Enrollment verification records (for referred program) • 6-, 12-, and 18-month surveys
Community-based rapid re-housing	• HMIS records • Enrollment verification records (for referred program) • 6-, 12-, and 18-month surveys
Transitional housing[b]	• HMIS records • Enrollment verification records (for referred program) • 6-, 12-, and 18-month surveys
Permanent supportive housing	• HMIS records • 6-, 12-, and 18-month surveys
Public housing	• HUD PIC and TRACS records • 6-, 12-, and 18-month surveys
Project-based vouchers or Section 8 projects	• HUD PIC and TRACS records • 6-, 12-, and 18-month surveys

HMIS = Homeless Management Information System. HUD = U.S. Department of Housing and Urban Development. PIC = Public and Indian Housing Information Center. TRACS = Tenant Rental Assistance Certification System.

[a] The subsidy program type represents housing choice vouchers plus site-specific programs that families were referred to when assigned to the permanent housing subsidy (SUB) intervention. The site-specific non-housing choice voucher programs were public housing in Honolulu, Hawaii, and project-based vouchers in Bridgeport, Connecticut. In other sites, these programs are coded separately.

[b] The transitional housing program type represents both project-based and scattered-site varieties of transitional housing, including transition-in-place units.

4.2 Methodology

This report presents separate impact estimates for each of the 6 pairwise comparisons of a single assignment arm to another assignment arm, plus 4 additional comparisons of pooled assignment arms to a single assignment arm (see Exhibit 1-1 and Chapters 6 through 10). All 10 comparisons have been analyzed separately using the same basic estimation model.

Pairwise Comparisons

SUB versus UC	SUB versus CBRR
CBRR versus UC	SUB versus PBTH
PBTH versus UC	CBRR versus PBTH

Pooled Comparisons.

- What is impact of any kind of housing subsidy for homeless families (SUB + CBRR + PBTH) compared to usual care (UC)?

- What is the impact of a housing subsidy with heavy services on homeless families (PBTH) compared to a housing subsidy with light or no services (SUB + CBRR)?

- What is the impact of interventions that are more costly (PBTH + SUB) compared to a less costly intervention (CBRR)?

- What is the impact of a housing subsidy with no time limit (SUB) compared to a time-limited housing subsidy (PBTH + CBRR)?

The explanation of the estimation model begins with some terminology that describes how random assignment was implemented in this study. Enrollment and random assignment was a multistep process, as shown in Exhibit 2-7 (in Chapter 2). The PBTH, CBRR, and (in some sites) the SUB interventions had multiple service providers in each site. Before random assignment, the number of slots currently available at all providers for each of the interventions was assessed. An intervention was deemed *available* if at least one slot at one provider of that intervention in the site was currently available. After an intervention was determined to be available, the interviewer asked the family a series of questions to assess provider-specific eligibility for the available interventions and programs. A family was considered *eligible* for a particular intervention if the household head's responses to the eligibility questions showed that the family met the eligibility requirements for at least one provider of that intervention that currently had an available slot. For example, some programs required that families have a source of income that would allow for them to pay rent on their own within a designated period of time. The study team thus asked families if they wanted to be considered for programs with such an income requirement. Other programs required families to pay a monthly program fee, and the screening question asked if families wanted to be considered for programs with this type of requirement.

Other programs required participants to demonstrate sobriety, pass criminal background checks, or agree to participate in case management or other services. The study team asked

screening questions for these questions that ascertained families' willingness to be considered for programs with these requirements.

To undergo random assignment, a family needed to be eligible for at least one available intervention in addition to UC.[40] Based on this approach to random assignment, each family has a *randomization set*.

Randomization set. The set of interventions to which it was possible for a family to be assigned was determined by considering both the availability of the intervention *and* the assessed eligibility of the family. In the study, each family has one of seven possible randomization sets. These sets are {PBTH, SUB, CBRR, UC}, {PBTH, SUB, UC}, {PBTH, CBRR, UC}, {SUB, CBRR, UC}, {PBTH, UC}, {SUB, UC}, and {CBRR, UC}.

The randomization set of each family determines the pairwise comparisons in which the family is included. A family is included in the pairwise comparisons of its assigned intervention with the other interventions in its randomization set. For example, families assigned to PBTH with randomization set {PBTH, SUB, UC} are included in these two pairwise comparisons: PBTH versus UC; and SUB versus PBTH.

4.2.1 Impact Estimation Model for Family and Adult Outcomes

For each pairwise comparison, the study team estimated impacts for the sample of families who (1) had both interventions in their randomization set and (2) were randomly assigned to one of the two interventions. The team used multivariate regression to increase the precision of our impact estimates and to adjust for any chance imbalances between assignment groups on background characteristics (Orr, 1999).

Consider two interventions q and r (for example, PBTH versus SUB), where the second option (r) is treated as the base case. Then, the impact on an outcome Y (for example, at least 1 night homeless or doubled up during past 6 months, working for pay in week before survey, or adult psychological distress) of intervention q relative to intervention r is estimated through equation 1 for those families who had both options q and r as possible assignments, and were assigned to one of them. The estimation equation was—

$$(1)\ Y_i = \alpha_{q,r} + T_{q,i}\,\delta_{q,r} + X_i\beta_{q,r} + \sum_{k=1}^{13} I_{k,i}\,\phi_{q,r,k} + e_i\,,$$

where

Y_i = outcome Y for family i,

$T_{q,i}$ = indicator variable that equals 1 if family i was assigned to intervention q,

$\delta_{q,r}$ = average impact of being assigned to intervention q relative to being assigned to intervention r,

X_i = a vector of background characteristics[41] of family i,

$I_{k,i}$ = indicator variable for "site-RA regime"[42] k for family i,

e_i = residual for family i (assumed mean-zero and i.i.d. [independently and identically distributed]),

$\alpha_{q,r}$ = a constant term, and

$\beta_{q,r}$, $\phi_{q,r,k}$ = other regression coefficients.

The estimate of the impact parameter $\delta_{q,r}$ is the *intention-to-treat*, or ITT, estimate. For the pairwise comparisons, it is an estimate of the average effect of being offered intervention q rather than intervention r. The average effect is taken over all families in the q,r comparison, regardless of whether families actually participated in the intervention to which they were assigned.

This model assumes that the true impact of intervention q relative to intervention r is homogeneous across sites. The impact parameter $\delta_{q,r}$ is thus implicitly a weighted average of the point estimates of site-level impacts, with each site-level impact weighted by the number of families in the site.

A slight modification of this model is used to estimate impacts in the pooled comparisons. In that modification, additional site-RA regime covariates are included, and q represents being offered one of two or three interventions rather than a single intervention.

Standard Errors
The model described previously was estimated using weighted least squares (WLS) and heteroskedasticity-consistent standard errors, also known as robust standard errors (that is, Huber-Eicker-White robust standard errors; see Greene, 2003; Huber, 1967; and White 1980, 1984). Heteroskedastic residuals would arise if some types of families have higher variability in their outcomes than other families or if the different interventions themselves influence this variability.

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[40] Altogether, 183 of the screened families were not eligible for any available interventions besides UC. These families were not enrolled in the study.

[41] These background characteristics are listed in Appendix C.

[42] Of the 12 sites, 10 had a single random assignment regime during the 15-month study enrollment period. The remaining 2 sites changed random assignment probabilities a single time each, creating 14 site-RA regime groups. The equation includes 13 indicator variables and omits 1. These indicator variables are included so that the impact estimate is based on within-site comparisons.

Furthermore, this study uses the linear probability model for binary outcomes, rather than a logit or probit model, because of the ease of interpretation of least squares parameter estimates. The linear probability model, however, induces heteroskedasticity (Angrist and Pischke, 2008). To address this potential heteroskedasticity, robust standard errors were estimated and used in tests of statistical significance. These standard errors are appropriate for making inferences about intervention effects for the sites in this study. The standard errors do not take into account variability in site-level effects, however, and so are not appropriate for generalizing results to other sites.

Adult Survey Nonresponse Weights

The adult survey achieved an 81-percent response rate at followup. Nonresponse raises two concerns. First, nonresponse to a followup survey used to measure outcomes presents a challenge to the internal validity of the study if the intervention groups (that is, PBTH, SUB, CBRR, and UC) have different patterns of nonresponse.

Second, followup survey nonresponse can threaten the generalizability of results to the entire enrolled sample if survey nonrespondents differ from respondents, even if they do so *symmetrically* across randomization arms. To address both of these issues, the analysis team prepared a set of weights that adjust for adult survey nonresponse for each pairwise comparison that is based on family characteristics measured in the baseline survey.[43] The weights were used in estimating impacts on all family and adult outcomes.

4.2.2 Impact Estimation Model for Child Well-Being Outcomes

The estimation model for impacts on child well-being outcomes differs from the model described previously in two respects. First, the standard errors are modified to accommodate the fact that some child well-being impact regressions include two children from the same family. To allow for correlation between impacts on children in the same family, the model estimates the robust standard errors clustered within family. Second, a more complex weighting strategy is used to address the process by which individual child observations came to be included in impact regressions. The child weights are the product of three components.

1. The adult survey nonresponse weight.

2. The inverse probability of being selected as a focal child.

3. A child survey nonresponse weight (conditional on the parent being an adult survey respondent).

The use of the child weights implies that the child well-being impact estimates for a given comparison represent all children who could have been selected as focal children in all the families in the comparison. The second component implies that an interviewed child from a larger family will get a larger weight than an interviewed child from a smaller family.

4.2.3 Impact Estimation Model for Moderator Analysis

The moderator analysis addressed in Chapter 11 presents evidence on whether the study interventions are more effective for families with different levels of psychosocial needs or housing barriers. The estimation model for the moderator analysis is—

$$(2)\ Y_i = \alpha_{q,r} + T_{q,i}\,\delta_{q,r} + M_i\,\gamma_{q,r} + (T_{q,i} \times M_i)\,\pi_{q,r} +$$

$$X_i\,\beta_{q,r} + \sum_{k=1}^{13} I_{k,i}\,\phi_{q,r,k} + e_i,$$

where all terms appearing in equation 1 have the same definition,

M_i = potential moderator index variable (either psychosocial challenges or housing barriers) for family i,

$\pi_{q,r}$ = change in impact of being assigned to intervention q relative to being assigned to intervention r associated with a one-unit change in M index, and

$\gamma_{q,r}$ = other regression coefficient.

The potential moderator index variable, M, is entered in the model both alone and interacted with treatment, T.

The test of statistical significance of the $\pi_{q,r}$ coefficient serves as the test for whether impacts differ significantly according to the M index. Standard errors and weights for family, adult, and child outcomes are the same as in the main impact estimation.

4.2.4 Strategy for Addressing the Multiple Comparisons Problem

Statement of the Problem

Simply stated, the multiple comparisons problem is that, as the number of hypothesis tests conducted grows, the likelihood of finding a statistically significant impact somewhere among the tested outcomes simply by chance increases far above the desired risk level for producing false positive results. This multiple comparisons problem is particularly

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[43] The construction of weights to address survey nonresponse is discussed in Little (1986).

salient for the Family Options Study because the multiple arms, multiple domains, and multiple outcomes generated an extremely large number of hypothesis tests in the main impact analysis—a total of 730 tests (10 comparisons × 73 outcomes in the five outcome domains).

Given this large number of tests, the probability of finding an impact, even if there were no true impacts, was quite large—well above the nominal 10-percent level. In particular, the probability of finding at least one significant impact at the 0.10 level in k independent tests when all true impacts are 0 is given by equation 3.

(3) $Prob(\min p \leq 0.10 \mid all\ true\ impacts = 0) = 1 - 0.90^k$

Thus, if 10 independent tests were performed, the probability of finding at least one significant impact at the 0.10 level— often taken as the litmus test for a "successful" intervention— when all true impacts are equal to 0 is $1 - 0.90^{10} = 0.65$; that is, about two-thirds of the time one would conclude an unsuccessful intervention is successful. When 20 independent tests are performed, the probability is 0.88; that is, nearly 9 times out of 10. In fact, with hundreds of tests, the analysis is nearly certain to spuriously detect a "successful" effect even if the intervention was not truly "successful" for any outcome.[44]

Response to the Problem

The study team took two steps to address the multiple comparisons problem.

1. **Adjust the standard of evidence used to declare a subset of individual impact estimates statistically significant.** The study team divided the hypothesis tests into a small set of seven *confirmatory* tests and a much larger set of 723 *exploratory* tests. The team then used a multiple comparisons procedure to adjust the results of the seven confirmatory tests to maintain the integrity of the statistical inferences made at the confirmatory level.[45]

2. **Prespecify impacts to present in the executive summary.** The study team prespecified the impacts on 18 key outcomes in the six pairwise comparisons (for 108 total impact estimates) to present in the executive summary before seeing the results. This step was taken to prevent the selective presentation of statistically significant results in the executive summary.

The first step hinges on the definition and implications of *confirmatory hypothesis tests*. Following Schochet (2009), the team defined *confirmatory hypothesis tests* as those tests that "assess how strongly the study's pre-specified central hypotheses are supported by the data" (Schochet, 2009). Statistically significant findings from confirmatory hypothesis tests are considered definitive evidence of a nonzero intervention impact, effectively ending debate on whether the intervention achieved an impact in the study sites. All other hypothesis test results are deemed *exploratory*. For these tests, statistically significant impacts constitute suggestive evidence of *possible* intervention effects.

Before beginning analysis, HUD determined that the housing stability domain was the most important outcome domain for the study. Therefore, the study team designated seven hypothesis tests related to housing stability as confirmatory. These hypothesis tests were conducted for—

• The six pairwise policy comparisons and one pooled comparison (PBTH + SUB + CBRR versus UC).

• A single composite outcome of "at least one return to homelessness," constructed from two binary outcomes within the housing stability domain.

   1. At least 1 night spent homeless or doubled up during the past 6 months at the time of the followup survey (from the adult survey).

   2. Any stay in emergency shelter in the past 12 months at the time of the followup survey (from program sage data, largely based on HMIS records).

The six pairwise comparisons were included in order to assess the relative effectiveness of the interventions in contributing to housing stability (thereby addressing the study's first research question, stated in Section 1.4). The study team also included the pooled comparison of PBTH + SUB + CBRR versus UC because it provided evidence on whether a housing subsidy of any type improved housing stability. Using two sources of data to construct this outcome enabled us to measure housing stability as robustly as possible and made use of all available data on return to homelessness.

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[44] Although the study team does not expect the hundreds of hypothesis tests performed in this report to be independent, the likelihood of at least one spurious finding of statistical significance will still be extremely high.

[45] The multiple comparisons procedure used to adjust the confirmatory test results was the Westfall-Young resampling procedure. This procedure is described in Appendix C.

CHAPTER 5.
DESCRIPTION OF USUAL CARE (UC) AND OUTCOMES MEASURED IN THE STUDY

This chapter describes the features of the usual care (UC) program environment with which the three active interventions of permanent housing subsidy (SUB), community-based rapid re-housing (CBRR), and project-based transitional housing (PBTH) are compared. It also details the experiences and outcomes during the 20-month followup period of families assigned to remain in UC rather than being referred to an active intervention after 7 days in emergency shelter. The first section of the chapter profiles the housing and supportive services provided by the emergency shelters from which study participants were drawn. The second section of the chapter presents information on the types of other programs (besides emergency shelters) UC families used during the followup period. The last section of the chapter introduces the outcomes examined in the impact analysis and presents benchmark levels of these outcomes for UC families against which the impacts of other interventions will be measured.

5.1 The Emergency Shelter Experience of Usual Care (UC) Families

Usual care for this study consisted of whatever program services UC families were able to access on their own following a stay in emergency shelter of at least 7 days, without special referral to one of the study's active interventions. All families were recruited for the study from emergency shelters. For families randomly assigned to UC, the study team encouraged shelter staff to not actively guide families to SUB, CBRR, and PBTH providers in the community. Because families assigned to UC were not explicitly provided other assistance, all UC families remained in emergency shelter until they navigated their way out with or without the assistance of the emergency shelter staff, or until they reached the shelters'

length-of-stay limits. Across all 12 study sites, 746 families were randomly assigned to the UC intervention from 56 emergency shelters.[46] Of these 746 families, 578 (77 percent) responded to the followup survey and are therefore included in the impact analysis in this report.

For some families assigned to UC, emergency shelters were the families' only interaction with the homeless assistance or housing subsidy system. Other UC families found their way into housing subsidy, rapid re-housing, and transitional housing programs on their own (see Section 5.2). This section describes the emergency shelter part of the usual care service environment—the shelters in which all UC families spent at least 7 days and often longer, referred to here as "UC shelters."[47] Other types of assistance UC families received, as well as outcomes for UC families, are described in subsequent sections of this chapter.

5.1.1 UC Shelters in the Study Sites

The study team attempted to recruit study participants from all of the emergency shelters that stakeholders in the study communities described as "entry points" into the homeless system in each included city. In some cases, programs may have used the term "emergency shelter" to describe the assistance they provided, but in practice their service model involved recruiting families from other shelters. The study team did not recruit families into the study from these types of programs (which function more like transitional housing programs) because this model was not consistent with the study design. The study team also avoided emergency shelters that exclusively provided domestic violence assistance because most victim-service providers did not believe that random assignment to nonspecialized homeless assistance programs was appropriate for such clients.[48] As a result

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[46] One family was enrolled into the study from a 57th shelter, but this family was not assigned to the UC group. Information in this chapter describing the housing and services provided by UC shelters is based on 53 emergency shelters that provided program data. These 53 UC shelters served nearly all the families assigned to UC (741 of 746, or 99 percent).

[47] Families assigned to other interventions also spent time in UC shelters, for at least 7 days before random assignment and often longer.

[48] Two emergency shelters in the Connecticut site were domestic violence shelters, and two of nine in Alameda County, California, were entirely or partly dedicated to domestic violence.

of these exclusions, but broad inclusion otherwise, UC encompasses all gateway shelters, or primary entry points, in a site's homeless system.

The number of UC shelters in any site depends on the organization of that community's homeless system. For instance, in Salt Lake City, Utah, the study recruited from the single primary shelter in its largely centralized homeless system. In Alameda County, California, on the other hand, the study recruited from nine shelters, reflecting the large geographic area covered by the county and the homeless system's general decentralization. Many UC shelters were part of agencies that operate other homeless assistance programs in addition to emergency shelter, such as transitional housing. Under regular operations (outside of this study), the typical practice for these multiservice agencies would be to refer many families in shelter to their internal programs instead of referring them to other providers. Under the protocol established for the study, emergency shelters agreed to refer families to assistance after shelter based on the result of random assignment. Based on HUD priorities for funding homeless assistance, very few HUD dollars are used to support emergency shelters. As a result, emergency shelters typically rely on a broad range of other local private and public funding sources. Shelters are therefore not governed by uniform standards and requirements for program operations, as is the case for CBRR, SUB, and to some extent PBTH. A great deal of similarity was nonetheless found across communities in the types of assistance provided in emergency shelters, and also found many similarities between UC shelters and PBTH programs.

5.1.2 Housing Assistance in UC Shelters

The recruitment criteria for the study specified that all families assigned to UC had spent at least 7 days in shelter before random assignment. Most UC families spent additional time in shelter after random assignment. UC families also used other types of housing and homelessness assistance in the community during the 20-month followup period (see Section 5.2). This section describes the types of assistance provided in UC shelters. As shown in Exhibit 5-1, more than 80 percent of UC families come from congregate shelter settings. These shelters consisted of congregate dorm settings (35 percent of families); group homes in which families have a private bedroom with shared bathrooms and kitchens (26 percent); and facilities with private bedrooms and bathrooms but shared kitchens and other common space (23 percent). Another 13 percent of families stayed in various apartment-based settings and 4 percent in other settings.

Length of Time Spent in Emergency Shelters by UC Families

The Program Usage Data collected for the study from various sources indicate whether a family spent at least 1 night in emergency shelter during a calendar month.[49] These data show that UC respondent families stayed in emergency shelter for an average of 4 months and a median of 2 months during the followup period.[50] Exhibit 5-2 shows the percentages of families with various total month durations in emergency shelter during the followup period. About 53 percent of UC families stayed in emergency shelter for 3 or fewer

Exhibit 5-1. Types of Living Space Provided by UC Shelters

Type of Living Space	Percent of Families Assigned to UC in Shelters With This Setting (N = 722)[a]
Congregate dorms (shared bedrooms or sleeping space)	34
Group homes (private bedroom, shared kitchens and bathrooms)	25
Facilities (for example, motels)—families have private rooms with bathrooms but not kitchens	23
Facility-based apartments	7
Apartments clustered in larger buildings not owned or controlled by the program	5
Other settings	5

UC = usual care.

[a] Five UC shelters (representing 24 families) did not provide this information and were excluded from this exhibit.

Note: Percentages are unweighted.

Sources: Program data forms; random assignment records

[49] See Appendix A for details of how the sources of program usage were combined into a single dataset. Missing data on emergency shelter stays bias the counts of total months spent in emergency shelter somewhat downward. The baseline stay in emergency shelter does not appear in the data from the Homeless Management Information Systems (HMIS) for 18.7 percent of UC respondent families. The missing data rate for subsequent stays in emergency shelter is unknown, but it is expected to be lower than 18.7 percent because information on subsequent stays was collected both from HMIS and from followup surveys.

[50] The mean and median are computed with weights to adjust for survey nonresponse, so that the respondent families represent all 746 families assigned to UC. The length of the followup period is from the month of random assignment to the month of the followup survey response (median 21 calendar months included in followup period). Most families had only one *spell* in emergency shelter, wherein spells are separated by at least 1 calendar month with no emergency shelter stay. The weighted percentage of families with 0 spells (that is, missing data on the spell when they were recruited from shelter at baseline and also no subsequent spell recorded in the HMIS program usage data) is 12.1 percent, with 1 spell is 72.0 percent, with 2 spells is 13.6 percent, and with 3 or more spells is 2.3 percent.

Exhibit 5-2. Length of Time Spent in Emergency Shelters by UC Families

Number of Months (with at least 1 night stay) in Emergency Shelter During Followup Period[a]	Percent of UC Respondent Families[b] (N = 578)
0.00[c]	12.1
0.25 to 0.75	12.7
1.00 to 1.75	16.1
2.00 to 2.75	14.5
3.00 to 3.75	10.4
4.00 to 4.75	7.6
5.00 to 5.75	5.5
6.00 to 6.75	4.2
7.00 to 7.75	3.0
8.00 to 8.75	1.9
9.00 to 11.75	3.8
12.00 to 14.75	3.0
15.00 to 17.75	1.7
18.00 or more	3.7

UC = usual care.

[a] The structure of the data, which count a month of shelter stay if at least 1 night in the calendar month is in emergency shelter, could bias estimates of shelter stay upward (relative to true use) because shelter entries and exits can occur any time during the calendar month. To address this upward bias, each shelter spell is adjusted slightly downward in measures of duration. (See Appendix A for full details.) Missing data on emergency shelter stays bias the counts of total months spent in emergency shelter somewhat downward. The baseline stay in emergency shelter does not appear in the data from the Homeless Management Information System (HMIS) for 18.7 percent of UC respondent families. The missing data rate for subsequent stays in emergency shelter is unknown but is expected to be lower than 18.7 percent, because information on later stays was collected both from HMIS and from followup surveys.

[b] Percentages are weighted for survey nonresponse to represent all 746 UC families.

[c] Of UC respondent families, 12.1 percent do not have any emergency shelter stay (at baseline or after baseline) in the HMIS program usage data, even though all families were recruited from emergency shelters. These families are among the 18.7 percent of UC respondent families whose *baseline* stay in emergency shelter does not appear in the data. The other 6.6 percent of UC respondent families (18.7 – 12.1 = 6.6) whose baseline stay in emergency shelter does not appear in the data have at least one stay in emergency shelter *after baseline* and so are included in the rows below the 0.00 months row.

Source: Program Usage Data

months during the followup period. Another 23 percent stayed 4 to 6 months during the followup period, and 24 percent stayed more than 6 months.

Exhibit 5-3 shows the percentage of UC families who have at least 1 night in emergency shelter during the month for each month relative to random assignment. A second line shows the percentage of UC families who have not left the initial stay in shelter each month. The exhibit shows that most families have left emergency shelter by the 3rd or 4th month after random assignment. The exhibit shows that only about 20 percent of UC families are in emergency shelter by the 6th month after random assignment. Past this point, the percentage drops slowly and, in the 18th month after random assignment, about 8 percent of UC families are in emergency shelter. From Exhibit 5-2, which shows only 3.7 percent of UC families in shelter for 18 or more months, it is possible to deduce that a little more than one-half of the families in shelter in the 18th month after random assignment have returned to shelter after a departure.

Family Rent Contributions and Savings Requirements in UC Shelters

Some shelters require families to pay a monthly program fee, either a flat fee per month or a fee based on income.

Some shelters require families to establish savings while staying in the shelter and work with families to develop a monthly savings goal. These requirements are intended to help families develop financial skills and planning needed to prepare for permanent housing. As shown in Exhibit 5-4, most families were in shelters that allowed families to stay in shelter without paying rent or a program fee, but more than one-half were in shelters that required them to save money while they were enrolled in the program. Of the nearly one-fourth of families that were required to pay a fee during their stay, most (85 percent) were in shelters that required them to pay a flat amount (for example, $7 per day), and 15 percent were in programs that determined the amount based on a percentage of a family's income. UC programs typically provided food for families, but one-third of families were in programs that did not provide any food, and 16 percent of families were in programs that required them to provide at least some of their own food. Some program staff indicated that families receiving the Supplemental Nutrition Assistance Program (SNAP) had to contribute a portion of their SNAP benefits to offset the cost of the food provided by the program.

Exhibit 5-3. UC Group—Percent of Families With at Least 1-Night Stay in Emergency Shelter During Month, by Number of Months After RA
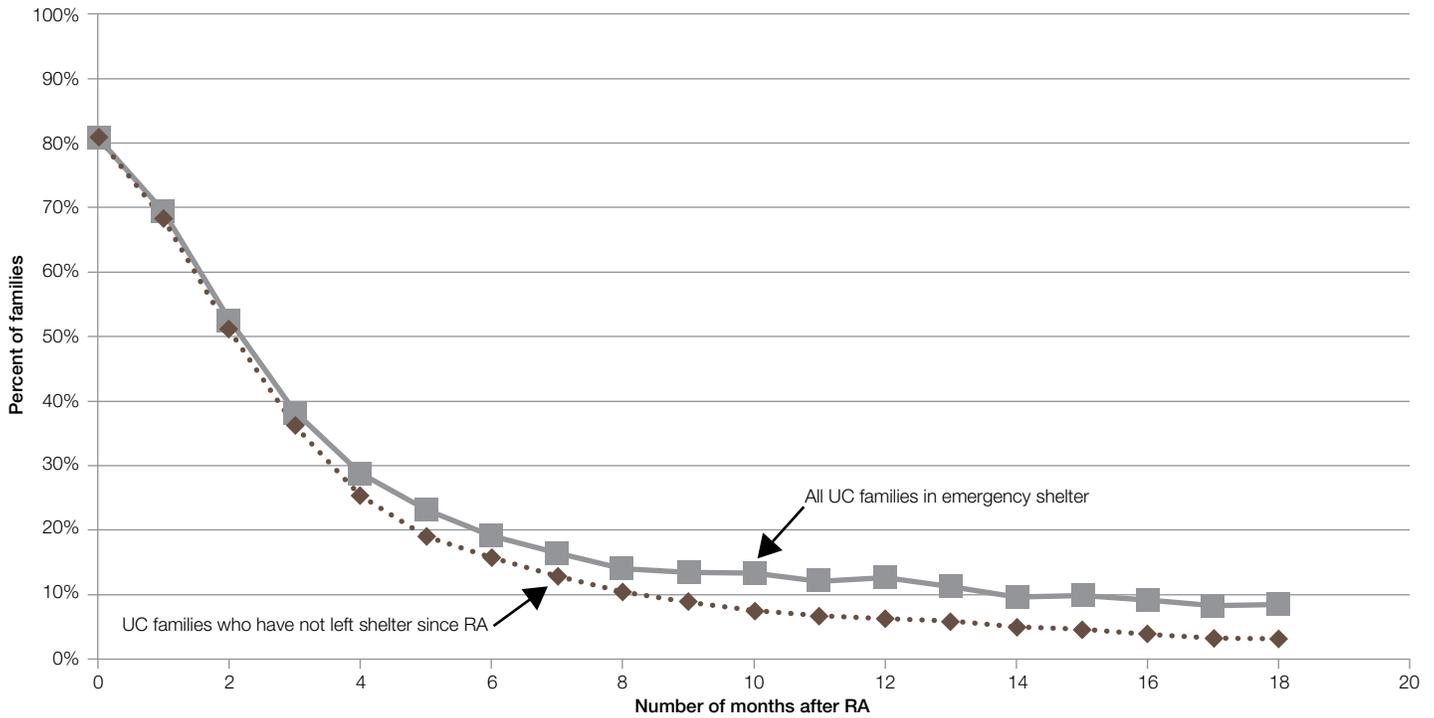
RA = random assignment. UC = usual care.

Notes: Percentages are weighted for survey nonresponse to represent all UC families in the study. Missing data on emergency shelter stays bias the percentages somewhat downward. The baseline stay in emergency shelter does not appear in the data for 18.7 percent of UC respondent families. The missing data rate for subsequent stays in emergency shelter is unknown.

Source: Program Usage Data

Exhibit 5-4. Family Rent Contributions and Savings Requirements in UC Shelters

UC Shelter Program Features	Percent of Families Assigned to UC in Programs With These Characteristics (N = 739)[a]
Are families required to pay a program fee or rent?	
Yes	23%
No	77
(If yes) How is the program fee/rent determined?	
Percentage of income	15%
Flat amount based on family or unit size	85
Does the program require families to set aside some income each month as savings	
Yes	60%
No	40
Who is responsible for food for participating families?	
Families provide own food	32%
Program provides food	52
Both	16

UC = usual care.

[a] Four UC shelters (representing seven families) did not provide this information and were excluded from this exhibit.

Note: Percentages are unweighted.

Sources: Program data forms; random assignment records

5.1.3 Assessment of Families in UC Shelters

All shelter programs that provided program data indicated that they conducted a formal assessment of families upon entry into the shelter. These assessments were described as comprehensive. Nearly all families assigned to UC were recruited from shelters that assessed family needs related to housing, self-sufficiency, employment, health, mental health, substance abuse, and child-specific needs. One-half of the families assigned to UC were recruited from programs that reported that assessments also focused on life skills and 44 percent were recruited from programs that assessed parenting skills. Assessments typically resulted in a formal service plan (or equivalent) with goals for the adults in the household, designed to help families address their needs. Of families assigned to UC, 42 percent were in shelters that also worked with families to develop goals for the children.

5.1.4 Supportive Services in UC Shelters

In their role as the entry point to the homeless system, all the UC shelters offered families comprehensive assessments, case management, direct provision of many supportive services, and referrals to mainstream programs or other programs to meet additional family needs. Most shelters required participation in services or activities as a condition for remaining in the shelter. Although shelter programs indicated that case management emphasized placement in permanent housing, staff also indicated that they considered case management to encompass more than housing—that case management was

intended to meet client needs as defined jointly by families and case managers. As a result, case managers at emergency shelters appeared to provide support and referrals to address a wide range of issues related to housing, employment, health, mental health, substance abuse, parenting, and children.

Exhibit 5-5 shows the array of services that shelter staff reported that they offered and the extent to which the service was provided through case management, by other program or agency staff beyond the case manager, or through a formal arrangement with an external agency that was guaranteed to provide the service because of shelter enrollment. Some programs address a particular service through only one method, whereas others use multiple methods. The second column of the exhibit shows the percentage of families referred to programs that offer each type of service. The subsequent columns report separately the percentage of families referred to programs that provide that service type through that specific means. In some cases, addressing a service through case management means provision of direct assistance by the case manager. In other cases, addressing a service through case management means that the case managers provide referrals to other programs, advocate on behalf of the family to access care, help remove barriers to care, and coach or support a family as it attempts to complete its goals related to that service need.

Essentially all the shelter case managers worked with families on housing search and placement and self-sufficiency issues. In addition, case management was supplemented

Exhibit 5-5. Types of Supportive Services Offered in UC Shelters and How They Are Delivered, as Reported by Shelter Staff

Types of Supportive Services	Percent of Families Assigned to UC in Shelters That Offered These Services (N = 739)[a]	Percent of Families Assigned to UC in Shelters That Offer Services of This Type:		
		Through Case Management	By Other Program or Agency Staff	Through Formal Arrangements With Other Agencies
Housing search and placement assistance (%)	100	99	13	0
Self-sufficiency (overall) (%)	95	91	NA	NA
Childcare/after-school care			12	13
Financial management			5	6
Transportation			7	0
Help obtaining public benefits			1	0
Physical health care (%)	87	73	7	40
Employment training (%)	77	73	21	10
Child advocacy (%)	76	76	2	0
Life skills (%)	76	65	0	10
Mental health care (%)	71	66	3	23
Parenting skills (%)	66	66	5	14
Substance abuse (%)	49	47	2	8
Family reunification (%)	24	24	1	0

NA = data not available. UC = usual care.

[a] Four UC shelters (representing seven families) did not provide this information and were excluded from this exhibit.

Note: Percentages are unweighted.

Sources: Program data; random assignment records

with other direct services in nearly all programs. Of UC families, 87 percent were in shelters that offered access to physical health care, 77 percent were in shelters that offered employment training, 76 percent were in shelters offering child advocacy, 76 percent were in shelters offering life skills, and nearly as many were in shelters that offered access to mental health care and parenting services.

Case Management in UC Shelters

Case management was considered by emergency shelter staff to be a core part of their programs and the primary means of helping families to resolve the crises that resulted in homelessness. All but one shelter in the study reported providing case management to families.[51] Case management varied widely across the participating shelter programs, as shown in Exhibit 5-6, but the average case management ratio was 16 families per shelter case manager.

More than one-third of UC families (38 percent) were in shelters with case managers who worked with 10 or fewer families at a time, meeting with families weekly, if not daily. Roughly the same percentage of UC families was in shelters with case manager caseloads between 11 and 20 families, whereas slightly more than one-fourth of families were in shelters with caseloads of more than 20 families. Ninety-one percent of families were in shelters in which they met with case managers weekly or more often (7 percent daily), and even in the programs with higher caseloads, case managers reported meeting with families biweekly. According to case managers, families in emergency shelter most often met with their case managers for 30 to 45 minutes. Additional details about each emergency shelter's case management are shown in Gubits et al. (2013), Appendix B-7.

Case management was rarely offered after families moved out of shelters. Although some case managers said they kept an open door and may have stayed in touch with some families, most programs did not appear to provide a significant level of assistance after program participation.

Other Supportive Services in UC Shelters

The primary service provided in shelter is case management, but shelters offered other direct services, by other staff within the program, by another program within the agency, or through formal arrangements with other agencies. Exhibit 5-5 shows that the type of services offered varied from shelter to shelter, and that no other services were offered as widely as case management. The most common services offered outside of case management were physical health care, mental health care, employment training, childcare, and parenting classes. Nearly one-half (47 percent) of the UC families were in shelters that offered direct healthcare services, most often through an onsite clinic operated by another agency or through a formal arrangement with an outside clinic. Other types of services were formally offered at UC programs serving fewer than one-fourth of UC families. In addition to the services offered directly by the program or a formal partner, families were also routinely referred to other agencies to receive other types of services that may be required to address their needs.

5.2 Use of Other Homeless and Housing Assistance Programs by Usual Care (UC) Families

For some families assigned to UC, emergency shelters were the families' only interaction with programs that provide a place to stay or a housing subsidy. Many UC families ultimately found their way to other types of assistance, however. Although the study team knew what types of programs were available at the outset of the study, it was not known how

Exhibit 5-6. Case Management Intensity (ratio and frequency)

Average Number of Clients per Case Manager	Frequency of Case Management in UC Shelters (%) (N = 710)[a]				Total
	Daily	Weekly or More Often	Biweekly	Monthly	
10 or fewer clients (%)	3	35	0	0	38
11 to 20 clients (%)	4	32	0	0	36
21 to 30 clients (%)	0	23	0	0	23
More than 30 clients (%)	0	0	3	0	3
Total	7	91	3	0	100

UC = usual care.

[a] Seven programs (representing 36 families) did not provide this information and were excluded from this exhibit. Some row and column totals may not equal the sum of individual cells because of rounding.

Note: Percentages are unweighted.

Sources: Program data forms; random assignment records.

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[51] The one shelter that did not provide case management was a crisis center that provided other supportive services and assisted families in obtaining case management from other programs.

much assistance UC families would eventually obtain on their own. Data collected for the study answer this question. This section describes the extent to which UC families used programs other than emergency shelter that were available to them in their communities.

Exhibit 5-7 shows the use of nonshelter homeless and housing programs by UC families during the followup period. The exhibit takes account of seven types of programs.

- Subsidy (that is, the programs that comprise the SUB intervention in this study: housing choice vouchers, or HCVs, plus public housing in Honolulu, Hawaii, and project-based vouchers in Bridgeport, Connecticut).

- Rapid re-housing (that is, CBRR).

- Transitional housing (both non-"transition-in-place" and "transition-in-place").

- Permanent supportive housing.

- Public housing in places other than Honolulu.

- Project-based vouchers or units in Section 8 projects (in places other than Bridgeport where the SUB intervention was provided using project-based vouchers).

- Emergency shelter.

In addition, the exhibit shows information on the proportion of UC families who use none of these programs during the entire followup period or emergency shelter after the

first 6 months after random assignment. The measure of no program use is meant to exclude a typical-length baseline shelter stay. By the 7th month after random assignment, most UC families had departed from emergency shelter.

The first column of Exhibit 5-7 shows the percentage of UC families who ever used a type of program between the month of random assignment and the month of followup survey response. This column shows that 18 percent of UC families received rapid re-housing assistance and one-fourth of UC families received transitional housing. Altogether, 28 percent of UC families received some sort of permanent subsidy during the followup period—accessing either subsidy, public housing, permanent supportive housing, or project-based housing assistance programs. A little more than one-fourth (28 percent) of UC families used none of the six program types during the followup period *or* emergency shelter following the first 6 months after random assignment.

The second and third columns of Exhibit 5-7 show the mean and median number of months of program usage *for those families who used the program*. The number of months of use of rapid re-housing (median 6 months) and transitional housing (median 8 months) are consistent with the expected durations of these program types. It is interesting to note that the higher mean and median of the project-based vouchers or Section 8 projects row show that families were able to access this type of assistance more quickly than the other permanent types of assistance (subsidy, permanent

Exhibit 5-7. Program Use Since Random Assignment for UC Group

Type of Housing Assistance	Percent Ever Used From RA to 18-Month Followup Survey[a]	Number of Months Used From RA to 18-Month Followup Survey, If Ever Used Type of Housing Assistance		Percent Used in Month of Followup Survey Response
		Mean	Median	
Subsidy (SUB)[b]	9.7	11.0	11.5	8.3
Rapid re-housing (CBRR)	17.6	6.9	5.5	2.1
Transitional housing	24.9	9.0	7.5	10.0
Permanent supportive housing	6.4	9.9	8.0	4.8
Public housing	6.6	9.9	10.5	5.4
Project-based vouchers or Section 8 projects	4.8	14.7	16.5	4.5
Emergency shelter[c]	87.9	4.3	3.0	9.2
No use of homeless or housing programs[d]	28.3	—	—	56.4
N	**578**	**—**	**—**	**578**

UC = usual care. RA = random assignment.

[a] Percentage of families who ever used a type of assistance program during the period from the month of RA to the month of the 18-month followup survey response (median period duration: 21 months). Percentages do not add to 100% because some families use more than one program type during the followup period.

[b] Subsidy assistance is housing choice vouchers plus site-specific programs offered to families assigned to SUB group in Connecticut and Honolulu.

[c] All families were in emergency shelter at random assignment. The percentage less than 100 percent for ever used emergency shelter is due to missing data on shelter use.

[d] No use of homeless or housing programs (ever used) indicates no use of the six program types in this table during any of the followup period and no use of emergency shelter after the first 6 months after RA. No use in the month of followup survey response indicates no use of any of these seven program types.

Notes: Percentages are regression adjusted, controlling for site and randomization ratio. Percentages, means, and medians are weighted for survey nonresponse to represent full comparison sample.

Source: Program Usage Data

supportive housing, and public housing).[52] It is not obvious why access to project-based vouchers or Section 8 projects was faster than access to these other types, although these could have been units in affordable housing developments that were set aside for homeless families.[53]

The fourth column of Exhibit 5-7 shows the percentage of families who used a program type in the month of followup survey response. Although the study team expects that many outcomes in the report will be influenced by assistance received at any point during the entire followup period, some outcomes will be most strongly influenced by assistance that is received at the time of followup survey response. By the time of the followup survey, 10 percent of UC families were still in transitional housing programs, and 5 percent were in permanent supportive housing. Nearly one-fourth (23 percent) were using permanent housing assistance (subsidy, public housing, permanent supportive housing, and project-based vouchers). Thus, the vast majority of families who got rapid re-housing assistance were no longer using it at the time of the followup survey, whereas most families who accessed permanent assistance were still receiving it. Transitional housing fell in between. More than one-half of UC families (56 percent) were not using any of the six program types nor emergency shelter at the time of their followup survey response.

5.3 Outcomes for Families Randomly Assigned to Usual Care (UC)

This section serves the dual purpose of (1) introducing the outcomes examined in the impact analysis and (2) describing the outcomes of families assigned to UC who responded to the followup survey. The section is organized by outcome domain (housing stability, family preservation, adult well-being, child well-being, and self-sufficiency). The subsections describe the outcomes in each domain and the data sources used to measure them. Each subsection also describes the characteristics of the families in the UC group based on

these outcome measures. Appendix B provides additional technical details regarding the construction of the outcome measures from survey and administrative data.

5.3.1 Measures of Housing Stability

Understanding the extent to which the interventions alleviate homelessness and permit families to remain stably housed is one of the most important objectives of the study. The research team defined several outcomes related to homelessness and housing stability, and they used information from the followup survey and Program Usage Data to measure these items.

The research team developed seven measures related to housing stability and homelessness experienced during the followup period—

- **At least 1 night homeless or doubled up in past 6 months (percent of families).** This outcome measures the percentage of study families who reported having spent at least 1 night in the 6 months before the followup survey either staying in a shelter or a place not meant for human habitation, or living with friends or relatives because they could not find or afford a place of their own. This outcome is measured from survey data.

- **At least 1 night homeless in past 6 months (percent of families).** This outcome measures the percentage of families who reported having spent at least 1 night in a shelter or a place not meant for human habitation in the 6 months before the followup survey.[54] This measure is based on responses to the followup survey.

- **At least 1 night doubled up in past 6 months (percent of families).** This outcome measures the percentage of families who reported spending at least 1 night in the 6 months before the survey living with a friend or relative *because they could not find or afford a place of their own*. This outcome is intended to measure episodes in which families reported doubled up living situations resulting from economic hardship. This outcome is measured from responses to the survey.

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[52] Comparing the percent ever used in the first column with the percent used in the followup survey month makes it apparent that the median program user for each of the permanent housing program types was still participating in the followup month. This finding implies that any difference in medians has to be because of differences in timing of program entry (rather than differences in timing of exit).

[53] Such setasides often are part of the agreement with the public housing agency (PHA) that project-bases the vouchers or with the funder of the capital costs of an affordable housing development. They may provide housing with services (that is, supportive housing), or they may provide units without supportive services (that is, the equivalent of SUB as defined for this study). Most of the families who gained quick access to project-based housing assistance were in Kansas City, Missouri; Atlanta, Georgia; and Denver, Colorado.

[54] See *24 CFR 91.5*. HUD defines homelessness as living in a supervised publicly or privately operated shelter designated to provide temporary living arrangement (including congregate shelters, transitional housing, and hotels and motels paid for by charitable organizations or by federal, state, or local government programs for low-income individuals). In the followup survey the study team asked survey respondents if they had spent at least 1 night in the 6 months before the survey staying in shelters, institutions, or places not typically used for sleeping such as on the street, in a car, in an abandoned building, or in a bus or train station. The survey question excluded stays in transitional housing.

- **Any stay in emergency shelter in months 7 to 18 after random assignment (percent of families).** This measure is the percentage of families who spent at least 1 night in emergency shelter during the period 7 to 18 months after random assignment. This time period is used to measure return to emergency shelter after the initial stay in emergency shelter. All families were staying in emergency shelter at the time of random assignment. This measure is based on the Program Usage Data, taken from the Homeless Management Information System (HMIS; described in Chapter 4).

- **Number of days homeless or doubled up in past 6 months.** This outcome measures the average number of days spent in shelters or places not meant for human habitation or doubled up in the 6 months before the survey. This outcome is measured from survey data.

- **Number of days homeless in past 6 months.** This outcome measures the average number of days spent in shelters or places not meant for human habitation in the 6 months prior to the survey. It is measured from survey data.

- **Number of days doubled up in past 6 months.** This outcome measures the average number of days spent living with friends or relatives in the 6 months prior to the survey. It is measured from survey data.

Confirmatory Outcome

Because housing stability is the central outcome domain for the study, the research team designated a small set of impact comparisons and hypothesis tests related to housing stability as the confirmatory set. For this purpose, the analysts constructed a single composite outcome defined as "at least one return to homelessness" from two binary outcomes, measured from the followup survey and from Program Usage Data.

- "At least 1 night spent staying in a shelter or a place not meant for human habitation or doubled up during the past 6 months" at the time of the survey (measured from survey data).

- "Any stay in emergency shelter in the 12 months prior to the date of the survey" (measured from Program Usage Data).

The analysts used data from the adult survey to construct outcomes pertaining to the type of living arrangements at the time of the followup survey, number of places lived, and housing quality.

- **Living in own house or apartment at time of survey (percent of families).** Survey respondents are considered to have *independent housing* if they rented or owned their own housing at the time of the survey (housing owned or rented by a nonmarried partner is not counted as living in the respondent's own house or apartment). This outcome measures the percentage of families who reported living in their own house or apartment, either with or without housing assistance.

- **Living in own house or apartment at time of survey with no housing assistance (percent of families).** This outcome measures the percentage of families who reported living in their own house or apartment at the time of the survey and were not receiving housing assistance.

- **Living in own house or apartment at time of survey with housing assistance (percent of families).** This outcome measures the percentage of families who reported living in their own house or apartment at the time of the survey and were receiving housing assistance to help pay the rent.

- **Number of places lived in past 6 months.** This outcome measures the number of places the family lived in the 6 months before the survey.

The study team also measured impacts on two outcomes related to the quality of sample members' housing at the time of the followup survey. The first addresses the adequacy of families' living space. The second measures the physical condition of the housing unit.

- **Persons per room.** This outcome measures housing crowding using information collected from the adult respondent about the number of rooms in the housing unit (not counting kitchens, hallways, and bathrooms) and the number of people living in the housing unit. Housing situations with more than one person per room are considered crowded.

- **Housing is fair or poor quality (percent of families).** This outcome measures the percentage of families reporting that the condition of their housing at the time of the survey was fair or poor.[55]

Housing Stability of the UC Group

Exhibit 5-8 shows the housing stability outcomes for the UC group. The exhibit displays the average value of each outcome measured for the 578 families assigned to the UC group who responded to the followup survey.[56] The

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[55] The housing quality outcome is measured with self-reported assessments of housing condition. This outcome should not be interpreted as representing housing quality as determined by outside inspections, such as those conducted as part of HUD's Housing Quality Standards process.

[56] Outcome values are weighted for survey nonresponse, so the responses represent all families randomly assigned to UC.

Exhibit 5-8. Family Options Study: Housing Stability Outcomes

Outcome	Usual Care Group	
	Mean Value	**(Standard Deviation)**
Homeless or doubled up during followup period		
At least 1 night homeless[a] or doubled up in past 6 months or in shelter in past 12 months (%)	50.1	(56.9)
At least 1 night homeless or doubled up in past 6 months (%)	40.2	(55.8)
At least 1 night homeless in past 6 months (%)	23.9	(48.5)
At least 1 night doubled up in past 6 months (%)	31.4	(52.8)
Any stay in emergency shelter in months 7 to 18 after random assignment (%)	27.8	(50.9)
Number of days homeless or doubled up in past 6 months	52.7	(85.0)
Number of days homeless in past 6 months	21.8	(56.8)
Number of days doubled up in past 6 months	37.3	(74.3)
Housing independence		
Living in own house or apartment at followup (%)	58.2	(56.1)
Living in own house or apartment with no housing assistance (%)	34.2	(53.9)
Living in own house or apartment with housing assistance (%)	24.1	(48.6)
Number of places lived		
Number of places lived in past 6 months	1.8	(1.4)
Housing quality		
Persons per room	1.6	(1.4)
Housing quality is poor or fair (%)	33.4	(53.6)

[a] The definition of "homeless" in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing.
Notes: N = 578. See Appendix B for details on outcome specifications and values. Means and standard deviations are weighted to adjust for survey nonresponse.
Sources: Family Options Study 18-month followup survey; Program Usage Data

UC group displays substantial housing instability over the followup period. Based on responses to the survey, nearly one-fourth (24 percent) reported having been homeless in the *6 months* prior to the survey; with *homeless* defined as spending at least 1 night in shelter or in places not meant for human habitation. Based on Program Usage Data, more than one-fourth (28 percent) of UC families had stayed in emergency shelter at some point in months 7 to 18 after random assignment.[57]

UC families also reported experiences that indicate a degree of housing instability. Nearly one-third of UC families (31 percent) said that they spent at least 1 night living with friends or relatives because they could not find or pay for housing in the 6 months prior to the survey. Altogether, 40 percent of UC families reported spending at least 1 night homeless or doubled up in the 6 months prior to the survey (a shorter period than covered by the administrative data).

Measuring housing stability using the confirmatory outcome revealed that one-half (50 percent) of UC families spent at least 1 night homeless or doubled up in the 6 months prior to the survey or in emergency shelter in the 12 months prior to the survey.

Perhaps not surprisingly, given that the Family Options Study sample entered the study while homeless, the housing instability reported by the UC group is substantially greater than that observed among the control group in the study of *Effects of Housing Vouchers on Welfare Families* (Mills et al., 2006).

At the time of study enrollment, voucher study participants—current or former Temporary Assistance for Needy Families (TANF) recipients (or TANF eligible) on public housing agency (PHA) waiting lists for HCVs—were more stably housed than families enrolled in the Family Options Study. For example, 25 percent of the control group in the voucher study reported not having a place to stay in the year before the followup survey, 7 percent reported having lived on the streets or in shelter during that time period, and another 18 percent said they spent time living with friends or relatives when they did not have their own place to stay. At the time of the Family Options Study's followup survey, more than one-half (58 percent) of the families in the UC group reported living in their own house or apartment, 34 percent with no housing assistance.[58] The families in the UC group reported having lived in an average of 1.8 places in the 6 months prior to the survey. One-third of UC families described the

[57] Of the 27.8 percent of families who stayed in emergency shelter at some point in months 7 to 18 after random assignment, 15.0 percent had returned to shelter after a departure, and the remaining 12.8 percent had an initial stay from baseline that extended until at least the 7th month after random assignment.

[58] Of those who reported living in their own house or apartment at the time of the survey, 11 percent said that they also had been homeless or doubled up in the 6 months before the survey.

quality of their housing at the time of the followup survey as fair or poor. Mean occupancy was 1.6 people per room. The UC group reported slightly higher housing quality than the voucher study control group, which had 38 percent reporting housing in fair or poor condition at followup.

5.3.2 Measures of Family Preservation

Family preservation refers to separation and reunification of family members. The study team collected detailed information about changes in family composition during the followup period. The interviewers collected names and ages of family members with the adult respondent in shelter at the time of random assignment. Interviewers also collected information about family members the adult respondent considered part of the family but who were separated from the family at random assignment. Then, during the followup survey, the study team collected information on the whereabouts of all family members reported at baseline. Information was also collected about new family members who joined the family since the previous survey. The analysis examines impacts on five outcomes.

The study team used information on changes in family composition to construct outcomes measuring recent separations of family members who were present at baseline.

- **Family has at least one child separated in past 6 months (percent of families).** This outcome measures the percentage of families for whom a child who had been with the family in shelter was separated from the family in the 6 months before the followup survey. This outcome includes both formal (that is, by a child welfare agency) and informal separations from the family.

- **Family has at least one foster care placement in the past 6 months (percent of families).** This outcome measures the percentage of families who reported that a child was in a formal foster care placement in the 6 months prior to

the survey. This outcome excludes informal arrangements in which a child may have stayed with friends or family members.

- **Spouse/partner separated in past 6 months, of those with a spouse/partner present at random assignment (percent of families).** This outcome measures the percentage of families in which a spouse or partner who had been with the family in shelter at baseline was separated from the family in the 6 months prior to the survey.

The team also constructed the following family reunification outcomes that measure the return of family members who had been reported as separated from the family at baseline.

- **Family has at least one child reunified, of those families with at least one child absent at random assignment (percent of families).** This outcome measures the percentage of families in which a child who had been living apart from the family at baseline had rejoined the family at the time of the followup survey. This outcome is measured only for families in which a child was separated from the family at the time of random assignment.

- **Spouse or partner reunified (percent of families).** This outcome measures the percentage of families in which a spouse or partner who was separated from the family at baseline had rejoined the family at the time of the followup survey. This outcome is measured only for families in which a spouse or partner was separated from the family at the time of random assignment.

Family Preservation in the UC Group

Exhibit 5-9 presents the values of the family preservation outcomes for the usual care group. Across the UC group, 15 percent of families had a child who was with the family in shelter at the time of the baseline survey who was separated from the family at some point during the 6 months prior to the followup survey. Only 4 percent of the UC families reported formal placements in foster care. The proportion

Exhibit 5-9. Family Options Study: Family Preservation Outcomes

Outcome	Usual Care Group	
	Mean Value (%)	(Standard Deviation)
Current or recent separations of family members present at baseline		
Family has at least one child separated in past 6 months (%) (N = 572)	15.4	(41.1)
Family has at least one foster care placement in past 6 months (%) (N = 573)	4.3	(22.9)
Spouse/partner separated in past 6 months, of those with spouse/partner present at RA (%) (N = 161)	36.5	(55.0)
Reunification of family members reported as separated at baseline		
Family has at least one child reunified, of those families with at least one child absent at RA (%) (N = 119)	27.1	(50.2)
Spouse/partner reunified, of those with spouse/partner absent at RA (%) (N = 54)	39.3	(57.0)

RA = random assignment.
Notes: See Appendix B for details on outcome specifications and values. Means and standard deviations are weighted to adjust for survey nonresponse.
Source: Family Options Study 18-month followup survey

of UC families with separations is lower than the 44 percent of families in the New York City study by Cowal et al. (2002) during a longer 5-year period and the 44 percent of mothers in emergency shelter and 39 percent of mothers in transitional housing (during a 15-month period) in the Service and Housing Interventions for Families in Transition (SHIFT) study in upstate New York (Hayes, Zonneville, and Bassuk, 2013). It is far higher, however, than the 8 percent of poor families who experienced a separation during 5 years in a random sample of New York's public assistance caseload (Cowal et al., 2002). The proportion in foster care in the UC group is more comparable with the proportion who first received child welfare placement or preventive services in New York City in Park et al. (2004); 4.3 percent during 1 year and 7.4 percent during 2 years after first entry into shelter.

Thirty-seven percent of families that reported a spouse or partner present at baseline experienced the separation from that spouse or partner in the 6 months prior to the followup survey. Of the families who had a spouse or partner separated at baseline, 39 percent reported that the spouse or partner had rejoined the family. It is still the case that not all shelters are able to accommodate couples, and some that can do not accommodate couples who are not married.

5.3.3 Measures of Adult Well-Being

The research team included outcomes measuring several aspects of well-being for the adult respondent in the study families. The outcomes address physical health, mental health, symptoms of trauma, substance use, and experience with domestic violence.

Adult Physical Health
Health in past 30 days was poor or fair (percent of families). Adult respondents provided self-reported assessment of their physical health in the followup survey. The outcome measures the percentage of families in which the adult respondent reported poor or fair health (rather than good or excellent health) in the 30 days before the survey.

Adult Mental Health
The team measured two outcomes related to adult mental health.

- **Goal-oriented thinking.** This outcome is measured with a modified version of the State Hope Scale (Snyder et al., 1996). Scores range from 1 to 6, with higher scores representing higher levels of positive, goal-oriented thinking.

- **Psychological distress.** The study team used the Kessler 6 (K6) scale to measure nonspecific psychological distress in

the 30 days prior to the survey (Kessler et al., 2003). The scale ranges from 0 to 24, with higher scores indicating greater psychological distress.

Adult Trauma Symptoms
- **Post-traumatic stress disorder (PTSD) symptoms (percent of families).** The outcome measures the percentage of families in which the adult respondent experienced symptoms of PTSD in the 30 days prior to the survey. The study team used responses to the 17 items about PTSD symptoms from the Posttraumatic Stress Diagnostic Scale, or PDS, to make this determination.

Adult Substance Use
- **Alcohol dependence (percent of families).** The outcome measures the percentage of families in which the adult respondent displayed evidence of alcohol dependence based on self-reported information at the time of the survey. Adult respondents were asked to report on the four items in the Rapid Alcohol Problem Screen (RAPS4) (Cherpitel, 2000). An affirmative answer to any of the four items indicates evidence of an alcohol problem.

- **Drug abuse (percent of families).** The outcome measures the percentage of families in which the adult respondent showed evidence of a drug problem based on self-reported information at the time of the survey. Evidence of a drug problem was measured using six items from the Drug Abuse Screening Test, or DAST-10 (Skinner, 1982). An affirmative answer to any of the items indicates a drug problem.

- **Alcohol dependence or drug abuse (percent of families).** This outcome measures the percentage of families in which the adult respondent displayed evidence of alcohol dependence or drug abuse.

Experience of Intimate Partner Violence
- **Experienced intimate partner violence in 6 months prior to survey (percent of families).** The outcome measures the percentage of adult respondents reporting experience of intimate partner violence in the 6 months prior to the survey.

Adult Well-Being in the UC Group
Exhibit 5-10 shows the mean values of the adult well-being outcomes for the UC group. Nearly one-third (32 percent) of the adult respondents described their health as fair or poor. Across the UC group, 20 percent of adult respondents in UC families experienced psychological distress and 26 percent gave survey responses that indicate symptoms of PTSD. This rate is slightly higher than rates of PTSD reported by Bassuk et al. (1996) for homeless families (18 percent) and housed welfare families (16 percent). These rates of PTSD

Exhibit 5-10. Family Options Study: Adult Well-Being Outcomes

Outcome	Usual Care Group	
	Mean Value	**(Standard Deviation)**
Maternal physical health		
Health in past 30 days was poor or fair (%)	31.5	(52.8)
Maternal mental health		
Goal-oriented thinking[a]	4.38	(1.19)
Psychological distress score[b]	7.65	(6.55)
Symptoms of serious psychological distress (%)	20.5	(45.9)
Maternal trauma symptoms		
Post-traumatic stress disorder (PTSD) symptoms in past 30 days (%)	25.9	(49.8)
Maternal substance use		
Alcohol dependence or drug abuse[c] (%)	14.5	(40.0)
Alcohol dependence[c] (%)	11.7	(36.6)
Drug abuse[c] (%)	5.6	(26.2)
Experience of intimate partner violence		
Experienced intimate partner violence in past 6 months (%)	11.6	(36.4)

[a] Goal-oriented thinking is measured with a modified version of the State Hope Scale and ranges from 1 to 6, with higher scores indicating higher levels of positive, goal-oriented thinking.

[b] Psychological distress is measured with the Kessler 6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress.

[c] Alcohol dependence is measured with the Rapid Alcohol Problems Screen (RAPS4), and drug abuse is measured with six items from the Drug Abuse Screening Test (DAST-10).

Notes: N = 578. See Appendix B for details on outcome specifications and values. Means and standard deviations are weighted to adjust for survey nonresponse.

Source: Family Options Study 18-month followup survey

and serious psychological distress for homeless families are substantially higher than national rates of PTSD (5.2 percent for women and 1.8 percent for men)[59] and serious psychological distress (3.9 percent for women and 2.9 percent for men) (CDC, 2012a).[60]

Alcohol abuse in the 6 months prior to the survey was suggested by adult survey respondents for 12 percent of UC families, and 6 percent of respondents gave survey responses that indicated a history of drug abuse during the same period. These rates are substantially lower than reported (using different measures) by homeless adults in families to the National Survey of Homeless Assistance Providers and Clients, or NSHAPC (38 percent for drug use problems and 18 percent for alcohol use problems within the past year; Burt et al., 2001). In another study of homeless families, Rog and Buckner (2007) reported that 12 percent of adult respondents had used illicit drugs in the past year.

Regarding incidence of intimate partner violence, 12 percent of the adult respondents in the UC group reported having experienced intimate partner violence in the 6 months before the survey. This percentage is substantially lower than figures reported in other studies, but other studies report on experience of such violence over a longer period of time.

Gubits et al. (2013) reported that, at enrollment, 49 percent of the Family Options Study sample reported having experienced violence during their entire adulthood.

5.3.4 Measures of Child Well-Being

The study team collected several types of data to measure outcomes associated with child well-being. For all focal children, parents reported on children's school or childcare enrollment, attendance, grades, grade completion, experiences, behavior at school and childcare, and attitudes about school and childcare. Parents also reported on prosocial behaviors and emotional and behavioral problems of children with the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997), along with children's health, access to health care, and sleep disruptions, which are associated with a variety of emotional and behavioral disorders (Dahl and Harvey, 2007). Additional instruments were tuned to children's developmental stage. Children 12 to 41 months of age were assessed with the Ages and Stages Questionnaire (ASQ-3) family of questionnaires to measure gross and fine motor skills, social development, communication, and problem solving, as observed by parents (Squires and Bricker, 2009). The adult respondent completed the ASQ-3 form. Study

[59] The statistic for PTSD is the national 12-month prevalence rate as measured in the National Comorbidity Survey Replication (NCS-R), which was fielded in 2001 and 2002. The NCSR used a different instrument to measure PTSD than the Family Options Study (NCS-R, 2005).

[60] The statistic for national rate of serious psychological distress is from the 2011 National Health Interview Survey. This survey used the same measure of psychological distress as used in the Family Options Study (CDC, 2012b).

staff assessed children from 3 years, 6 months to 7 years, 11 months of age with the Woodcock-Johnson III (WJ III) letter-word identification and applied problems scales (Woodcock et al., 2001), which are early indicators of verbal and quantitative/analytic skills, respectively. Children in this age group also completed the Head Toes Knees Shoulders (HTKS) task. HTKS assesses self-regulation, in which children must remember rules and inhibit incorrect responses (for example, by following instructions to touch their head when the interviewer says "touch your toes").

Finally, surveys were conducted with children from 8 years to 17 years, 11 months of age measuring anxiety, fears, and substance use. This array of measures, along with parental report, captured the most likely mental health consequences of homelessness and behavioral responses thereto. Parental reports of behavior for this age group included arrests or police involvement. Youth reported on school effort to supplement parental reports of functioning in the key developmental domain of school. Youth also completed the Children's Hope Scale (Snyder et al., 1997), a measure of self-efficacy.

Child Well-Being Measures From Parent Report Across Age Groups

The research team used the parent-reported information on focal children to construct the following child well-being outcomes that are measured for children across age groups.

Child Education

- **Preschool or Head Start enrollment (percent of focal children).** This outcome measures enrollment in preschool or Head Start for children ages 1 year, 6 months to 5 years. It measures the percentage of children ages 1 year, 6 months to 5 years who were enrolled in preschool or Head Start at the time of the followup survey.

- **School enrollment (percent of focal children).** This outcome is measured for children ages 6 to 17 years using the parent report. It measures the percentage of children ages 6 to 17 who were enrolled in school at the time of the followup survey.

- **Childcare or school absences in past month.** This outcome is measured from parent reports of the number of absences from childcare or school in the month prior to the survey. The outcome is measured using a scale of 0 to 3, with 0 indicating no absences and 3 indicating 6 or more absences.

- **Number of schools attended since random assignment.** This outcome is measured from parental reports and indicates the total number of schools a child attended since random assignment. (Change in school could be because of grade completion, residential move, or another reason.) The outcome is measured using a scale of 1 to 4. Number of schools is topcoded at 4 or more schools.

- **Grade completion—not held back (percent of focal children).** This outcome is measured from the parent survey for children ages 4 to 17 years who were not reported to be in childcare or preschool at the time of the survey. The outcome measures the percentage of these children who have not repeated a grade or been prevented from moving on to the next grade since random assignment.

- **Positive childcare or school experiences.** This outcome measures the parent's assessment of the child's childcare or school experiences, rating them as mostly positive, both positive and negative, or mostly negative.

- **Positive childcare or school attitudes.** This outcome measures the parent's assessment of the child's attitude toward school or childcare. The parent was asked to rate how much the child likes school or childcare. The outcome uses a 5-point scale ranging from 1 (not at all) to 5 (very much).

- **School grades.** This outcome measures the parent's assessment of the child's grades for the most recently completed term. The outcome uses a 4-point scale ranging from 1 (mostly Ds and Fs) to 4 (mostly As).

- **Childcare or school conduct problems.** This outcome measures whether or not the parent reports having been contacted by the child's school or childcare provider regarding the child's conduct problems or if the child was suspended or expelled.

Health

- **Poor or fair health (percent of focal children).** This outcome measures the parent's assessment of the child's health at the time of the followup survey. The outcome measures the percentage of children with poor or fair health (rather than good or excellent health), based on the parent's assessment.

- **Well-child checkup in past year (percent of focal children).** This outcome measures the percentage of focal children who received a physical examination or well-child checkup in the year prior to the survey, based on the parent's report.

- **Child has a regular source of health care (percent of focal children).** This outcome measures the percentage of focal children who had a regular provider of health care at the time of the followup survey, based on the parent's report.

- **Sleep problems.** This outcome measures the parent's report on the frequency of two indicators of sleep problems—tiredness on waking and tiredness during the day. The outcome is measured using a score of 1 to 5, with higher values indicating greater frequency of these sleep problems.

Behavioral Strengths and Challenges

- **Behavior problems.** This outcome is measured as the nationally standardized score from the SDQ. The SDQ is a behavioral and personality assessment. The total problem score measures emotional symptoms, conduct problems, hyperactivity, and peer problems.

- **Prosocial behavior.** Prosocial behavior refers to positive actions that benefit others. Prosocial behavior is measured for the study using the SDQ prosocial domain and is a nationally standardized score.

Characteristics of Focal Children in the UC Group

Exhibit 5-11 displays the values of the outcomes described previously for focal children in the UC group.

School and Childcare

Among children ages 1 year, 6 months to 5 years in the UC group, 35 percent were enrolled in center-based care, preschool, or Head Start. For 4- to 17-year-olds, 93 percent were enrolled in school. The percentage of school-age youth (ages 6 through 17) enrolled (98.3 percent) is comparable with the percentage nationally (98.0 to 98.6 percent), although this study's sample includes more children at the lower end of the age range. At younger and older ages, fewer children in the UC group were enrolled in school than their peers nationally; for 5- to 6-year-olds no longer in childcare, 86.7 percent compared with 95.1 percent nationally; for 16- to 17-year-olds, 91.1 percent compared with 95.7 percent nationally (Snyder and Dillow, 2013: Table 6).

Children in the UC group scored 0.95 on average for absences from school or childcare in the past month, wherein 0 indicates no absences and 3 indicates 6 or more absences. (During the summer, parents reported on the most recent month of enrollment.) National data suggest somewhat lower rates of absenteeism. Translating data from the National Assessment of Educational Progress to our scale, average numbers of absences for fourth graders in 2011 were 0.71 (for all children) and 0.82 (for children eligible for free and reduced-price lunch). For eighth graders, the comparable numbers were 0.82 and 0.89 (Snyder and Dillow, 2013: Table 187).

Exhibit 5-11. Family Options Study: Child Well-Being Outcomes Measured for Children Across Age Groups

Outcome	Usual Care Group	
	Mean Value	**(Standard Deviation)**
Child education		
Preschool or Head Start enrollment[a] (%)	35.2	(60.0)
School enrollment[b] (%)	93.0	(33.0)
Childcare or school absences in past month[c]	0.95	(1.28)
Number of schools attended since random assignment[d]	1.96	(1.15)
Grade completion—not held back (%)	90.4	(38.1)
Positive childcare or school experiences[e]	0.58	(0.72)
Positive childcare or school attitudes[f]	4.30	(1.28)
School grades[g]	2.93	(1.26)
Childcare or school conduct problems[h]	0.24	(0.55)
Child physical health		
Poor or fair health (%)	4.6	(26.8)
Well-child checkup in past year (%)	90.2	(38.1)
Child has regular source of health care (%)	92.8	(33.0)
Sleep problems[i]	2.08	(1.44)
Child behavioral strengths and challenges		
Behavior problems[j]	0.58	(1.61)
Prosocial behavior[k]	− 0.16	(1.41)

[a] Base for preschool or Head Start enrollment is children ages 1 year, 6 months to 5 years.

[b] Base for school enrollment is children ages 4 to 17 years.

[c] Absences outcome is defined as 0 = No absences in past month, 1 = 1 to 2 absences, 2 = 3 to 5 absences, and 3 = 6 or more absences.

[d] Number of schools outcome is topcoded at 4 or more schools.

[e] Positive childcare or school experiences outcome is defined as − 1 = mostly negative experiences, 0 = both positive and negative experiences, and 1 = mostly positive experiences.

[f] Positive childcare or school attitudes outcome is parent report of how much child likes school and ranges from 1 to 5, with higher values indicating greater like of school.

[g] School grades outcome is defined as 1 = mostly Ds or Fs, 2 = mostly Cs, 3 = mostly Bs, and 4 = mostly As.

[h] Childcare or school conduct problems outcome is defined as 0 = no problems reported or 1 = parent contacted about behavior or suspension or expulsion from school or childcare center.

[i] Sleep problems outcome ranges from 1 to 5, with higher values indicating more frequent tiredness on waking and during the day.

[j] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire (SDQ).

[k] Prosocial behavior is measured as the standardized prosocial domain score from the Strengths and Difficulties Questionnaire (SDQ).

Notes: Sample sizes vary by outcome. See Appendix B for details on outcome specifications and values. Means and standard deviations are weighted to adjust for survey nonresponse.

Source: Family Options Study 18-month followup survey

Children had attended 1.96 schools, on average, since ran-dom assignment, which means one school change on aver-age in less than 2 years. As described in Chapter 3, school mobility is associated with lower levels of academic achieve-ment. Only 90.4 percent of children had completed all the grades in which they were enrolled; that is, 9.6 percent had been held back since random assignment.

Parents reported that children had mostly positive experi-ences in school (0.58 on a 3-point scale wherein 0 indicates both positive and negative experiences and 1 indicates mostly positive experiences). Parents also reported that children liked school, averaging 4.3 on a scale wherein 4 is pretty much and 5 is very much. Children's grades, as reported by parents, averaged 2.93 on a scale wherein 2 is mostly Cs and 3 is mostly Bs.

Most children in the UC group (76 percent) had no conduct problems at school, but 24 percent had problems, some of them quite serious; 12.48 percent had been suspended or expelled from school and an additional 11.81 percent had problems that led the school to contact the parent. These problems, especially suspension and expulsion, varied by age. Older children were more likely to be suspended or expelled (0.6 percent of 1- to 4-year-old children, 8.0 percent of 5- to 12-year-old children, and 20.9 percent of 13- to 17-year-old children). These proportions for school-age children are far higher than the national averages of 6.9 percent sus-pended and 0.21 percent expelled (Snyder and Dillow, 2013: Table 193).

Health

Parents reported that 5 percent of children in the UC group were in fair or poor health, comparable to 5 percent of poor children, but higher than the 1 percent of nonpoor children younger than age 18 in the National Health Interview Sur-vey in 2012. Family Options Study children were somewhat less likely to have a regular source of medical care than poor children generally (93 versus 95 percent), however (Bloom, Jones, and Freeman, 2013). Only 90.2 percent of UC children had received a well-child checkup in the past year. Parents reported that children rarely had trouble waking up or were tired during the day (2.08 on a 5-point scale wherein 2 indi-cates rarely).

Behavioral Strengths and Challenges

Parents rated their children on the SDQ, a standardized meas-ure of behavioral strengths and challenges. The reported scores are standardized by age and gender, so that children can be compared to their peers in a national sample. Children in the UC group scored markedly higher than national norms on behavioral problems (0.58 standard deviations in the national data) and somewhat lower (0.16 standard deviations) on prosocial behavior.

Child Well-Being Outcomes for Specific Age Groups

The study team constructed the following child well-being outcomes measured only for specific age groups.

Ages 1 Year to 3 Years, 6 Months

- **Met developmental milestones (percent of focal children).** This outcome is defined as the percentage of focal children who scored above the typical developmental thresholds on the five domains measured in the ASQ-3.

- **Low birth weight (percent of focal children born since random assignment and at least 1 year of age at the time of the survey).** This outcome is measured for focal children born since random assignment who were 1 year old or older at the time of the followup survey. It measures the percentage of these children whose birth weight was below 5 pounds, 8 ounces, the threshold for low birth weight (CDC, 2014). The outcome uses parent reports of the birth weight for these children.

Ages 3 Years, 6 Months to 7 Years

- **Verbal ability.** This outcome is measured as the nationally standardized score from the WJ III letter-word identification test.

- **Math ability.** This outcome is measured as the nationally standardized score from the WJ III applied problems test.

- **Executive functioning (self-regulation).** This outcome is measured using the HTKS developmental assessment meas-uring inhibitory control, attention, and working memory.

Ages 8 to 17 Years

For focal children between the ages of 8 and 17, the study team measured five outcomes from the child survey and one from the parent report.

- **Anxiety.** This outcome is measured using the A-Trait scale from the State-Trait Anxiety Inventory for Children, or STAIC (Spielberger et al., 1973). Scores range from 20 to 60, with higher scores indicating greater anxiety.

- **Fears.** This outcome is measured using the Fears Scale (Ramirez, Masten, and Samsa, 1991). Scores range from 33 to 99, with higher scores indicating more fear. Children were asked to indicate the extent to which they had 33 different fears.

- **Substance use.** This outcome, which combines data using 23 items from the Centers for Disease Control and Prevention (CDC) 2011 Youth Risk Behavior Survey, measures whether

the child had used tobacco, alcohol, or marijuana in the past 30 days or had ever used other substances—cocaine, inhalants, or steroids (ages 8 to 17) or ecstasy, meth, heroin, controlled prescription drugs, or injected drugs (ages 13 to 17 only).

- **Goal-oriented thinking.** This outcome is measured with a modified version of the Children's Hope Scale (Snyder et al., 1997) which measures positive, goal-oriented thinking. Scores range from 6 to 30, with higher scores indicating greater hope.

- **School effort in past month.** On the child survey, respondents were asked to report on how hard they worked in the month before the survey during the school day and on homework. The outcome measure ranges from 1 to 4, with higher scores indicating greater effort at school and on homework.

- **Arrests or police involvement in past 6 months (percent of focal children).** This outcome is measured using the parent report about whether the child had any problems that involved the police contacting the parent and whether the child had been arrested in the 6 months before the adult survey.

Characteristics of Focal Children by Age-Specific Outcomes in the UC Group

Exhibit 5-12 displays the values of the outcomes described previously for focal children in the UC group.

Ages 1 Year to 3 Years, 6 Months

By parent report, only 77 percent of children passed the developmental cutoff score in all five domains of ASQ-3. Children were least likely to meet age standards for fine motor development and most likely to meet standards for gross motor development, with performance in the communication, problem-solving, and personal-social domains falling in between.

Parents reported that 9 percent of babies born since random assignment had low birth weight compared to a national figure in 2012 of 7.99 percent (CDC, 2014).

Ages 3 Years, 6 Months to 7 Years

Children ages 3 years, 6 months to 7 years were assessed directly with two subscales of the WJ III test of cognitive abilities, with scores compared to national age norms. Given the large association of family income with reading and

Exhibit 5-12. Family Options Study: Child Well-Being Developmental Outcomes for Children in Specific Age Groups

Outcome	Usual Care Group	
	Mean Value	**(Standard Deviation)**
Ages 1 year to 3 years, 6 months		
Met developmental milestones[a] (%)	77.2	(54.6)
Low birth weight[b] (%)	9.2	(36.3)
Ages 3 years, 6 months to 7 years		
Verbal ability[c]	− 0.21	(1.38)
Math ability[d]	− 0.22	(1.24)
Executive functioning (self-regulation)[e]	16.74	(22.87)
Ages 8 to 17 years		
Anxiety[f]	34.63	(10.64)
Fears[g]	64.75	(21.63)
Substance use[h] (%)	7.71	(38.55)
Goal-oriented thinking[i]	22.61	(6.97)
School effort in past month[j]	2.81	(1.07)
Arrests or police involvement in past 6 months[k] (%)	12.01	(41.34)

[a] Met developmental milestones outcome is defined as scoring above the typical development cutoffs in all domains of the Ages and Stages Questionnaire (ASQ-3).

[b] Base for low birthweight outcome (parent report) is children born since random assignment who are at least 1 year old at followup.

[c] Verbal ability outcome is the nationally standardized score from the Woodcock-Johnson III (WJ III) letter-word Identification test.

[d] Math ability outcome is the nationally standardized score from the WJ III applied problems test.

[e] Executive functioning outcome is the Head Toes Knees Shoulders (HTKS) score and ranges from 0 to 40, with higher scores indicating greater executive functioning.

[f] Anxiety (child report) is measured using the A-Trait scale from the State-Trait Anxiety Inventory for Children (STAIC). Scores range from 20 to 60, with higher scores indicating greater anxiety.

[g] Fears outcome (child report) is the score from the Fears Scale and ranges from 33 to 99, with higher scores indicating more fear.

[h] Substance use (child report) is measured with 23 items from the Centers for Disease Control and Prevention (CDC) 2011 Youth Risk Behavior Survey.

[i] Goal-oriented thinking (child report) is measured with a modified version of the Children's Hope Scale and ranges from 6 to 30, with higher scores indicating higher levels of positive, goal-oriented thinking.

[j] School effort outcome (child report) ranges from 1 to 4, with higher scores indicating greater effort during school day and on homework.

[k] Arrests or police involvement in past 6 months is from parent report.

Notes: Sample sizes vary by outcome. See Appendix B for details on outcome specifications and values. Means and standard deviations are weighted to adjust for survey and assessment nonresponse.

Sources: Family Options Study 18-month followup survey; ASQ-3; WJ III; HTKS assessment; Family Options Study 18-month child survey

math ability (for example, Miller, Votruba-Drzal, and Setod-ji, 2013), it is not surprising that UC children scored about one-fifth of a standard deviation below national norms on both letter-word identification (a measure of verbal ability) and applied problems (an early measure of math ability).

Children also completed the HTKS test of self-regulation or executive functioning, with a mean score of 16.74 out of a possible 40. The mean score was substantially lower than in a normative sample of largely middle-class children in Michigan and Oregon (27.45 out of 40) of the same mean age, although both the age range and the variability of scores for children in our sample were larger (fall scores from Ponitz et al., 2007). Children in our study also scored lower than the average for low- and moderate-income children ages 3 years, 6 months to 8 years, 6 months in the Supporting Healthy Marriage Project (20.72) and about the same as in the control group of an intervention study involving low-income, multiracial, multiethnic children in San Diego, California (Layzer, 2014) (12.2 in the Family Options Study versus 14.8 in the intervention study at 5 years, and 29.8 versus 25.5 at 6 years).

Ages 8 to 17 Years

Older children were surveyed about a broader array of developmental outcomes.

Children's scores on the trait Anxiety measure, a general measure of worries, (mean of 34.63) were somewhat below those in the normative sample of fourth graders from the test originators (Spielberger, 1970; 36.3 for males and 38.1 for females) and further below those in a large sample of disadvantaged Black children from a large metropolitan school district (40.0 for males and 40.26 for females; Papay and Hedl, 1978). A score of 40 would reflect an average answer of "sometimes" on a 3-point scale from hardly ever to often across all items.

Across 33 specific fears, rated on a scale from not at all to a lot, children averaged slightly below "some," or 64.75 (a consistent answer of "some" would yield a score of 66). The fears most commonly rated "a lot" (by more than one-half of the youth) were "I worry about my brothers and sisters," "I worry about my parents," "I worry about myself, guns, and dying." Least often feared (less than 15 percent "a lot") were dogs, that other (children/teens) will not want to (play/spend time) with the child, police, and having no friends.

Substance use in the UC group was quite low by comparison with national norms. (Our data are self-report, but so are the corresponding national norms from CDC, 2012). Only 8 percent of children ages 8 to 17 in the UC sample reported having used tobacco, alcohol, or marijuana in the

past 30 days or had ever used more serious drugs. The CDC provides norms for children in grades 9 through 12, to which the 13- to 17-year-old youth in the study are compared. Study youth were less likely to have smoked (8 versus 18 percent), used alcohol (11 versus 39 percent), or used marijuana (10 versus 23 percent) in the past 30 days. The CDC group is somewhat older than the group of study youth, but this discrepancy would not account for the difference. Study youth likely had less disposable income than the normative sample.

The measure of goal-oriented thinking, a version of the Children's Hope Scale (Snyder et al., 1997), measures both belief in one's ability to solve problems and reach goals and belief about esteem or efficacy. The version in this study used a slightly different scoring format than the original. The average score of 22.61 indicates answers closer to having these beliefs "most of the time," or 24, than "a lot of the time," or 18.

For school effort, children rated how hard they worked on homework and during the school day, with an average of 2.8 on a 4-point scale wherein 2 is "could have done a little better" and 3 is "did about as well as you could."

Parents reported that 12 percent of children ages 12 to 17 had had a problem that involved the police contacting the parent or had been arrested in the 6 months prior to the survey.

5.3.5 Measures of Self-Sufficiency

The impact analysis examines relative effects of the four interventions on several outcomes related to self-sufficiency. The study team used the followup survey to construct five categories of self-sufficiency outcomes: (1) employment, (2) sources of income, (3) receipt of education or training, (4) food security, and (5) economic hardship.

Employment

The study team used responses to the adult followup survey to construct four outcomes regarding employment status.

- **Work for pay in week before survey (percent of families).** This outcome measures the percentage of survey respondents who reported working for pay in the week prior to the followup survey.

- **Any work for pay since random assignment (percent of families).** This outcome measures the percentage of survey respondents who reported working for pay at any time since random assignment.

- **Months worked for pay since random assignment (includes partial months).** This outcome is a count of the months worked since random assignment, including partial months.

- **Hours of work per week at current main job.** For adult respondents who had more than one job in the week prior to the survey, the main job is defined as the job at which she or he usually worked the most number of hours per week.

Income Sources and Amounts

The study team also constructed outcomes that measure the percentage of families who reported receiving income from the following sources in the month prior to the survey.

- Earnings.
- Temporary Assistance for Needy Families (TANF).
- Social Security Disability Insurance (SSDI).
- Supplemental Security Income (SSI).
- Supplemental Nutrition Assistance Program (SNAP).
- Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

The study team also constructed two other outcomes related to income.

- **Annualized earnings from the main job.** This outcome measures the annualized value of current earnings from the job reported at the time of the survey. This value usually represents either the product of the reported hourly wage and usual hours per week multiplied by 52 weeks or the reported usual weekly earnings multiplied by 52 weeks.

- **Total family income.** This outcome measures total family income from all sources for the calendar year preceding the survey (2011 or 2012).

Education and Training

The analysts constructed five outcomes pertaining to participation in education and training activities during the followup period. The adult survey asked respondents whether they had participated in any education or training activities since random assignment and, if so, how many weeks they spent in such programs. For up to six programs reported, sample members reported on the type of program. The study team used this information to construct the following education and training outcomes.

- **Participated in any school or training lasting 2 weeks or more since random assignment (percent of families).**

- **Number of weeks in training programs since random assignment.**

- **Participated in 2 weeks or more of school since random assignment (percent of families).** This outcome measures

the percentage of families in whom the adult respondent reported having participated in school or academic training. School or academic training is defined as regular high school directed toward a high school diploma, preparation for a general educational development (GED) examination, 2-year college, 4-year college, or graduate courses.

- **Participated in 2 weeks or more of basic education since random assignment (percent of families).** Basic education is defined as nonvocational adult education such as basic education, literacy training, or English as a second language not directed toward a degree.

- **Participated in 2 weeks or more of vocational education or training since random assignment (percent of families).** Vocational education or training is defined as vocational education outside a college such as business or technical schools, employer- or union-provided training, or military training in vocational skills (not military skills).

Food Security and Hunger

The analysis examines impacts of the interventions on food security for two outcomes.

- **Household is food insecure (percent of families).** This outcome measures the percentage of families determined "food insecure" at the time of the followup survey according to criteria used by the U.S. Department of Agriculture (USDA).[61]

- **Food insecurity scale.** This outcome measures the food insecurity level of each family based on responses to the USDA food security questions included on the followup survey. The food insecurity scale ranges from 0 to 6, with higher values indicating greater food insecurity.

Economic Stress

The analysts also measured the economic hardship reported by each family at the time of the followup survey. The outcome, expressed as an economic stress scale, measures the extent of hardship using responses about the frequency with which the family said they experienced an inability to afford medical care the family needed, clothing the family needed, leisure activities the family wanted, or rent. The economic stress scale also takes into account the adult respondent's assessment of the family's monthly finances; that is, whether they usually have some money left over at the end of the month, barely enough to make ends meet, or not enough to make ends meet.

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[61] See Nord, Andrews, and Carlsen (2005). The assessment of food insecurity is based on two USDA short-form metrics, which are scores assigned to a household based on answers to six survey questions.

Self-Sufficiency Indicators for the UC Group

Exhibit 5-13 displays the values of the self-sufficiency outcome measures for the UC group. Nearly one-third (31 percent) of the adult respondents in these families reported working for pay in the week prior to the survey, and three-fifths (61 percent) said that they had worked for pay at some time since random assignment. The adult respondents in the UC group spent an average of 6.5 months working for pay since random assignment. They worked an average of 9.6 hours per week at the current job, and annualized earnings from the current job averaged $4,842. The 31 percent of UC families who were working at the time of the survey worked an average of 31 hours per week, had hourly earnings of $10.13,[62] and had annualized earnings for the current job of $16,350.

UC families report lower rates of employment than the *Effects of Housing Vouchers on Welfare Families* study control group, where 47 percent of controls reported working at the point of followup. Employment for the UC group is similar to that reported for homeless families in NSHAPC, however. Data from NSHAPC showed that 71 percent of people in homeless families did not work in the month before that survey (Burt et al., 1999).

For the families in the UC group, income from all sources averaged just over $9,000 for the calendar year prior to the survey, slightly higher than what was reported in NSHAPC ($8,172 in 2011 dollars) and higher than reported at baseline. Regarding sources of income in the month prior to the survey, the UC families reported a high rate of SNAP receipt

Exhibit 5-13. Family Options Study: Self-Sufficiency Outcomes

Outcome	Usual Care Group	
	Mean Value	(Standard Deviation)
Employment status		
Work for pay in week before survey (%)	31.3	(52.7)
Any work for pay since RA (%)	60.6	(55.6)
Months worked for pay since RA[a]	6.5	(8.5)
Hours of work per week at current main job[b]	9.6	(17.8)
Income sources and amounts		
Annualized current earnings ($)	4,842	(10,438)
Total family income ($)	9,067	(8,777)
Anyone in family had earnings in past month (%)	42.3	(56.2)
Anyone in family received TANF in past month (%)	30.6	(52.4)
Anyone in family received SSDI in past month (%)	7.4	(29.8)
Anyone in family received SSI in past month (%)	13.1	(38.4)
Anyone in family received SNAP/food stamps in past month (%)	83.4	(42.3)
Anyone in family received WIC in past month (%)	29.6	(51.9)
Education and training		
Participated in 2 weeks or more of any school or training since RA (%)	25.4	(49.5)
Number of weeks in school or training programs since RA	3.6	(10.8)
Participated in 2 weeks or more of school since RA (%)	7.4	(29.8)
Participated in 2 weeks or more of basic education since RA (%)	1.6	(14.2)
Participated in 2 weeks or more of vocational education since RA (%)	6.8	(28.7)
Food security/hunger		
Household is food insecure (%)	35.5	(54.4)
Food insecurity scale[c]	1.73	(2.32)
Economic stressors		
Economic stress scale[d]	− 0.05	(0.58)

RA = random assignment. SNAP = Supplemental Nutrition Assistance Program. SSDI = Social Security Disability Insurance. SSI = Supplemental Security Income. TANF = Temporary Assistance for Needy Families. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

[a] Number of months worked for pay includes partial calendar months.

[b] Hours of work per week includes those not currently working (that is, those with 0 hours of work per week).

[c] Food insecurity scale ranges from 0 to 6, with higher values indicating higher food insecurity.

[d] Economic stress scale ranges from − 1 to 1, with higher values indicating higher economic stress.

Notes: N = 578. See Appendix B for details on outcome specifications and values. Means and standard deviations are weighted to adjust for survey nonresponse.

Source: Family Options Study 18-month followup survey

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[62] The average hourly earnings were calculated for those who reported wages on an hourly, weekly, or biweekly basis (representing 90 percent of those working for pay at the time of the followup survey).

(83 percent of families reported receiving SNAP). Other sources of income reported were earned income (42 percent of families), TANF (31 percent), WIC (30 percent), SSI (13 percent), and SSDI (7 percent).

One-fourth of the adult respondents in the usual care families said that they had participated in 2 or more weeks of school or training since random assignment. On average, families in the UC group spent 3.6 weeks in education or training activities. This participation in education and training is less than reported by the voucher study control group. In the

voucher study, 43 percent of control group members reported participating in education and training during that study's much longer (4- to 5-year) followup period.

Despite the high rate of SNAP receipt reported by UC families, more than one-third (36 percent) met USDA criteria for food insecurity at the time of the followup survey. Food insecurity among the voucher study control group was even higher (42 percent), and receipt of SNAP was less (65 percent). Food insecurity averaged 1.73 on a scale of 0 to 6 (with higher values indicting greater food insecurity) for UC families, lower than for the voucher control group (3.29).

CHAPTER 6.
IMPACTS OF PERMANENT HOUSING SUBSIDY (SUB) COMPARED WITH USUAL CARE (UC)

This chapter presents estimates of the impact of the permanent housing subsidy (SUB) intervention compared with outcomes of families served by the usual care (UC) homeless assistance systems in their communities. The goal is to determine whether being offered a subsidy on a priority basis (that is, not having to enroll in and reach the top of waiting lists for subsidy assistance) increases families' housing stability and improves other family outcomes during a 20-month followup interval. The chapter begins with a description of the SUB intervention as implemented in the study. It then shows the extent to which families in both the SUB and UC groups used permanent subsidies and other housing and service programs available to them in the study sites. The next five sections present the effects of being offered the SUB intervention (as compared with UC) on outcomes within the five study domains— housing stability, family preservation, adult well-being, child well-being, and self-sufficiency.

6.1 Permanent Housing Subsidy (SUB) Intervention

The SUB intervention provided indefinite rental assistance, typically in private-market housing. The intervention could include housing placement assistance but not ongoing social services. SUB was available in 10 of the 12 study sites. The subsidies were provided by 18 local and state public housing agencies (PHAs), with some sites having more than 1 participating PHA. In total, 599 families were assigned to SUB, ranging from 32 in Louisville, Kentucky, to 76 each in

Alameda County, California, and Denver, Colorado. Of these 599 families, 530 (88 percent) responded to the 18-month followup survey and so are included in the impact analysis documented in this report.

6.1.1 Housing Assistance in SUB

All the housing assistance included in the SUB intervention is considered permanent; that is, families can continue receiving housing assistance as long as they remain eligible and follow program rules, such as paying their share of the rent and living in housing that passes a housing quality inspection. In all sites, recipients of the subsidy were subject to annual recertification of income to determine the tenant's share of the rent and the amount of the housing assistance payment made to the owner of the housing.

In 8 of the 10 sites (comprising 92 percent of family referrals), the SUB intervention was a tenant-based voucher provided by one or more PHAs through the Housing Choice Voucher (HCV) program, as shown in Exhibit 6-1. One of the sites offered permanent housing subsidies through public housing units (6 percent of family referrals),[63] and another offered project-based vouchers (3 percent of family referrals).[64]

The HCV program is the federal government's largest housing assistance program, providing rental subsidies to more than 2 million households across the country.[65] Participants in the study who were assigned to the SUB intervention, accepted by the PHA, and issued a voucher were free to use the voucher to rent a housing unit of their choice in the private rental market as long as it met HUD's Housing Quality Standards

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[63] In Honolulu, Hawaii, the subsidy intervention consisted of 33 units of public housing provided by the state PHA and 10 units of tenant-based rental assistance provided by the city Department of Community Services. Public housing units are owned and managed by the PHA. Like voucher program participants, tenants in public housing pay 30 percent of adjusted monthly income for rent. The city's tenant-based rental assistance program that provided five SUB units for the study operates much like the HCV program.

[64] In Bridgeport, Connecticut, the subsidy intervention was provided through 15 units of project-based vouchers. PHAs can use up to 20 percent of their HCV program funding for project-based assistance, under which a PHA enters into an assistance contract with a property owner for specified units and for a specified term. Recipients of this type of assistance also pay 30 percent of monthly income for rent.

[65] http://portal.hud.gov/hudportal/HUD?src=/program_offices/cfo/reports/2013/main_toc.

Exhibit 6-1. Subsidy Type Provided by Site

Type of Subsidy	Number of Participating Subsidy Programs With This Type of Subsidy	Percent of Families Assigned to Subsidy Intervention of This Type (N = 599)
Tenant-based voucher	16	92
Project-based voucher	1	3
Public housing	1	6

Note: Percentages do not add to 100 because of rounding.
Sources: Program data; random assignment enrollment data

and had a rent that the PHA determined to be reasonable when compared with the rents of unassisted units in the same housing market. The voucher assistance subsidized the monthly rent for the unit, and the amount provided by the subsidy was the payment standard established by the PHA (or the unit's actual rent, if lower) minus 30 percent of the family's adjusted monthly income.[66]

6.1.2 Supportive Services in SUB

The SUB intervention was intentionally selected to provide an intervention without ongoing, designated, intensive supportive services. Upfront housing placement assistance was allowed, however. Of the 18 participating subsidy providers, only two programs—Honolulu, Hawaii's public housing program and Bridgeport, Connecticut's project-based voucher program—indicated they provide any case management services. These two represented only 8 percent of the study referrals (and also 8 percent of SUB followup survey respondents). Only 20 percent of families were referred to PHAs that indicate that they help applicants locate qualified housing units, 20 percent of families were referred to PHAs that provide assistance resolving conflicts with landlords, and an even smaller percentage were referred to programs that provide moving assistance or help in learning how to maintain the unit. PHAs did not alter their usual practices for providing help to study families. In some cases, emergency shelter staff assisted families assigned to SUB to obtain assistance for paying PHA arrearages or move-in costs. Families who receive voucher assistance can, of course, access any available services in the community on their own.

6.1.3 Eligibility Criteria for SUB

All PHA-administered subsidy programs have statutory eligibility criteria that require prospective families to be able to document U.S. citizenship or legal status, absence of drug-related criminal convictions, lack of previous evictions from a federally funded housing program, and absence of arrearages

to the PHA.[67] In some cases, SUB programs asked the research team to add eligibility screening criteria beyond those statutorily required, such as a question related to whether the family had a consistent source of income (two SUB programs required this question), willingness to reside within the PHA's jurisdiction (two SUB programs required this question), and ability to pay security deposits and other startup costs (one SUB program required this question). Exhibit 2-11 in Gubits et al. (2013) shows information on the percentage of families referred to SUB programs with these requirements.

In some sites, PHAs have residency requirements for the HCV program, so families who receive a voucher must use it in a designated jurisdiction for a specified period of time. For example, voucher recipients in the Oakland Housing Authority's program could use the voucher only in the city of Oakland, California, for the first year of assistance. After that time, participants could move with the voucher to another PHA jurisdiction.

After enrolling in a SUB program, tenants remain eligible for the subsidy assistance indefinitely. Their incomes are recertified annually and must remain low enough to qualify them for a subsidy value greater than $0, and they must pay their share of the rent and not engage in other lease violations. The most common form of the subsidy, an HCV, is portable, and the family may use it to move to a different housing unit.

6.2 Program Use by Families in the Permanent Housing Subsidy (SUB) Versus Usual Care (UC) Comparison

Each impact comparison in the study may be thought of as a distinct experiment or test, and this chapter addresses only the comparison between SUB and UC, without reference to the families who were randomized to the community-based rapid re-housing (CBRR) and project-based transitional housing (PBTH) interventions. In total, 1,039 families took part

[66] Payment standards are adjusted for the number of bedrooms in the unit. The actual rent includes an estimate of the cost of utilities paid for by the tenant. Details regarding the calculation of housing assistance payments under the HCV program are in 24 CFR Part 982.505.

[67] Although all SUB programs used these eligibility criteria, not all SUB programs asked the study team to screen prospective study participants for these items before random assignment. This accounts for the discrepancy between Exhibit 2-11 in Gubits et al. (2013) and this statement.

in the test of SUB versus UC. These families all had the oppor-tunity to be assigned to SUB or UC at the point of random assignment and were assigned to one of these two interven-tions; 599 families were assigned to SUB and 540 families were assigned to UC.[68] Of these 1,039 families (599 SUB families and 540 UC families), 530 SUB families and 415 UC families (91 percent) responded to the 18-month followup survey. Therefore, 945 families are included in the SUB-versus-UC impact comparison reported in this chapter. The current section describes the extent to which the 530 SUB families used the SUB intervention and other types of home-less and housing assistance during the followup period. Parallel information is presented for the 415 UC families.

Exhibit 6-2 shows the use by these 945 families of seven types of homeless and housing programs. The first column shows the percentage of families assigned to SUB who ever used each program type during the followup period.[69] The top row (shaded in the exhibit) shows the takeup of SUB by the families assigned to that intervention; 84.2 percent of families assigned to SUB received the SUB intervention at

some point during the followup period—meaning that they successfully leased a housing unit with a voucher or moved into an assisted housing unit.[70] The second column corre-spondingly shows the percentage of families assigned to UC who ever used each program type during the followup period.[71] The top row of the second column shows that 12.4 percent of the UC families received the SUB intervention during the followup period, presumably through the regular process of coming off waiting lists and leasing units.

The next six rows of the exhibit show participation in other types of homeless and housing assistance programs. First, consider the other two interventions considered in this study. Of UC families, 20 percent found their way to rapid re-housing assistance during the followup period, and 21 percent found their way to transitional housing. The use of programs other than SUB is always higher for the UC group than for the SUB group, presumably because the UC group did not have the SUB intervention easily available and so turned to other types of programs. The eighth row shows the percentages of families in the SUB and UC groups who used none of the six types

Exhibit 6-2. SUB Versus UC: Program Use Since Random Assignment

Type of Housing Assistance	Percent Ever Used From RA to 18-Month Followup Survey[a]		Number of Months Used From RA to 18-Month Followup Survey, if Ever Used Type of Housing Assistance				Percent Used in Month of Followup Survey Response	
	SUB	UC	SUB		UC		SUB	UC
			Mean	Median	Mean	Median		
Subsidy (SUB)[b]	84.2	12.4	16.2	17.5	10.6	10.5	74.7	10.6
Rapid re-housing	13.3	20.4	4.1	3.5	7.2	5.5	0.0	2.5
Transitional housing	6.4	21.2	6.4	4.0	8.1	6.5	1.0	8.0
Permanent supportive housing	0.8	5.4	7.6	3.0	9.2	7.5	0.6	3.7
Public housing	0.9	8.0	9.6	10.5	11.1	10.5	0.9	6.0
Project-based vouchers/Section 8 projects	1.2	3.8	11.9	13.5	14.2	16.5	1.0	3.6
Emergency shelter[c]	84.0	87.0	3.3	2.0	4.5	3.0	3.6	10.1
No use of homeless or housing programs[d]	4.8	26.9	19.7	19.0	19.7	20.0	18.2	56.2
N	530	415	—	—	—	—	530	415

SUB = permanent housing subsidy. UC = usual care.

RA = random assignment.

[a] Percentage of families who ever used a type of assistance program during the period from the month of RA to the month of 18-month followup survey response (median period duration: 21 months). Percentages do not add to 100 because some families used more than one program type during the followup period.

[b] Subsidy assistance is housing choice vouchers plus site-specific programs offered to families assigned to SUB group in Bridgeport, Connecticut, and Honolulu, Hawaii.

[c] All families were in emergency shelter at random assignment. Percentages less than 100 percent for ever used emergency shelter are because of missing data on shelter use.

[d] No use of homeless or housing programs (ever used) indicates no use of the six program types in this table during any of the followup period and no use of emergency shelter after the first 6 months after RA. No use in the month of followup survey response indicates no use of any of these seven program types.

Notes: Percentages are regression adjusted, controlling for site and randomization ratio. Percentages, means, and medians are weighted for survey nonresponse to represent full comparison sample.

Source: Family Options Study Program Usage Data

[68] In the entire study, 746 families were randomly assigned to UC. Only 540 of these families had SUB available to them when they were randomized, however. Therefore, only these 540 UC families are part of the SUB-versus-UC comparison sample. All 599 families randomly assigned to SUB during the course of the study had UC available to them, so all are part of the SUB-versus-UC comparison sample.

[69] The followup period is from the calendar month of random assignment through the calendar month of response to the 18-month followup survey. Therefore, the length of the followup period differs across families. This period lasts for a median of 20 months for the full sample. Analysis of Program Usage Data used data for a median of 21 *calendar* months for the full sample.

[70] All percentages, means, and medians in the exhibit are weighted to adjust for survey nonresponse and hence as best possible represent the full experimental sample of 1,039 families. The findings on program use are thus in line with similarly weighted impact estimates provided subsequently in the chapter.

[71] The percentages in the first six rows of these columns are not mutually exclusive because some families use more than one program type during the followup period.

of programs shown on the exhibit during the followup period *and* did not use emergency shelter from the seventh month after random assignment onward. About 5 percent of SUB families and 27 percent of UC families fall into this group.

The mean and median number of months of use for each program type are also shown in the exhibit (third and fourth columns for SUB families, fifth and sixth columns for UC families) *for only those families who ever used a given program type*.[72] As one might expect, given that housing subsidies were readily available to SUB families, the number of months of SUB intervention use is higher for participating SUB families (median of 18 months) than for the 12.4 percent of UC families who received the SUB intervention by coming off waiting lists for assisted housing (median of 11 months). The median length for the SUB group implies that the typical SUB family who took up the intervention enrolled a few months after random assignment and kept the subsidy for the entire study period. The typical UC family who received SUB did so about 10 months after random assignment and then kept the subsidy for the remainder of the study period.

Whereas the previous columns consider all experience from between randomization and the survey, the last two columns consider the program use as of the month of the survey. Although most outcomes in the report are expected to be influenced by assistance received during the entire followup period, some outcomes will be particularly strongly influenced by assistance received at the time of followup survey response. The last two columns of the exhibit show the percentages of SUB and UC families who received each type of program in the calendar month of the followup survey response. The first row of the seventh column shows that 75 percent of SUB families received SUB assistance in the month they responded to the followup survey. The majority of UC families (56 percent) were not participating in a homeless or housing program at the time they responded to the followup survey compared with only 18 percent of SUB families. Some differences in the outcomes of SUB and UC

families may reflect the families' current experience, rather than lasting influence of assistance provided earlier in the followup period.

As Exhibit 6-2 makes clear, the SUB families used a range of programs in addition to the program to which they were referred by the study, which is consistent with the design of the study. Families were not required to use the intervention to which they were assigned and were also not forbidden from using other programs that were available to them in their community. The intent of the study was to maximize use of the assigned active intervention (in this case, maximize use of the SUB intervention by the SUB families) and thereby to create as wide a contrast as possible between program mixes for the different assignment groups (in this case, SUB versus UC). As shown in the exhibit, the mix of programs used was very different for the SUB group than for the UC group. The contrast in usage of SUB of 84.2 percent for SUB families compared with 12.4 percent for UC families is large. Adding together the four rows with permanent housing subsidies (SUB, permanent supportive housing, public housing, and project-based assistance), the contrast between the two groups was 87.1 compared with 29.6 percent, respectively, a somewhat narrower gap but still quite large. This difference in the use of permanent housing subsidies by the SUB and UC groups is large enough that concerns about the study's ability to detect an impact in the presence of nonparticipation and crossover are minimal.

Additional detail about the use of the SUB intervention by SUB families is shown in Exhibit 6-3. This exhibit shows that by far most SUB families who used the SUB intervention did so for 12 or more months.

The remainder of the chapter reports estimated impacts in the various outcome domains that—if statistically significant—can be causally attributed to the offer of a permanent housing subsidy to the families randomly assigned to SUB at the start of the followup period as opposed to no such privileged access being available to UC families.

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[72] Hence, 0 values are not factored into the means, nor do they pull downward the medians of the various distributions.

Exhibit 6-3. Number of Months of Subsidy Receipt During Followup Period by SUB Families Who Ever Used SUB
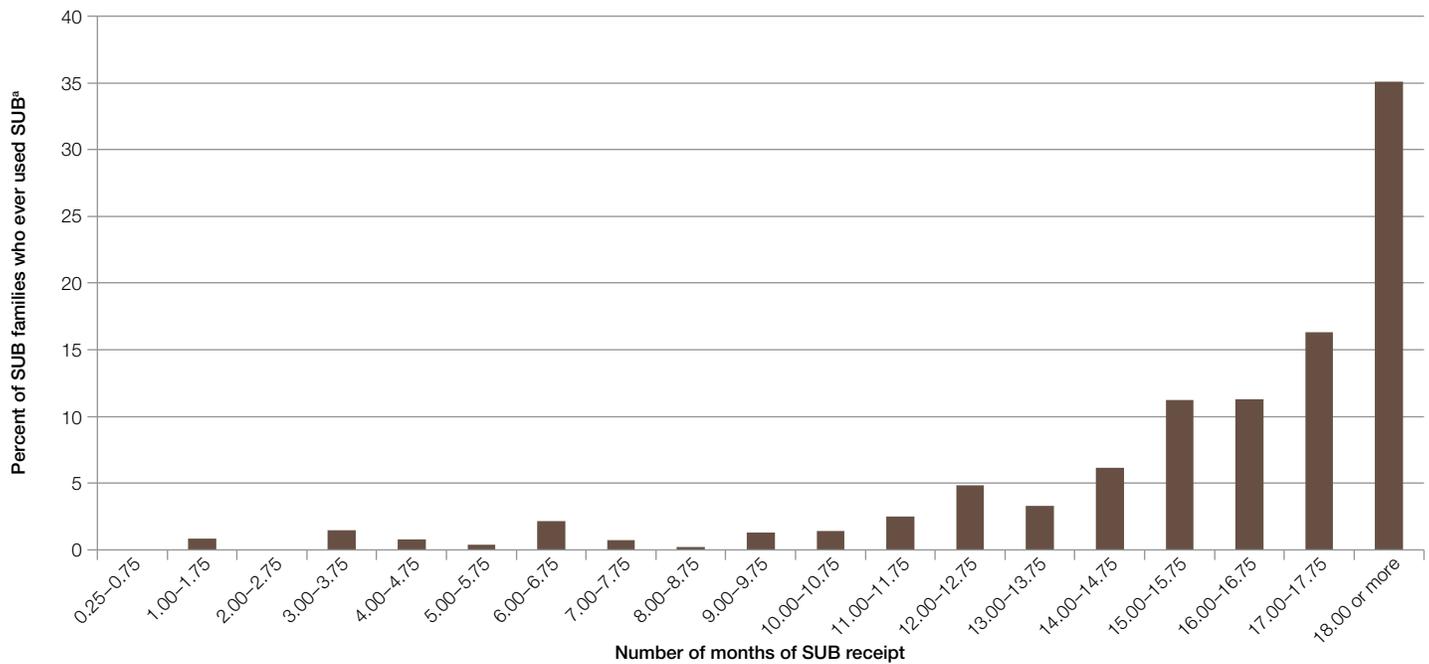
SUB = permanent housing subsidy.

[a] Percentages are weighted for survey nonresponse to represent all families in comparison sample.

Note: N = 446.

Source: Family Options Study Program Usage Data

6.3 Impacts on Housing Stability in the Permanent Housing Subsidy (SUB) Versus Usual Care (UC) Comparison

As discussed in Chapter 3, proponents of SUB view the crisis of housing affordability as the root cause of homelessness among families. These observers believe that, because families who experience homelessness are very poor, they are likely to require long-term rental subsidies to become stably housed. The SUB-versus-UC comparison in the current study provides a direct test of this claim by measuring the effects of making the SUB intervention easily available to families compared with a situation in which permanent housing subsidies are relatively difficult to access in the near term.

What do estimates of the effects of SUB on housing stability tell us? Exhibit 6-4 shows the experimentally based evidence of measured effects on homelessness, housing independence, residential moves, and housing quality. All of the rows of the exhibit (and other impact exhibits in the balance of this

report) have the same format. The first three columns of the exhibit provide information about the SUB families—the number of families with data on a particular outcome and the mean value and standard deviation of the outcome.

The next three columns provide the corresponding information for the UC families included in this particular pairwise comparison.[73] The seventh column is the difference between the mean value (or proportion) of the SUB families and the mean value (or proportion) of the UC families, referred to as the *impact* of SUB relative to UC.[74] Asterisks to the right of this column denote the statistical significance of the impact estimate, with more asterisks indicating higher levels of statistical significance. The eighth column of the exhibit contains the standard error of the impact estimates, which is used to test for statistical significance and can be used to construct a confidence interval around the impact estimate.

The last column shows the standardized effect size of the impact, calculated by dividing the impact estimate by the standard deviation of the outcome for *all* families assigned to UC.[75] The standardized effect size is thus a measure of

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[73] The UC families in this comparison are those who could have been randomized to SUB. The mean values of outcomes for all UC families are shown in Chapter 5.

[74] As explained in Chapter 4, the mean values and the impact estimate are regression adjusted for baseline covariates.

[75] The standard deviations for the entire UC group are shown in Chapter 5.

Exhibit 6-4. SUB Versus UC: Impacts on Housing Stability

Outcome	SUB			UC			ITT Impact		Effect size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Homelessness or doubled up during the followup period									
At least 1 night homeless[b] or doubled up in past 6 months or in shelter in past 12 months (%) **[Confirmatory]**[c]	529	21.6	(41.2)	415	49.6	(50.1)	– 28.0***	(3.1)	– 0.49
At least 1 night homeless[b] or doubled up in past 6 months (%)	529	16.0	(37.3)	415	40.9	(49.0)	– 24.9***	(3.0)	– 0.45
At least 1 night homeless[b] in past 6 months (%)	529	10.5	(31.5)	414	26.4	(43.7)	– 15.9***	(2.6)	– 0.33
At least 1 night doubled up in past 6 months (%)	530	12.2	(33.3)	415	30.6	(45.6)	– 18.4***	(2.7)	– 0.35
Any stay in emergency shelter in months 7 to 18 after RA (%)	530	14.8	(34.9)	415	27.8	(45.9)	– 12.9***	(2.6)	– 0.25
Number of days homeless[b] or doubled up in past 6 months	528	20.4	(52.2)	413	51.5	(74.6)	– 31.2***	(4.4)	– 0.37
Number of days homeless[b] in past 6 months	527	10.5	(36.9)	410	24.0	(51.3)	– 13.5***	(3.1)	– 0.24
Number of days doubled up in past 6 months	529	12.4	(39.0)	415	33.9	(63.5)	– 21.5***	(3.6)	– 0.29
Housing independence									
Living in own house or apartment at followup (%)	530	73.0	(44.5)	415	57.9	(49.7)	15.1***	(3.0)	0.27
Living in own house or apartment with no housing assistance (%)	530	9.7	(29.3)	415	32.8	(46.2)	– 23.0***	(2.8)	– 0.43
Living in own house or apartment with housing assistance (%)	530	63.2	(48.2)	415	25.1	(43.7)	38.1***	(3.0)	0.78
Number of places lived									
Number of places lived in past 6 months	528	1.4	(1.0)	415	1.8	(1.2)	– 0.4***	(0.1)	– 0.26
Housing quality									
Persons per room	526	1.2	(0.8)	398	1.6	(1.2)	– 0.4***	(0.1)	– 0.28
Housing quality is poor or fair (%)	527	25.4	(43.4)	411	34.1	(47.6)	– 8.7***	(3.1)	– 0.16

SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] The definition of *homeless* in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing.

[c] After adjustment for multiple comparisons, the impact on the confirmatory outcome is statistically significant at the .01 level for the SUB-versus-UC comparison.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey; Program Usage Data

impact relative to natural variability in the outcome. Such standardized effect sizes are a conventional way to compare impact magnitudes across outcomes and domains with different scales. For example, one may compare the standardized effect sizes for housing stability outcomes in Exhibit 6-4 with those for other outcomes in other domains shown in this chapter. Standardized effect sizes may also allow for the size of effects found in this study to be compared with the size of effects in other studies.

Exhibit 6-4 shows that the SUB intervention reduced the experience of subsequent stays in shelter or places not meant for human habitation during the 20-month followup period by a large amount. The first row of the exhibit shows evidence for the confirmatory outcome of the study: (1) at least 1 night in shelter or a place not meant for human habitation or doubled up in the past 6 months (from the followup survey), *or* (2) at least 1 night in emergency shelter in the past 12 months

(from the study's Program Usage Data). Of the families in the UC sample, 50 percent experienced one of these two situations. For the SUB group, that proportion declined to 22 percent, representing a reduction in homelessness of 28 percentage points and hence eliminating more than one-half of the homelessness captured by this measure. This impact is highly statistically significant (even after the adjustment for multiple comparisons).[76]

The following discussion addresses estimated impacts for three outcomes constructed solely from survey data: (1) at least 1 night homeless or doubled up in the past 6 months, (2) at least 1 night homeless in the past 6 months, and (3) at least 1 night doubled up in the past 6 months. The impact estimates in these three rows of the exhibit show that, compared with UC, the SUB intervention caused substantial, statistically significant reductions in all three of these survey-based measures of homelessness.[77]

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[76] The study estimates impacts on this confirmatory outcome for each of the six paired comparisons and four pooled comparisons. Seven of these estimates have been prespecified as "confirmatory tests." A multiple comparison procedure is performed to compute adjusted *p*-values for these tests to reduce the possibility of chance findings of statistical significance. The details of this procedure are provided in Appendix C.

[77] All impacts in this table with the exception of the first row are considered exploratory and are not adjusted for the presence of multiple comparisons. Likewise, all impacts in other study domains are also considered exploratory.

The fifth row of Exhibit 6-4 shows the impact on any stay in emergency shelter in months 7 to 18 after random assignment (measured largely from administrative data).[78] About 28 percent of UC families spent at least 1 night in emergency shelter during the yearlong period beginning 6 months after random assignment. Only 15 percent of SUB families spent at least 1 night in emergency shelter during this time, a reduction of 13 percentage points. Thus, the shelter usage rate was cut nearly in half by the availability of a housing subsidy.

Exhibit 6-5 provides a more detailed characterization of the effect of SUB relative to UC on emergency shelter stays. It shows month-by-month impacts on emergency shelter stays. As discussed in Chapter 5, the Program Usage Data are missing the initial shelter stay for about 20 percent of families. We have no reason to believe, however, that missing data rates are associated with random assignment group (that is,

they are equally likely to be missing for the SUB group as for the group assigned to UC). The data can therefore be used to calculate estimates of impacts without concern for bias. As can be seen, a gap between the shelter use of SUB and UC families begins to emerge in the third month after study entry and reaches 7 percentage points by the fifth month, with 18 percent of SUB families having at least 1 night in shelter in the fifth month after random assignment compared with a UC rate of 25 percent.[79] A difference emerging in the third month is consistent with what one might expect, given that those assigned to SUB needed to go through the process of using the program (having their incomes verified, finding and leasing a unit) and may have remained in shelter during that process. This gap of 6 to 9 percentage points remains through the 18th month. From the 10th month onward, the share of SUB families in shelter is much less than one-half the proportion of UC families, a notable reduction.

Exhibit 6-5. SUB Versus UC: Percent of Families With at Least 1 Night Stay in Emergency Shelter During Month, by Month After RA

SUB = permanent housing subsidy. UC = usual care.

RA = random assignment.

Notes: Percentages are weighted for survey nonresponse to represent all UC families in the study. Missing data on emergency shelter stays biases the percentages somewhat downward. The baseline stay in emergency shelter does not appear in the data for 18.7 percent of UC respondent families. The missing data rate for subsequent stays in emergency shelter is unknown.

Source: Family Options Study Program Usage Data

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[78] Outcomes regarding shelter stays are based on study Program Usage Data (which are described in Chapter 4 and Appendix A).

[79] Although most of the families using emergency shelter in the fifth month after random assignment had not yet departed from shelter, a few had departed and returned. The proportion of all study families in shelter who had departed and returned increases with time since random assignment. In the 13th month after random assignment, the proportion of SUB families in shelter who have departed and returned rises above one-half. It does so for the UC families in this comparison 1 month before.

The last three homelessness outcomes examined (see again Exhibit 6-4) measure the number of days in the past 6 months that a family was homeless or doubled up. Assignment to SUB reduced time spent homeless or doubled up by an average of 4 weeks in the past 6 months relative to UC. This difference is entirely accounted for by the difference in proportions of families who experienced homelessness or doubling up in the past 6 months (shown in the second row of the exhibit). The 16 percent of SUB families and 41 percent of UC families who experienced any homelessness or doubling up were in these conditions for a combined 18 weeks during the past 6 months.[80]

The housing independence outcomes in the next panel of Exhibit 6-4 measure whether a family lived in its own house or apartment at followup, either with or without housing assistance. The SUB intervention increased the proportion of families living in their own dwelling place from 58 to 73 percent relative to UC. This difference is the net result of two opposing effects. As would be expected, the proportion of SUB families living in their own places without housing assistance (10 percent) is much lower than the corresponding proportion for UC (33 percent). By contrast, and more than offsetting that decline, the proportion of SUB families living in their own places *with* housing assistance (63 percent) is much higher than the corresponding proportion for UC (25 percent).[81]

The stability offered by the SUB intervention also reduced the average number of places lived in during the past 6 months from 1.8 to 1.4.[82] Because this outcome has a lower bound of 1, the UC mean of 1.8 compared with 1.4 for the SUB group means that the SUB intervention cut the number of moves during the final 6 months of the followup period in half.

The last two rows in Exhibit 6-4 show how the SUB intervention affects the nature of the housing occupied by study families at the point of followup survey by considering the number of persons per room (a measure of crowding) and residence in poor quality housing. Persons per room is a standard proxy for overcrowding and therefore for housing quality. The SUB intervention reduced the number of persons per room from 1.6 to 1.2. The SUB intervention similarly reduced the proportion of families living in units of poor or fair quality from 34 to 25 percent.

As SUB appears to be highly effective in preventing subsequent stays in shelter or places not meant for human habitation and being doubled up, the reader may wonder whether the incidence of these situations within the SUB group is entirely among those families who never used SUB. Exhibit 6-6 shows a comparison of SUB families who never took up their assigned intervention with SUB families who did use SUB. The right column of the top panel shows that a small proportion (about 7 to 11 percent) of SUB families who used SUB nevertheless experienced homelessness or being doubled up during the period between 7 and 18 months after random assignment, presumably after the period of SUB use had ended.[83] Whereas SUB is usually available to families only after a sometimes lengthy wait, it was available in this study on a priority basis to those families assigned to SUB. This priority access enabled SUB families to exit shelter faster than UC families. As shown in Exhibit 6-7, SUB families on average had shorter initial stays in emergency shelter than UC families (3.2 months for SUB compared with 3.7 months for UC).

In sum, the SUB intervention had a strong, positive effect on housing stability as compared with UC for every measure considered.

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[80] Dividing the average number of days spent homeless or doubled up in the past 6 months for SUB families by the percentage who experienced either state (20.4 days/0.160 = 127.5 days) reveals that those who did experience either state spent 128 days on average either homeless or doubled up in the past 6 months. Performing the same calculation for UC families (51.5 days/0.409 = 125.9 days) reveals that UC families who experienced either state spent nearly the same amount of time (126 days) on average either homeless or doubled up in the past 6 months.

[81] Although the survey response indicates that 63 percent of the SUB families were living in their own house or apartment with housing assistance at the time of the survey, the Program Usage Data show that the proportion of families using SUB, public housing, or project-based vouchers in the survey month is 77 percent. This discrepancy between response to the survey item and the Program Usage Data (largely based on HUD administrative records for these program types) suggests some measurement error in one or both of these data sources.

[82] Although this outcome is not technically the same as the number of moves plus one (because it is possible for a family to move out of a place (for example, a housing unit shared with friends or relatives) and then move back into the same unit during the 6-month period), its interpretation is essentially the same.

[83] Although the difference in homelessness outcomes between those who did and did not use SUB is consistent with a strong, negative impact on homelessness, these differences cannot be causally attributed to the use of SUB. Because the use of SUB was not randomly assigned, comparisons are fundamentally subject to selection bias (that is, people who did not take up SUB might have been more likely to become homeless in the absence of SUB).

Exhibit 6-6. SUB Versus UC: Percent of Families With at Least 1 Night Stay in Emergency Shelter During Month, by Month After RA

Outcome	Families Assigned to SUB Who Did Not Use SUB	Families Assigned to SUB Who Used SUB
	N = 84	N = 446
Homeless or doubled up during the followup period		
At least 1 night homeless or doubled up in past 6 months or in shelter in past 12 months) (%)	51.2	16.0†
At least 1 night homeless or doubled up in past 6 months (%)	44.0	11.5†
At least 1 night homeless in past 6 months (%)	33.3	7.0†
At least 1 night doubled up in past 6 months (%)	36.9	8.1†
Any stay in emergency shelter in months 7 to 18 after RA (%)	36.9	9.9†
Number of days homeless or doubled up in past 6 months	65.2	11.9†
Number of days homeless in past 6 months	37.1	6.1†
Number of days doubled up in past 6 months	40.6	6.6†
Housing independence		
Living in own house or apartment at followup (%)	56.0	76.0†
Living in own house or apartment with no housing assistance (%)	42.9	3.1†
Living in own house or apartment with housing assistance (%)	13.1	72.9†
Number of places lived		
Number of places lived in past 6 months	2.0	1.3†
Housing quality		
Persons per room	1.6	1.1†
Housing quality is poor or fair (%)	28.6	24.4
Length of stay in shelter		
Length (in months) of baseline stay in emergency shelter[a]	4.3	2.9†

SUB = permanent housing subsidy.

RA = random assignment.

† Difference in means is statistically significant at the .10 level.

[a] The length of baseline stay in emergency shelter outcome includes one-half of the month of random assignment and is topcoded at 18 months. The 21 percent of families assigned to SUB whose baseline shelter stay does not appear in the Program Usage Data are not included in the analysis.

Notes: Means are unweighted. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study baseline survey; 18-month followup survey; Program Usage Data

Exhibit 6-7. SUB Versus UC: Impact on Length of Baseline Stay in Emergency Shelter

Outcome	SUB		UC		ITT Impact	Effect size[a]
	N	Mean (SD)	N	Mean (SD)	Impact (SE)	
Length (in months) of baseline stay in emergency shelter[b]	417	3.2 (3.1)	342	3.7 (4.6)	– 0.6** (0.2)	– 0.12

SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] The length of baseline stay in emergency shelter outcome includes one-half of the month of random assignment and is topcoded at 18 months. The 20 percent of families in this comparison whose baseline shelter stay does not appear in the Program Usage Data are not included in the analysis.

Notes: Impact estimate and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Appendix B for outcome definition.

Sources: Family Options Study 18-month followup survey; Program Usage Data

6.4 Impacts on Family Preservation in the Permanent Housing Subsidy (SUB) Versus Usual Care (UC) Comparison

As discussed in Chapter 3, any effects of SUB on family preservation would be expected to be indirect, via the effects on housing stability. To test this possibility, Exhibit 6-8 reports estimated impacts on family preservation from the SUB-versus-UC comparison. Indeed, evidence exists that

SUB substantially reduced child separations, by two-fifths (from 16.9 to 9.8 percent of families) among children with the family at baseline. Children separated from families in both groups were typically living with relatives, rather than living in formal foster care placements. Evidence exists that SUB reduced foster care placements by more than half, from 5.0 to 1.9 percent of families. No evidence suggests, however, that SUB increased reunifications of the small number of children who were separated from the family at baseline, or that SUB impacted either separations or reunifications of the spouse or partner of the family head.

Exhibit 6-8. SUB Versus UC: Impacts on Family Preservation

Outcome	SUB			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Current or recent separations of family members present at baseline									
Family has at least one child separated in past 6 months (%)	520	9.8	(30.0)	413	16.9	(36.0)	− 7.1***	(2.4)	− 0.17
Family has at least one foster care placement in past 6 months (%)	521	1.9	(13.7)	413	5.0	(19.9)	− 3.1**	(1.4)	− 0.13
Spouse/partner separated in past 6 months, of those with spouse/partner present at RA (%)	135	34.7	(47.6)	118	34.0	(48.3)	0.7	(6.5)	0.01
Reunification of family members reported as separated at baseline									
Family has at least one child reunified, of those families with at least one child absent at RA (%)	103	35.3	(47.9)	87	30.3	(46.0)	5.0	(7.3)	0.10
Spouse/partner reunified, of those with spouse/partner absent at RA (%)	54	34.5	(46.1)	35	34.3	(49.0)	0.3	(12.3)	0.00

SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

6.5 Impacts on Adult Well-Being in the Permanent Housing Subsidy (SUB) Versus Usual Care (UC) Comparison

As discussed in Chapter 3, the theory and goals of the SUB intervention compared with those of UC would not lead us to expect substantial effects on adult well-being. Even so, Exhibit 6-9 provides evidence of several impacts in this domain. SUB appears to have improved adult mental health relative to UC, increasing positive goal-oriented thinking (the State Hope Scale) and reducing psychological distress.

Both of these impacts are estimated at around 0.15 of a standard deviation of the outcome measure and contrast with a finding of no significant impact on adults receiving vouchers being worried, tense, or anxious in the *Effects of Housing Vouchers on Welfare Families* evaluation (Mills et al., 2006). Physical health and post-traumatic stress disorder (PTSD) symptoms were not affected by SUB. This study provides some evidence that a permanent deep housing subsidy led to less alcohol dependence than UC and about 25 percent less alcohol and drug abuse overall.

Exhibit 6-9. SUB Versus UC: Impacts on Adult Well-Being

Outcome	SUB			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Adult physical health									
Health in past 30 days was poor or fair (%)	529	31.5	(46.5)	415	31.3	(46.4)	0.1	(2.9)	0.00
Adult mental health									
Goal-oriented thinking[b]	524	4.56	(1.06)	413	4.39	(1.00)	0.18***	(0.07)	0.15
Psychological distress[c]	526	6.65	(5.40)	415	7.63	(5.65)	− 0.97***	(0.34)	− 0.15
Adult trauma symptoms									
Post-traumatic stress disorder (PTSD) symptoms in past 30 days (%)	525	20.8	(40.9)	412	24.4	(42.8)	− 3.6	(2.6)	− 0.07
Adult substance use									
Alcohol dependence or drug abuse[d] (%)	526	12.2	(32.3)	415	16.7	(37.5)	− 4.5*	(2.4)	− 0.11
Alcohol dependence[d] (%)	528	9.3	(28.8)	415	13.6	(34.2)	− 4.3*	(2.2)	− 0.12
Drug abuse[d] (%)	525	4.4	(20.1)	415	6.6	(25.9)	− 2.2	(1.5)	− 0.08
Experience of intimate partner violence									
Experienced intimate partner violence in past 6 months (%)	528	5.5	(23.5)	415	12.2	(32.6)	− 6.7***	(2.0)	− 0.19

SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Goal-oriented thinking is measured with a modified version of the State Hope Scale and ranges from 1 to 6, with higher scores indicating higher levels of positive, goal-oriented thinking.

[c] Psychological distress is measured with the Kessler 6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress.

[d] Alcohol dependence is measured with the Rapid Alcohol Problems Screen (RAPS4), and drug abuse is measured with six items from the Drug Abuse Screening Test (DAST-10).

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

SUB also produced a major reduction in the share of adults who experienced intimate partner violence in the 6 months prior to the followup survey, cutting the incidence in half, from 12 to 6 percent. This effect is consistent with qualitative evidence from the *Effects of Housing Vouchers on Welfare Families* evaluation, where some female family heads reported that vouchers were helpful in escaping difficult or abusive domestic situations.

6.6 Impacts on Child Well-Being in the Permanent Housing Subsidy (SUB) Versus Usual Care (UC) Comparison

As discussed in Chapter 3, any effects of SUB on child well-being would be expected to be indirect, via the substantial effect of SUB on housing stability. Little evidence suggests

that such indirect effects had emerged at this followup point. Across the 26 measures depicted in Exhibits 6-10 and 6-11, only 3 effects reached statistical significance, or about what would be expected by chance. The effect that is least likely to be due to chance alone is on school mobility, both because of the higher level of statistical significance and because school mobility is associated with residential mobility.[84] One fewer school move was made in 18 months for every five children in the SUB group compared with children in the UC group. The other small effects (fewer absences but more anxiety in the SUB group) are probably best attributed to chance. The number of schools attended indexes exposure to stable schooling rather than an academic or behavioral outcome. Stable schooling might be expected to lead to better long-term educational outcomes, although this short-term followup period uncovered no evidence for that.

Exhibit 6-10. SUB Versus UC: Impacts on Child Well-Being Across Age Groups

Outcome	SUB			UC			ITT Impact		Effect size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Child education									
Preschool or Head Start enrollment[b] (%)	276	37.2	(48.7)	213	31.8	(48.3)	5.3	(4.7)	0.09
School enrollment[c] (%)	465	88.8	(31.5)	356	90.3	(29.8)	− 1.5	(2.3)	− 0.05
Childcare or school absences in past month[d]	519	0.83	(0.94)	406	0.99	(1.01)	− 0.15*	(0.08)	− 0.12
Number of schools attended since RA[e]	541	1.73	(0.74)	414	1.94	(0.89)	− 0.21***	(0.06)	− 0.18
Grade completion (not held back) (%)	435	93.3	(26.1)	334	91.1	(29.1)	2.2	(2.1)	0.06
Positive childcare or school experiences[f]	592	0.61	(0.53)	458	0.58	(0.56)	0.03	(0.04)	0.04
Positive childcare or school attitudes[g]	590	4.33	(1.02)	455	4.30	(1.02)	0.03	(0.07)	0.02
School grades[h]	384	3.09	(0.90)	301	2.96	(0.96)	0.13	(0.08)	0.10
Childcare or school conduct problems[i]	536	0.22	(0.41)	416	0.22	(0.41)	0.00	(0.03)	0.00
Child physical health									
Poor or fair health (%)	766	5.2	(21.7)	583	4.7	(20.7)	0.5	(1.4)	0.02
Well-child checkup in past year (%)	772	89.5	(31.0)	584	88.9	(28.8)	0.6	(2.4)	0.02
Child has regular source of health care (%)	773	93.7	(24.8)	585	92.5	(24.1)	1.1	(2.2)	0.03
Sleep problems[j]	770	2.07	(1.13)	584	2.02	(1.13)	0.06	(0.07)	0.04
Child behavioral strengths and challenges									
Behavior problems[k]	631	0.47	(1.20)	489	0.59	(1.26)	− 0.12	(0.09)	− 0.08
Prosocial behavior[l]	631	− 0.13	(1.11)	491	− 0.24	(1.12)	0.11	(0.08)	0.08

SUB = permanent housing subsidy. UC = usual care.
ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.
*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.
[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.
[b] Base for preschool or Head Start enrollment is children ages 1 year, 6 months to 5 years.
[c] Base for school enrollment is children ages 6 to 17 years.
[d] Absences outcome is defined as 0 = no absences in past month, 1 = 1 to 2 absences, 2 = 3 to 5 absences, 3 = 6 or more absences.
[e] Number of schools outcome is topcoded at 4 or more schools.
[f] Positive childcare or school experiences outcome is defined as − 1 = mostly negative experiences, 0 = both positive and negative experiences, 1 = mostly positive experiences.
[g] Positive childcare or school attitudes outcome is parent report of how much child likes school and ranges from 1 to 5, with higher values indicating greater like of school.
[h] School grades outcome is defined as 1 = mostly Ds or Fs, 2 = mostly Cs, 3 = mostly Bs, 4 = mostly As.
[i] Childcare or school conduct problems outcome is defined as 0 = no conduct problems reported to parent, 1 = parent contacted about conduct problems or suspension or expulsion from school or childcare center.
[j] Sleep problems outcome ranges from 1 to 5, with higher values indicating more frequent tiredness upon waking and during the day.
[k] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire (SDQ).
[l] Prosocial behavior is measured as the standardized Pro-social domain score from the SDQ.
Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.
Source: Family Options Study 18-month followup survey (parent report)

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[84] School mobility is modestly correlated with residential mobility (*r* in the full sample = 0.15, *p* < .001), although they are measured over different time frames (6 months for residential mobility; since random assignment for school mobility).

Exhibit 6-11. SUB Versus UC: Impacts on Child Well-Being Developmental Outcomes by Age Group

Outcome	SUB			UC			ITT Impact		Effect size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Ages 1 year to 3 years, 6 months									
Met developmental milestones[b] (%)	172	74.9	(44.1)	119	73.5	(43.6)	1.4	(5.5)	0.03
Low birth weight[c] (%)	40	15.6	(36.2)	23	7.5	(20.9)	8.1	(8.6)	0.22
Ages 3 years, 6 months to 7 years									
Verbal ability[d]	273	− 0.32	(0.95)	191	− 0.27	(0.99)	− 0.05	(0.10)	− 0.04
Math ability[e]	262	− 0.26	(0.95)	185	− 0.19	(0.85)	− 0.07	(0.10)	− 0.05
Executive functioning (self-regulation)[f]	250	15.54	(16.16)	167	16.01	(16.04)	− 0.46	(1.30)	− 0.02
Ages 8 to 17 years									
Anxiety[g]	247	35.65	(7.66)	201	34.13	(7.77)	1.51*	(0.86)	0.14
Fears[h]	248	63.90	(14.07)	201	63.57	(14.83)	0.33	(1.61)	0.02
Substance use[i] (%)	243	6.23	(24.85)	201	7.56	(27.14)	− 1.34	(2.55)	− 0.03
Goal-oriented thinking[j]	235	22.80	(4.80)	192	22.80	(5.27)	0.00	(0.50)	0.00
School effort in past month[k]	242	2.72	(0.80)	200	2.82	(0.77)	− 0.10	(0.08)	− 0.09
Arrests or police involvement in past 6 months[l] (%)	130	12.04	(31.12)	110	11.49	(28.88)	0.55	(4.78)	0.01

SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Met developmental milestones outcome is defined as scoring above the typical development cutoffs in all domains of the Ages and Stages Questionnaire (ASQ-3).

[c] Base for low birthweight outcome (parent report) is children born since random assignment who are at least 1 year old at followup.

[d] Verbal ability outcome is the nationally standardized score from the Woodcock-Johnson III (WJ III) letter-word identification scale.

[e] Math ability outcome is the nationally standardized score from the WJ III applied problems test.

[f] Executive functioning outcome is the Head Toes Knees Shoulders (HTKS) score and ranges from 0 to 40, with higher scores indicating greater executive functioning.

[g] Anxiety (child report) is measured using the A-Trait scale from the State-Trait Anxiety Inventory for Children (STAIC). Scores range from 20 to 60, with higher scores indicating greater anxiety.

[h] Fears outcome (child report) is the score from the Fears Scale and ranges from 33 to 99, with higher scores indicating more fear.

[i] Substance use (child report) is measured with 23 items from the Centers for Disease Control and Prevention (CDC) 2011 Youth Risk Behavior Survey.

[j] Goal-oriented thinking (child report) is measured with a modified version of the Children's Hope Scale and ranges from 6 to 30, with higher scores indicating higher levels of positive, goal-oriented thinking.

[k] School effort outcome (child report) ranges from 1 to 4, with higher scores indicating greater effort during school day and on homework.

[l] Arrest or police involvement in past 6 months is from parent report.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey (parent report); Family Options Study 18-month child survey (child report); ASQ-3; WJ III; HTKS

Child well-being was assessed only for children who were with their parent at the time of the followup survey. It is possible that the substantially higher rates of child separation in the UC group could lead to an underestimate of effects of SUB on child well-being.[85]

6.7 Impacts on Self-Sufficiency in the Permanent Housing Subsidy (SUB) Versus Usual Care (UC) Comparison

By increasing housing stability, SUB might plausibly have indirect effects on family self-sufficiency relative to UC. In particular, the opportunity to obtain stable housing with a sharply and permanently lower burden for housing costs might enable adult family members to transfer attention from staying housed to concentrating more on employment and earnings and even enhancing their skills through education and training participation. On the other hand, the ability to obtain housing with limited out-of-pocket cost (30 percent of income) makes available household financial resources go further—lessening the pressure to work, earn, and acquire new skills and education. Unlike the other active interventions studied in this report, SUB does not include case management guidance and referrals to nonhousing services to enhance efforts at work and self-sufficiency.

Exhibit 6-12 shows effects on self-sufficiency outcomes for the SUB-versus-UC comparison. Of the 20 outcomes, 10 had statistically significant effects. The first 5 of these significant effects show that the labor market engagement of SUB family heads was lower than that of their counterparts

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[85] The study team asked parents to report on children who were no longer with them, but very few were able to do so, and the results exclude their data. It is plausible to assume that children who are no longer with their parents have lower well-being, on average, than those who remain with their parents. Concerns about child well-being could have led to separations, particularly foster care placements, or separation from parents might cause psychological or behavioral problems for children. If all children living elsewhere could have been included in the results, child outcomes in the UC group (which has more children away from a parent) would likely be depressed more than child outcomes in the SUB group.

Exhibit 6-12. SUB Versus UC: Impacts on Self-Sufficiency

Outcome	SUB			UC			ITT Impact		Effect size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Employment status									
Work for pay in week before survey (%)	529	24.0	(43.1)	415	29.7	(45.8)	− 5.7**	(2.9)	− 0.11
Any work for pay since RA (%)	529	50.0	(50.0)	414	61.0	(48.7)	− 10.9***	(2.9)	− 0.20
Months worked for pay since RA[b]	525	4.8	(6.8)	408	6.3	(7.4)	− 1.6***	(0.4)	− 0.19
Hours of work per week at current main job[c]	529	7.1	(13.9)	414	8.6	(14.7)	− 1.5	(0.9)	− 0.09
Income sources and amounts									
Annualized current earnings ($)	524	3,568	(7,972)	408	4,299	(8,197)	− 731	(517)	− 0.07
Total family income ($)	515	8,520	(6,990)	405	8,980	(7,355)	− 460	(488)	− 0.05
Anyone in family had earnings in past month (%)	529	33.9	(47.6)	415	42.7	(49.4)	− 8.8***	(3.1)	− 0.16
Anyone in family received TANF in past month (%)	528	39.9	(49.0)	415	33.6	(47.8)	6.3**	(3.0)	0.12
Anyone in family received SSDI in past month (%)	528	6.2	(24.2)	415	6.2	(22.4)	0.0	(1.6)	0.00
Anyone in family received SSI in past month (%)	528	12.8	(32.9)	415	11.6	(31.7)	1.2	(1.6)	0.03
Anyone in family received SNAP/food stamps in past month (%)	528	90.1	(30.8)	415	83.6	(36.4)	6.6***	(2.4)	0.15
Anyone in family received WIC in past month (%)	528	33.4	(47.4)	415	30.5	(46.3)	2.8	(2.9)	0.05
Education and training									
Participated in 2 weeks or more of any school or training since RA (%)	528	25.4	(44.1)	415	26.6	(43.7)	− 1.1	(3.0)	− 0.02
Number of weeks in school or training programs since RA	525	4.0	(10.8)	412	3.7	(9.8)	0.3	(0.7)	0.03
Participated in 2 weeks or more of school since RA (%)	528	6.7	(25.9)	415	8.5	(25.5)	− 1.8	(2.0)	− 0.06
Participated in 2 weeks or more of basic education since RA (%)	528	0.7	(8.7)	415	2.0	(14.6)	− 1.2*	(0.7)	− 0.09
Participated in 2 weeks or more of vocational education since RA (%)	528	6.6	(25.9)	415	7.3	(26.3)	− 0.7	(1.7)	− 0.02
Food security and hunger									
Household is food insecure (%)	530	26.4	(44.3)	415	36.3	(48.0)	− 9.9***	(3.1)	− 0.18
Food insecurity scale[d]	528	1.37	(1.97)	413	1.77	(2.01)	− 0.40***	(0.13)	− 0.17
Economic stressors									
Economic stress scale[e]	527	− 0.20	(0.47)	411	− 0.04	(0.52)	− 0.16***	(0.03)	− 0.28

SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error. SNAP = Supplemental Nutrition Assistance Program. SSDI = Social Security Disability Insurance. SSI = Supplemental Security Income. TANF = Temporary Assistance for Needy Families. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Number of months worked for pay includes partial calendar months.

[c] Hours of work per week includes those not currently working (that is, those with 0 hours of work per week).

[d] Food insecurity scale ranges from 0 to 6, with higher values indicating higher food insecurity.

[e] Economic stress scale ranges from − 1 to 1, with higher values indicating higher economic stress.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

in UC. SUB caused declines in the share who worked for pay (at the time of the followup survey and at any time since random assignment), months and hours worked, and share of families with an earner in the month prior to the followup survey.[86] The fifth row of the exhibit shows no corresponding effect on the annualized current earnings of family heads, as would be suggested by the lower employment rate of SUB family heads. The lack of an effect appears to be related to the higher variability of earnings, however, rather than to SUB working family heads receiving a higher average wage than UC working family heads.[87]

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[86] The effect on average hours per week, however, is largely driven by the difference in percentage of family heads who are working for pay at the time of the survey. Dividing the average hours of work per week at the current main job for SUB family heads by the percentage who worked for pay in the week before the survey (7.10 hours per week/0.240 = 29.6 hours per week) reveals that those who were working did so an average of 30 hours per week. Performing the same calculation for UC family heads (8.61 hours per week/0.297 = 29.0 hours per week) reveals that UC family heads who were working did so an average of 29 hours per week, very similar to the SUB family heads.

[87] If SUB working family heads had the same annualized current earnings as UC working family heads, the difference in average annualized current earnings implied by the difference in percentage of family heads who are working would not be statistically significant. Therefore, the lack of statistical significance on the impact estimate for annualized current earnings should not be interpreted as evidence of higher average earnings for SUB working family heads. The average annualized current earnings of UC working family heads is calculated as $4,302 per year/0.297 = $14,485 per year. Multiplying this figure by the 24 percent of SUB family heads who are working yields average annualized earnings of $3,476 for all SUB families, implying an average effect of $3,476 − $4,302 = -$826. Given our standard error of $517, the effect of -$826 would not be statistically significant.

These dampening effects on labor market engagement and returns are not unexpected and are consistent with economic theory. With more housing benefits, the need to work is less (the income effect), and with a higher "tax rate" (the 30 percent of income on housing), the net wage from each additional hour of work is considerably smaller, making other activities such as parenting, leisure, and possibly education and training activities relatively more attractive (the substitution effect).

The findings on employment and hours are consistent with those reported by the study of the *Effects of Housing Vouchers on Welfare Families* (Mills et al., 2006) and by Jacob and Ludwig (2012) in their Chicago study. Employment reductions ended after a few quarters in the former study but persisted longer in the latter research. This difference makes findings for the Family Options Study from a future 36-month followup survey quite important for the SUB-versus-UC comparison; will the reduction in work effort caused by voucher receipt continue (as theory leads us to expect) or fade away?

We found no evidence that SUB's reduction in work effort led to a reduction in total family income, although it is possible that such an effect was smaller than could be detected with this sample size. It is important to note that the family income measure does not include the value of the housing subsidy provided by the voucher or Supplemental Nutrition Assistance Program (SNAP) benefits. In line with previous evidence from the *Effects of Housing Vouchers on Welfare Families* evaluation is the finding that SUB increased receipt of public assistance through Temporary Assistance for Needy Families (TANF) and SNAP. SUB increased family participation in each of these programs at the time of the followup survey, raising TANF receipt from 34 to 40 percent and SNAP receipt from 84 to 90 percent. No evidence emerged of effects on the receipt rates of Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Social Security Disability Insurance (SSDI), and Supplemental Security Income (SSI) benefits. We also found no evidence that SUB increased participation in education and training activities.[88]

Some evidence emerged of improvements in broader measures of well-being that are not tied specifically to employment. Compared with UC, SUB improved two indexes of food insecurity. The availability of SUB lowered the share of households classified as food insecure from 36 to 26 percent and reduced scores on a food insecurity scale by a 0.17 standardized

effect size. These results are not surprising. Total household resources—the sum of unchanged cash income and noncash housing assistance, which rose substantially—rose sharply. Some of the additional resources appear to have been spent on food, decreasing food insecurity.

Economic stress (measured through survey items that asked about frequency of not being able to afford rent, medical care, clothing, and so on) declined even more sharply because of SUB, falling from 0.16 points on scale from -1 to 1. Whereas all other significant impacts have standardized effect sizes in the 0.10-to-0.20 range, this decline in economic stress has a standardized effect size of 0.28.

6.8 Summary of the Permanent Housing Subsidy (SUB) Versus Usual Care (UC) Comparison Across Domains

For the SUB-versus-UC comparison, the study produced a notable contrast in program use. Of all families assigned to SUB, 84 percent received the SUB intervention compared with 12 percent of families assigned to UC. This contrast in program use led to striking differences between the experiences of SUB and UC families in several areas.

The most notable effect of SUB relative to UC was its greater prevention of subsequent stays in shelter or places not meant for human habitation. Of families assigned to SUB, 22 percent spent at least 1 night homeless or doubled up in the 6 months prior to the followup survey or at least 1 night in emergency shelter in the 12 months prior to the survey compared with 50 percent of families assigned to UC. That is, assignment to SUB after 7 days in emergency shelter reduced subsequent homelessness by half. The SUB intervention also caused substantial, statistically significant reductions in four other measures of homelessness during the followup period: the proportion of families who experienced (1) at least 1 night in a shelter or a place not meant for human habitation in the past 6 months; (2) at least 1 night doubled up in the past 6 months; (3) at least 1 night in shelter or places not meant for human habitation or doubled up in the past 6 months; and (4) at least one stay in emergency shelter in months 7 to 18 after random assignment. Compared with UC, SUB also led to greater housing independence, with 73 percent of SUB families living in their own house or apartment compared with 58 percent of UC families. As expected, however, the proportion of SUB families living in their own dwelling place without housing assistance (10 percent) is much lower than

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[88] In fact, the only significant effect on five education and training outcomes showed that SUB caused a slight reduction in the proportion of family heads participating in basic education (1 percent of SUB family heads compared with 2 percent of UC family heads).

the corresponding proportion of UC families (33 percent). SUB also reduced the average number of places lived since random assignment and the proportion of families living in poor or fair quality housing.

Indirect benefits occurred in terms of selected family preservation indicators and adult well-being measures. Relative to UC, SUB led to improvements in family preservation. For families with a child present at baseline, SUB reduced subsequent child separations by two-fifths (10 percent in SUB families compared with 17 percent in UC families). SUB also reduced foster care placements by more than half (from 5 to 2 percent) relative to UC. SUB also led to improvements in four measures of adult well-being. SUB increased positive goal-oriented thinking, reduced psychological distress, and reduced evidence of alcohol and drug problems. SUB also produced a substantial reduction in intimate partner violence relative to UC. Incidence of intimate partner violence was 12 percent in UC families compared with 6 percent in SUB families.

Among children who remained with their families, little evidence exists that SUB improved child well-being relative to UC, apart from a reduction in the number of schools attended by focal children. No effects were detected on the physical health, behavior, or development of focal children.

Importantly, SUB *reduced* family self-sufficiency relative to UC. Labor market engagement declined while dependence on public assistance (TANF and SNAP) rose. SUB caused a reduction in the proportion of family heads working at the time of the survey compared with UC (from 30 to 24 percent), a reduction in the proportion with any employment since random assignment (from 61 to 50 percent), and a reduction in the average number of months worked since random assignment. These results are consistent with economic theory, given that housing subsidies lessened the need for disposable income and reduced the returns to working at the margin. Relative to UC, SUB increased receipt of public assistance through TANF and SNAP (from 34 to 40 percent for TANF and from 84 to 90 percent for SNAP).

Even with the reduction in work effort, SUB families appeared be in a better financial position than UC families. The additional resources represented by the housing subsidy led to an improvement in the food security of SUB families (lowering the percentage of households classified as food insecure from 36 to 26 percent, relative to UC) and a decrease in economic stress.

Overall, in several ways families assigned to SUB appear to be doing better at this point than families assigned to UC. Families assigned to SUB have greater housing stability, are less likely to have had child separations, and experienced less psychological distress, less intimate partner violence, less food insecurity, and less economic stress than their counterparts assigned to UC. Chapter 9 reports on how SUB compares with the two other active interventions, CBRR and PBTH.

CHAPTER 7.
IMPACTS OF COMMUNITY-BASED RAPID RE-HOUSING (CBRR) COMPARED WITH USUAL CARE (UC)

This chapter presents the impacts observed in the community-based rapid re-housing (CBRR) intervention compared with outcomes of families served by the usual care (UC) homeless assistance systems in their communities. The goal is to determine whether offering temporary subsidies to help families exit shelter rapidly increases their housing stability and improves other family outcomes during a 20-month followup interval. The chapter begins with a description of the CBRR intervention as implemented in the study. It then shows the extent to which families in both the CBRR and UC groups used rapid re-housing and other housing and service programs available to them in the study sites. The remainder of the chapter presents the effects of being offered the CBRR intervention (as compared with UC) on outcomes within the five study domains—housing stability, family preservation, adult well-being, child well-being, and self-sufficiency.

7.1 Community-Based Rapid Re-Housing (CBRR) Intervention

The CBRR intervention provides program participants with temporary rental assistance and limited services focused on housing search assistance and basic service coordination. In total, 569 families were referred to 27 CBRR programs across the 12 sites.[89] The number of families assigned to CBRR in each site, ranging from 8 families in Denver, Colorado, to 80 families in Salt Lake City, Utah, is shown in Exhibit 2-8 in

Chapter 2. Of the 569 families, 455 (80 percent) responded to the 18-month followup survey and so are included in the impact analysis in this report.

Nearly all the CBRR providers in the Family Options Study were community-based nonprofit organizations. The only exceptions were in Louisville, Kentucky, and Phoenix, Arizona, where CBRR was provided by city government agencies. CBRR was funded by the rapid re-housing component of the Homelessness Prevention and Rapid Re-Housing Program (HPRP) in all the sites except one.[90, 91] The HPRP rapid re-housing funding could be used to provide rental assistance (up to 18 months), security deposits, utility deposits and payments, help with moving costs, and hotel and motel vouchers. HPRP also could fund case management for participating families. Any rental assistance paid for with HPRP funds had to meet rent reasonableness standards, and units had to pass a habitability inspection. The inspection requirements were slightly less stringent than the Housing Quality Standards required for the Housing Choice Voucher (HCV) program form of permanent housing subsidy (SUB).

7.1.1 Housing Assistance in CBRR

The CBRR intervention provided short-term rental assistance (usually 7 to 8 months) to enable families to rent private-market housing. The intention was that the participants would remain in the unit that they obtained with CBRR assistance after the period of rental assistance ended, paying the full rent on their own.

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[89] Much of the information describing CBRR in this section is based on the 16 CBRR programs that provided program data. These 16 programs represent 521 of the 569 total CBRR referrals. More detail about specific CBRR programs is provided in Gubits et al. (2013), Appendixes A and B. Originally, 28 programs were intended to participate in the study. The study referred families to 27 of these programs. The CBRR followup respondents represent 25 of the 27 programs.

[90] HPRP was authorized through the American Recovery and Reinvestment Act of 2009 (ARRA). Across the nation, communities received $1.5 billion in HPRP funding, a one-time funding stream available for 3 years from program inception, to provide homelessness prevention and rapid re-housing assistance to individuals and families facing homelessness.

[91] In Boston, the CBRR intervention was funded by the State of Massachusetts. The Boston programs offered assistance very similar to HPRP, although rental assistance could be provided for longer periods. The Minneapolis, Minnesota, and Salt Lake City CBRR programs supplemented HPRP funds with state funds and other ARRA funds, respectively.

HPRP regulations allowed for CBRR programs to provide up to 18 months of assistance, but HUD encouraged programs to provide the least amount of rental assistance needed to stabilize families in housing. Accordingly, HPRP regulations required CBRR programs to recertify families for income eligibility and need every 3 months (HUD, 2009). Nearly 40 percent of families assigned to CBRR were referred to programs that also provided assistance with payment of arrears (either rental arrears or back payments owed on utilities), and most (84 percent) were referred to programs that provided assistance with startup costs such as security deposits, utility setup costs, and moving expenses. About two-thirds of families assigned to CBRR were referred to programs that typically provided 4 to 6 months of assistance. The other one-third of CBRR families were referred to programs that typically provided more than 6 months of assistance.

Depth of CBRR Housing Assistance

The subsidy provided through CBRR represents a substantial fraction of monthly rent; however, the subsidy in CBRR was rarely determined based on participant contribution of a fixed percentage of income, as is the case in the HCV program and other housing assistance programs such as public housing. More than one-half of families were referred to CBRR programs that set the subsidy as a fixed monthly amount, regardless of monthly rent or family income. The fixed monthly amount was typically determined by CBRR case managers based on data collected through the client assessment, considering a standard set of criteria such as family income, debt, size, and local housing costs. For another 19 percent of families, the initial subsidy was set at the discretion of the program, based on what the program staff determined was needed to get the family into housing, and then the ongoing subsidy was adjusted based on a formula. Rental assistance for the remaining 26 percent of families was calculated by formula, most often as a percentage of the rent established by the landlord. The standard housing assistance formula, rent minus a percentage of income, was used by programs to which only 3 percent of CBRR families were assigned. In one of the sites, the CBRR program paid

the full monthly rent. Some programs established caps on the total amount of subsidy paid to a given family. Exhibit 7-1 summarizes the methods used by CBRR providers to calculate subsidies for families in the study.

7.1.2 Assessment of Family Needs in CBRR

All CBRR programs indicated that they conducted a formal assessment of study families at the beginning of the program. In addition, all programs reported that they reassessed family needs as part of the 3-month program recertification. The assessments typically examined family needs related to housing, self-sufficiency, and employment, but three-fourths of families were referred to CBRR programs that also reported exploring health, mental health, and substance abuse issues in the assessments. Slightly more than one-half of families were referred to CBRR programs that assessed for children's needs. Other domains, such as parenting and life skills, were formally incorporated into only a handful of programs' assessments.

In all programs, the assessments resulted in a formal service plan, with goals for the adults in the household designed to help families obtain and remain in stable housing and to guide subsequent case management and referrals to other service programs. Thirty percent of families were referred to CBRR programs that also worked with families to develop goals for the children.

7.1.3 Supportive Services Provided in CBRR

Participating CBRR programs provided limited case management with linkages to other programs for additional support. CBRR services were heavily focused on housing and self-sufficiency. Self-sufficiency services included help with budgeting, obtaining public benefits, education, transportation, and child care. Most families were referred to CBRR programs in which the CBRR case manager took primary responsibility for providing housing search and placement assistance. One program (representing 8 percent of family referrals) had a housing specialist to provide that function instead.

Exhibit 7-1. Methods Used To Calculate CBRR Subsidy Amounts

CBRR Subsidy Calculation	Percent of Families Assigned to CBRR Programs With Each Type of Subsidy Calculation (N = 521)[a]
Subsidy amount is set by case managers on a case-by-case basis	55
Hybrid (initial subsidy set by case managers, then adjusted based on a formula related to family contribution to rent)	19
Subsidy amount is a percentage of rent established by the landlord	23
Subsidy amount is difference between rent and family contribution of some percent of income	3

CBRR = community-based rapid rehousing.

[a] Program data were not collected from 11 programs that collectively had 48 CBRR family referrals.

Note: Percentages are unweighted.

Sources: Program data; random assignment records

Three-fourths of CBRR referrals were to programs in which case managers provided self-sufficiency services, but a small proportion of families were referred to programs that linked families to other agencies for these services.

No other types of services were provided to the same extent. Slightly more than one-third of families were referred to programs that provided employment training support. Other service areas were explicitly offered at even fewer programs. Exhibit 7-2 shows the array of services offered in CBRR programs and the extent to which the services were provided through case management, by other program or agency staff beyond the case manager, or through a dedicated linkage with an external agency that was guaranteed to provide the service because of CBRR enrollment. Dedicated linkages were rare.

Case Management Intensity in CBRR

Exhibit 7-3 shows the relative intensity of case management for families referred to CBRR—both the ratio of clients to case managers and the frequency of meetings. The average case management ratio for CBRR programs in the study was 36 families per case manager.[92] Nearly one-half of clients were referred to programs in which a case manager worked with more than 30 families at a time, and most of the case managers with heavy caseloads met with their clients monthly rather than more frequently. About one-fifth of families were referred to programs with 11 to 20 clients per case manager, and these case managers more often met with clients every 1 or 2 weeks or reported that the frequency of meetings was variable. Some programs indicated that case managers met more frequently up front to support families as they searched

Exhibit 7-2. Types of Supportive Services Offered in CBRR Programs and How They Are Delivered

Types of Supportive Services	Percent of Families Referred to CBRR Programs That Offer These Services (N = 521)[a]	Percent of Families Referred to CBRR Programs That Offer Services of This Type		
		Through Case Management	By Other Program or Agency Staff	Through Dedicated Linkages With Other Agencies
Housing search and placement assistance	100	92	8	0
Self-sufficiency (for example, financial literacy, money management, help obtaining public benefits, education, transportation, childcare, and after-school care)	78	78	6	3
Employment and training	37	25	12	12
Life skills	30	30	0	0
Physical health care	23	23	0	0
Child advocacy	18	18	0	0
Parenting skills	15	15	0	0
Mental health care	2	2	0	0

CBRR = community-based rapid rehousing.

[a] Program data were not collected from 11 programs that collectively had 48 CBRR family referrals.

Note: Percentages are unweighted.

Sources: Program data; random assignment records

Exhibit 7-3. CBRR Case Management Intensity (ratio and frequency)

Average Number of Clients per Case Manager	Percentage of Families Referred to CBRR Programs That Offer Case Management in Each of the Following Packages (N = 464)[a]					Total
	Weekly	Biweekly	Monthly	Quarterly	Variable	
10 or fewer clients	0	0	11	0	0	11
11 to 20 clients	4	4	0	0	11	20
21 to 30 clients	3	0	3	0	0	3
More than 30 clients	0	3	30	13	0	46
Variable	0	0	18	0	0	18
Total	7	7	61	13	11	100

CBRR = community-based rapid rehousing.

[a] Program data on case management ratios were not collected from 13 programs that collectively had 105 CBRR family referrals.

Note: Percentages are unweighted.

Sources: Program data; random assignment records

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[92] The average case management ratio is calculated as the weighted average of the program's typical point-in-time caseloads (collected in interviews with program staff), wherein the weights are the number of families referred to the programs. Thus, the average case management ratio in CBRR was derived by first multiplying each program's case management ratio by the number of people referred to that program, then summing the products, and then dividing the sum by the total number of families referred to CBRR.

for and moved into housing, meeting less frequently after the family was housed. Visits of approximately 1 hour were fairly typical for CBRR programs.[93] Case management typically ended when the CBRR rental assistance ceased.

7.1.4 Eligibility Criteria for CBRR

CBRR programs sometimes had screening criteria that excluded certain families from participating. For example, those who were not working might be considered "not ready" for CBRR because they had little chance of being able to afford their units when CBRR assistance ended. Just under 5 percent of study families answered baseline survey questions in a way that screened them out from possible assignment to CBRR, and 10.4 percent of those assigned to CBRR were determined ineligible by the programs. Families screened out at baseline are not included in the study sample, but those determined ineligible after random assignment are. Those families determined ineligible by programs must be included in the impact estimates to preserve the comparability of the CBRR families and UC families—that is, some of the UC families might also have been screened out had they been assigned to CBRR.

In order to continue to receive assistance for the period offered by the CBRR program to which they were referred, families had to have incomes below certain thresholds, and most CBRR programs to which study families were referred asked questions about income every 3 months. Some CBRR programs also imposed additional program requirements with which families had to comply to maintain eligibility for assistance, such as working with a case manager to achieve employment or increase earned income.

7.2 Program Use by Families in the Community-Based Rapid Re-Housing (CBRR) Versus Usual Care (UC) Comparison

Each impact comparison in the study may be thought of as a distinct experiment or test, and this chapter addresses only the comparison between CBRR and UC, without reference to the families who were randomized to the SUB or project-based transitional housing (PBTH) interventions. In total, 1,144 families took part in the test of CBRR versus UC. These families all had the opportunity to be assigned to either CBRR or UC at the point of random assignment and were assigned to one of these two interventions—569 families to CBRR and 575 families to UC.[94] Of these 1,144 families, 79 percent (455 CBRR families and 451 UC families) responded to the 18-month followup survey, and thus 906 families are included in the CBRR-versus-UC impact comparison reported in this chapter. This section describes the extent to which the 455 CBRR families used the CBRR intervention and other programs that were available in the community—both within and outside the homeless services system—during the followup period. Parallel information is presented for the 451 UC families.

Exhibit 7-4 shows the use of seven types of homeless and housing assistance programs by these families. The first column shows the percentage of families assigned to CBRR who ever used each program type during the followup period.[95] The second row (shaded in the exhibit) shows the takeup of CBRR by the families assigned to that intervention; 59.7 percent of families referred to a CBRR program received rapid re-housing assistance at some point during the followup period—meaning that they followed up on the referral, were deemed eligible by the program, found a housing unit, and received one of the types of temporary rental assistance provided by CBRR.[69]

The second column shows the percentage of families assigned to UC who ever used each program type during the followup period.[97] The shaded row of the second column shows that 19.6 percent of the UC families received rapid re-housing assistance during the followup period, despite not being given priority access to CBRR. Presumably these families learned about the availability of CBRR, perhaps from friends or family members,[98] or they may have already been clients of the community-based nonprofit organizations that administered the local CBRR programs.

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[93] Additional details about each program's case management are shown in Gubits et al. (2013), Appendix B-3.

[94] In the entire study, 746 families were randomly assigned to UC. Only 575 of these families had CBRR available to them when they were randomized, however. Therefore, only these 575 UC families are part of the CBRR-versus-UC comparison sample. All 569 families randomly assigned to CBRR during the course of the study had UC available to them, so all are part of the CBRR-versus-UC comparison sample.

[95] The followup period is from the calendar month of random assignment through the calendar month of response to the 18-month followup survey. Therefore, the length of the followup period differs across families. This period lasts for a median of 21 calendar months for the full sample.

[96] All percentages, means, and medians in the exhibit are weighted to adjust for survey nonresponse and hence as best possible represent the full experimental sample of 1,144 families. The findings on program use are thus in line with similarly weighted impact estimates provided subsequently in the chapter.

[97] The percentages in the first seven rows of these columns are not mutually exclusive because some families use more than one program type during the followup period.

[98] Emergency shelter staff committed to not referring UC families to active interventions to which they were not assigned. This commitment may not have been upheld in all cases.

Exhibit 7-4. CBRR Versus UC: Program Use Since Random Assignment

Type of Housing Assistance	Percent Ever Used From RA to 18-Month Followup Survey[a]		Number of Months Used From RA to 18-Month Followup Survey, if Ever Used Type of Housing Assistance				Percent Used in Month of Followup Survey Response	
	CBRR	UC	CBRR		UC		CBRR	UC
			Mean	Median	Mean	Median		
Subsidy (SUB)[b]	9.0	9.8	10.4	10.5	10.3	10.5	8.7	8.6
Rapid re-housing (CBRR)	59.7	19.6	7.6	6.5	6.9	4.5	5.7	2.2
Transitional housing	18.8	24.2	8.3	6.0	8.9	7.5	7.0	9.4
Permanent supportive housing	5.1	7.5	8.2	10.5	10.0	8.0	3.9	5.7
Public housing	5.2	6.1	10.3	10.5	10.5	10.5	5.1	5.0
Project-based vouchers/Section 8 projects	3.4	4.1	12.9	11.5	14.0	16.5	3.2	3.9
Emergency shelter[c]	87.1	86.5	3.9	2.0	4.5	3.0	7.7	9.8
No use of homeless or housing programs[d]	11.9	27.4	18.4	18.0	19.5	20.0	59.5	56.3
N	455	451	—	—	—	—	455	451

UC = usual care. RA = random assignment.

[a] Percentage of families who ever used a type of assistance program during the period from the month of RA to the month of the 18-month followup survey response (median period duration: 21 months). Percentages do not add to 100 because some families used more than one program type during the followup period.

[b] Subsidy assistance is housing choice vouchers plus site-specific programs offered to families assigned to permanent housing subsidy (SUB) group in Bridgeport, Connecticut and Honolulu, Hawaii.

[c] All families were in emergency shelter at random assignment. Percentages less than 100 percent for ever used emergency shelter are due to missing data on shelter use.

[d] No use of homeless or housing programs (ever used) indicates no use of the six program types in this table during any of the followup period and no use of emergency shelter after the first 6 months after RA. No use in the month of the followup survey response indicates no use of any of these seven program types.

Notes: Percentages are regression adjusted, controlling for site and randomization ratio. Percentages, means, and medians are weighted for survey nonresponse to represent full comparison sample.

Source: Family Options Study Program Usage Data

The first row of the exhibit, along with rows 3 through 6, show participation in other types of homeless and housing assistance programs. Twenty-eight percent of these UC families (not shown in the exhibit) found their way to SUB or other permanent housing programs and one-fourth found their way to transitional housing, despite the lack of preferential access to those programs through the study. The use of programs other than rapid re-housing programs is always higher for the UC group than for the CBRR group, presumably because the UC group was not referred directly to the CBRR intervention and so turned to other types of programs. The seventh row shows the percentages of families in the CBRR and UC groups who used none of the six types of programs during the followup period, nor used emergency shelter from the seventh month after random assignment onward. About 12 percent of CBRR families and 27 percent of UC families fall into this group.

The mean and median number of months of use for each program type are also shown in the exhibit (third and fourth columns for CBRR families, fifth and sixth columns for UC families) *for only those families who ever used a given program type.*[99] The number of months of rapid re-housing assistance use (median of 7 months) is higher for the families who had priority access to CBRR than for the 19.1 percent of UC families who received rapid re-housing assistance (median of 5 months).

Whereas the previous columns consider all experience from between randomization and the point at which the survey was administered, the last two columns consider the program use as of the month of the survey. Although the team expects that most outcomes in the report will be influenced by assistance received during the entire followup period, some outcomes will be particularly strongly influenced by assistance received at the time of followup survey response. The last two columns of the exhibit show the percentages of CBRR and UC families who received each type of program in the calendar month of the followup survey response. The first row of the seventh column shows that the rapid re-housing assistance had ended for most of the CBRR families who ever received it and for the UC families who ever received it. The majority of both CBRR (60 percent) and UC families (56 percent) were not participating in a homeless or housing program at the time they responded to the followup survey. Thus, differences are not expected in the outcomes of CBRR and UC families in areas that reflect the families' current experience, but only in those that reflect a lasting influence of families having been offered temporary rental assistance to help them leave homelessness.

As Exhibit 7-4 makes clear, the CBRR families used a range of programs in addition to the program to which they were referred by the study, which is consistent with the design of the study. Families were not required to use the intervention

[99] Hence, 0 values are not factored into the means, nor do they pull downward the medians of the various distributions.

to which they were assigned and also were not forbidden from using other programs that were available to them in their community. The intent of the study was to maximize use of the assigned active intervention (in this case, maximize use of the CBRR intervention by the CBRR families) and to create the largest possible contrast between the program mixes of different assignment groups (in this case, CBRR versus UC). As shown in the exhibit, the use of CBRR was quite different for the CBRR and UC groups. The contrast in usage of CBRR—59.7 percent for CBRR families and 19.6 percent for UC families—is sizable, although smaller than the analogous contrast between the SUB and UC groups.

As is conventional in random assignment analyses, our goal is to estimate the intention-to-treat (ITT) impact—that is, the difference in impact by the program to which families were assigned, regardless of whether they actually used that program (or some other program). This goal is consistent with the policy option of making a treatment available to a family but without the ability to force a family to use that treatment.

Because not all families randomly assigned to CBRR *used* CBRR, and some families assigned to UC *did use* CBRR, the true ITT impact is likely smaller than it would have been had

the gap in CBRR usage been wider (assuming that CBRR truly has a nonzero impact on families who use it). In particular, the difference in the use of CBRR by the CBRR and UC groups is narrow enough, given the relatively small sample size available for analysis, that the study may have failed to detect as statistically significant one or more ITT impacts large enough to be of policy importance.

Additional detail about the use of the CBRR intervention by CBRR families is shown in Exhibit 7-5. This exhibit shows that nearly one-half (46 percent) of CBRR families who used rapid re-housing did so for less than 6 months, and 81 percent did so for less than 12 months.[100] These relatively short periods of use may be surprising, given that the program rules permit use of CBRR for up to 18 months. They reflect the reality, however, of how the program was being administered in the study sites and how families were using it.

The remainder of the chapter reports estimated impacts in the various outcome domains that—if statistically significant—can be causally attributed to the offer of a temporary housing subsidy to the families randomly assigned to CBRR at the start of the followup period as opposed to no such directed referral or privileged access being provided to UC families.

Exhibit 7-5. Number of Months of CBRR Receipt During Followup Period by CBRR Families Who Ever Used CBRR
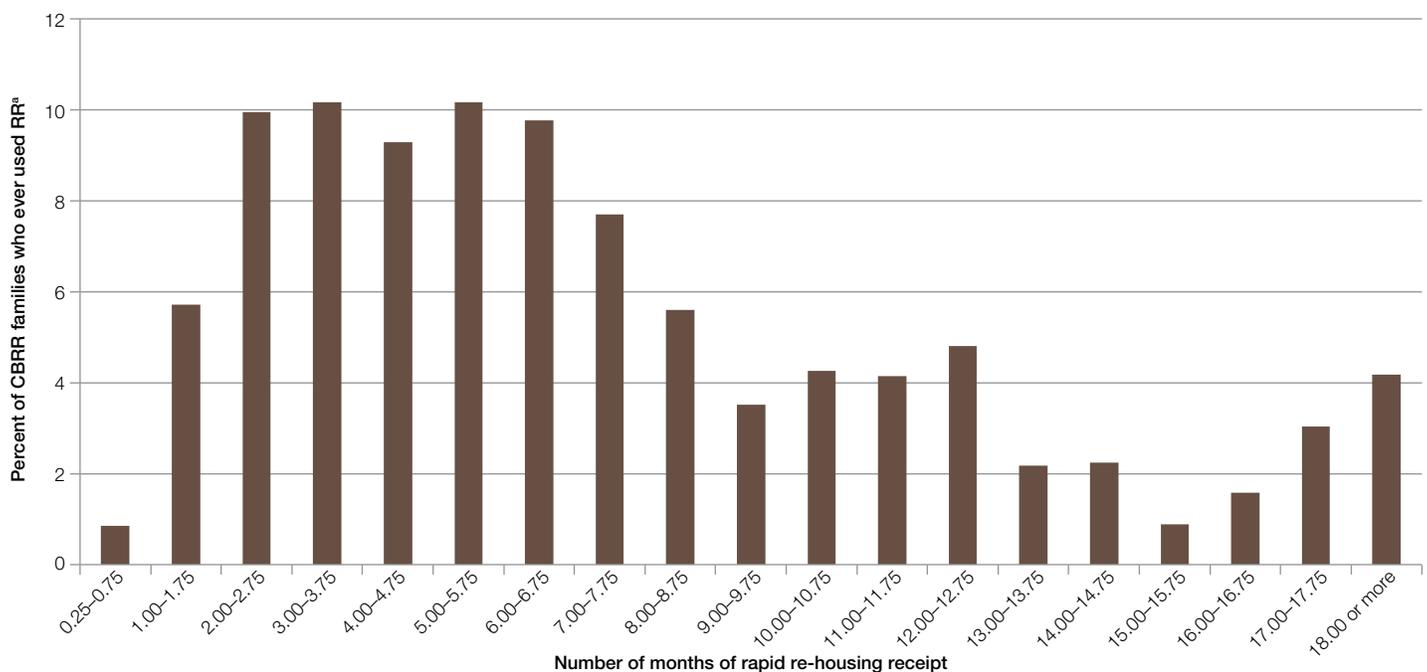
CBRR = community-based rapid re-housing.

[a] Percentages are weighted for survey nonresponse to represent all families in comparison sample.

Note: N = 274.

Source: Family Options Study Program Usage Data

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[100] Exhibit 7-5 shows that just over 4 percent of CBRR families who used CBRR did so for 18 or more months. HPRP-funded rapid re-housing was limited to 18 months of assistance. CBRR usage durations longer than 18 months are probably best interpreted as using the maximum allowable assistance of 18 months.

7.3 Impacts on Housing Stability in the Community-Based Rapid Re-Housing (CBRR) Versus Usual Care (UC) Comparison

Proponents of CBRR share with the proponents of SUB the view that the crisis of housing affordability is the root cause of homelessness among families, as addressed in Chapter 3. Because SUB is unlikely to become widely available to families at the time they are experiencing homelessness, proponents of CBRR argue that limited resources dedicated to homelessness could be stretched to create the best outcomes for the most people by making subsidies temporary. The CBRR-versus-UC comparison offers evidence on whether temporary subsidies are an effective tool to improve housing stability relative to usual care.

Exhibit 7-6 shows the impacts of the offer of CBRR on homelessness, housing independence, residential moves, and housing quality. CBRR does not appear to reduce homelessness in this sample of families.

None of the eight impact estimates for homelessness and doubled up outcomes is statistically different from 0. Assignment to CBRR has no effect on the proportion of families experiencing homelessness during the followup period in measures based on the survey, on Program Usage Data, or on a combination of the two. The estimates also provide no evidence of effects on the number of days spent homeless or doubled up in the 6 months prior to the followup survey. It is possible that the true ITT effects of CBRR may have reduced subsequent stays in shelter or places not meant for human habitation, but that these impacts were too small for this study to detect, given the sample size. The 95-percent confidence interval (not shown in the exhibit) for the confirmatory impact on homelessness ranges from a reduction in homelessness of 11.0 percentage points to an increase in homelessness of 3.0 percentage points, suggesting an important potential range of beneficial impact.

The housing independence outcomes in Exhibit 7-6 have one statistically significant impact. Although assignment to CBRR has no effect relative to UC on the proportion of families living in their own house or apartment at the time of the followup survey, and no effect on the proportion living on their own with housing assistance, CBRR increases the proportion of families living on their own *without* housing assistance. Because no strong pattern of effects exists—in fact, no other housing stability impact was statistically significant among the several tested—to guide interpretation, this singular result should be interpreted with caution.

Exhibit 7-6. CBRR Versus UC: Impacts on Housing Stability

Outcome	CBRR			UC			ITT Impact		Effect size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Homeless or doubled up during the followup period									
At least 1 night homeless[b] or doubled up in past 6 months or in shelter in past 12 months (%) **[Confirmatory]**[c]	455	48.4	(50.0)	451	51.9	(50.0)	− 3.5	(3.6)	− 0.06
At least 1 night homeless[b] or doubled up in past 6 months (%)	455	38.2	(48.7)	451	41.1	(49.2)	− 3.0	(3.5)	− 0.05
At least 1 night homeless[b] in past 6 months (%)	455	22.9	(42.2)	450	24.3	(42.9)	− 1.4	(3.0)	− 0.03
At least 1 night doubled up in past 6 months (%)	455	28.7	(45.2)	451	31.7	(46.0)	− 3.0	(3.2)	− 0.06
Any stay in emergency shelter in months 7 to 18 after RA (%)	455	26.4	(44.3)	451	28.4	(45.7)	− 2.1	(3.1)	− 0.04
Number of days homeless[b] or doubled up in past 6 months	455	51.1	(73.9)	448	52.3	(74.0)	− 1.2	(5.4)	− 0.01
Number of days homeless[b] in past 6 months	454	23.3	(52.6)	447	19.8	(47.7)	3.5	(3.7)	0.06
Number of days doubled up in past 6 months	455	33.2	(61.7)	451	37.0	(64.4)	− 3.8	(4.5)	− 0.05
Housing independence									
Living in own house or apartment at followup (%)	455	62.0	(48.7)	451	57.2	(49.6)	4.8	(3.3)	0.09
Living in own house or apartment with no housing assistance (%)	455	43.4	(49.5)	451	35.6	(47.3)	7.8**	(3.3)	0.14
Living in own house or apartment with housing assistance (%)	455	18.4	(38.8)	451	21.6	(42.0)	− 3.2	(2.7)	− 0.07
Number of places lived									
Number of places lived in past 6 months	455	1.7	(1.0)	449	1.8	(1.2)	− 0.1	(0.1)	− 0.07
Housing quality									
Persons per room	447	1.6	(1.2)	435	1.7	(1.3)	− 0.1	(0.1)	− 0.08
Housing quality is poor or fair (%)	452	31.0	(46.3)	447	33.8	(47.3)	− 2.7	(3.3)	− 0.05

CBRR = community-based rapid re-housing. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] The definition of "homeless" in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing.

[c] After adjustment for multiple comparisons, the impact on the confirmatory outcome is not statistically significant at the .10 level for the CBRR-versus-UC comparison.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey; Program Usage Data

The last three rows of Exhibit 7-6 show that assignment to CBRR has no effect on the number of places lived or on housing quality relative to UC.

It may be that priority access to CBRR helped families with their housing stability on average but not enough to be statistically detectable. The gain to the 59.7 percent of families assigned to CBRR who used rapid re-housing assistance may have been "watered down" by weaker outcomes among the 40.3 percent who did not use it. To check this hypothetical possibility, Exhibit 7-7 compares the outcomes of families assigned to CBRR who never took up that intervention with the corresponding outcomes for CBRR-assigned families who did use CBRR.

For some of the outcomes in Exhibit 7-7—including any stay in emergency shelter in months 7 to 18, living in own house or apartment at followup, and length of continued use of shelter after random assignment—results were indeed better for users of CBRR than for nonusers. For other outcomes, however—including at least 1 night homeless in the past 6 months and at least 1 night doubled up in the past 6 months—results were better for nonusers of CBRR or were similar between the two groups. These results collectively indicate that the incidence of homelessness within the CBRR group was not mainly confined to those families who never used CBRR. This finding makes it less plausible that the lack of significant impacts for CBRR results from the weaker contrast in the takeup of CBRR between those randomly assigned to CBRR and those assigned to UC.[101]

Additional evidence on whether CBRR resulted in quicker exits from emergency shelter, one of the CBRR program's purposes, is presented in Exhibit 7-8. This analysis returns to using experimental contrasts rather than nonexperimental analysis and shows the month-by-month impacts of random assignment to CBRR versus UC on the proportion of families with at least 1 night in emergency shelter. Compared with the UC group, a lower proportion of the CBRR group is in emergency shelter in months 2 through 5 after random

Exhibit 7-7. Housing Stability Outcomes for the CBRR Random Assignment Group by Use of CBRR

Outcome	Families Assigned to CBRR Who Did Not Use CBRR N = 181	Families Assigned to CBRR Who Used CBRR N = 274
Homeless or doubled up during the followup period		
At least 1 night homeless or doubled up in past 6 months or in shelter in past 12 months (%)	52.5	46.0
At least 1 night homeless or doubled up in past 6 months (%)	38.1	38.3
At least 1 night homeless in past 6 months (%)	21.5	24.1
At least 1 night doubled up in past 6 months (%)	26.0	30.3
Any stay in emergency shelter in months 7 to 18 after RA (%)	33.1	22.6†
Number of days homeless or doubled up in past 6 months	51.2	50.1
Number of days homeless in past 6 months	22.7	22.8
Number of days doubled up in past 6 months	31.7	33.3
Housing independence		
Living in own house or apartment at followup (%)	52.5	67.5†
Living in own house or apartment with no housing assistance (%)	33.7	48.9†
Living in own house or apartment with housing assistance (%)	18.8	18.2
Number of places lived		
Number of places lived in past 6 months	1.6	1.7
Housing quality		
Persons per room	1.7	1.6
Housing quality is poor or fair (%)	26.3	34.1†
Length of stay in shelter		
Length (in months) of baseline stay in emergency shelter[a]	5.2	2.0†

CBRR = community-based rapid re-housing.

RA = random assignment.

† Difference in means is statistically significant at the .10 level.

[a] The length of baseline stay in emergency shelter outcome includes one-half of the month of random assignment and is topcoded at 18 months. The 17 percent of families assigned to CBRR whose baseline shelter stay does not appear in the Program Usage Data are not included in the analysis.

Notes: Means are unweighted. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study baseline survey; 18-month followup survey; Program Usage Data

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[101] Neither the differences nor the similarities between the groups' outcomes can be causally attributed to the use of CBRR, because the use of CBRR was not randomly assigned. Families assigned to CBRR who used CBRR may be systematically different from families assigned to CBRR who did not use CBRR. The direction of any such bias is unclear. Families who used CBRR may have had greater "need," such that, given use of the same treatment, they would have had worse outcomes than families who did not use CBRR. Alternatively, families who used CBRR may have had more capacity to "navigate the system" than those who did not such that, given the use of the same treatment, they would have had better outcomes. Therefore, although being more likely to live in one's own house or apartment and quicker exit from shelter may result from the use of CBRR, it cannot be conclusively ruled out that these differences are entirely explained by preexisting differences between the groups.

Exhibit 7-8. CBRR Versus UC: Percent of Families With at Least 1 Night Stay in Emergency Shelter During Month, by Month After RA

CBRR = community-based rapid re-housing. UC = usual care.

RA = random assignment.

Notes: Percentages are weighted for survey nonresponse to represent all UC families in the study. Missing data on emergency shelter stays biases the percentages somewhat downward. The baseline stay in emergency shelter does not appear in the data for 18.7 percent of UC respondent families. The missing data rate for subsequent stays in emergency shelter is unknown.

Source: Family Options Study Program Usage Data

assignment, suggesting that priority access to CBRR led to faster exit from shelter for some families. However, the difference in use of emergency shelter is statistically significant only in 6 of the 18 months of observation (months 2 to 5, 11, and 12 at the .10 level; month 3 at the .05 level) and fades in the latter part of the followup period, suggesting that another group of CBRR families remained in shelter rather than leaving soon after being given priority access to CBRR (or left shelter and returned). A statistical test of

whether the offer of priority access to CBRR speeds exit from emergency shelter, shown in Exhibit 7-9, shows that the length of the continued stay in shelter after random assignment is one-half month shorter than for UC families, and this difference is statistically significant.

Overall, it appears that the offer of priority access to CBRR has virtually no effect on housing stability during the followup period relative to the mix of services that were available to families in the UC intervention.

Exhibit 7-9. CBRR Versus UC: Impact on Length of Baseline Stay in Emergency Shelter

Outcome	CBRR		UC		ITT Impact	Effect Size[a]
	N	Mean (SD)	N	Mean (SD)	Impact (SE)	
Length (in months) of baseline stay in emergency shelter[b]	376	3.2 (4.4)	359	3.8 (4.6)	− 0.5* (0.3)	− 0.11

CBRR = community-based rapid re-housing. UC = usual care.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] The length of baseline stay in emergency shelter outcome includes one-half of the month of random assignment and is topcoded at 18 months. The 19 percent of families in this comparison whose baseline shelter stay does not appear in the Program Usage Data are not included in the analysis.

Notes: Impact estimate and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Appendix B for outcome definition.

Sources: Family Options Study 18-month followup survey; Program Usage Data

7.4 Impacts on Family Preservation in the Community-Based Rapid Re-Housing (CBRR) Versus Usual Care (UC) Comparison

As addressed in Chapter 3, any effects of assignment to CBRR on family preservation would be expected to be indirect, via increases in housing stability, but such effects were not evident. As shown in Exhibit 7-10, no evidence in fact exists of such effects on family separations among children or among spouses or partners who were with the respondent at the time of the baseline survey, nor is there evidence of effects

on reunifications of the much smaller number of family members who were separated from the respondent at that time. No effect was detected on foster care placements.

7.5 Impacts on Adult Well-Being in the Community-Based Rapid Re-Housing (CBRR) Versus Usual Care (UC) Comparison

As addressed in Chapter 3, the theory and goals of the CBRR intervention compared with those of UC do not hypothesize important effects on adult well-being. Consistent with this expectation, Exhibit 7-11 provides no evidence that adults

Exhibit 7-10. CBRR Versus UC: Impacts on Family Preservation

Outcome	CBRR			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Current or recent separations of family members present at baseline									
Family has at least one child separated in past 6 months (%)	448	14.2	(34.8)	445	16.3	(36.2)	– 2.0	(2.5)	– 0.05
Family has at least one foster care placement in past 6 months (%)	449	2.6	(15.5)	446	3.7	(18.0)	– 1.1	(1.3)	– 0.05
Spouse/partner separated in past 6 months, of those with spouse/partner present at RA (%)	119	46.3	(49.9)	122	36.9	(48.9)	9.4	(6.5)	0.17
Reunification of family members reported as separated at baseline									
Family has at least one child reunified, of those families with at least one child absent at RA (%)	82	33.5	(47.7)	90	27.5	(45.0)	6.1	(7.3)	0.12
Spouse/partner reunified, of those with spouse/partner absent at RA (%)	44	33.0	(45.1)	47	33.9	(47.9)	– 0.8	(12.0)	– 0.01

CBRR = community-based rapid re-housing. UC = usual care. ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

Exhibit 7-11. CBRR Versus UC: Impacts on Adult Well-Being

Outcome	CBRR			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Adult physical health									
Health in past 30 days was poor or fair (%)	454	28.5	(45.0)	451	32.3	(46.8)	– 3.8	(3.1)	– 0.07
Adult mental health									
Goal-oriented thinking[b]	452	4.48	(0.97)	449	4.39	(1.07)	0.09	(0.07)	0.07
Psychological distress[c]	454	7.03	(5.23)	450	7.48	(5.74)	– 0.45	(0.37)	– 0.07
Adult trauma symptoms									
Post-traumatic stress disorder (PTSD) symptoms in past 30 days (%)	454	25.3	(42.2)	443	25.3	(43.6)	– 0.1	(3.0)	0.00
Adult substance use									
Alcohol dependence or drug abuse[d] (%)	454	11.3	(31.9)	449	14.4	(34.3)	– 3.1	(2.4)	– 0.08
Alcohol dependence[d] (%)	454	8.6	(28.4)	449	11.5	(31.2)	– 2.9	(2.2)	– 0.08
Drug abuse[d] (%)	455	3.6	(19.0)	449	5.9	(23.4)	– 2.3	(1.5)	– 0.09
Experience of intimate partner violence									
Experienced intimate partner violence in past 6 months (%)	453	11.3	(31.1)	450	12.4	(32.5)	– 1.1	(2.3)	– 0.03

CBRR = community-based rapid re-housing. UC = usual care. ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Goal-oriented thinking, measured with a modified version of the State Hope Scale, ranges from 1 to 6, with higher scores indicating higher levels of positive, goal-oriented thinking.

[c] Psychological distress is measured with the Kessler 6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress.

[d] Alcohol dependence is measured with the Rapid Alcohol Problems Screen (RAPS4), and drug abuse is measured with six items from the Drug Abuse Screening Test (DAST-10).

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

benefited from priority access to this intervention across any of the outcomes measured. In particular, no significant effects appear for adult health (physical or mental), trauma and violence, or substance use and abuse.

7.6 Impacts on Child Well-Being in the Community-Based Rapid Re-Housing (CBRR) Versus Usual Care (UC) Comparison

As addressed in Chapter 3, any effects of priority access to CBRR on child well-being would be expected to be indirect, via increases in housing stability, but such effects were not evident. CBRR has about twice as many significant impacts (in 5 of 26 tests) as would be expected by chance alone, but those impacts do not conform to any pattern, with 2 effects favoring children randomized to CBRR and 3 favoring UC.

As shown in Exhibit 7-12, 3 of 15 cross-age outcomes are significant, but in opposite directions. Families randomized to CBRR reported slightly lower school enrollment (3 percentage points) but also fewer absences (1 in 8 children had one fewer absence in the past month) and slightly better experiences in school (effect size of 0.1). As shown in Exhibit 7-13, 2 of 11 age-specific impacts are significant, both for the older 8- to 17-year-old age group. Children in the CBRR group reported more fears (3 more fears out of 33 rated "a lot" rather than "some").

They also reported lower school effort than children in the UC group (one in five more UC children reported that they did "about as well as they could" rather than that they "could have done a little better"). Although the result for low birth weight appears large, very few children were born in the 18 months after random assignment, so the number of children included in the test is quite small, and the result

Exhibit 7-12. CBRR Versus UC: Impacts on Child Well-Being Across Age Groups

Outcome	CBRR			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Child education									
Preschool or Head Start enrollment[b] (%)	228	40.4	(49.0)	215	33.8	(48.2)	6.5	(5.5)	0.11
School enrollment[c] (%)	422	91.3	(29.0)	414	94.4	(24.3)	− 3.2*	(1.8)	− 0.10
Childcare or school absences in past month[d]	460	0.83	(0.93)	467	0.96	(0.97)	− 0.13*	(0.08)	− 0.10
Number of schools attended since RA[e]	484	1.93	(0.88)	475	1.98	(0.89)	− 0.05	(0.07)	− 0.04
Grade completion (not held back) (%)	393	93.2	(24.4)	395	91.1	(28.5)	2.0	(2.2)	0.05
Positive childcare or school experiences[f]	546	0.64	(0.55)	519	0.57	(0.57)	0.07*	(0.04)	0.10
Positive childcare or school attitudes[g]	543	4.38	(0.98)	518	4.33	(0.99)	0.06	(0.07)	0.04
School grades[h]	351	2.97	(0.97)	353	2.93	(0.96)	0.04	(0.08)	0.03
Childcare or school conduct problems[i]	482	0.21	(0.42)	482	0.26	(0.43)	− 0.05	(0.03)	− 0.09
Child physical health									
Poor or fair health (%)	665	4.6	(21.7)	642	4.7	(21.5)	− 0.1	(1.3)	0.00
Well-child checkup in past year (%)	663	89.5	(29.6)	640	92.4	(27.1)	− 3.0	(2.3)	− 0.08
Child has regular source of health care (%)	665	94.3	(23.2)	639	93.5	(25.3)	0.7	(1.8)	0.02
Sleep problems[j]	663	2.02	(1.07)	639	2.11	(1.12)	− 0.09	(0.07)	− 0.06
Child behavioral strengths and challenges									
Behavior problems[k]	558	0.45	(1.29)	541	0.59	(1.27)	− 0.13	(0.10)	− 0.08
Prosocial behavior[l]	558	− 0.11	(1.08)	544	− 0.16	(1.06)	0.05	(0.08)	0.03

CBRR = community-based rapid re-housing. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Base for preschool or Head Start enrollment is children ages 1 year, 6 months to 5 years.

[c] Base for school enrollment is children ages 6 to 17 years.

[d] Absences outcome is defined as 0 = no absences in past month, 1 = 1 to 2 absences, 2 = 3 to 5 absences, 3 = 6 or more absences.

[e] Number of schools outcome is topcoded at 4 or more schools.

[f] Positive childcare or school experiences outcome is defined as − 1 = mostly negative experiences, 0 = both positive and negative experiences, 1 = mostly positive experiences.

[g] Positive childcare or school attitudes outcome is parent report of how much child likes school and ranges from 1 to 5, with higher values indicating greater like of school.

[h] School grades outcome is defined as 1 = mostly Ds or Fs, 2 = mostly Cs, 3 = mostly Bs, 4 = mostly As.

[i] Childcare or school conduct problems outcome is defined as 0 = no conduct problems reported to parent, 1 = parent contacted about conduct problems or suspension or expulsion from school or childcare center.

[j] Sleep problems outcome ranges from 1 to 5, with higher values indicating more frequent tiredness upon waking and during the day.

[k] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire (SDQ).

[l] Prosocial behavior is measured as the standardized Prosocial domain score from the SDQ.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey (parent report)

Exhibit 7-13. CBRR Versus UC: Impacts on Child Well-Being Developmental Outcomes by Age Group

Outcome	CBRR			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Ages 1 year to 3 years, 6 months									
Met developmental milestones[b] (%)	125	80.9	(40.2)	129	74.6	(40.8)	6.3	(6.6)	0.12
Low birth weight[c] (%)	22	1.9	(21.3)	23	14.1	(28.8)	− 12.3	(10.0)	− 0.34
Ages 3 years, 6 months to 7 years									
Verbal ability[d]	209	− 0.22	(1.02)	177	− 0.18	(0.96)	− 0.05	(0.12)	− 0.03
Math ability[e]	202	− 0.27	(0.83)	173	− 0.27	(0.78)	0.00	(0.10)	0.00
Executive functioning (self-regulation)[f]	178	14.74	(15.83)	165	14.96	(15.90)	− 0.22	(1.32)	− 0.01
Ages 8 to 17 years									
Anxiety[g]	228	35.24	(7.60)	236	34.24	(7.45)	1.01	(0.81)	0.09
Fears[h]	232	65.73	(14.03)	238	62.80	(13.93)	2.93*	(1.50)	0.14
Substance use[i] (%)	226	11.57	(31.44)	232	8.98	(29.36)	2.59	(2.96)	0.07
Goal-oriented thinking[j]	225	22.17	(4.21)	223	22.63	(5.00)	− 0.46	(0.46)	− 0.07
School effort in past month[k]	228	2.61	(0.82)	233	2.82	(0.77)	− 0.20***	(0.08)	− 0.19
Arrests or police involvement in past 6 months[l] (%)	143	9.46	(30.75)	147	13.04	(33.66)	− 3.59	(4.55)	− 0.09

CBRR = community-based rapid re-housing. UC = usual care.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Met developmental milestones outcome is defined as scoring above the typical development cutoffs in all domains of the Ages and Stages Questionnaire (ASQ-3).

[c] Base for low birthweight outcome (parent report) is children born since random assignment who are at least 1 year old at followup.

[d] Verbal ability outcome is the nationally standardized score from the Woodcock-Johnson III (WJ III) letter-word identification scale.

[e] Math ability outcome is the nationally standardized score from the WJ III applied problems test.

[f] Executive functioning outcome is the Head Toes Knees Shoulders (HTKS) score and ranges from 0 to 40, with higher scores indicating greater executive functioning.

[g] Anxiety (child report) is measured using the A-Trait scale from the State-Trait Anxiety Inventory for Children (STAIC). Scores range from 20 to 60, with higher scores indicating greater anxiety.

[h] Fears outcome (child report) is the score from the Fears Scale and ranges from 33 to 99, with higher scores indicating more fear.

[i] Substance use (child report) is measured with 23 items from the Centers for Disease Control and Prevention (CDC) 2011 Youth Risk Behavior Survey.

[j] Goal-oriented thinking (child report) is measured with a modified version of the Children's Hope Scale and ranges from 6 to 30, with higher scores indicating higher levels of positive, goal-oriented thinking.

[k] School effort outcome (child report) ranges from 1 to 4, with higher scores indicating greater effort during school day and on homework.

[l] Arrest or police involvement in past 6 months is from parent report.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey (parent report); Family Options Study 18-month child survey (child report); ASQ-3; WJ III; HTKS

is not statistically significant. Both the small number of significant effects and the fact that they do not consistently favor one group suggest that CBRR had little or no effect on child outcomes relative to UC.

7.7 Impacts on Self-Sufficiency in the Community-Based Rapid Re-Housing (CBRR) Versus Usual Care (UC) Comparison

By increasing housing stability, CBRR may have indirect effects on family self-sufficiency relative to UC. In particular, spending 4 to 6 months in stable housing within families' own communities with a sharply lower burden of housing costs could enable adult family members to concentrate more on employment and earnings and even enhance their

skills through education and training participation. In some CBRR programs, case management guidance and referrals may further enhance efforts at work and access to resources that make families more self-sufficient.

For the 18-month period following assignment to CBRR, 20 indicators tell us whether priority access to CBRR in fact boosts family self-sufficiency compared with UC (see Exhibit 7-14). Effects appear to have occurred for three self-sufficiency outcomes: (1) total family income (increased 12 percent), (2) share of families receiving the Supplemental Nutrition Assistance Program (SNAP; increased by 4 percentage points), and (3) household food insecurity (6 fewer families out of 100). In other self-sufficiency areas, most notably in the subdomains of employment and education and training, the study team found no evidence of impacts of CBRR.

Exhibit 7-14. CBRR Versus UC: Impacts on Self-Sufficiency

Outcome	CBRR			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Employment status									
Work for pay in week before survey (%)	455	34.5	(47.9)	451	34.6	(47.4)	− 0.1	(3.3)	0.00
Any work for pay since RA (%)	455	64.6	(47.4)	450	63.8	(48.3)	0.8	(3.1)	0.01
Months worked for pay since RA[b]	452	7.8	(8.0)	440	7.1	(7.7)	0.7	(0.5)	0.09
Hours of work per week at current main job[c]	454	11.2	(16.6)	450	10.8	(16.0)	0.4	(1.1)	0.02
Income sources and amounts									
Annualized current earnings ($)	445	5,663	(9,638)	438	5,364	(9,625)	300	(640)	0.03
Total family income ($)	434	10,201	(7,704)	439	9,073	(8,010)	1,128**	(505)	0.13
Anyone in family had earnings in past month (%)	455	45.6	(49.9)	450	43.1	(49.5)	2.5	(3.4)	0.04
Anyone in family received TANF in past month (%)	455	31.6	(46.9)	451	27.9	(45.2)	3.7	(3.0)	0.07
Anyone in family received SSDI in past month (%)	455	7.4	(25.6)	451	7.9	(27.8)	− 0.5	(1.7)	− 0.02
Anyone in family received SSI in past month (%)	455	15.2	(35.3)	450	12.7	(34.0)	2.5	(2.1)	0.06
Anyone in family received SNAP/food stamps in past month (%)	455	86.8	(33.6)	451	82.5	(37.9)	4.4*	(2.5)	0.10
Anyone in family received WIC in past month (%)	455	30.8	(46.4)	451	31.6	(46.2)	− 0.7	(3.1)	− 0.01
Education and training									
Participated in 2 weeks or more of any school or training since RA (%)	454	27.4	(45.0)	450	25.0	(42.8)	2.4	(3.0)	0.05
Number of weeks in school or training programs since RA	450	3.9	(10.1)	445	3.7	(9.2)	0.2	(0.8)	0.02
Participated in 2 weeks or more of school since RA (%)	454	5.6	(22.8)	450	7.3	(25.0)	− 1.6	(1.6)	− 0.05
Participated in 2 weeks or more of basic education since RA (%)	454	1.7	(14.0)	450	1.4	(12.4)	0.2	(0.8)	0.02
Participated in 2 weeks or more of vocational education since RA (%)	454	6.6	(25.6)	450	7.7	(25.7)	− 1.1	(1.8)	− 0.04
Food security and hunger									
Household is food insecure (%)	455	29.1	(45.1)	451	35.2	(47.8)	− 6.1*	(3.3)	− 0.11
Food insecurity scale[d]	453	1.50	(1.97)	448	1.71	(2.06)	− 0.21	(0.14)	− 0.09
Economic stressors									
Economic stress scale[e]	454	− 0.12	(0.49)	446	− 0.06	(0.52)	− 0.05	(0.03)	− 0.09

CBRR = community-based rapid re-housing. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error. SNAP = Supplemental Nutrition Assistance Program. SSDI = Social Security Disability Insurance. SSI = Supplemental Security Income. TANF = Temporary Assistance for Needy Families. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Number of months worked for pay includes partial calendar months.

[c] Hours of work per week includes those not currently working (that is, those with 0 hours of work per week).

[d] Food insecurity scale ranges from 0 to 6, with higher values indicating higher food insecurity.

[e] Economic stress scale ranges from − 1 to 1, with higher values indicating higher economic stress.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

7.8 Summary of the Community-Based Rapid Re-Housing (CBRR) Versus Usual Care (UC) Comparison Across Domains

In the CBRR-versus-UC comparison, 60 percent of families assigned to CBRR and 20 percent of families assigned to UC received CBRR. This contrast in program use did not lead to notable differences in experiences between the CBRR and UC families. The vast majority of the evidence—involving dozens of outcomes in five domains—suggests equivalent results for housing stability, family preservation, and adult and child well-being with or without privileged access to CBRR after 7 days in shelter.

Assignment to CBRR may have had some consequences for children, but the indications to this effect are limited and mixed in direction. Also, priority access to CBRR may have improved family income (annual income for CBRR families was $1,128 higher than for UC families) and food security during the followup period and may have increased the likelihood of receiving SNAP, although these results could be spurious among many self-sufficiency indicators examined. Most strikingly, relative to UC, the study team did not find evidence that priority access to CBRR affected housing stability over the followup period. The reason for the lack of effects on the outcomes that CBRR is intended to affect directly is unclear. Higher participation in other homeless and housing assistance programs among UC families may have diminished the impact of CBRR. Chapter 9 reports on how CBRR compares to the other two active interventions, SUB and PBTH.

CHAPTER 8.

IMPACTS OF PROJECT-BASED TRANSITIONAL HOUSING (PBTH) COMPARED WITH USUAL CARE (UC)

This chapter presents estimates of the impact of the project-based transitional housing (PBTH) intervention compared with outcomes of families served by the usual care (UC) homeless assistance systems in their communities. The goal is to determine whether offering priority access to a unit in a PBTH program increases families' housing stability and improves other family outcomes during a 20-month followup interval. The chapter begins with a description of the PBTH intervention as implemented in the study. It then shows the extent to which families in both the PBTH and UC groups used transitional housing and other housing and service programs available to them in the study sites. The next five sections present the effects of being offered the PBTH intervention (as compared with UC) on outcomes within the five study domains—housing stability, family preservation, adult well-being, child well-being, and self-sufficiency.

8.1 Project-Based Transitional Housing (PBTH) Intervention

The PBTH intervention provides a place for families to stay for a finite period of time during which they are provided a wide array of services that include case management and either direct provision of or referral to services identified through an assessment of family needs. PBTH was offered to study families in all of the sites except one.[102] In total, 368 families were randomly assigned to this intervention (ranging from 4 in Minneapolis, Minnesota, to 66 in Honolulu, Hawaii) and referred to 46 different PBTH programs.[103] Of these 368 families, 294 (80 percent) responded to the 18-month followup survey and so are included in the impact analysis in this report.

The objectives of transitional housing are to prepare families for permanent housing by providing case management and

other services that help overcome barriers to housing stability and to address other psychosocial needs that the family may have. For this study, the team selected transitional housing programs that provide housing primarily in "project-based" facilities or housing units. The study's definition specified that PBTH does not allow for families to "transition in place" in private-market apartments or single-family homes, taking over responsibility for the housing unit's lease toward or at the end of the program of transitional assistance. The study excluded transition-in-place programs in order to generate a strong contrast between PBTH and community-based rapid re-housing (CBRR), which also is time limited and uses scattered-site housing units in which the family can stay and pay the rent at the end of the CBRR program. The few programs to which study families were referred that offer scattered-site transitional housing require families to relocate to other housing at program completion.

PBTH programs often receive funding from federal Supportive Housing Program (SHP) grants, which results in some consistency across PBTH programs. For instance, the SHP grant limits transitional housing assistance to 24 months, funds a broad range of supportive services, and sets parameters for the way in which programs must calculate participant rent contributions when they choose to require them. Not all the PBTH programs in the study receive funding from SHP grants, however. Most have a wide range of funding sources, including private foundation grants and local fundraising proceeds. Some programs are faith based, and many of those programs are completely privately funded.

All PBTH programs in the study provide only temporary housing assistance. The study team allowed any time limit on tenure but specifically sought programs that offered at least 6 months of assistance. Nearly all programs provided a maximum of 24 months of assistance. Programs offering

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[102] PBTH was not offered in Boston, Massachusetts. Also, PBTH was very limited in Minneapolis, Minnesota, with only four families randomly assigned to PBTH.

[103] Much of the information describing PBTH in this section is based on the 30 PBTH programs that provided program data. These 30 programs represent 293 of the total 368 PBTH referrals. More detail about specific PBTH programs is provided in Gubits et al. (2013), Appendixes A and B.

referrals to permanent housing assistance at the end of the transitional housing period were included in the PBTH intervention for the study, but not programs that guaranteed permanent assistance.

8.1.1 Housing Assistance in PBTH

PBTH programs offered a place to stay and receive services in varied physical environments. As shown in Exhibit 8-1, nearly three-fourths of families were referred to PBTH programs that provided families with individual apartments (or occasionally single-family houses) during their participation in the program. One-fourth were referred to programs that provided private sleeping rooms but shared kitchens or bathrooms.

Family Payments and Savings Requirements in PBTH

Most families (92 percent) were referred to PBTH programs that required a program fee or rent contribution from program participants, based on 30 percent of their income (80 percent of programs that charged a fee) or other factors such as family or unit size (20 percent of programs that charged

a fee; see Exhibit 8-2). More than one-half of the families were referred to PBTH programs that required them to save money while in the program.

Families in PBTH usually ate their meals independently while enrolled in the program; 74 percent of families referred to PBTH programs were responsible for providing their own food while living in PBTH. The agency provided food in three programs (representing 10 percent of referred PBTH families) for which the programs' facilities were former hotels where families did not have private kitchen facilities, and 16 percent of families assigned to PBTH were referred to programs that provided some but not all of the families' food. Some agencies commented that, if families were responsible for at least one meal per day, they would be eligible for Supplemental Nutrition Assistance Program (SNAP) benefits.

8.1.2 Assessment of Family Needs in PBTH

All PBTH programs indicated that the program conducted a formal assessment of study families at the beginning of the program.[104] Program staff reported that the assessments

Exhibit 8-1. PBTH Housing Settings

Type of PBTH	Percent of Families Assigned to PBTH Programs With Housing Units of This Type (N = 293)[a]
Separate apartment with private kitchen and bathroom	73
Private sleeping room but shared kitchen, bathroom, or both	27

PBTH = project-based transitional housing.
[a] Program data were not collected from 16 programs that collectively had 75 PBTH family referrals.
Note: Percentages are unweighted.
Sources: Program data; random assignment records

Exhibit 8-2. Family Rent Contributions and Savings Requirements in PBTH

PBTH Program Features	Percent of Families Referred to PBTH Programs With These Characteristics (N = 293)[a]
Are families required to pay a program fee or rent?	
Yes	92
No	8
(If yes) How is the program fee or rent determined?	
Percentage of income	80
Flat amount based on family or unit size	20
Does the program require families to save money while in the program?	
Yes	55
No	45
Who is responsible for food for participating families?	
Families provide own food	74
Program provides food	10
Both	16

PBTH = project-based transitional housing.
[a] Program data were not collected from 16 programs that collectively had 75 PBTH family referrals.
Note: Percentages are unweighted.
Sources: Program data; random assignment records

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[104] As part of program data collection, the study team asked program staff whether they conducted an assessment of families, when it occurred, which domains were addressed as part of the assessment, whether a standardized tool was used to ensure that assessments were conducted and reported systematically across program staff, and the extent to which assessments resulted in goal setting and service plans for family members.

covered a broad range of topics, exploring family needs related to housing; self-sufficiency; employment; physical health, mental health, and substance abuse; child-specific needs; parenting; and family life skills. A few programs included other assessment domains such as domestic violence, trauma, debt burden, and cultural needs, but these domains were not widespread areas of assessment. The assessments all resulted in a formal service plan (or equivalent) with goals for the adults in the household, designed to help families address their needs. Fifty-eight percent of families were referred to programs that developed goals specifically for the children.

8.1.3 Supportive Services Provided in PBTH

Participating PBTH programs provided comprehensive case management and provided many supportive services directly, in some cases making referrals to other programs that committed to providing the service. Although all PBTH programs focused on ending a family's homelessness through placement in permanent housing, more than 90 percent of families were referred to PBTH programs that also provided services related to self-sufficiency (for example, financial management, or help obtaining public benefits) and to employment and training. Exhibit 8-3 shows the wide array of services offered in PBTH programs and the extent to which the service was provided through case management, by other program or agency staff beyond the case manager, or through a formal arrangement with an external agency that guaranteed the family's access to the service because of PBTH enrollment. The second column

of the exhibit shows the percentage of families referred to programs that offered each type of service. The subsequent columns report the percentage of families referred to programs that provided the service as part of case management or in other ways. In some cases, addressing a service through case management meant providing direct assistance by the case managers, whereas in other cases addressing a service through case management meant that the case managers provided referrals to other programs, advocated on behalf of the family to access the service, helped remove barriers to receiving the service, or coached and supported a family in their attempts to obtain the service.

In addition to the nearly universal focus on self-sufficiency and employment and training services, more than 75 percent of PBTH families were referred to programs that provided services to address life skills, mental health care, parenting needs, and physical health care. About two-thirds of PBTH families were referred to programs that provided child advocacy and care related to substance abuse.

Case Management Intensity in PBTH

PBTH programs considered case management a core part of the intervention. PBTH providers often described the central focus of their programs as case management rather than providing families with a place to stay. The average case management ratio for PBTH programs was 20 families per PBTH case manager.[105] Exhibit 8-4 shows that nearly three-fifths of families were referred to programs in which

Exhibit 8-3. Types of Supportive Services Offered in PBTH Programs and How They Are Delivered

Types of Supportive Services	Percent of Families Referred to PBTH Programs That Offer These Services (N = 293)[a]	Percent of Families Referred to PBTH Programs That Offer Services of This Type		
		Through Case Management	By Other Program or Agency Staff	Through Dedicated Linkages With Other Agencies
Housing search and placement assistance	100%	100%	16%	4%
Self-sufficiency (overall)	92	92	NA	NA
Childcare/after-school care	—	—	24	13
Financial literacy/money management	—	—	8	14
Help obtaining public benefits	—	—	3	2
Transportation	—	—	0	0
Employment and training	92	88	14	13
Life skills	82	82	10	2
Mental health care	82	82	19	5
Parenting skills	82	75	14	9
Physical health care	81	77	6	12
Child advocacy	67	67	0	0
Substance abuse	62	58	9	5
Family reunification	29	23	5	0

PBTH = project-based transitional housing.
NA = data not available.
[a] Program data were not collected from 16 programs that collectively had 75 PBTH family referrals.
Note: Percentages are unweighted.
Sources: Program data; random assignment records

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[105] See Chapter 7, footnote 5, for how the case management ratio is measured.

Exhibit 8-4. PBTH Case Management Intensity (ratio and frequency)

Average Number of Clients per Case Manager	Percentage of Families Referred to PBTH Programs That Offer Case Management in Each of the Following Packages (N = 285)[a]				Total
	Weekly or More Often	Biweekly	Monthly	Quarterly	
10 or fewer Clients	13	0	0	0	13
11 to 20 clients	42	3	0	0	45
21 to 30 clients	15	6	7	0	28
More than 30 clients	6	8	0	0	14
Total	76	17	7	0	100

PBTH = project-based transitional housing.

[a] Program data on client ratios were not collected from 17 programs that collectively had 83 PBTH family referrals.

Note: Percentages are unweighted.

Sources: Program data; random assignment records

a case manager worked with 20 or fewer families at a time and met with families weekly if not more often. The other two-fifths were referred to programs with lower intensity case management, in which case managers had active caseloads of more than 20 families but generally fewer than 30. These programs still often met with families weekly, although some met only biweekly or monthly. Intensity can also be measured by the amount of time that case managers spent with families at each visit. Reported visit times varied from 15 to 90 minutes, with programs reporting 1-hour case management sessions most frequently.[106] The PBTH case management ratios were higher and the frequency of meetings was lower than for the UC shelters from which families were recruited for the study, probably reflecting the relatively longer period of time that PBTH programs expected to be working with families.

Case management was often offered for up to 6 months after families moved out of the PBTH program, but program staff generally indicated that postexit supportive contact was initiated by families. These programs said that they maintained an open-door policy for families to contact them if desired but that case managers did not initiate continued regular contact with families.

8.1.4 Eligibility Criteria for PBTH

Many of the PBTH programs established eligibility criteria to limit admissions to the types of families they deemed appropriate for PBTH assistance. PBTH programs were fairly restrictive in terms of which types of families they targeted. As part of recruiting families for this study, the study team

screened candidates to see which program they would qualify for, based on eligibility criteria provided by the participating programs and questions asked of the families in the study's baseline survey.[107] Of the 1,564 families considered for random assignment to an available PBTH unit, nearly three-fourths were screened for sobriety or willingness to engage in substance abuse treatment. More than two-thirds of families considered for PBTH were screened for minimum incomes or employment.[108]

In addition to screening related to family behavior and employment, slightly more than one-half of the families screened for PBTH were asked questions to determine whether their households were the correct size for the available transitional housing unit. Unit size criteria were an artifact of the project-based nature of PBTH. For example, if a two-bedroom unit was available, a family had to have the right number of people and right mix of ages and genders to be considered for the unit to avoid overcrowding or underuse. Family composition criteria limited enrollment for families based on the types of people who were part of their household. For instance, some programs excluded adult males, male children older than age 13, or any children of either gender older than a certain age. Family composition criteria sometimes reflected the challenges of housing families in congregate settings and sometimes reflected program goals and design.

On the basis of this screening, only 77 percent of study families were eligible for random assignment to PBTH. After random assignment, 18 percent of those referred to PBTH programs were screened out by programs as ineligible despite

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[106] Additional details about each program's case management are shown in Gubits et al. (2013), Appendix B-5.

[107] The major categories of screening questions and their relative use in screening study families for available PBTH, CBRR, and permanent housing subsidy (SUB) openings are shown in Gubits et al. (2013), Exhibit 2-11.

[108] Many PBTH programs (with 68 percent of families referred) required families to have sufficient income to be able to pay their own rent in coming months. The programs thus asked the study team to limit referrals to families who indicated (in responses to screening questions) having some type of income, participating in Temporary Assistance for Needy Families (TANF), or being willing and able to obtain employment shortly after enrolling in the program.

the previous screening by the research team. Families screened out at baseline are not included in the study sample, but those determined ineligible after random assignment are. Those families determined ineligible by programs must be included in the impact estimates to preserve the comparability of the PBTH and UC families—that is, some of the UC families might also have been found ineligible by programs had they been assigned to PBTH.

8.1.5 Program Rules in PBTH

After they were enrolled in a PBTH program, families remained eligible for assistance (up to the maximum length of stay) as long as they complied with program rules. As shown in Exhibit 8-5, 52 percent of PBTH families were referred to programs that imposed curfews, and 42 percent of PBTH families were referred to programs that limited overnight visitors, even though most PBTH is provided in private apartment settings.[109] Eighty-seven percent of families were referred to programs that required participation in services or activities in order to remain in the program. For instance, PBTH programs often required participants to work with a case manager to develop goals and to identify and pursue actions needed to achieve them. Some programs also required participation in services such as a money management class, substance abuse assessment, or group counseling sessions.

8.2 Program Use by Families in the Project-Based Transitional Housing (PBTH) Versus Usual Care (UC) Comparison

Each impact comparison in the study may be thought of as a distinct experiment or test, and this chapter addresses only the comparison between PBTH and UC, without reference to the families who were randomized to the permanent housing subsidy (SUB) or community-based rapid re-housing (CBRR) interventions. In total, 707 families took part in the test of PBTH versus UC. These families all had the opportunity to be assigned to PBTH or UC at the point of random assignment and were assigned to one of these two interventions—368 families to PBTH and 339 families to UC.[110] Seventy-nine percent of these 707 families (294 PBTH families and 262 UC families) responded to the 18-month followup survey, and thus a total of 556 families are included in the PBTH-versus-UC impact comparison reported in this chapter. This section describes the extent to which the 294 PBTH families used transitional housing and other types of homeless and housing assistance during the followup period. Parallel information is presented for the 262 UC families. The data on program use do not distinguish between subtypes of transitional housing and include transition-in-place assistance, so this section uses the abbreviation "TH" rather than PBTH to describe the broader category of assistance.

Exhibit 8-5. Types of Program Rules in PBTH

Types of Program Rules	Percent of Families Referred to PBTH Programs With These Types of Rules (N = 293)[a]
Weekday curfew	52
Weekend curfew	10
Limit on daytime visitors	9
Limit on overnight visitors	42
Compliance with mandatory service requirements	87

PBTH = project-based transitional housing.

[a] Program data on client ratios were not collected from 17 programs that collectively had 83 PBTH family referrals.

Note: Percentages are unweighted.

Sources: Program data; random assignment records

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[109] The percentages of study emergency shelters with these types of rules are shown in Gubits et al. (2013), Exhibit 2-19. In general, study emergency shelters were more likely to have these types of rules than study PBTH programs. Most UC families had weekday curfews (93 percent), limits on daytime visitors (70 percent), and limits on overnight visitors (96 percent) in the study shelters from which they enrolled in the study.

[110] In the entire study, 746 families were randomly assigned to UC, but only 339 of these families had PBTH available to them when they were randomized. Therefore, only these 339 UC families are part of the PBTH-versus-UC comparison sample. All 368 families randomly assigned to PBTH during the course of the study had UC available to them, so all are part of the PBTH-versus-UC comparison sample.

Exhibit 8-6 shows the use of seven types of homeless and housing programs by these families. The first column shows the percentage of families assigned to PBTH who ever used each program type during the followup period.[111] The third row (shaded in the exhibit) shows the use of some type of TH by the families assigned to PBTH; 53.6 percent of families in PBTH received TH assistance at some point during the followup period—meaning that they either followed up on the referral and moved into the PBTH facility or entered another TH program.[112, 113]

The second column shows the percentage of families assigned to UC who ever used each program type during the followup period.[114] The shaded row of the second column shows that 29.1 percent of the UC families received TH assistance during the followup period, despite not being given priority access to PBTH. Emergency shelter staff were requested by the study to not refer families assigned to UC to one of the active interventions. Nevertheless, as shown in the exhibit,

families were able to learn about transitional housing programs in their communities, and these programs had program slots available at some point during the followup period.

Rows 1, 2, and 4 through 7 of the exhibit show participation in other types of homeless and housing programs. Twenty-five percent of these UC families (not shown in the exhibit) found their way to SUB or other permanent housing programs during the followup period, presumably through the regular process of coming off waiting lists and leasing units, and 12 percent found their way to rapid re-housing assistance, despite the lack of preferential access to those programs through the study. The use of programs other than TH is generally higher for the UC group than for the PBTH group, presumably because the UC group did not have the PBTH intervention easily available and so turned to other types of programs. The eighth row shows the percentages of families in the PBTH and UC groups who used none of the seven

Exhibit 8-6. PBTH Versus UC: Program Use Since Random Assignment

Type of Housing Assistance	Percent Ever Used From RA to 18-Month Followup Survey[a]		Number of Months Used From RA to 18-Month Followup Survey, if Ever Used Type of Housing Assistance				Percent Used in Month of Followup Survey Response	
	PBTH	**UC**	**PBTH**		**UC**		**PBTH**	**UC**
			Mean	**Median**	**Mean**	**Median**		
Subsidy (SUB)[b]	5.7	6.9	9.4	8.5	12.0	9.5	4.6	5.7
Rapid re-housing (CBRR)	10.1	12.2	7.6	5.5	6.4	4.5	2.2	2.1
Transitional housing[c]	53.6	29.1	11.5	11.5	8.4	6.0	21.7	9.8
Permanent supportive housing	6.4	7.8	9.2	8.5	9.1	7.5	3.9	5.6
Public housing	4.7	4.9	9.8	10.5	10.6	11.5	4.1	4.2
Project-based vouchers/Section 8 projects	4.4	7.0	10.8	12.5	15.2	15.5	3.4	6.3
Emergency shelter[d]	82.9	88.4	3.3	2.0	4.2	2.3	4.7	9.5
No use of homeless or housing programs[e]	20.4	30.4	19.0	18.0	19.6	19.0	56.7	57.4
N	**294**	**262**	**—**	**—**	**—**	**—**	**294**	**262**

PBTH = project-based transitional housing. UC = usual care.

RA = random assignment.

[a] Percentage of families who ever used a type of assistance program during the period from the month of RA to the month of the 18-month followup survey response (median period duration: 21 months). Percentages do not add to 100 because some families used more than one program type during the followup period.

[b] Subsidy assistance is housing choice vouchers plus site-specific programs offered to families assigned to the permanent housing subsidy (SUB) group in Bridgeport, Connecticut and Honolulu, Hawaii.

[c] Includes use of project-based, scattered-site, and transition-in-place transitional housing. The inclusion of transition-in-place assistance makes this category broader than the study-defined PBTH intervention.

[d] All families were in emergency shelter at random assignment. Percentages less than 100 percent for ever used emergency shelter are due to missing data on shelter use.

[e] No use of homeless or housing programs (ever used) indicates no use of the seven program types in this table during any of the followup period and no use of emergency shelter after the first 6 months after RA. No use in the month of the followup survey response indicates no use of any of these seven program types.

Notes: Percentages are regression adjusted, controlling for site and randomization ratio. Percentages, means, and medians are weighted for survey nonresponse to represent full comparison sample.

Source: Family Options Study Program Usage Data

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[111] The followup period is from the calendar month of random assignment through the calendar month of response to the 18-month followup survey. Therefore, the length of the followup period differs across families. This period lasts for a median of 21 calendar months for the full sample.

[112] All percentages, means, and medians in the exhibit are weighted to adjust for survey nonresponse and hence as best possible represent the full experimental sample of 707 families. The findings here on program use are thus in line with similarly weighted impact estimates provided later in the chapter.

[113] The unweighted number of PBTH families who used TH during the followup period is 159 families. Of these, 92 families were confirmed by enrollment verification to have used the program to which they were referred by the study. It is not known how many of the other 67 families received PBTH or some other form of TH.

[114] The percentages in the first six rows of these columns are not mutually exclusive because some families use more than one program type during the followup period.

types of programs during the followup period, nor used emergency shelter from the seventh month after random assignment onward. About 20 percent of PBTH families and 30 percent of UC families fall into this group.

The mean and median number of months of use for each program type are also shown in the exhibit (third and fourth columns for PBTH families, fifth and sixth columns for UC families) for *only those families who ever used a given program type*.[115] As one might expect, given that TH was readily available to PBTH families, the number of months of TH use is higher for the families who had priority access to PBTH (median of 12 months) than for the 29.1 percent of UC families who found their way to TH (median of 6 months) at some point during the followup period.

The last two columns of Exhibit 8-6 show the percentages of PBTH and UC families who received each type of program in the calendar month of the followup survey response. Although the study team expects most outcomes in the report to be influenced by assistance received during the entire followup period, some outcomes will be particularly strongly influenced by assistance received at the time of followup survey response. The shaded row of the seventh column shows that the TH assistance had ended for about 60 percent of the PBTH families who ever received it and for 66 percent of the UC families who ever received it.[116] About one-fifth (22 percent) of PBTH families were still in TH in the month of followup survey response compared with one-tenth of UC families. The majority of both PBTH and UC families (57 percent each) were not using a homeless or housing program at the time they responded to the followup survey. Thus, substantial differences are expected not in outcomes of PBTH and UC families in areas that reflect the families' current experience, but only in those that reflect a lasting influence of families having received the intensive case management and services provided by PBTH.

As Exhibit 8-6 makes clear, the PBTH families used a range of programs in addition to the program to which they were referred by the study, which is consistent with the design of the study. Families were not required to use the intervention

to which they were assigned and also were not forbidden from using other programs that were available to them in their community. The intent of the study was to maximize use of the assigned active intervention (in this case, maximize use of the PBTH intervention by the PBTH families) and to create the largest possible contrast between the program mixes of different assignment groups (in this case, PBTH versus UC). As shown in the exhibit, the use of PBTH was quite different for the PBTH and UC groups. The contrast in usage of TH—53.6 percent for PBTH families and 29.1 percent for UC families—is sizable, although smaller than the analogous contrast in either the SUB-versus-UC or CBRR-versus-UC comparisons.

As is conventional in random assignment analyses, our goal is to estimate the intention-to-treat (ITT) impact—that is, the difference in impact by the program to which families were assigned, regardless of whether they actually used that program (or some other program). This goal is consistent with the policy option of making a treatment available to a family, but without the ability to force a family to use that treatment.

Because not all families randomly assigned to PBTH *used* TH, and some families assigned to UC *did use* TH, the true ITT impact is likely smaller than it would have been had the gap in TH usage been wider (assuming that TH truly has a nonzero impact on families who use it). In particular, the difference in the use of TH by the PBTH and UC groups is narrow enough, given the relatively small sample size available for analysis, that the study may have failed to detect as statistically significant one or more ITT impacts large enough to be of policy importance.

Additional detail about the use of TH assistance by PBTH families is shown in Exhibit 8-7. The exhibit shows that about one-fifth (21 percent) of PBTH families who used TH did so for 18 or more months.

The remainder of the chapter reports estimated impacts in the various outcome domains that—if statistically significant—can be causally attributed to the offer of project-based transitional housing to the families randomly assigned to PBTH.

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[115] Hence, 0 values are not factored into the means, nor do they pull downward the medians of the various distributions.

[116] Because 21.7 percent of PBTH families were still using TH in the followup survey month, and 53.6 percent had used TH at some point during the followup period, it can be calculated that $1 - (21.7/53.6) = 59.5$ percent of PBTH families who used TH at some point had stopped using it by the survey month. A similar calculation, $1 - (9.8/29.1)$, yields 66.3 percent for UC families.

Exhibit 8-7. Number of Months of Transitional Housing Receipt During Followup Period by PBTH Families Who Ever Used TH
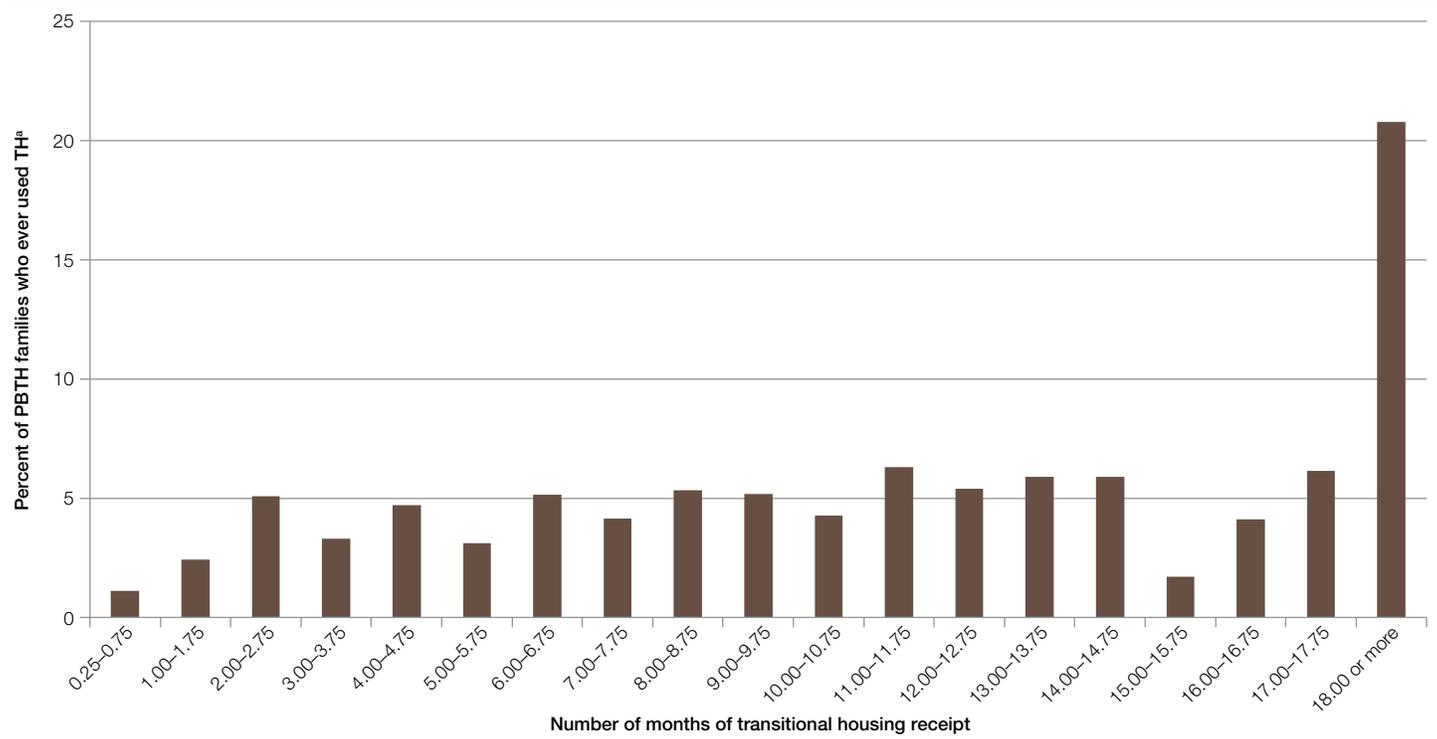
PBTH = project-based transitional housing. TH = transitional housing.

[a] Percentages are weighted for survey nonresponse to represent all families in comparison sample.

Note: N = 159.

Source: Family Options Study Program Usage Data

8.3 Impacts on Housing Stability in the Project-Based Transitional Housing (PBTH) Versus Usual Care (UC) Comparison

Proponents of PBTH emphasize that most families who become homeless have barriers that make it hard for them to secure and maintain housing, as Chapter 3 addresses. Thus, housing subsidies alone may be insufficient to ensure housing stability and other desirable outcomes. Family needs may arise from poverty, health, disability, or other problems that led to homelessness to begin with or from the disruptive effects of homelessness on parents and children. Proponents of PBTH believe that by addressing these barriers and needs in a supervised residential setting, PBTH lays the best foundation for ongoing stability. The PBTH-versus-UC comparison offers evidence on whether this approach is effective in the

short term in improving family outcomes. It is important to keep in mind that the followup period covered in this report is not quite long enough to observe the effect of PBTH after program completion. About one-fifth of PBTH families (and one-tenth of UC families) were still in TH in the month of followup response.

Exhibit 8-8 shows the impacts of the offer of PBTH on homelessness, housing independence, residential moves, and housing quality.[117] The first row of the exhibit shows the impact on the confirmatory outcome of the study (homeless or doubled up in the past 6 months, or stay in emergency shelter in the past 12 months). The impact estimate indicates that PBTH causes a 7.7-percentage-point reduction on the confirmatory outcome (from about 52 to 44 percent). This estimate is statistically significant at the .10 level before the adjustment for multiple comparisons but is not statistically significant after adjustment.[118]

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[117] The homeless outcomes in this study diverge from the homeless definition final rule in that they do not include stays in transitional housing in their definitions of being homeless. Additional impacts on the use of transitional housing during the followup period are provided in Appendix E.

[118] The study estimates impacts on this confirmatory outcome for each of the six paired comparisons and four pooled comparisons. Seven of these estimates have been prespecified as "confirmatory tests." A multiple comparison procedure is performed to compute adjusted *p*-values for these tests to reduce the possibility of chance findings of statistical significance. The details of this procedure are provided in Appendix C.

Exhibit 8-8. PBTH Versus UC: Impacts on Housing Stability

Outcome	PBTH			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Homeless or doubled up during the followup period									
At least 1 night homeless[b] or doubled up in past 6 months or in shelter in past 12 months (%) **[Confirmatory]**[c]	294	44.3	(49.9)	262	52.0	(50.1)	− 7.7*[b]	(4.4)	− 0.14
At least 1 night homeless[b] or doubled up in past 6 months (%)	294	37.2	(48.8)	262	41.8	(49.1)	− 4.6	(4.3)	− 0.08
At least 1 night homeless[b] in past 6 months (%)	294	18.0	(39.1)	262	25.3	(43.0)	− 7.3*	(3.7)	− 0.15
At least 1 night doubled up in past 6 months (%)	294	32.3	(47.5)	262	32.4	(46.3)	− 0.1	(4.1)	0.00
Any stay in emergency shelter in months 7 to 18 after RA (%)	294	18.9	(38.8)	262	27.1	(44.9)	− 8.2**	(3.6)	− 0.16
Number of days homeless[b] or doubled up in past 6 months	293	45.3	(71.0)	262	54.1	(75.1)	− 8.7	(6.7)	− 0.10
Number of days homeless[b] in past 6 months	291	15.5	(41.8)	261	23.2	(50.5)	− 7.7	(4.7)	− 0.14
Number of days doubled up in past 6 months	294	36.5	(65.5)	262	36.4	(64.4)	0.1	(5.8)	0.00
Housing independence									
Living in own house or apartment at followup (%)	252	57.5	(49.6)	262	61.2	(49.0)	− 3.6	(4.7)	− 0.06
Living in own house or apartment with no housing assistance (%)	252	40.0	(49.3)	262	39.9	(48.1)	0.0	(4.6)	0.00
Living in own house or apartment with housing assistance (%)	252	17.6	(36.6)	262	21.3	(43.0)	− 3.7	(3.7)	− 0.08
Number of places lived									
Number of places lived in past 6 months	293	1.7	(1.1)	261	1.8	(1.2)	− 0.1	(0.1)	− 0.07
Housing quality									
Persons per room	290	1.7	(1.2)	250	1.9	(1.2)	− 0.2	(0.1)	− 0.11
Housing quality is poor or fair (%)	292	37.1	(48.7)	259	35.4	(47.3)	1.7	(4.4)	0.03

PBTH = project-based transitional housing. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] The definition of *homeless* in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing. Additional impacts on the use of transitional housing in the followup period are provided in Appendix E.

[c] After adjustment for multiple comparisons, the impact on the confirmatory outcome is not statistically significant at the .10 level for the PBTH-versus-UC comparison.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey; Program Usage Data

Two other homelessness outcomes show effects of PBTH relative to UC: (1) a 7.3-percentage-point reduction in experience of homelessness in the past 6 months, and (2) an 8.2-percentage-point reduction in use of emergency shelter in months 7 to 18 after random assignment. The evidence of reductions in homelessness from two different data sources (the followup survey and the Program Usage Data, the latter of which reflects primarily Homeless Management Information System [HMIS] records) strengthens the finding that PBTH reduced homeless stays in shelters or places not meant for human habitation, even if not by an amount large enough to remain statistically significant after the multiple comparisons adjustment. PBTH appears to have no effect relative to UC on the experience of being doubled up or the time spent doubled up in the 6 months before the survey response.

Exhibit 8-9 shows the month-by-month impacts on the proportion of families with at least 1 night in emergency shelter

during the month. This exhibit illustrates that a somewhat lower proportion of the PBTH group is in emergency shelter during the followup period as compared with the UC group.[119]

The last six rows of Exhibit 8-8 show that, relative to UC, PBTH has no effect on the proportion of families living in their own house or apartment (with or without assistance), no effect on number of moves, and no effect on housing quality.

It may be that these relatively modest effects of priority access to PBTH on housing stability result in part from the relatively low use of transitional housing among the PBTH assignment group. The gain to the 53.6 percent of families assigned to PBTH who used transitional housing TH assistance may have been "watered down" by weaker outcomes among the 46.4 percent who did not use it. To check this hypothetical possibility, Exhibit 8-10 compares the outcomes of families assigned to PBTH who never took up TH with the corresponding outcomes for PBTH-assigned families who did use TH.

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[119] Statistically significant differences appear in 6 of the 18 months. The difference in month 2 is statistically significant at the .01 level; differences in months 4, 6, 12, and 13 are statistically significant at the .05 level; and the difference in month 17 is statistically significant at the .10 level. Because of missing data on baseline stays, less than 100 percent of all PBTH and UC families are observed in shelter during month 0 (the month of random assignment). The difference in the month 0 (significant at the .10 level) should be considered a chance difference. The difference in unobserved initial shelter stays should be increasingly unrelated to differences observed later in the followup period (as the initial shelter stays that are unobserved in the data become increasingly likely to have ended as time elapses in the followup period).

Exhibit 8-9. PBTH Versus UC: Percent of Families With at Least 1 Night Stay in Emergency Shelter During Month, by Month After RA

PBTH = project-based transitional housing. UC = usual care.
RA = random assignment.
Notes: Percentages are weighted for survey nonresponse to represent all UC families in the study. Missing data on emergency shelter stays biases the percentages somewhat downward. The baseline stay in emergency shelter does not appear in the data for 18.7 percent of UC respondent families. The missing data rate for subsequent stays in emergency shelter is unknown.
Source: Family Options Study Program Usage Data

For some of the outcomes in Exhibit 8-10—including the percentage who reported at least 1 night in shelter or a place not meant for human habitation or doubled up in the 6 months prior to the survey, number of days homeless in the past 6 months, and number of places lived in the past 6 months—results were indeed better for users of TH than for nonusers, raising the possibility that nonuse of TH could have dampened effects on these outcomes. For living in own house or apartment at followup, however, results were similar between the two groups. These results collectively indicate that the incidence of homelessness within the PBTH group was not mainly confined to those families who never used TH. This finding makes it less plausible that the impacts of PBTH would have been substantially larger had a much wider contrast emerged in the use of TH between those randomly assigned to PBTH and those assigned to UC.[120]

One outcome for which nonuse of TH may have dampened the effect of priority access to PBTH is the length of the initial

stay in emergency shelter. The last row of Exhibit 8-10 shows that those families who used TH spent an average of 2.4 months in shelter after study enrollment compared with 3.8 months for those who did not use TH, indicating a correlation of TH use with shorter initial shelter stays. Exhibit 8-11 shows that the effect of priority access to PBTH on the length of an initial shelter stay is not statistically significant. It is possible that had more PBTH families used TH, the average length of initial shelter stay for the entire PBTH group would have been shorter than that for the UC group.

Overall, it appears that PBTH leads to a reduction in the proportion of families experiencing homeless stays in shelters or places not meant for human habitation relative to UC at this early followup point, when about one-fifth of families referred to PBTH were still staying in the PBTH facility. PBTH does not appear to have effects on other housing stability outcomes at this point, however.

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[120] Neither the differences nor the similarities between the groups' outcomes can be causally attributed to the use of TH, because the use of TH was not randomly assigned. Families assigned to PBTH who used TH may be systematically different from families assigned to PBTH who did not use TH. The direction of any such bias is unclear. Families who used TH may have had greater "need," such that, given use of the same treatment, they would have had worse outcomes than families who did not use TH. Alternatively, families who used TH may have had more capacity to "navigate the system" than those who did not such that, given the use of the same treatment, they would have had better outcomes. Therefore, it cannot be conclusively ruled out that differences in Exhibit 8-10 are entirely explained by preexisting differences between the groups.

Exhibit 8-10. Housing Stability Outcomes for the PBTH Random Assignment Group by Use of TH

Outcome	Families Assigned to PBTH Who Did Not Use TH	Families Assigned to PBTH Who Used TH
	N = 135	N = 159
Homeless or doubled up during the followup period		
At least 1 night homeless or doubled up in past 6 months or in shelter in past 12 months (%)	51.1	41.5
At least 1 night homeless or doubled up in past 6 months (%)	44.4	34.0†
At least 1 night homeless in past 6 months (%)	20.0	17.6
At least 1 night doubled up in past 6 months (%)	38.5	30.2
Any stay in emergency shelter in months 7 to 18 after RA (%)	20.7	16.4
Number of days homeless or doubled up in past 6 months	52.4	42.0
Number of days homeless in past 6 months	19.0	10.0†
Number of days doubled up in past 6 months	40.3	36.3
Housing independence		
Living in own house or apartment at followup (%)	59.3	54.7
Living in own house or apartment with no housing assistance (%)	46.7	35.0†
Living in own house or apartment with housing assistance (%)	12.6	19.7
Number of places lived		
Number of places lived in past 6 months	1.9	1.6†
Housing quality		
Persons per room	1.8	1.8
Housing quality is poor or fair (%)	41.8	35.4
Length of stay in shelter		
Length (in months) of baseline stay in emergency shelter[a]	3.8	2.4†

PBTH = project-based transitional housing. TH = transitional housing.

RA = random assignment.

† Difference in means is statistically significant at the .10 level.

[a] The length of baseline stay in emergency shelter outcome includes one-half of the month of random assignment and is topcoded at 18 months. The 23 percent of families assigned to PBTH whose baseline shelter stay does not appear in the Program Usage Data are not included in the analysis.

Notes: Means are unweighted. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study baseline survey; 18-Month followup survey; Program Usage Data

Exhibit 8-11. PBTH Versus UC: Impact on Length of Baseline Stay in Emergency Shelter

Outcome	PBTH		UC		ITT Impact	Effect Size[a]
	N	Mean (SD)	N	Mean (SD)	Impact (SE)	
Length (in months) of baseline stay in emergency shelter[b]	227	3.0 (3.6)	212	3.6 (4.0)	– 0.5 (0.4)	– 0.11

PBTH = project-based transitional housing. UC = usual care.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] The length of baseline stay in emergency shelter outcome includes one-half of the month of random assignment and is topcoded at 18 months. The 20 percent of families in this comparison whose baseline shelter stay does not appear in the Program Usage Data are not included in the analysis.

Notes: Impact estimate and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Appendix B for outcome definition.

Sources: Family Options Study 18-month followup survey; Program Usage Data

8.4 Impacts on Family Preservation in the Project-Based Transitional Housing (PBTH) Versus Usual Care (UC) Comparison

Exhibit 8-12 shows the impacts of priority access to PBTH relative to UC on family preservation outcomes. As Chapter 3 addresses, any effects of assignment to PBTH on family preservation would be expected to be indirect, via housing stability, self-sufficiency, and adult well-being. PBTH's modest effects on homelessness did not appear to translate into effects on family separations among children or among spouses or partners who were with the respondent at the time of the baseline survey, nor were there effects on reunifications of the much smaller number of family members who were separated from the respondent at that time. Priority access to PBTH had no effect on foster care placements.

Exhibit 8-12. PBTH Versus UC: Impacts on Family Preservation

Outcome	PBTH			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Current or recent separations of family members present at baseline									
Family has at least one child separated in past 6 months (%)	290	14.1	(35.6)	258	14.7	(35.9)	− 0.6	(3.1)	− 0.01
Family has at least one foster care placement in past 6 months (%)	291	2.6	(16.4)	258	4.7	(19.3)	− 2.1	(1.9)	− 0.09
Spouse/partner separated in past 6 months, of those with spouse/partner present at RA (%)	89	30.7	(44.6)	85	29.5	(47.3)	1.2	(7.9)	0.02
Reunification of family members reported as separated at baseline									
Family has at least one child reunified, of those families with at least one child absent at RA (%)	61	29.5	(47.3)	59	27.5	(44.8)	1.9	(9.9)	0.04
Spouse/partner reunified, of those with spouse/partner absent at RA (%)	29	50.5	(50.9)	20	39.5	(50.3)	11.0	(23.9)	0.19

PBTH = project-based transitional housing. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

8.5 Impacts on Adult Well-Being in the Project-Based Transitional Housing (PBTH) Versus Usual Care (UC) Comparison

Adult well-being is a central focus of PBTH programs, as noted in Chapter 3. Thus proponents would expect to see improvements, particularly in areas of mental health and substance use. Exhibit 8-13 shows impacts of PBTH relative to UC on adult well-being outcomes. Priority access to PBTH has a statistically significant impact on only one of the eight outcomes: a 3.5-percentage-point reduction in drug abuse. The intervention had no effects on adult physical or mental health or on trauma symptoms, alcohol dependence, or experience of intimate partner violence. Given the lack of other effects, the impact on drug abuse should be interpreted with caution. Overall, it appears that priority access to PBTH has little effect on adult well-being compared with the mix of services available to the families assigned to UC.

Exhibit 8-13. PBTH Versus UC: Impacts on Adult Well-Being

Outcome	PBTH			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Adult physical health									
Health in past 30 days was poor or fair (%)	294	33.9	(47.5)	262	32.0	(46.9)	1.9	(4.0)	0.04
Adult mental health									
Goal-oriented thinking[b]	294	4.33	(1.02)	260	4.38	(0.98)	− 0.05	(0.09)	− 0.04
Psychological distress[c]	294	7.92	(5.80)	261	7.88	(5.75)	0.05	(0.50)	0.01
Adult trauma symptoms									
Post-traumatic stress disorder (PTSD) symptoms in past 30 days (%)	294	23.2	(42.5)	256	24.3	(42.9)	− 1.1	(3.8)	− 0.02
Adult substance use									
Alcohol dependence or drug abuse[d] (%)	294	14.4	(36.4)	260	14.9	(35.0)	− 0.5	(3.0)	− 0.01
Alcohol dependence[d] (%)	294	11.1	(32.4)	260	11.5	(31.1)	− 0.3	(2.8)	− 0.01
Drug abuse[d] (%)	294	3.6	(20.6)	260	7.1	(25.4)	− 3.5*	(1.9)	− 0.13
Experience of intimate partner violence									
Experienced intimate partner violence in past 6 months (%)	294	9.4	(28.9)	261	10.6	(32.4)	− 1.1	(2.8)	− 0.03

PBTH = project-based transitional housing. UC = usual care.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Goal-oriented thinking is measured with a modified version of the State Hope Scale and ranges from 1 to 6, with higher scores indicating higher levels of positive, goal-oriented thinking.

[c] Psychological distress is measured with the Kessler 6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress.

[d] Alcohol dependence is measured with the Rapid Alcohol Problems Screen (RAPS4), and drug abuse is measured with six items from the Drug Abuse Screening Test (DAST-10).

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

8.6 Impacts on Child Well-Being in the Project-Based Transitional Housing (PBTH) Versus Usual Care (UC) Comparison

As Chapter 3 addresses, any effects of PBTH on child well-being would be expected to be indirect. We found no evidence of such effects. Only 1 of 15 outcomes measured across age groups (Exhibit 8-14) and 0 of 11 age-specific outcomes (Exhibit 8-15) appeared to reflect program impact. PBTH families were 4 percentage points more likely to report that children had a regular source of health care. This result is probably best interpreted as random variation.

Exhibit 8-14. PBTH Versus UC: Impacts on Child Well-Being Across Age Groups

Outcome	PBTH			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Child education									
Preschool or Head Start enrollment[b] (%)	140	34.5	(48.5)	117	39.3	(48.6)	− 4.8	(6.9)	− 0.08
School enrollment[c] (%)	288	92.8	(27.2)	245	90.8	(28.6)	2.0	(2.4)	0.06
Childcare or school absences in past month[d]	312	0.88	(0.92)	266	0.82	(0.98)	0.06	(0.10)	0.05
Number of schools attended since RA[e]	326	1.90	(0.84)	271	1.97	(0.90)	− 0.07	(0.09)	− 0.06
Grade completion (not held back) (%)	273	91.6	(27.3)	227	92.3	(28.4)	− 0.7	(2.6)	− 0.02
Positive childcare or school experiences[f]	350	0.62	(0.56)	292	0.55	(0.57)	0.07	(0.05)	0.10
Positive childcare or school attitudes[g]	348	4.29	(0.99)	293	4.23	(1.05)	0.07	(0.09)	0.05
School grades[h]	243	2.96	(0.87)	205	2.86	(0.98)	0.10	(0.10)	0.08
Childcare or school conduct problems[i]	321	0.21	(0.41)	270	0.24	(0.43)	− 0.03	(0.04)	− 0.06
Child physical health									
Poor or fair health (%)	441	6.0	(22.3)	372	3.4	(20.3)	2.5	(2.0)	0.09
Well-child checkup in past year (%)	439	90.6	(27.8)	373	88.1	(31.3)	2.5	(3.2)	0.07
Child has regular source of health care (%)	441	95.7	(21.8)	372	91.4	(25.5)	4.3*	(2.3)	0.13
Sleep problems[j]	443	2.11	(1.09)	372	2.25	(1.15)	− 0.13	(0.10)	− 0.09
Child behavioral strengths and challenges									
Behavior problems[k]	362	0.49	(1.13)	312	0.62	(1.20)	− 0.13	(0.11)	− 0.08
Prosocial behavior[l]	363	− 0.09	(1.11)	313	− 0.16	(1.08)	0.07	(0.10)	0.05

PBTH = project-based transitional housing. UC = usual care.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Base for preschool or Head Start enrollment is children ages 1 year, 6 months to 5 years.

[c] Base for school enrollment is children ages 6 to 17 years.

[d] Absences outcome is defined as 0 = no absences in past month, 1 = 1 to 2 absences, 2 = 3 to 5 absences, 3 = 6 or more absences.

[e] Number of schools outcome is topcoded at 4 or more schools.

[f] Positive childcare or school experiences outcome is defined as − 1 = mostly negative experiences, 0 = both positive and negative experiences, 1 = mostly positive experiences.

[g] Positive childcare or school attitudes outcome is parent report of how much child likes school and ranges from 1 to 5, with higher values indicating greater like of school.

[h] School grades outcome is defined as 1 = mostly Ds or Fs, 2 = mostly Cs, 3 = mostly Bs, 4 = mostly As.

[i] Childcare or school conduct problems outcome is defined as 0 = no conduct problems reported to parent, 1 = parent contacted about conduct problems or suspension or expulsion from school or childcare center.

[j] Sleep problems outcome ranges from 1 to 5, with higher values indicating more frequent tiredness upon waking and during the day.

[k] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire (SDQ).

[l] Prosocial behavior is measured as the standardized Prosocial domain score from the SDQ.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey (parent report)

Exhibit 8-15. PBTH Versus UC: Impacts on Child Well-Being Developmental Outcomes by Age Group

Outcome	PBTH			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Ages 1 year to 3 years, 6 months									
Met developmental milestones[b] (%)	85	73.7	(45.8)	79	76.2	(40.4)	− 2.5	(7.2)	− 0.05
Low birth weight[c] (%)	21	14.6	(30.1)	19	9.3	(22.9)	5.3	(12.3)	0.15
Ages 3 years, 6 months to 7 years									
Verbal ability[d]	142	− 0.30	(0.84)	111	− 0.10	(1.04)	− 0.19	(0.14)	− 0.14
Math ability[e]	137	− 0.29	(0.92)	110	− 0.12	(0.98)	− 0.16	(0.14)	− 0.13
Executive functioning (self-regulation)[f]	125	17.01	(16.11)	97	19.45	(16.10)	− 2.45	(1.70)	− 0.11
Ages 8 to 17 years									
Anxiety[g]	149	35.89	(7.92)	143	35.14	(7.05)	0.76	(1.00)	0.07
Fears[h]	152	66.14	(14.90)	141	67.84	(14.43)	− 1.70	(1.94)	− 0.08
Substance use[i] (%)	148	7.73	(31.99)	139	6.16	(23.37)	1.57	(2.93)	0.04
Goal-oriented thinking[j]	148	22.86	(5.19)	135	22.25	(4.99)	0.61	(0.62)	0.09
School effort in past month[k]	152	2.77	(0.81)	140	2.72	(0.78)	0.05	(0.09)	0.05
Arrests or police involvement in past 6 months[l] (%)	80	10.71	(31.80)	71	8.36	(28.01)	2.34	(5.22)	0.06

PBTH = project-based transitional housing. UC = usual care.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Met developmental milestones outcome is defined as scoring above the typical development cutoffs in all domains of the Ages and Stages Questionnaire (ASQ-3).

[c] Base for low birthweight outcome (parent report) is children born since random assignment who are at least 1 year old at followup.

[d] Verbal ability outcome is the nationally standardized score from the Woodcock-Johnson III (WJ III) letter-word identification scale.

[e] Math ability outcome is the nationally standardized score from the WJ III applied problems test.

[f] Executive functioning outcome is the Head Toes Knees Shoulders (HTKS) score and ranges from 0 to 40, with higher scores indicating greater executive functioning.

[g] Anxiety (child report) is measured using the A-Trait scale from the State-Trait Anxiety Inventory for Children (STAIC). Scores range from 20 to 60, with higher scores indicating greater anxiety.

[h] Fears outcome (child report) is the score from the Fears Scale and ranges from 33 to 99, with higher scores indicating more fear.

[i] Substance use (child report) is measured with 23 items from the Centers for Disease Control and Prevention (CDC) 2011 Youth Risk Behavior Survey.

[j] Goal-oriented thinking (child report) is measured with a modified version of the Children's Hope Scale and ranges from 6 to 30, with higher scores indicating higher levels of positive, goal-oriented thinking.

[k] School effort outcome (child report) ranges from 1 to 4, with higher scores indicating greater effort during school day and on homework.

[l] Arrest or police involvement in past 6 months is from parent report.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey (parent report); Family Options Study 18-month child survey (child report); ASQ-3; WJ III; HTKS

8.7 Impacts on Self-Sufficiency in the Project-Based Transitional Housing (PBTH) Versus Usual Care (UC) Comparison

Along with housing stability and adult well-being, self-sufficiency is also a central focus of PBTH programs. Exhibit 8-16 shows impacts of PBTH relative to UC on self-sufficiency outcomes. We found no statistically significant effects on any of the 20 self-sufficiency outcomes. It appears that priority access to PBTH had no effect on self-sufficiency relative to the mix of services available in UC.

8.8 Summary of Project-Based Transitional Housing (PBTH) Versus Usual Care (UC) Comparison Across Domains

For the PBTH-versus-UC comparison, 54 percent of families assigned to PBTH and 29 percent of families assigned to UC accessed transitional housing during the followup period. This contrast in program use is smaller than for other comparisons of active interventions to UC;[121] however, it led to differences in experiences between PBTH and UC families in some areas. Priority access to PBTH reduced the proportion

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[121] Although the takeup rate for PBTH provides a weaker test of the intervention than might be hoped for, the low takeup of TH on the part of many families assigned to PBTH is of policy interest. It is not clear to what extent this low takeup represents families declining programs or programs declining families. Qualitative data from a small number of families in this study (80 in all, 19 assigned to PBTH) suggest that both processes were important. When families declined offers, the location of programs was often an issue. Families offered SUB and CBRR had more opportunity to live in neighborhoods of their choice, near jobs, children's schools, and support networks (Fisher et al., 2014).

Exhibit 8-16. PBTH Versus UC: Impacts on Self-Sufficiency

Outcome	PBTH			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Employment status									
Work for pay in week before survey (%)	294	36.0	(48.6)	262	32.9	(47.0)	3.1	(4.1)	0.06
Any work for pay since RA (%)	294	60.8	(48.7)	262	60.6	(48.9)	0.2	(3.9)	0.00
Months worked for pay since RA[b]	291	6.4	(7.5)	256	6.9	(8.0)	− 0.4	(0.6)	− 0.05
Hours of work per week at current main job[c]	293	11.6	(17.3)	260	10.4	(16.0)	1.2	(1.4)	0.07
Income sources and amounts									
Annualized current earnings ($)	284	5,892	(9,756)	254	5,133	(9,131)	759	(822)	0.07
Total family income ($)	286	10,778	(9,356)	253	9,959	(7,812)	818	(729)	0.09
Anyone in family had earnings in past month (%)	294	46.5	(50.1)	261	47.8	(50.1)	− 1.3	(4.1)	− 0.02
Anyone in family received TANF in past month (%)	293	29.9	(45.6)	262	28.9	(45.8)	1.0	(3.9)	0.02
Anyone in family received SSDI in past month (%)	294	7.4	(27.4)	262	10.0	(28.9)	− 2.6	(2.1)	− 0.09
Anyone in family received SSI in past month (%)	294	13.8	(32.8)	261	15.9	(37.2)	− 2.1	(2.4)	− 0.06
Anyone in family received SNAP/food stamps in past month (%)	294	85.7	(35.1)	262	83.8	(37.8)	1.9	(3.2)	0.04
Anyone in family received WIC in past month (%)	294	30.9	(46.3)	262	28.8	(45.1)	2.1	(3.9)	0.04
Education and training									
Participated in 2 weeks or more of any school or training since RA (%)	294	21.8	(41.8)	262	25.5	(43.0)	− 3.6	(3.9)	− 0.07
Number of weeks in school/training programs since RA	294	2.7	(8.0)	260	4.0	(10.2)	− 1.3	(0.8)	− 0.12
Participated in 2 weeks or more of school since RA (%)	294	5.6	(24.0)	262	6.1	(23.3)	− 0.6	(2.3)	-0.02
Participated in 2 weeks or more of basic education since RA (%)	294	2.4	(14.2)	262	1.0	(12.3)	1.4	(1.3)	0.10
Participated in 2 weeks or more of vocational education since RA (%)	294	5.0	(22.7)	262	8.7	(26.0)	− 3.6	(2.3)	− 0.13
Food security and hunger									
Household is food insecure (%)	294	31.5	(46.8)	262	34.2	(47.5)	− 2.7	(4.2)	− 0.05
Food insecurity scale[d]	294	1.63	(2.01)	260	1.66	(1.98)	− 0.04	(0.18)	− 0.02
Economic stressors									
Economic stress scale[e]	294	− 0.09	(0.48)	258	− 0.04	(0.51)	− 0.05	(0.04)	− 0.09

PBTH = project-based transitional housing. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error. SNAP = Supplemental Nutrition Assistance Program. SSDI = Social Security Disability Insurance. SSI = Supplemental Security Income. TANF = Temporary Assistance for Needy Families. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

*/**/*** Impact estimate is significantly different from zero at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Number of months worked for pay includes partial calendar months.

[c] Hours of work per week includes those not currently working (that is, those with 0 hours of work per week).

[d] Food insecurity scale ranges from 0 to 6, with higher values indicating higher food insecurity.

[e] Economic stress scale ranges from − 1 to 1, with higher values indicating higher economic stress.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

of families who experienced at least 1 night homeless or doubled up in the 12 months prior to the followup survey or at least 1 night in shelter in the 6 months prior to the followup survey, from 52 percent for families randomized to UC, to 44 percent of families assigned to PBTH. In the four other domains, the vast majority of indicators examined reveal equivalent results among families who were given priority access to PBTH and families who were assigned to UC. The lack of impacts on adult well-being and family self-sufficiency are noteworthy, given the emphasis placed by PBTH programs on delivering help and improvement in these domains. Only 2 of the 34 indicators examined for results in this respect showed any impact from PBTH.

Priority access to PBTH also did not provide better family preservation or child well-being outcomes than UC. Overall, the goals of PBTH as a distinctive approach to assisting families facing unstable housing situations were not achieved, even though a degree of housing stability was delivered (presumably during the period in which families were staying in PBTH facilities). One potential reason for the lack of statistically significant effects in the PBTH-versus-UC comparison is that services similar to those provided by PBTH were in many cases available to families in emergency shelter. Chapter 9 reports on how PBTH compares with the other two active interventions, SUB and CBRR.

CHAPTER 9.

IMPACTS OF PERMANENT HOUSING SUBSIDY (SUB) COMPARED WITH COMMUNITY-BASED RAPID RE-HOUSING (CBRR), SUB COMPARED WITH PROJECT-BASED TRANSITIONAL HOUSING (PBTH), AND CBRR COMPARED WITH PBTH

This chapter presents impact estimates for the three pairwise comparisons that do not involve usual care (UC). These pairwise comparisons compare the active interventions of permanent housing subsidy (SUB), community-based rapid re-housing (CBRR), and project-based transitional housing (PBTH) with each other. In each of these comparisons, the goal is to determine whether the offer of an available place in one active intervention leads to better, worse, or no different family outcomes than those experienced by families who were offered another active intervention. The chapter begins with a brief description of the analysis samples for these comparisons. Next, it addresses the SUB-versus-CBRR comparison, first showing the extent to which families in both the SUB and CBRR groups used housing and service programs available to them, and then presenting effects on outcomes in the five study domains. The same set of information is then presented in turn for the SUB-versus-PBTH and CBRR-versus-PBTH comparisons.

9.1 Analysis Samples for Pairwise Comparisons

As addressed previously in this report, families in the study had two, three, or four interventions available to them at the point of random assignment. In this report, the term *randomization set* denotes the set of interventions that were available to a family at random assignment. For the impact

analysis, families are included in pairwise comparisons of their assigned intervention with each of the other interventions in their randomization set. This principle implies that a study family is included in one, two, or three pairwise comparisons, depending on the size of its randomization set. This principle also implies that the group of families who represent a given intervention differs somewhat in different pairwise comparisons. For example, the group of SUB families in the SUB-versus-CBRR comparison overlaps with, but is not identical to, the group of SUB families in the SUB-versus-PBTH comparison. This feature of the study is important to keep in mind when examining impact estimates in different pairwise comparisons, such as in this chapter.

Exhibit 9-1 shows the number of families who are included in the various pairwise comparisons that comprise the entire study. Each column of the exhibit shows the number of families on both sides of a particular comparison. Each row shows how the number of families representing a particular intervention varies by pairwise comparison.

If all families in the study had all four interventions available to them at the point of random assignment, then the impact estimates for last three pairwise comparisons could be logically deduced from the three comparisons that involve UC.[122] Because not all families had randomization sets with four interventions, it is possible for the impact estimates in the last three comparisons to deviate from what the first three

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[122] For example, the SUB-versus-CBRR impact on a particular outcome would simply be the difference between the SUB-versus-UC and CBRR-versus-UC impact estimates.

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Chapter 9. Impacts of Permanent Housing Subsidy (SUB) Compared With
Community-Based Rapid Re-Housing (CBRR), SUB Compared With
Project-Based Transitional Housing (PBTH), and CBRR Compared With PBTH

Exhibit 9-1. Sample Sizes in the Six Pairwise Comparisons

Assigned Intervention	Sample Size in Pairwise Comparison[a]					
	SUB Versus UC	CBRR Versus UC	PBTH Versus UC	SUB Versus CBRR	SUB Versus PBTH	CBRR Versus PBTH
SUB	530	—	—	381	230	—
CBRR	—	455	—	308	—	179
PBTH	—	—	294	—	187	197
UC	415	451	262	—	—	—
Total	945	906	556	689	417	376

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.
[a] Sample sizes are numbers of families who responded to the 18-month followup survey.
Source: Family Options Study 18-month followup survey

comparisons would suggest. As will be shown in this chapter, the signs of impact estimates in the last three comparisons are consistent with those suggested by the UC comparisons, but some magnitudes of estimates differ from the magnitudes suggested by the comparisons with UC.

The following sections address the results of the comparisons of the active interventions with each other.

9.2 The Permanent Housing Subsidy (SUB) Versus Community-Based Rapid Re-Housing (CBRR) Comparison

The SUB-versus-CBRR comparison contrasts the permanent housing subsidy of the SUB intervention with the temporary rental assistance (usually lasting 7 to 8 months, but potentially renewable for up to 18 months) of the CBRR intervention. Both these interventions provided priority access to the rental subsidy, and both required families to engage in a housing search to locate a suitable private-market rental unit.[123] The supportive services provided in the SUB intervention were limited to assistance with finding housing. The services offered by CBRR providers were also focused on the housing search. In addition to case management and assistance with housing search, CBRR programs provided some level of self-sufficiency services for three-fourths of the families assigned to CBRR. One-fourth to one-third of the families assigned to CBRR had access to a broader range of services, including employment and training, life skills, and physical health care services.

The subsidy in both of the interventions represented a substantial fraction of monthly rent. Beyond the length of the subsidy, a few differences in the administration of the

programs are noteworthy. A standard formula set the subsidy amount in SUB, while subsidy determination in CBRR varied among providers, typically allowing for at least some case manager discretion in setting the subsidy amount. To continue to receive CBRR assistance, families had to have incomes below certain thresholds. Most CBRR programs asked questions about income every 3 months as part of the recertification process to assess continued need for assistance. This frequency was much greater than the annual income recertification required by SUB providers.

9.2.1 Program Use by Families in the SUB-Versus-CBRR Comparison

Exhibit 9-2 shows the use of seven types of homeless and housing programs by the 381 SUB families and 308 CBRR families analyzed in the SUB-versus-CBRR comparison.[124] The first column shows the same general pattern of usage for these SUB families as for all SUB families (see Exhibit 6-2 in Chapter 6). Likewise, the proportions of these CBRR families shown in the second column are very similar to the proportions of all CBRR families (see Exhibit 7-4 in Chapter 7). The first two columns show that 84 percent of families assigned to SUB used the SUB intervention and 64 percent of CBRR families used CBRR at some point during the period of observation. The numbers of months of program use (in columns 3 through 6) and the proportions using a particular program in the month of followup survey response (in columns 7 through 8) are also similar to those in the previous exhibits. A large difference exists in the proportion of families participating in a program during the month of the followup survey, with 82 percent of SUB families participating in some program (most receiving SUB assistance) and the majority of CBRR families (57 percent) not participating in any program.

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[123] The minimal share (about 8 percent) of SUB families provided with public housing in Honolulu, Hawaii, or with project-based vouchers in Bridgeport, Connecticut, did not need to engage in housing searches.

[124] The SUB-versus-CBRR comparison sample consists of 435 families assigned to SUB and 382 families assigned to CBRR. Of these 817 families, 381 SUB families and 308 CBRR families (84 percent) responded to the 18-month followup survey.

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Community-Based Rapid Re-Housing (CBRR), SUB Compared With
Project-Based Transitional Housing (PBTH), and CBRR Compared With PBTH

Exhibit 9-2. SUB Versus CBRR Program Use Since Random Assignment

Type of Housing Assistance	Percent Ever Used From RA to 18-Month Followup Survey[a]		Number of Months Used From RA to 18-Month Followup Survey, if Ever Used Type of Housing Assistance				Percent Used in Month of Followup Survey Response	
	SUB	CBRR	SUB		CBRR		SUB	CBRR
			Mean	Median	Mean	Median		
Subsidy (SUB)[b]	84.4	9.7	16.2	17.5	9.7	9.5	75.9	9.7
Rapid re-housing (CBRR)	16.5	64.1	4.1	3.5	8.0	6.5	0.0	6.5
Transitional housing	5.9	16.0	5.3	4.0	8.2	6.0	0.7	6.2
Permanent supportive housing	0.4	6.5	8.0	3.0	7.3	6.5	0.2	4.8
Public housing	0.5	5.5	9.5	8.5	8.8	7.5	0.5	5.2
Project-based vouchers/Section 8 projects	0.8	3.6	10.8	6.5	14.1	15.5	0.8	3.3
Emergency shelter[c]	84.9	87.8	3.4	2.0	4.2	2.0	4.3	8.5
No use of homeless or housing programs[d]	4.5	9.2	20.2	20.0	18.5	18.0	17.7	57.0
N	381	308	—	—	—	—	381	308

RA = random assignment.

[a] Percentages of families who ever used a type of assistance program during the period from the month of RA to the month of 18-month Followup Survey response (median period duration: 21 months). Percentages do not add to 100% because some families use more than one program type during the followup period.

[b] Subsidy assistance is housing choice vouchers plus site-specific programs offered to families assigned to SUB group in Bridgeport, Connecticut and Honolulu, Hawaii.

[c] All families were in emergency shelter at random assignment. Percentages less than 100 percent for ever used emergency shelter are due to missing data on shelter use.

[d] No use of homeless or housing programs (ever used) indicates no use of the seven program types in this table during any of the followup period and no use of emergency shelter after the first 6 months after RA. No use in the month of followup survey response indicates no use of any of these seven program types.

Notes: Percentages are regression-adjusted, controlling for site and randomization ratio. Percentages, means, and, medians are weighted for survey nonresponse to represent full comparison sample.

Source: Family Options Study Program Usage Data

9.2.2 Impacts of SUB Compared With CBRR

As Chapter 3 addressed, SUB proponents expect SUB to reduce homelessness and improve housing stability relative to CBRR because they expect that many of the very poor families who experience homelessness will need long-term rental subsidies to remain stably housed. The magnitude of this expected difference has been unknown before this study, however. Differential effects on more distal outcomes are theorized to be dependent on the magnitude of the housing stability effect. To the extent that permanent subsidies provide greater residential stability or reduce parental stress (stemming from moves or from fear of homelessness) more than temporary subsidies, the benefits of SUB in other areas such as child well-being and family preservation may be larger than effects of CBRR. Although CBRR assistance is temporary rather than permanent, its emphasis on restoring families to conventional housing as swiftly as possible leads us to expect that relative to SUB, CBRR will reduce the length of the shelter stay at the time of study entry. The next section addresses the experimental impact evidence of how these interventions compare.

Impacts on Housing Stability in the SUB-Versus-CBRR Comparison

Exhibit 9-3 shows the effect on housing stability of being assigned to SUB relative to being assigned to CBRR. The effects of SUB relative to CBRR are favorable, large, and statistically significant on all homelessness outcomes. The first row shows that SUB reduced the confirmatory outcome of being homeless or doubled up in the past 6 months or in emergency shelter in the past 12 months from 50 to 22 percent relative to CBRR. This represents a 27-percentage-point reduction, meaning that assignment to SUB resulted in reduction of homelessness of more than one-half when compared to the families assigned to CBRR. The next three rows show large reductions in the proportions of families experiencing homelessness or doubling up in the past 6 months. The fifth row shows that SUB reduces the event of emergency shelter use during months 7 to 18 after random assignment by about one-half (from 28 percent of families to 15 percent). Row 6 of the exhibit shows that SUB also reduces the number of days spent homeless or doubled up in the past 6 months by about 4 weeks relative to CBRR.

The second panel of the exhibit shows that SUB increases the proportion of families living in their own house or apartment at followup (with or without assistance) from 64 to 72 percent relative to CBRR. SUB families are much less likely (34 percentage points) than CBRR families to be living in their own place with no housing assistance and much more likely (42 percentage points) to be living in their own place with housing assistance.

The third panel of the exhibit shows that SUB families had greater residential stability than CBRR families in the months before the survey, reducing the number of places lived in the past 6 months by 0.2 places.

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Community-Based Rapid Re-Housing (CBRR), SUB Compared With
Project-Based Transitional Housing (PBTH), and CBRR Compared With PBTH

Exhibit 9-3. SUB Versus CBRR: Impacts on Housing Stability

Outcome	SUB			CBRR			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Homeless or doubled up during the followup period									
At least 1 night homeless[b] or doubled up in past 6 months or in shelter in past 12 months (%) **[Confirmatory]**[c]	380	22.2	(41.7)	308	49.5	(50.1)	− 27.3***	(3.8)	− 0.48
At least 1 night homeless[b] or doubled up in past 6 months (%)	380	17.6	(38.4)	308	38.5	(48.7)	− 20.9***	(3.6)	− 0.38
At least 1 night homeless[b] in past 6 months (%)	380	12.8	(33.0)	308	25.1	(43.9)	− 12.3***	(3.2)	− 0.25
At least 1 night doubled up in past 6 months (%)	381	12.8	(34.4)	308	28.2	(44.4)	− 15.4***	(3.2)	− 0.29
Any stay in emergency shelter in months 7 to 18 after RA (%)	381	14.6	(35.5)	308	27.8	(45.8)	− 13.2***	(3.1)	− 0.26
Number of days homeless[b] or doubled up in past 6 months	379	21.7	(53.5)	308	52.4	(74.2)	− 30.7***	(5.4)	− 0.36
Number of days homeless[b] in past 6 months	378	11.9	(37.2)	308	26.8	(56.9)	− 14.9***	(4.1)	− 0.26
Number of days doubled up in past 6 months	380	11.7	(38.9)	308	31.7	(58.7)	− 20.0***	(4.3)	− 0.27
Housing independence									
Living in own house or apartment at followup (%)	381	72.0	(45.1)	308	64.1	(48.4)	7.9**	(3.5)	0.14
Living in own house or apartment with no housing assistance (%)	381	10.1	(29.7)	308	43.8	(49.4)	− 33.7***	(3.4)	− 0.62
Living in own house or apartment with housing assistance (%)	381	62.0	(48.6)	308	20.0	(40.9)	41.9***	(3.4)	0.86
Number of places lived									
Number of places lived in past 6 months	380	1.4	(1.0)	308	1.7	(1.0)	− 0.2***	(0.1)	− 0.17
Housing quality									
Persons per room	380	1.2	(0.8)	300	1.5	(1.3)	− 0.3***	(0.1)	− 0.24
Housing quality is poor or fair (%)	379	27.1	(44.0)	305	32.1	(47.1)	− 5.0	(3.7)	− 0.09

CBRR = community-based rapid re-housing. SUB = permanent housing subsidy.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] The definition of *homeless* in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing.

[c] After adjustment for multiple comparisons, the impact on the confirmatory outcome is statistically significant at the .01 level for the SUB–versus-CBRR comparison.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey; Program Usage Data

The bottom panel of the exhibit shows that SUB families were living in less crowded conditions than CBRR families, with an average of 1.2 persons per room compared with 1.5 persons per room for CBRR. No difference in housing quality was reported, however.

Although CBRR proponents acknowledge the value of permanent housing assistance, they emphasize rapid re-housing's ability to shorten family stays in emergency shelter. Exhibit 9-4 presents a statistical test of whether CBRR speeds exit from

emergency shelter as compared with SUB. The first row of the exhibit shows that the difference in the length of the initial shelter stay between the two groups (defined by to which program the family was randomly assigned to receive priority access) is not statistically significant.

Impacts on Family Preservation in the SUB-Versus-CBRR Comparison

As implied by Exhibit 3-1 in Chapter 3, any differential effects of SUB compared with CBRR of family preservation

Exhibit 9-4. Impacts on Length of Baseline Stay in Emergency Shelter

Impact on Length (in months) of Baseline Stay in Emergency Shelter for Comparison[a]	First Assignment Group			Second Assignment Group			ITT impact		Effect Size[b]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
SUB versus CBRR	298	3.3	(3.3)	262	3.5	(4.8)	− 0.2	(0.3)	− 0.05
SUB versus PBTH	184	2.2	(1.8)	148	3.1	(3.5)	− 0.9***	(0.3)	− 0.19
CBRR versus PBTH	142	2.8	(4.0)	149	3.4	(3.8)	− 0.6	(0.5)	− 0.12

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] The length of baseline stay in emergency shelter outcome includes one-half of the month of random assignment and is topcoded at 18 months. The 20 to 22 percent of families in these comparisons whose baseline shelter stay does not appear in the Program Usage Data are not included in the analyses.

[b] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definition.

Sources: Family Options Study 18-month followup survey; Program Usage Data

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would be expected to be indirect, via the substantial differential effects on housing stability. Exhibit 9-5 shows the effects on family preservation in the SUB-versus-CBRR comparison. One of five impact estimates is statistically significant. Spouses or partners were less likely to be separated from each other in the SUB as compared with the CBRR intervention, with nearly one-half of partners present at baseline separated at followup in CBRR compared with one-third in SUB. No evidence of other differences emerged regarding family separations or reunifications.

Impacts on Adult Well-Being in the SUB-Versus-CBRR Comparison

As with family preservation, any differential effects of SUB as compared with CBRR on adult well-being would be expected to be indirect, via the substantial differential effects on housing stability. Exhibit 9-6 shows effects on adult well-being for this comparison. Two of the eight impact estimates are statistically significant. SUB reduces the proportion of respondents who experienced post-traumatic stress disorder (PTSD) symptoms in the past 30 days from 25 percent for CBRR

Exhibit 9-5. SUB Versus CBRR: Impacts on Family Preservation

Outcome	SUB			CBRR			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Current or recent separations of family members present at baseline									
Family has at least one child separated in past 6 months (%)	375	12.3	(32.8)	305	13.5	(33.8)	− 1.2	(2.7)	− 0.03
Family has at least one foster care placement in past 6 months (%)	375	2.6	(15.3)	305	2.9	(16.0)	− 0.3	(1.4)	− 0.01
Spouse/partner separated in past 6 months, of those with spouse/partner present at RA (%)	96	33.0	(48.1)	82	48.6	(50.1)	− 15.7**	(7.9)	− 0.28
Reunification of family members reported as separated at baseline									
Family has at least one child reunified, of those families with at least one child absent at RA (%)	80	29.6	(46.6)	50	32.0	(45.4)	− 2.4	(10.1)	− 0.05
Spouse/partner reunified, of those with spouse/partner absent at RA (%)	41	32.7	(48.0)	28	27.0	(44.1)	5.7	(14.8)	0.10

CBRR = community-based rapid re-housing. SUB = permanent housing subsidy.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

Exhibit 9-6. SUB Versus CBRR: Impacts on Adult Well-Being

Outcome	SUB			CBRR			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Adult physical health									
Health in past 30 days was poor or fair (%)	381	29.5	(45.9)	308	29.0	(44.8)	0.5	(3.4)	0.01
Adult mental health									
Goal-oriented thinking[b]	377	4.56	(1.07)	307	4.46	(0.95)	0.10	(0.08)	0.08
Psychological distress[c]	378	6.50	(5.54)	308	6.99	(5.23)	− 0.49	(0.39)	− 0.07
Adult trauma symptoms									
Post-traumatic stress disorder (PTSD) symptoms in past 30 days (%)	377	19.3	(40.6)	307	25.0	(42.2)	− 5.8*	(3.2)	− 0.12
Adult substance use									
Alcohol dependence or drug abuse[d] (%)	378	11.9	(32.1)	307	12.4	(32.6)	− 0.4	(2.6)	− 0.01
Alcohol dependence[d] (%)	380	8.9	(28.6)	307	9.1	(28.4)	− 0.2	(2.3)	− 0.01
Drug abuse[d] (%)	377	4.5	(20.2)	308	4.5	(20.1)	0.0	(1.6)	0.00
Experience of intimate partner violence									
Experienced intimate partner violence in past 6 months (%)	380	5.8	(23.4)	306	12.5	(31.9)	− 6.7***	(2.4)	− 0.18

CBRR = community-based rapid re-housing. SUB = permanent housing subsidy.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] Goal-oriented thinking is measured with a modified version of the State Hope Scale and ranges from 1 to 6, with higher scores indicating higher levels of positive, goal-oriented thinking.

[c] Psychological distress is measured with the Kessler 6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress.

[d] Alcohol dependence is measured with the Rapid Alcohol Problems Screen (RAPS4), and drug abuse is measured with six items from the Drug Abuse Screening Test (DAST-10).

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey.

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families to 19 percent. SUB also cut in half the proportion of family heads who experienced intimate partner violence in the past 6 months relative to CBRR (from 13 to 6 percent). This effect may arise because the permanent subsidy allows for family heads to be more selective about who lives in the household.[125] No effects on adult physical health, mental health, or substance use were found.

Impacts on Child Well-Being in the SUB-Versus-CBRR Comparison

Exhibit 9-7 shows effects on child well-being outcomes measured across all ages. Given the strong impact of SUB by comparison with CBRR on residential stability, it is not surprising that SUB has an effect on school mobility (approximately one fewer school move for every four children in

families assigned to SUB). Only 1 other effect (for 2 out of 15) appears in the cross-age outcomes, also in the school domain (first panel of Exhibit 9-7)—children in the SUB intervention had slightly better grades. Because this impact did not appear in the SUB-versus-UC comparison, it is perhaps best thought of as random noise. No effects were found on child physical health or on behavioral strengths and challenges.

Only 2 of 11 age-specific outcomes shown in Exhibit 9-8 show effects, both for the older 8- to 17-year-old age group. Children in the SUB group were less than one-half as likely to use substances (4 versus 11 percent) and reported greater goal-oriented thinking (effect size of 0.16) than children in the UC group. Again, these impacts were not evident in the

Exhibit 9-7. SUB Versus CBRR: Impacts on Child Well-Being Across Age Groups

Outcome	SUB			CBRR			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Child education									
Preschool or Head Start enrollment[b] (%)	204	36.8	(48.8)	168	34.6	(47.9)	2.3	(5.5)	0.04
School enrollment[c] (%)	328	91.1	(29.3)	269	88.9	(31.1)	2.2	(2.7)	0.07
Childcare or school absences in past month[d]	373	0.84	(0.94)	299	0.86	(0.93)	− 0.02	(0.09)	− 0.02
Number of schools attended since RA[e]	387	1.72	(0.75)	308	1.98	(0.87)	− 0.25***	(0.08)	− 0.22
Grade completion (not held back) (%)	308	94.8	(24.1)	248	93.1	(22.3)	1.7	(2.5)	0.04
Positive childcare or school experiences[f]	425	0.61	(0.53)	358	0.64	(0.53)	− 0.03	(0.05)	− 0.05
Positive childcare or school attitudes[g]	423	4.32	(1.00)	354	4.31	(0.98)	0.01	(0.08)	0.01
School grades[h]	274	3.05	(0.91)	223	2.88	(0.96)	0.17*	(0.09)	0.14
Childcare or school conduct problems[i]	386	0.22	(0.41)	306	0.20	(0.41)	0.02	(0.03)	0.04
Child physical health									
Poor or fair health (%)	548	4.8	(22.0)	450	5.2	(21.1)	− 0.3	(1.7)	− 0.01
Well-child checkup in past year (%)	553	89.7	(30.9)	449	89.7	(28.5)	0.0	(2.7)	0.00
Child has regular source of health care (%)	554	92.8	(25.6)	450	93.1	(25.4)	− 0.4	(2.2)	− 0.01
Sleep problems[j]	550	2.04	(1.12)	449	1.95	(1.07)	0.09	(0.08)	0.06
Child behavioral strengths and challenges									
Behavior problems[k]	451	0.51	(1.21)	367	0.41	(1.27)	0.10	(0.11)	0.06
Prosocial behavior[l]	451	− 0.17	(1.10)	367	− 0.07	(1.12)	− 0.10	(0.10)	− 0.07

CBRR = community-based rapid re-housing. SUB = permanent housing subsidy.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] Base for preschool or Head Start enrollment is children ages 1 year, 6 months to 5 years.

[c] Base for school enrollment is children ages 6 to 17 years.

[d] Absences outcome is defined as 0 = no absences in past month, 1 = 1 to 2 absences, 2 = 3 to 5 absences, 3 = 6 or more absences.

[e] Number of schools outcome is topcoded at 4 or more schools.

[f] Positive childcare or school experiences outcome is defined as − 1 = mostly negative experiences, 0 = both positive and negative experiences, 1 = mostly positive experiences.

[g] Positive childcare or school attitudes outcome is parent report of how much child likes school and ranges from 1 to 5, with higher values indicating greater like of school.

[h] School grades outcome is defined as 1 = mostly Ds or Fs, 2 = mostly Cs, 3 = mostly Bs, 4 = mostly As.

[i] Childcare or school conduct problems outcome is defined as 0 = no conduct problems reported to parent, 1 = parent contacted about conduct problems or suspension or expulsion from school or childcare center.

[j] Sleep problems outcome ranges from 1 to 5, with higher values indicating more frequent tiredness upon waking and during the day.

[k] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire (SDQ).

[l] Prosocial behavior is measured as the standardized Prosocial domain score from the SDQ.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey (parent report)

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[125] This explanation is consistent with qualitative evidence from the *Effects of Housing Vouchers on Welfare Families* study, where voucher holders reported that the subsidy enabled them to escape unhealthy interactions with household members (Mills et al., 2006).

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Exhibit 9-8. SUB Versus CBRR: Impacts on Child Well-Being Developmental Outcomes by Age Group

Outcome	SUB			CBRR			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Ages 1 year to 3 years, 6 months									
Met developmental milestones[b] (%)	123	74.7	(43.6)	94	82.5	(39.6)	− 7.8	(6.1)	− 0.14
Low birth weight[c] (%)	28	20.8	(39.0)	18	1.7	(23.6)	19.0	(12.6)	0.52
Ages 3 years, 6 months to 7 years									
Verbal ability[d]	182	− 0.38	(0.92)	150	− 0.30	(0.95)	− 0.09	(0.12)	− 0.06
Math ability[e]	177	− 0.30	(0.94)	145	− 0.29	(0.83)	− 0.01	(0.13)	− 0.01
Executive functioning (self-regulation)[f]	169	13.33	(15.94)	124	14.21	(15.79)	− 0.89	(1.39)	− 0.04
Ages 8 to 17 years									
Anxiety[g]	188	35.51	(7.65)	145	34.09	(7.66)	1.42	(1.17)	0.13
Fears[h]	189	63.29	(14.21)	149	64.25	(14.26)	− 0.97	(2.06)	− 0.04
Substance use[i] (%)	185	4.09	(21.57)	147	11.46	(31.25)	− 7.37**	(3.18)	− 0.19
Goal-oriented thinking[j]	179	23.41	(4.73)	146	22.29	(4.27)	1.12*	(0.61)	0.16
School effort in past month[k]	186	2.73	(0.80)	147	2.58	(0.80)	0.15	(0.10)	0.14
Arrests or police involvement in past 6 months[l] (%)	102	15.75	(32.38)	93	9.95	(32.47)	5.79	(6.19)	0.14

CBRR = community-based rapid re-housing. SUB = permanent housing subsidy.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] Met developmental milestones outcome is defined as scoring above the typical development cutoffs in all domains of the Ages and Stages Questionnaire (ASQ-3).

[c] Base for low birthweight outcome (parent report) is children born since random assignment who are at least 1 year old at followup.

[d] Verbal ability outcome is the nationally standardized score from the Woodcock-Johnson III (WJ III) letter-word identification scale.

[e] Math ability outcome is the nationally standardized score from the WJ III applied problems test.

[f] Executive functioning outcome is the Head Toes Knees Shoulders (HTKS) score and ranges from 0 to 40, with higher scores indicating greater executive functioning.

[g] Anxiety (child report) is measured using the A-Trait scale from the State-Trait Anxiety Inventory for Children (STAIC). Scores range from 20 to 60, with higher scores indicating greater anxiety.

[h] Fears outcome (child report) is the score from the Fears Scale and ranges from 33 to 99, with higher scores indicating more fear.

[i] Substance use (child report) is measured with 23 items from the Centers for Disease Control and Prevention (CDC) 2011 Youth Risk Behavior Survey.

[j] Goal-oriented thinking (child report) is measured with a modified version of the Children's Hope Scale and ranges from 6 to 30, with higher scores indicating higher levels of positive, goal-oriented thinking.

[k] School effort outcome (child report) ranges from 1 to 4, with higher scores indicating greater effort during school day and on homework.

[l] Arrest or police involvement in past 6 months is from parent report.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey (parent report); Family Options Study 18-month child survey (child report); ASQ-3; WJ III; HTKS

SUB-versus-UC comparison. Although the result for low birth weight appears large, very few children were born in the 18 months after random assignment, so the numbers of children included in the test are quite small, and the result is not statistically significant. All 4 of the significant differences out of 26 tests regarding child well-being favored the SUB group, but only the impact on school mobility and preschool or Head Start Program enrollment was apparent in the SUB-versus-UC comparison. The others are, therefore, probably best interpreted as random variation.

Impacts on Self-Sufficiency in the SUB-Versus-CBRR Comparison

Exhibit 9-9 shows effects on self-sufficiency outcomes in the SUB-versus-CBRR comparison. Statistically significant effects were found on 5 of the 20 outcomes in the exhibit. Similar to the SUB-versus-UC results, SUB had negative effects on the proportion of family heads who worked since random assignment (reduction of 9 percentage points) and on the number of months worked for pay since random assignment

(reduction of 2 months). The apparent reduction in labor supply during the followup period is consistent with theory and previous studies, as Section 6.7 addressed. Although no significant reduction occurred in the proportion of family heads working at followup, a reduction in current earnings did occur, suggesting that SUB was still reducing labor supply somewhat at the point of followup.

The team found a statistically significant effect on total income, with SUB reducing annual income in the year prior to the survey by $978, but no effects on sources of income at the time of the survey. Likewise, the results indicate no effects on participation in education and training programs or on food security.

The impact estimate on the economic stress scale shows that SUB reduced economic stress in the 6 months before the survey by a standardized effect size of 0.18 compared with economic stress under CBRR. This result is not surprising, given that the two groups had similar cash income and that the housing subsidy represented an additional several

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Exhibit 9-9. SUB Versus CBRR: Impacts on Self-Sufficiency

Outcome	SUB			CBRR			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Employment status									
Work for pay in week before survey (%)	381	27.0	(43.9)	308	31.1	(46.9)	− 4.1	(3.5)	− 0.08
Any work for pay since RA (%)	381	53.4	(50.0)	308	62.3	(48.2)	− 8.9**	(3.6)	− 0.16
Months worked for pay since RA[b]	377	5.4	(7.0)	306	7.5	(7.9)	− 2.1***	(0.6)	− 0.24
Hours of work per week at current main job[c]	381	8.1	(14.4)	308	9.9	(15.8)	− 1.8	(1.2)	− 0.10
Income sources and amounts									
Annualized current earnings ($)	377	4,083	(8,471)	307	5,256	(9,386)	− 1,172*	(682)	− 0.11
Total family income ($)	369	8,400	(6,958)	294	9,378	(6,900)	− 978*	(586)	− 0.11
Anyone in family had earnings in past month (%)	381	36.2	(48.0)	308	41.4	(49.5)	− 5.3	(3.7)	− 0.09
Anyone in family received TANF in past month (%)	380	38.4	(48.9)	308	34.1	(47.7)	4.3	(3.6)	0.08
Anyone in family received SSDI in past month (%)	380	8.1	(26.6)	308	6.8	(24.1)	1.3	(2.0)	0.04
Anyone in family received SSI in past month (%)	380	13.0	(33.8)	308	14.1	(34.0)	− 1.1	(2.3)	− 0.03
Anyone in family received SNAP/food stamps in past month (%)	380	88.3	(31.7)	308	84.8	(35.7)	3.5	(2.8)	0.08
Anyone in family received WIC in past month (%)	380	33.4	(47.2)	308	30.9	(47.0)	2.5	(3.4)	0.05
Education and training									
Participated in 2 weeks or more of any school or training since RA (%)	380	26.1	(44.1)	308	25.2	(43.4)	0.8	(3.5)	0.02
Number of weeks in school/training programs since RA	377	3.7	(10.5)	304	4.0	(10.4)	− 0.3	(0.8)	− 0.03
Participated in 2 weeks or more of school since RA (%)	380	7.3	(26.2)	308	5.0	(21.6)	2.3	(1.9)	0.08
Participated in 2 weeks or more of basic education since RA (%)	380	0.7	(8.9)	308	2.4	(14.9)	− 1.7	(1.0)	− 0.12
Participated in 2 weeks or more of vocational education since RA (%)	380	6.3	(25.3)	308	8.7	(27.8)	− 2.3	(2.1)	− 0.08
Food security and hunger									
Household is food insecure (%)	381	25.6	(44.2)	308	30.0	(45.6)	− 4.4	(3.6)	− 0.08
Food insecurity scale[d]	380	1.35	(1.98)	306	1.57	(1.99)	− 0.22	(0.16)	− 0.10
Economic stressors									
Economic stress scale[e]	380	− 0.21	(0.48)	307	− 0.11	(0.48)	− 0.10***	(0.04)	− 0.18

CBRR = community-based rapid re-housing. SUB = permanent housing subsidy.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error. SNAP = Supplemental Nutrition Assistance Program. SSDI = Social Security Disability Insurance. SSI = Supplemental Security Income. TANF = Temporary Assistance for Needy Families. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] Number of months worked for pay includes partial calendar months.

[c] Hours of work per week includes those not currently working (that is, those with 0 hours of work per week).

[d] Food insecurity scale ranges from 0 to 6, with higher values indicating higher food insecurity.

[e] Economic stress scale ranges from − 1 to 1, with higher values indicating higher economic stress.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

thousand dollars of resources available annually to the 76 percent of SUB families who still held the voucher at followup.

Summary of SUB-Versus-CBRR Comparison Across Domains

For the SUB-versus-CBRR comparison, the study engineered a notable contrast in program use, with 84 percent of SUB families receiving the SUB intervention and 64 percent of CBRR families receiving CBRR. This contrast in program participation led to marked differences between the experiences of SUB and CBRR families in several areas. The most noteworthy effect of priority access to SUB relative to CBRR was in its greater prevention of homelessness. Only 18 percent of SUB families, compared with 39 percent of CBRR families, spent at least 1 night staying in shelter or a place not meant for human habitation or doubled up in the 6 months prior to followup survey completion. Also, only 15 percent of SUB families, compared with 28 percent of CBRR families, spent at least 1 night in emergency shelter in months 7 to 18 after study entry. On average, SUB families spent about 4 weeks fewer than CBRR families being homeless or doubled up during the past 6 months (22 compared with 52 days).

As compared with CBRR, SUB also led to greater housing independence, increasing the proportion of families living in their own house or apartment at followup from 64 to 72 percent and reducing crowding. The greater stability afforded by the SUB assistance was evidenced in a reduction in the number of places lived in the past 6 months and a reduction in the number of schools attended by focal children since random assignment.

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The SUB-versus-CBRR comparison does not yield a strong pattern of effects in family preservation, adult well-being, child well-being, or self-sufficiency. The multitude of statistical tests performed in these domains is likely to produce a few statistically significant estimates simply by chance. The research team finds more credible those significant effects on outcomes that also have significant effects in the SUB-versus-UC comparison. Thus, a few of the significant impacts in domains other than housing stability are worth noting. In the adult well-being domain, SUB reduced the amount of intimate partner violence experienced by family heads by half relative to CBRR. In the self-sufficiency domain, SUB reduced the proportion of family heads who work during the followup period from 62 to 53 percent and reduced the average number of months worked by 2 months. On the other hand, the additional resources represented by the SUB housing assistance served to reduce economic stress for families in the past 6 months of the followup period.

Overall, do the families assigned to SUB appear to be doing better at this point than the families assigned to CBRR? In short, yes. The SUB families, on average, have certainly had fewer negative experiences than the CBRR families (reductions in homelessness, doubling up, and intimate partner violence). The SUB families are somewhat more likely to live in their own place, the children move among schools less, and the family heads experience less economic stress. The ways in which SUB families appear to be doing better than CBRR families, however, seem dependent on contemporaneous receipt of the housing assistance. The short-term results provide no direct evidence of effects on outcomes that might outlast the housing assistance (such as training or work history outcomes for parents or school, health, or developmental outcomes for children). The next wave of the study will reveal whether any of these other effects emerge at the 3-year followup point.

9.3 The Permanent Housing Subsidy (SUB) Versus Project-Based Transitional Housing (PBTH) Comparison

The SUB-versus-PBTH comparison contrasts the permanent housing subsidy of the SUB intervention with the temporary housing (up to 24 months with average stays of about 12 months during this followup period) in agency-controlled units paired with intensive supportive services of the PBTH intervention. As described in Chapter 3, these interventions represent distinct approaches to addressing family homelessness. Proponents of PBTH emphasize that most families who become homeless have additional barriers that make it hard for them to secure and maintain housing. Consistent with this perspective, PBTH programs offer comprehensive case management and provide many supportive services directly. These services are entirely absent from the SUB intervention.

9.3.1 Program Use by Families in the SUB-Versus-PBTH Comparison

Exhibit 9-10 shows the use of seven types of homeless and housing programs by the 230 SUB families and 187 PBTH families analyzed in the SUB-versus-PBTH comparison.[126] The first column shows some modest differences in the general pattern of usage for these SUB families as compared with all SUB families (shown in Exhibit 6-2 in Chapter 6).[127] The proportions of these PBTH families shown in the second column are very similar to the proportions of all PBTH families (shown in Exhibit 8-6 in Chapter 8). The first two columns show that 83 percent of families assigned to SUB used the SUB intervention and 52 percent of PBTH families used transitional housing. The numbers of months of program use (in columns 3 through 6) and the proportions using the program in the month of followup survey response (in columns 7 through 8) are largely similar to those in the previous exhibits. As a result, the proportion of families participating in some program during the survey month exhibits a large difference, with 79 percent of SUB families doing so (most receiving SUB assistance) and the majority of PBTH families (58 percent) not participating in any program.

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[126] The SUB-versus-PBTH comparison sample consists of 256 families assigned to SUB and 240 families assigned to PBTH. Of these 496 families, 230 SUB families and 187 CBRR families (84 percent) responded to the 18-month followup survey.

[127] When compared with all SUB families, this subset of SUB families is somewhat less likely to ever use rapid re-housing (7 percent rather than 13 percent).

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Exhibit 9-10. SUB Versus PBTH Program Use Since Random Assignment

Type of Housing Assistance	Percent Ever Used From RA to 18-Month Followup Survey[a]		Number of Months Used From RA to 18-Month Followup Survey, if Ever Used Type of Housing Assistance				Percent Used in Month of Followup Survey Response	
	SUB	PBTH	SUB		PBTH		SUB	PBTH
			Mean	Median	Mean	Median		
Subsidy (SUB)[b]	82.7	4.8	16.8	17.5	8.5	7.5	70.8	3.7
Rapid re-housing (CBRR)	6.7	8.5	3.3	2.5	8.5	11.5	0.0	1.8
Transitional housing	7.8	52.3	8.0	6.0	11.4	11.0	1.8	20.9
Permanent supportive housing	0.9	7.2	6.8	1.5	8.0	7.5	1.0	4.7
Public housing	1.2	5.0	9.3	8.5	9.7	8.5	1.2	4.1
Project-based vouchers/Section 8 projects	1.6	4.4	16.0	16.5	10.4	9.5	1.3	2.9
Emergency shelter[c]	86.6	82.9	2.4	2.0	3.4	2.0	2.9	4.2
No use of homeless or housing programs[d]	6.8	21.5	19.5	19.0	19.4	19.0	20.9	58.3
N	230	187	—	—	—	—	230	187

PBTH = project-based transitional housing.

RA = random assignment.

[a] Percentage of families who ever used a type of assistance program during the period from the month of RA to the month of the 18-month followup survey response (median period duration: 21 months). Percentages do not add to 100 because some families used more than one program type during the followup period.

[b] Subsidy assistance is housing choice vouchers plus site-specific programs offered to families assigned to the permanent housing subsidy (SUB) group in Bridgeport, Connecticut and Honolulu, Hawaii.

[c] All families were in emergency shelter at random assignment. Percentages less than 100 percent for ever used emergency shelter are because of missing data on shelter use.

[d] No use of homeless or housing programs (ever used) indicates no use of the seven program types in this table during any of the followup period and no use of emergency shelter after the first 6 months after RA. No use in the month of the followup survey response indicates no use of any of these seven program types.

Notes: Percentages are regression adjusted, controlling for site and randomization ratio. Percentages, means, and, medians are weighted for survey nonresponse to represent full comparison sample.

Source: Family Options Study Program Usage Data

9.3.2 Impacts of SUB Compared With PBTH

As Chapter 3 addressed, SUB and PBTH proponents have divergent views about the package of housing assistance and services that homeless families need. From the perspective of SUB proponents, SUB is expected to reduce homelessness and improve housing stability relative to PBTH, and—by this means—it may improve family preservation, adult well-being, and child well-being. These expectations are because SUB provides permanent housing assistance. On the other hand, PBTH proponents expect that PBTH will improve long-term housing stability, employment, earnings, education, and adult well-being relative to SUB and that it may improve family preservation and child well-being. These expectations of PBTH proponents are because PBTH addresses barriers to housing stability and attempts to put families on track for better employment and earnings. The next section addresses the experimental short-term impact evidence on these divergent expectations.

Impacts on Housing Stability in the SUB-Versus-PBTH Comparison

Exhibit 9-11 shows the effect on housing stability of being assigned to SUB relative to being assigned to PBTH. The effects of SUB relative to PBTH are favorable, large, and statistically significant on nearly all homelessness outcomes.[128]

SUB reduced the confirmatory outcome of being homeless or doubled up in the past 6 months or in emergency shelter in the past 12 months from 49 to 17 percent relative to PBTH. This rate represents a reduction of 31 percentage points, which is nearly two-thirds of the recent experience of homelessness for the PBTH families. The next three rows show large reductions in the proportions of families experiencing subsequent stays in shelter or places not meant for human habitation and doubling up in the past 6 months. The preventive effect of SUB on doubling up was particularly strong; 34 percent of PBTH families experienced doubling up in the 6 months before the survey compared with only 9 percent of SUB families. SUB, relative to PBTH, also reduced the event of emergency shelter use during months 7 to 18 after random assignment by two-thirds (from 21 to 7 percent of families) and the number of days spent homeless or doubled up in the past 6 months by 5 weeks. The last two rows of the first panel show that this reduction is largely because of a reduction in the number of days spent doubled up rather than the number of days spent homeless.

The second panel of the exhibit shows that SUB increases the proportion of families living in their own house or apartment at followup (with or without assistance) from 55 to 81 percent relative to PBTH. This effect is due in part to the 21 percent of PBTH families who are still living in transitional

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[128] The homeless outcomes in this study diverge from the homeless definition final rule in that they do not include stays in transitional housing in their definitions of being homeless. Additional impacts on the use of transitional housing during the followup period are provided in Appendix E.

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Exhibit 9-11. SUB Versus PBTH: Impacts on Housing Stability

Outcome	SUB			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Homeless or doubled up during the followup period									
At least 1 night homeless[b] or doubled up in past 6 months or in shelter in past 12 months (%) **[Confirmatory][c]**	229	17.3	(39.5)	187	48.5	(50.0)	– 31.2***	(5.0)	– 0.55
At least 1 night homeless[b] or doubled up in past 6 months (%)	229	13.2	(36.5)	187	40.6	(48.5)	– 27.3***	(4.7)	– 0.49
At least 1 night homeless[b] in past 6 months (%)	229	8.0	(30.1)	187	21.3	(38.7)	– 13.3***	(3.8)	– 0.27
At least 1 night doubled up in past 6 months (%)	230	9.4	(32.3)	187	34.2	(46.6)	– 24.8***	(4.4)	– 0.47
Any stay in emergency shelter in months 7 to 18 after RA (%)	230	6.7	(25.5)	187	20.6	(39.1)	– 13.9***	(3.6)	– 0.27
Number of days homeless[b] or doubled up in past 6 months	229	16.4	(51.1)	186	51.3	(72.3)	– 34.9***	(7.0)	– 0.41
Number of days homeless[b] in past 6 months	228	9.0	(35.5)	184	15.1	(37.6)	– 6.1	(4.4)	– 0.11
Number of days doubled up in past 6 months	230	9.7	(40.8)	187	44.5	(68.6)	– 34.8***	(6.5)	– 0.47
Housing independence									
Living in own house or apartment at followup (%)	230	81.4	(40.4)	160	54.8	(49.5)	26.6***	(5.1)	0.47
Living in own house or apartment with no housing assistance (%)	230	14.2	(31.7)	160	37.1	(49.0)	– 22.9***	(4.7)	– 0.43
Living in own house or apartment with housing assistance (%)	230	67.2	(46.6)	160	17.7	(39.2)	49.5***	(4.5)	1.02
Number of places lived									
Number of places lived in past 6 months	229	1.3	(0.8)	186	1.7	(1.1)	– 0.4***	(0.1)	– 0.27
Housing quality									
Persons per room	228	1.3	(0.7)	185	1.7	(1.0)	– 0.4***	(0.1)	– 0.26
Housing quality is poor or fair (%)	230	21.0	(41.9)	186	39.2	(49.0)	– 18.2***	(4.7)	– 0.34

PBTH = project-based transitional housing. SUB = permanent housing subsidy.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] The definition of *homeless* in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing.

[c] After adjustment for multiple comparisons, the impact on the confirmatory outcome is statistically significant at the .01 level for the SUB-versus-PBTH comparison.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey; Program Usage Data

housing at the time of the followup survey. SUB families are much less likely (23 percentage points) than PBTH families to be living in their own place with no housing assistance and much more likely to be living in their own place *with* housing assistance (50 percentage points).

The third panel of the exhibit shows that SUB families had greater residential stability than PBTH families in the months before the survey. SUB reduced the number of places lived in the past 6 months by 0.4 places. Some of this effect is likely because some PBTH families moved out of transitional housing at the end of their program participation.

The bottom panel of the exhibit shows that SUB families were living in less crowded conditions than PBTH families, with an average of 1.3 persons per room compared with 1.7 persons per room for PBTH. SUB families also reported better housing quality at the time of the survey than did families assigned to PBTH.

Impacts on Family Preservation in the SUB-Versus-PBTH Comparison

Exhibit 9-12 shows the effects on family preservation in the SUB-versus-PBTH comparison. Results here are varied in direction. SUB reduced separations from children who were with the family at baseline by two-fifths (from 15 to 9 percent of families) and more than doubled reunifications with the smaller number of children who were separated from the family at baseline (from 17 to 45 percent) compared with the PBTH intervention. On the other hand, the even smaller number of spouses and partners separated at baseline were more than twice as likely to be reunited in the PBTH intervention (58.6 versus 21.3 percent).

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Exhibit 9-12. SUB Versus PBTH: Impacts on Family Preservation

Outcome	SUB			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Current or recent separations of family members present at baseline									
Family has at least one child separated in past 6 months (%)	225	8.5	(28.5)	184	14.8	(34.9)	− 6.3*	(3.5)	− 0.15
Family has at least one foster care placement in past 6 months (%)	225	1.4	(11.5)	185	2.3	(16.3)	− 0.9	(1.2)	− 0.04
Spouse/partner separated in past 6 months, of those with spouse/partner present at RA (%)	66	28.8	(47.5)	55	33.9	(46.6)	− 5.1	(9.4)	− 0.09
Reunification of family members reported as separated at baseline									
Family has at least one child reunified, of those families with at least one child absent at RA (%)	48	44.5	(48.9)	36	16.7	(45.4)	27.7**	(12.0)	0.55
Spouse/partner reunified, of those with spouse/partner absent at RA (%)	23	21.3	(47.0)	19	58.6	(51.3)	− 37.3*	(20.2)	− 0.65

PBTH = project-based transitional housing. SUB = permanent housing subsidy.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

Impacts on Adult Well-Being in the SUB-Versus-PBTH Comparison

Exhibit 9-13 shows short-term effects on adult well-being outcomes for the SUB-versus-PBTH comparison. SUB had statistically significant impacts on the two mental health outcomes relative to PBTH, leading to an increase in positive, goal-oriented thinking (standardized effect size of 0.17) and a decrease in psychological distress (standardized effect size of 0.23). Relative to PBTH, SUB had no statistically significant effects on physical health, trauma symptoms, substance use, or experience of intimate partner violence.

Exhibit 9-13. SUB Versus PBTH: Impacts on Adult Well-Being

Outcome	SUB			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Adult physical health									
Health in past 30 days was poor or fair (%)	230	30.1	(46.6)	187	35.4	(47.4)	− 5.3	(4.7)	− 0.10
Adult mental health									
Goal-oriented thinking[b]	229	4.58	(1.05)	187	4.37	(1.04)	0.20*	(0.11)	0.17
Psychological distress[c]	228	6.64	(5.15)	187	8.14	(6.01)	− 1.51***	(0.54)	− 0.23
Adult trauma symptoms									
Post-traumatic stress disorder (PTSD) symptoms in past 30 days (%)	229	21.4	(41.7)	187	26.4	(43.8)	− 5.1	(4.3)	− 0.10
Adult substance use									
Alcohol dependence or drug abuse[d] (%)	230	14.4	(32.8)	187	19.0	(38.7)	− 4.7	(4.1)	− 0.12
Alcohol dependence[d] (%)	230	10.4	(28.2)	187	16.2	(36.3)	− 5.8	(3.9)	− 0.16
Drug abuse[d] (%)	230	6.4	(24.0)	187	3.3	(17.7)	3.1	(2.1)	0.12
Experience of intimate partner violence									
Experienced intimate partner violence in past 6 months (%)	230	6.3	(24.7)	187	10.2	(28.8)	− 3.9	(3.1)	− 0.11

PBTH = project-based transitional housing. SUB = permanent housing subsidy.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] Goal-oriented thinking is measured with a modified version of the State Hope Scale and ranges from 1 to 6, with higher scores indicating higher levels of positive, goal-oriented thinking.

[c] Psychological distress is measured with the Kessler 6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress.

[d] Alcohol dependence is measured with the Rapid Alcohol Problems Screen (RAPS4), and drug abuse is measured with six items from the Drug Abuse Screening Test (DAST-10).

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

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Impacts on Child Well-Being in the SUB-Versus-PBTH Comparison

Only 3 of 15 cross-age impacts (Exhibit 9-14) and 0 of 11 age-specific impacts (Exhibit 9-15) reached statistical significance. The first panel of Exhibit 9-14 shows that, relative to PBTH, SUB decreased school mobility but increased the proportion of children with reported childcare or school conduct problems (by 9 percentage points). The third panel of Exhibit 9-14 shows that SUB also reduced parent-rated

prosocial behavior (standardized effect size of 0.16). Child well-being was assessed only for children who were with their parent at the time of the followup survey. To the extent that out-of-home placements either reflect or cause problems in conduct, selection could account, in part, for the latter two impacts. Both the small number of significant effects (3 of 26)—which could easily be by chance—and the fact that they do not consistently favor one group suggest that SUB had little or no effect on child outcomes relative to PBTH.

Exhibit 9-14. SUB Versus PBTH: Impacts on Child Well-Being Across Age Groups

Outcome	SUB			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Child education									
Preschool or Head Start enrollment[b] (%)	135	33.2	(49.2)	88	36.5	(49.2)	− 3.3	(7.7)	− 0.05
School enrollment[c] (%)	190	88.9	(30.8)	177	91.0	(28.8)	− 2.1	(3.2)	− 0.06
Childcare or school absences in past month[d]	224	0.74	(0.92)	193	0.86	(0.91)	− 0.12	(0.11)	− 0.10
Number of schools attended since RA[e]	232	1.70	(0.73)	202	1.86	(0.82)	− 0.16*	(0.09)	− 0.14
Grade completion (not held back) (%)	178	94.0	(23.1)	167	95.1	(20.1)	− 1.1	(3.0)	− 0.03
Positive childcare or school experiences[f]	256	0.59	(0.53)	220	0.66	(0.53)	− 0.07	(0.06)	− 0.10
Positive childcare or school attitudes[g]	253	4.22	(1.04)	218	4.33	(0.99)	− 0.11	(0.12)	− 0.09
School grades[h]	155	2.97	(0.93)	148	2.92	(0.88)	0.05	(0.11)	0.04
Childcare or school conduct problems[i]	227	0.28	(0.43)	199	0.19	(0.39)	0.09*	(0.05)	0.16
Child physical health									
Poor or fair health (%)	340	6.3	(23.6)	276	7.5	(25.4)	− 1.2	(3.0)	− 0.04
Well-child checkup in past year (%)	341	88.8	(32.2)	273	92.0	(27.3)	− 3.2	(3.0)	− 0.08
Child has regular source of health care (%)	341	94.6	(24.1)	276	96.1	(20.4)	− 1.5	(2.0)	− 0.04
Sleep problems[j]	341	2.25	(1.10)	276	2.12	(1.12)	0.13	(0.11)	0.09
Child behavioral strengths and challenges									
Behavior problems[k]	271	0.62	(1.17)	224	0.48	(1.13)	0.14	(0.13)	0.09
Prosocial behavior[l]	271	− 0.21	(1.06)	224	0.01	(1.07)	− 0.23*	(0.12)	− 0.16

PBTH = project-based transitional housing. SUB = permanent housing subsidy.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] Base for preschool or Head Start enrollment is children ages 1 year, 6 months to 5 years.

[c] Base for school enrollment is children ages 6 to 17 years.

[d] Absences outcome is defined as 0 = no absences in past month, 1 = 1 to 2 absences, 2 = 3 to 5 absences, 3 = 6 or more absences.

[e] Number of schools outcome is topcoded at 4 or more schools.

[f] Positive childcare or school experiences outcome is defined as − 1 = mostly negative experiences, 0 = both positive and negative experiences, 1 = mostly positive experiences.

[g] Positive childcare or school attitudes outcome is parent report of how much child likes school and ranges from 1 to 5, with higher values indicating greater like of school.

[h] School grades outcome is defined as 1 = mostly Ds or Fs, 2 = mostly Cs, 3 = mostly Bs, 4 = mostly As.

[i] Childcare or school conduct problems outcome is defined as 0 = no conduct problems reported to parent, 1 = parent contacted about conduct problems or suspension or expulsion from school or childcare center.

[j] Sleep problems outcome ranges from 1 to 5, with higher values indicating more frequent tiredness upon waking and during the day.

[k] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire (SDQ).

[l] Prosocial behavior is measured as the standardized Prosocial domain score from the SDQ.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey (parent report)

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Exhibit 9-15. SUB Versus PBTH: Impacts on Child Well-Being Developmental Outcomes by Age Group

Outcome	SUB			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Ages 1 year to 3 years, 6 months									
Met developmental milestones[b] (%)	84	71.5	(46.5)	54	73.7	(44.2)	− 2.2	(9.4)	− 0.04
Low birth weight[c] (%)	20	8.9	(30.8)	14	12.4	(36.3)	− 3.5	(9.3)	− 0.10
Ages 3 years, 6 months to 7 years									
Verbal ability[d]	127	− 0.23	(1.00)	100	− 0.39	(0.81)	0.16	(0.15)	0.12
Math ability[e]	119	− 0.22	(0.98)	96	− 0.30	(0.93)	0.08	(0.15)	0.06
Executive functioning (self-regulation)[f]	119	18.60	(16.16)	89	16.89	(16.39)	1.71	(1.63)	0.07
Ages 8 to 17 years									
Anxiety[g]	87	36.63	(6.68)	84	35.12	(7.35)	1.51	(1.37)	0.14
Fears[h]	87	63.32	(13.73)	85	63.75	(14.37)	− 0.43	(2.15)	− 0.02
Substance use[i] (%)	86	10.60	(32.24)	84	13.20	(35.20)	− 2.60	(4.55)	− 0.07
Goal-oriented thinking[j]	81	22.06	(4.77)	82	21.54	(5.55)	0.52	(1.00)	0.08
School effort in past month[k]	84	2.59	(0.82)	85	2.53	(0.78)	0.06	(0.16)	0.06
Arrests or police involvement in past 6 months[l] (%)	51	6.46	(27.15)	40	8.57	(22.07)	− 2.11	(6.39)	− 0.05

PBTH = project-based transitional housing. SUB = permanent housing subsidy.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] Met developmental milestones outcome is defined as scoring above the typical development cutoffs in all domains of the Ages and Stages Questionnaire (ASQ-3).

[c] Base for low birthweight outcome (parent report) is children born since random assignment who are at least 1 year old at followup.

[d] Verbal ability outcome is the nationally standardized score from the Woodcock-Johnson III (WJ III) letter-word identification scale.

[e] Math ability outcome is the nationally standardized score from the WJ III applied problems test.

[f] Executive functioning outcome is the Head Toes Knees Shoulders (HTKS) score and ranges from 0 to 40, with higher scores indicating greater executive functioning.

[g] Anxiety (child report) is measured using the A-Trait scale from the State-Trait Anxiety Inventory for Children (STAIC). Scores range from 20 to 60, with higher scores indicating greater anxiety.

[h] Fears outcome (child report) is the score from the Fears Scale and ranges from 33 to 99, with higher scores indicating more fear.

[i] Substance use (child report) is measured with 23 items from the Centers for Disease Control and Prevention (CDC) 2011 Youth Risk Behavior Survey.

[j] Goal-oriented thinking (child report) is measured with a modified version of the Children's Hope Scale and ranges from 6 to 30, with higher scores indicating higher levels of positive, goal-oriented thinking.

[k] School effort outcome (child report) ranges from 1 to 4, with higher scores indicating greater effort during school day and on homework.

[l] Arrest or police involvement in past 6 months is from parent report.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey (parent report); Family Options Study 18-month child survey (child report); ASQ-3; WJ III; HTKS

Impacts on Self-Sufficiency in the SUB-Versus-PBTH Comparison

Exhibit 9-16 shows statistically significant effects on 11 of the 20 self-sufficiency outcomes in the SUB-versus-PBTH comparison. Similar to the results of other comparisons involving SUB, SUB had negative effects on measures of work effort. Relative to PBTH, SUB reduced the proportion of family heads who worked for pay in the week before the survey (from 36 to 25 percent) and who performed any work for pay since study entry (from 60 to 50 percent). The reduction in labor supply during the followup period is consistent with theory and previous studies, as Section 6.7 addressed. The fourth row shows that SUB also had a negative effect on hours of work at current main job. This effect, however, is entirely driven by the negative effect on current employment shown in the first row rather than representing an independent effect on work hours for those who were working.[129]

The second panel of the exhibit shows that the average annual cash income reported by SUB families (about $9,000) was lower than that reported by PBTH families (about $10,500). Two of the impacts on income sources also reflect lower cash income for SUB families. SUB families were less likely to have had anyone with earnings (by 9 percentage points) or with Social Security Disability Insurance (SSDI) benefits (by 4 percentage points) than PBTH families.

The third panel of the exhibit shows a surprising result in its first row. A greater proportion of SUB families participated in at least 2 weeks of school or training during the followup period (30 percent of SUB families compared with 21 percent of PBTH families). This result is surprising because most PBTH providers incorporated some kind of employment training into their programs (although this training may have been shorter than 2 weeks).

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[129] In fact, those SUB family heads who were working at followup worked an average of 32.3 hours per week at their main job compared with 30.9 hours per week for working PBTH family heads.

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Exhibit 9-16. SUB Versus PBTH: Impacts on Self-Sufficiency

Outcome	SUB			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Employment status									
Work for pay in week before survey (%)	230	24.7	(42.7)	187	35.7	(48.2)	− 11.0**	(4.5)	− 0.21
Any work for pay since RA (%)	230	49.7	(50.1)	187	60.4	(49.0)	− 10.7**	(4.7)	− 0.19
Months worked for pay since RA[b]	228	5.0	(6.8)	186	5.8	(7.1)	− 0.8	(0.6)	− 0.10
Hours of work per week at current main job[c]	230	8.0	(14.4)	187	11.1	(17.0)	− 3.1**	(1.5)	− 0.17
Income sources and amounts									
Annualized current earnings ($)	226	4,112	(8,800)	182	5,859	(10,023)	− 1,747**	(833)	− 0.17
Total family income ($)	225	8,993	(6,983)	184	10,483	(9,210)	− 1,490*	(767)	− 0.17
Anyone in family had earnings in past month (%)	230	37.2	(48.4)	187	46.5	(50.1)	− 9.2*	(4.7)	− 0.16
Anyone in family received TANF in past month (%)	230	37.0	(48.5)	187	34.1	(47.4)	2.8	(4.5)	0.05
Anyone in family received SSDI in past month (%)	230	5.0	(21.4)	187	9.1	(28.0)	− 4.1*	(2.4)	− 0.14
Anyone in family received SSI in past month (%)	230	12.4	(32.8)	187	12.1	(32.9)	0.3	(2.5)	0.01
Anyone in family received SNAP/food stamps in past month (%)	230	88.7	(33.3)	187	87.0	(33.5)	1.7	(3.3)	0.04
Anyone in family received WIC in past month (%)	230	34.0	(47.7)	187	33.5	(47.0)	0.5	(4.2)	0.01
Education and training									
Participated in 2 weeks or more of any school or training since RA (%)	229	29.5	(46.2)	187	21.0	(41.1)	8.5*	(4.5)	0.17
Number of weeks in school/training programs since RA	226	4.6	(11.2)	187	3.1	(8.0)	1.5	(0.9)	0.14
Participated in 2 weeks or more of school since RA (%)	229	8.1	(27.0)	187	5.5	(23.6)	2.6	(2.5)	0.09
Participated in 2 weeks or more of basic education since RA (%)	229	0.6	(9.3)	187	1.2	(10.3)	− 0.6	(1.0)	− 0.04
Participated in 2 weeks or more of vocational education since RA (%)	229	7.4	(27.6)	187	6.0	(22.6)	1.4	(2.5)	0.05
Food security and hunger									
Household is food insecure (%)	230	23.7	(44.0)	187	31.5	(45.4)	− 7.9*	(4.5)	− 0.14
Food insecurity scale[d]	230	1.20	(1.89)	187	1.67	(2.00)	− 0.47**	(0.20)	− 0.20
Economic stressors									
Economic stress scale[e]	230	− 0.22	(0.45)	187	− 0.07	(0.48)	− 0.15***	(0.04)	− 0.26

PBTH = project-based transitional housing. SUB = permanent housing subsidy.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error. SNAP = Supplemental Nutrition Assistance Program. SSDI = Social Security Disability Insurance. SSI = Supplemental Security Income. TANF = Temporary Assistance for Needy Families. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] Number of months worked for pay includes partial calendar months.

[c] Hours of work per week includes those not currently working (that is, those with 0 hours of work per week).

[d] Food insecurity scale ranges from 0 to 6, with higher values indicating higher food insecurity.

[e] Economic stress scale ranges from − 1 to 1, with higher values indicating higher economic stress.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

The fourth panel of the exhibit shows that, relative to PBTH, SUB reduced the proportion of families who were food insecure from 32 to 24 percent and reduced the average level of food insecurity by a standardized effect size of .20. Likewise, the final row of the exhibit shows that SUB reduced economic stress by a standardized effect size of 0.26. These reductions in food insecurity and economic stress suggest that the additional several thousand dollars of resources represented by SUB each year more than offset the average $1,500 reduction in cash income.

Summary of SUB-Versus-PBTH Comparison Across Domains

For the SUB-versus-PBTH comparison, the randomization resulted in a notable contrast in program use, with 83 percent of SUB families receiving the SUB intervention and 52 percent

of PBTH families receiving transitional housing. This contrast in program participation led to marked differences between the experiences of SUB and PBTH families in several areas. The most noteworthy effect of SUB relative to PBTH was in its greater prevention of homelessness. Only 13 percent of SUB families, compared with 41 percent of PBTH families, spent at least 1 night in an emergency shelter, a place not meant for human habitation, or doubled up in the past 6 months. Also, only 7 percent of SUB families, compared with 21 percent of PBTH families, spent at least 1 night in emergency shelter in months 7 to 18 after random assignment. On average, SUB families spent 5 weeks fewer than PBTH families being homeless or doubled up during the past 6 months (16 compared with 51 days). Most of this effect was a reduction of the number of days spent doubled up.

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As compared with PBTH, SUB also led to greater housing independence, increasing the proportion of families living in their own house or apartment at followup from 55 to 81 percent. Part of this effect resulted from the fact that 21 percent of PBTH families were still living in transitional housing (and so not living in their own places) at the point of followup. The greater stability afforded by the SUB assistance was evidenced in a reduction in the number of places lived in the past 6 months and a reduction in the number of schools attended by focal children since study entry.

The SUB-versus-PBTH comparison does not yield a strong pattern of effects in the family preservation, adult well-being, or child well-being domains. Among these domains, the two most notable effects of SUB relative to PBTH are a 6-percentage-point reduction in the proportion of families with a child separation in the past 6 months (from 15 to 9 percent) and a decrease in the psychological distress reported by family heads (standardized effect size of 0.23).

In the self-sufficiency domain, the team found a number of effects of SUB relative to PBTH. SUB reduced the proportion of family heads who worked during the followup period from 60 to 50 percent and reduced the proportion who worked at the followup point from 36 to 25 percent. Partly as a result of this lower work effort, SUB families had an average annual cash income of about $1,500 less than PBTH families ($9,000 compared with $10,500). On the other hand, the additional resources represented by the SUB housing assistance more than offset the smaller cash income and served to reduce food insecurity and economic stress for families in the last 6 months of the followup period (relative to PBTH families). Also, a higher proportion of SUB family heads participated in school or training during the followup period (30 percent compared with 21 percent for PBTH).

Overall, do the families assigned to SUB appear to be doing better at this point than the families assigned to PBTH? In many ways, yes. The SUB families have many fewer experiences of being homeless and doubling up. They are much more likely than PBTH families to live in their own place, are more food secure, have children who move among schools less, and have family heads who experience less psychological distress and economic stress. As in the SUB-versus-CBRR comparison, however, the ways in which SUB families appear to be doing better than PBTH families seem dependent on contemporaneous receipt of the housing assistance. The results in the short term provide little direct evidence of effects on outcomes that might outlast the housing assistance

(such as work history outcomes for parents or school, health, or developmental outcomes for children).

9.4 The Community-Based Rapid Re-Housing (CBRR) Versus Project-Based Transitional Housing (PBTH) Comparison

The CBRR-versus-PBTH comparison contrasts the temporary private-market rental assistance and modest case management of the CBRR intervention with the temporary, agency-controlled housing paired with intensive supportive services of the PBTH intervention. Although both interventions provide temporary assistance, the length of assistance differs. CBRR assistance is usually provided for 7 to 8 months and is potentially renewable for up to 18 months. PBTH provides housing for up to 24 months, with average stays of 12 months during this followup period. As described in Chapter 3, these interventions represent distinct approaches to addressing family homelessness. Proponents of PBTH emphasize that most families who become homeless have additional barriers that make it hard for them to secure and maintain housing. Consistent with this perspective, PBTH programs offer comprehensive case management and provide many supportive services directly. Some services beyond housing search were offered to about three-fourths of CBRR families, generally with lower intensity than in PBTH. Employment and training services were offered by nearly all PBTH programs (representing 92 percent of assigned PBTH families), but only by a minority of CBRR programs (representing 37 percent of assigned CBRR families). The CBRR case managers typically served about 36 families each, roughly twice as many families as the typical PBTH case manager.

9.4.1 Program Use by Families in the CBRR-Versus-PBTH Comparison

Exhibit 9-17 shows the use of seven types of homeless and housing programs by the 179 CBRR families and 197 PBTH families analyzed in the CBRR-versus-PBTH comparison.[130] The first column shows some differences in the general pattern of usage for these CBRR families as compared with all CBRR families (shown in Exhibit 7-4). Compared with the proportion among *all* families randomly assigned to CBRR, a lower proportion of the CBRR families in this pairwise comparison used rapid re-housing (51 compared with 60 percent); a higher proportion used transitional housing

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[130] The CBRR-versus-PBTH comparison sample consists of 232 families assigned to CBRR and 239 families assigned to PBTH. Of these 471 families, 179 CBRR families and 197 PBTH families (80 percent) responded to the 18-month followup survey.

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Exhibit 9-17. CBRR Versus PBTH Program Use Since Random Assignment

Type of Housing Assistance	Percent Ever Used From RA to 18-Month Followup Survey[a]		Number of Months Used From RA to 18-Month Followup Survey, if Ever Used Type of Housing Assistance				Percent Used in Month of Followup Survey Response	
	CBRR	PBTH	CBRR		PBTH		CBRR	PBTH
			Mean	Median	Mean	Median		
Subsidy (SUB)[b]	6.1	6.1	13.0	14.5	9.5	8.5	6.1	5.2
Rapid re-housing (CBRR)	50.9	12.6	7.4	6.5	6.9	5.5	4.7	2.4
Transitional housing	24.3	54.6	8.3	6.0	11.0	11.0	7.9	22.0
Permanent supportive housing	4.0	6.1	12.4	16.5	8.4	7.5	3.3	3.0
Public housing	5.2	2.9	8.5	5.5	10.2	13.5	4.7	2.5
Project-based vouchers/Section 8 projects	2.6	3.5	10.3	10.5	10.2	9.5	2.6	3.1
Emergency shelter[c]	85.2	82.5	3.3	2.0	3.3	2.0	6.2	4.3
No use of homeless or housing programs[d]	18.6	21.4	18.4	18.0	19.5	19.0	64.9	58.8
N	**179**	**197**	—	—	—	—	**179**	**197**

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing.

RA = random assignment.

[a] Percentage of families who ever used a type of assistance program during the period from the month of RA to the month of the 18-month followup survey response (median period duration: 21 months). Percentages do not add to 100 because some families used more than one program type during the followup period.

[b] Subsidy assistance is housing choice vouchers plus site-specific programs offered to families assigned to the permanent housing subsidy (SUB) group in Bridgeport, Connecticut and Honolulu, Hawaii.

[c] All families were in emergency shelter at random assignment. Percentages less than 100 percent for ever used emergency shelter are because of missing data on shelter use.

[d] No use of homeless or housing programs (ever used) indicates no use of the seven program types in this table during any of the followup period and no use of emergency shelter after the first 6 months after RA. No use in the month of the followup survey response indicates no use of any of these seven program types.

Notes: Percentages are regression adjusted, controlling for site and randomization ratio. Percentages, means, and medians are weighted for survey nonresponse to represent full comparison sample.

Source: Family Options Study Program Usage Data

(24 compared with 19 percent); and a higher proportion used none of these programs during the followup period (19 compared with 12 percent). The lower takeup rate of rapid re-housing means that, unfortunately, this set of CBRR families provides a weaker test of CBRR in the CBRR-versus-PBTH comparison than the tests in the CBRR-versus-UC and SUB-versus-CBRR comparisons.

The proportions of PBTH families shown in the second column are similar to the proportions of all PBTH families shown in Exhibit 8-6. The first two columns show that 51 percent of families assigned to CBRR used rapid re-housing (whereas only 13 percent of PBTH families did so) and 55 percent of PBTH families used transitional housing (whereas only 24 percent of CBRR families did so). The numbers of months of program use (in columns 3 through 6) and the proportions using the program in the month of followup survey response (in columns 7 through 8) are largely similar to those in the previous exhibits. By the followup survey month, less than one-half of both groups are participating in any program. Of the CBRR families, 35 percent are participating in some program in the survey month compared with 41 percent of the PBTH families.[131] Only 5 percent of CBRR families were still receiving rapid re-housing in the survey month compared with 22 percent of PBTH families who were still receiving transitional housing at this point.

9.4.2 Impacts of CBRR Compared With PBTH

As discussed in Chapter 3, CBRR and PBTH proponents have divergent views about the package of housing assistance and services that homeless families need. From the perspective of CBRR proponents, CBRR is expected to reduce homelessness relative to PBTH and may improve housing stability, family preservation, adult well-being, child well-being, employment, and earnings. CBRR is also expected to reduce the length of the shelter stay from the time of study entry. These expectations reflect the fact that CBRR provides rapidly delivered housing assistance toward the goal of recipients quickly exiting shelter for community-based housing, thus targeting what CBRR proponents think should be the main objective of homeless interventions. On the other hand, PBTH proponents expect that PBTH will improve long-term housing stability, employment, earnings, education, and adult well-being relative to CBRR and may improve family preservation and child well-being. These expectations of PBTH proponents are because PBTH addresses barriers to housing stability and attempts to put families on track for better employment and earnings. The next section addresses the experimental short-term impact evidence on these divergent expectations.

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[131] These proportions of families participating in any program are calculated by subtracting from 100 percent the proportions with no use of programs in the survey month (shown in the exhibit).

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Impacts on Housing Stability in the CBRR-Versus-PBTH Comparison

Exhibit 9-18 shows the effect on housing stability of being assigned to CBRR relative to being assigned to PBTH. The first panel of the exhibit shows some evidence that assignment to CBRR leads to greater use of emergency shelter and stays in places not meant for human habitation than assignment to PBTH. The third row shows that 25 percent of CBRR families experienced homelessness defined in this way in the past 6 months compared with only 15 percent of PBTH families. CBRR also increased the number of days in the past 6 months spent homeless or doubled up from 40 to 61, or about 3 weeks. These outcomes are both based on responses to the followup survey. Given that transitional housing is not included in the study's definition of homelessness, the fact that 22 percent of PBTH families were still using transitional housing at the followup point when nearly all CBRR families had finished use of CBRR by this time likely influenced these results. The outcome measuring any stay in emergency shelter in months 7 to 18 after random assignment is largely based on administrative Homeless Management Information System (HMIS) data. This outcome does not show a difference in emergency shelter usage between CBRR and PBTH families.

The bottom three panels of the exhibit show no statistically significant differences between CBRR and PBTH families in housing independence or number of residential moves. Families assigned to CBRR were less likely to report poor or fair housing quality than were families assigned to PBTH (27 compared with 37 percent).

Exhibit 9-4 presents a statistical test of whether CBRR speeds exit from emergency shelter as compared with PBTH. The third row of the exhibit shows no evidence of such an effect. The difference in average lengths of baseline shelter stay between the two groups is not statistically significant.

Impacts on Family Preservation in the CBRR-Versus-PBTH Comparison

Exhibit 9-19 shows the effects on family preservation in the CBRR-versus-PBTH comparison. We found no evidence of differential effects of these interventions on family separations or reunifications, although the numbers, particularly in the case of reunifications of family members separated at the time of the baseline survey, were too small to yield a strong test.

Exhibit 9-18. CBRR Versus PBTH: Impacts on Housing Stability

Outcome	CBRR			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Homeless or doubled up during the followup period									
At least 1 night homeless[b] or doubled up in past 6 months or in shelter in past 12 months (%) **[Confirmatory]**[c]	179	48.9	(50.1)	197	41.4	(49.7)	7.5	(5.7)	0.13
At least 1 night homeless[b] or doubled up in past 6 months (%)	179	43.1	(49.6)	197	34.0	(48.3)	9.1	(5.6)	0.16
At least 1 night homeless[b] in past 6 months (%)	179	24.9	(43.5)	197	15.2	(37.4)	9.7**	(4.8)	0.20
At least 1 night doubled up in past 6 months (%)	179	34.6	(47.5)	197	31.2	(47.3)	3.4	(5.5)	0.06
Any stay in emergency shelter in months 7 to 18 after RA (%)	179	19.9	(41.8)	197	18.5	(38.7)	1.4	(4.4)	0.03
Number of days homeless[b] or doubled up in past 6 months	179	60.7	(77.8)	197	39.5	(68.3)	21.2**	(8.8)	0.25
Number of days homeless[b] in past 6 months	179	25.2	(52.9)	196	12.5	(41.8)	12.7**	(6.0)	0.22
Number of days doubled up in past 6 months	179	43.8	(69.4)	197	33.8	(62.5)	10.0	(8.1)	0.14
Housing independence									
Living in own house or apartment at followup (%)	179	63.0	(49.1)	170	60.0	(49.6)	3.0	(6.1)	0.05
Living in own house or apartment with no housing assistance (%)	179	45.3	(49.5)	170	46.8	(49.7)	– 1.5	(5.9)	– 0.03
Living in own house or apartment with housing assistance (%)	179	17.7	(38.9)	170	13.2	(34.3)	4.5	(4.1)	0.09
Number of places lived									
Number of places lived in past 6 months	179	1.7	(1.0)	196	1.7	(1.1)	0.0	(0.1)	0.02
Housing quality									
Persons per room	175	1.8	(1.4)	195	1.8	(1.3)	0.0	(0.1)	0.03
Housing quality is poor or fair (%)	178	26.8	(43.9)	195	36.6	(48.5)	– 9.7*	(5.3)	– 0.18

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] The definition of *homeless* in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing.

[c] After adjustment for multiple comparisons, the impact on the confirmatory outcome is not statistically significant at the .10 level for the CBRR-versus-PBTH comparison.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey; Program Usage Data

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Exhibit 9-19. CBRR Versus PBTH: Impacts on Family Preservation

Outcome	CBRR			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Current or recent separations of family members present at baseline									
Family has at least one child separated in past 6 months (%)	177	12.7	(34.3)	194	12.0	(34.7)	0.7	(3.6)	0.02
Family has at least one foster care placement in past 6 months (%)	177	3.6	(18.1)	195	1.9	(14.2)	1.6	(1.9)	0.07
Spouse/partner separated in past 6 months, of those with spouse/partner present at RA (%)	64	33.6	(48.4)	54	26.5	(44.2)	7.1	(8.7)	0.13
Reunification of family members reported as separated at baseline									
Family has at least one child reunified, of those families with at least one child absent at RA (%)	44	37.9	(48.7)	39	31.2	(48.6)	6.7	(12.2)	0.13
Spouse/partner reunified, of those with spouse/partner absent at RA (%)	16	27.0	(47.9)	17	39.9	(50.7)	− 12.9	(23.7)	− 0.23

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

Impacts on Adult Well-Being in the CBRR-Versus-PBTH Comparison

Exhibit 9-20 shows statistically significant effects on 3 of the 8 adult well-being outcomes in the CBRR-versus-PBTH comparison. All three of these significant effects have CBRR producing more favorable outcomes than PBTH, which is surprising because PBTH programs have an explicit focus on adult well-being.

The first row shows that CBRR reduces the proportion of family heads with poor or fair physical health in the past 30 days by 11 percentage points (from 34 to 23 percent). The second panel of the exhibit shows that CBRR reduces the average level of psychological distress by a standardized effect size of 0.28 relative to PBTH. The third statistically significant effect is shown in the fourth panel of the exhibit, with CBRR reducing the proportion of family heads reporting alcohol dependence or drug abuse from 16 to 10 percent.

Exhibit 9-20. CBRR Versus PBTH: Impacts on Adult Well-Being

Outcome	CBRR			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Adult physical health									
Health in past 30 days was poor or fair (%)	178	22.7	(43.6)	197	34.0	(46.8)	− 11.3**	(4.8)	− 0.21
Adult mental health									
Goal-oriented thinking[b]	178	4.51	(0.92)	197	4.35	(1.03)	0.16	(0.11)	0.13
Psychological distress[c]	178	6.22	(5.04)	197	8.06	(5.87)	− 1.84***	(0.58)	− 0.28
Adult trauma symptoms									
Post-traumatic stress disorder (PTSD) symptoms in past 30 days (%)	179	21.1	(41.0)	197	24.4	(42.4)	− 3.3	(4.6)	− 0.07
Adult substance use									
Alcohol dependence or drug abuse[d] (%)	179	9.5	(32.3)	197	16.3	(36.0)	− 6.8*	(3.9)	− 0.17
Alcohol dependence[d] (%)	179	7.1	(27.8)	197	12.4	(31.6)	− 5.3	(3.5)	− 0.14
Drug abuse[d] (%)	179	3.4	(20.7)	197	4.6	(22.0)	− 1.2	(2.1)	− 0.04
Experience of intimate partner violence									
Experienced intimate partner violence in past 6 months (%)	179	8.2	(29.4)	197	9.3	(28.9)	− 1.1	(3.2)	− 0.03

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] Goal-oriented thinking is measured with a modified version of the State Hope Scale and ranges from 1 to 6, with higher scores indicating higher levels of positive, goal-oriented thinking.

[c] Psychological distress is measured with the Kessler 6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress.

[d] Alcohol dependence is measured with the Rapid Alcohol Problems Screen (RAPS4), and drug abuse is measured with six items from the Drug Abuse Screening Test (DAST-10).

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

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The effect on psychological distress appears consistent with results found in other pairwise comparisons. In particular, PBTH families on average report more psychological distress than either CBRR or SUB families. On the other hand, the study team interprets the effects on physical health and substance use with some caution. The mean CBRR values for these outcomes appear somewhat more favorable than the mean values for the entire CBRR group. In a parallel manner, the mean PBTH values for these outcomes in this comparison sample appear somewhat less favorable than the mean values for the entire PBTH group. We found no suggestion in other pairwise comparisons that CBRR families have particularly good physical health or low substance use, nor that PBTH families have particularly poor physical health or high substance use.

No effects of CBRR relative to PBTH are observed on either the proportion of family heads with PTSD symptoms or the proportion of family heads experiencing intimate partner violence.

Impacts on Child Well-Being in the CBRR-Versus-PBTH Comparison

As Chapter 3 addressed, differential effects of CBRR and PBTH on child well-being would be expected to be indirect, via effects on housing stability, self-sufficiency, and adult well-being, which were modest and in different directions. Only 2 of 15 cross-age outcomes (Exhibit 9-21) and 2 of 11 age-specific outcomes (Exhibit 9-22) appeared to reflect program impact. Of these outcomes, 1 cross-age effect favored PBTH, for which school enrollment was 6.6 percentage points higher, and the other favored CBRR, for which preschool or Head Start Program enrollment was 16.8 percentage points higher. The 2 age-specific effects favored CBRR; 15 percent more of children ages 1 year to 3 years, 6 months met all developmental milestones on the Ages and Stages Questionnaire (ASQ-3; panel 1 of Exhibit 9-22), and children ages 8 to 17 years reported slightly lower levels of trait anxiety (panel 3). Results for the developmental screening test (effect

Exhibit 9-21. CBRR Versus PBTH: Impacts on Child Well-Being Across Age Groups

Outcome	CBRR			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Child education									
Preschool or Head Start enrollment[b] (%)	74	46.6	(49.4)	94	29.8	(48.0)	16.8**	(7.8)	0.28
School enrollment[c] (%)	172	86.7	(34.1)	197	93.3	(27.4)	− 6.6**	(3.1)	− 0.20
Childcare or school absences in past month[d]	176	0.80	(0.90)	209	0.94	(0.94)	− 0.14	(0.11)	− 0.11
Number of schools attended since RA[e]	186	1.94	(0.94)	218	1.95	(0.85)	− 0.01	(0.11)	− 0.01
Grade completion (not held back) (%)	155	93.5	(24.6)	185	90.8	(28.2)	2.8	(3.3)	0.07
Positive childcare or school experiences[f]	206	0.65	(0.56)	237	0.61	(0.57)	0.03	(0.06)	0.04
Positive childcare or school attitudes[g]	208	4.37	(1.00)	237	4.26	(1.02)	0.11	(0.10)	0.09
School grades[h]	137	2.93	(0.99)	168	3.02	(0.84)	− 0.09	(0.12)	− 0.07
Childcare or school conduct problems[i]	185	0.24	(0.44)	216	0.21	(0.43)	0.03	(0.04)	0.05
Child physical health									
Poor or fair health (%)	258	2.2	(17.4)	299	6.6	(21.2)	− 4.4	(2.7)	− 0.16
Well-child checkup in past year (%)	257	91.1	(29.2)	299	91.7	(28.2)	− 0.6	(3.0)	− 0.01
Child has regular source of health care (%)	258	94.4	(21.1)	299	95.7	(21.9)	− 1.2	(2.1)	− 0.04
Sleep problems[j]	257	2.12	(1.04)	300	2.11	(1.07)	0.02	(0.11)	0.01
Child behavioral strengths and challenges									
Behavior problems[k]	217	0.39	(1.27)	248	0.41	(1.16)	− 0.02	(0.13)	− 0.01
Prosocial behavior[l]	217	− 0.10	(1.11)	249	− 0.01	(1.13)	− 0.09	(0.12)	− 0.06

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] Base for preschool or Head Start enrollment is children ages 1 year, 6 months to 5 years.

[c] Base for school enrollment is children ages 6 to 17 years.

[d] Absences outcome is defined as 0 = no absences in past month, 1 = 1 to 2 absences, 2 = 3 to 5 absences, 3 = 6 or more absences.

[e] Number of schools outcome is topcoded at 4 or more schools.

[f] Positive childcare or school experiences outcome is defined as – 1 = mostly negative experiences, 0 = both positive and negative experiences, 1 = mostly positive experiences.

[g] Positive childcare or school attitudes outcome is parent report of how much child likes school and ranges from 1 to 5, with higher values indicating greater like of school.

[h] School grades outcome is defined as 1 = mostly Ds or Fs, 2 = mostly Cs, 3 = mostly Bs, 4 = mostly As.

[i] Childcare or school conduct problems outcome is defined as 0 = no conduct problems reported to parent, 1 = parent contacted about conduct problems or suspension or expulsion from school or childcare center.

[j] Sleep problems outcome ranges from 1 to 5, with higher values indicating more frequent tiredness upon waking and during the day.

[k] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire (SDQ).

[l] Prosocial behavior is measured as the standardized Prosocial domain score from the SDQ.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey (parent report)

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Exhibit 9-22. CBRR Versus PBTH: Impacts on Child Well-Being Developmental Outcomes by Age Group

Outcome	CBRR			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Ages 1 year to 3 years, 6 months									
Met developmental milestones[b] (%)	47	87.2	(39.8)	57	71.9	(44.4)	15.3**	(7.4)	0.28
Low birth weight[c] (%)	12	3.8	(28.9)	15	5.7	(25.8)	– 1.9	(8.3)	– 0.05
Ages 3 years, 6 months to 7 years									
Verbal ability[d]	88	– 0.27	(1.06)	91	– 0.31	(0.88)	0.04	(0.21)	0.03
Math ability[e]	88	– 0.39	(0.87)	86	– 0.19	(0.92)	– 0.19	(0.16)	– 0.16
Executive functioning (self-regulation)[f]	75	14.04	(16.27)	79	15.11	(15.83)	– 1.07	(1.76)	– 0.05
Ages 8 to 17 years									
Anxiety[g]	89	33.75	(7.00)	104	36.36	(8.06)	– 2.61*	(1.41)	– 0.25
Fears[h]	90	65.57	(13.53)	106	67.45	(14.77)	– 1.88	(2.24)	– 0.09
Substance use[i] (%)	89	11.93	(33.10)	103	10.41	(32.24)	1.53	(4.61)	0.04
Goal-oriented thinking[j]	89	21.91	(4.19)	102	23.03	(4.97)	– 1.12	(0.68)	– 0.16
School effort in past month[k]	88	2.68	(0.82)	106	2.86	(0.82)	– 0.18	(0.13)	– 0.17
Arrests or police involvement in past 6 months[l] (%)	51	4.79	(23.76)	60	13.36	(34.28)	– 8.57	(6.09)	– 0.21

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing.

ITT = intention-to-treat. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] Met developmental milestones outcome is defined as scoring above the typical development cutoffs in all domains of the Ages and Stages Questionnaire (ASQ-3).

[c] Base for low birthweight outcome (parent report) is children born since random assignment who are at least 1 year old at followup.

[d] Verbal ability outcome is the nationally standardized score from the Woodcock-Johnson III (WJ III) letter-word identification scale.

[e] Math ability outcome is the nationally standardized score from the WJ III applied problems test.

[f] Executive functioning outcome is the Head Toes Knees Shoulders (HTKS) score and ranges from 0 to 40, with higher scores indicating greater executive functioning.

[g] Anxiety (child report) is measured using the A-Trait scale from the State-Trait Anxiety Inventory for Children (STAIC). Scores range from 20 to 60, with higher scores indicating greater anxiety.

[h] Fears outcome (child report) is the score from the Fears Scale and ranges from 33 to 99, with higher scores indicating more fear.

[i] Substance use (child report) is measured with 23 items from the Centers for Disease Control and Prevention (CDC) 2011 Youth Risk Behavior Survey.

[j] Goal-oriented thinking (child report) is measured with a modified version of the Children's Hope Scale and ranges from 6 to 30, with higher scores indicating higher levels of positive, goal-oriented thinking.

[k] School effort outcome (child report) ranges from 1 to 4, with higher scores indicating greater effort during school day and on homework.

[l] Arrest or police involvement in past 6 months is from parent report.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey (parent report); Family Options Study 18-month child survey (child report); ASQ-3; WJ III; HTKS

size of 0.28) are large enough to be important, but without more consistent evidence of effects they are probably best interpreted as random variation.

Impacts on Self-Sufficiency in the CBRR-Versus-PBTH Comparison

Exhibit 9-23 shows statistically significant effects on 4 of the 20 self-sufficiency outcomes in the CBRR-versus-PBTH comparison. No statistically significant differences emerged in the employment outcomes of CBRR and PBTH family heads or in average family income or income sources. The third panel contains some puzzling results. CBRR increased the proportion of family heads who participated in any type of school or training and the number of weeks in school or training since random assignment relative to PBTH. CBRR also decreased the proportion of family heads who participated in basic education and vocational education, however.

The contradictory evidence leads us to believe these results are by chance, unlikely to be replicated in other studies.

The team therefore concludes that CBRR had little or no effect on self-sufficiency outcomes relative to PBTH.

Summary of CBRR-Versus-PBTH Comparison Across Domains

For a number of reasons, the CBRR-versus-PBTH comparison offers a weaker test than the other pairwise comparisons in the study. The number of families in this comparison sample is the lowest of the pairwise comparisons and so provides less statistical power than the other tests.[132] In addition, takeup rates for the assigned interventions—55 percent for PBTH families and 51 percent for CBRR families—are lower than for other comparisons.

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[132] The smaller comparison sample is in large part because of the greater selectivity of PBTH programs, leading to the absence of PBTH from the randomization sets of 356 families. See Gubits et al. (2013), Exhibit 3-5, for more information on the relative selectivity of PBTH, CBRR, and SUB programs.

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Chapter 9. Impacts of Permanent Housing Subsidy (SUB) Compared With
Community-Based Rapid Re-Housing (CBRR), SUB Compared With
Project-Based Transitional Housing (PBTH), and CBRR Compared With PBTH

Exhibit 9-23. CBRR Versus PBTH: Impacts on Self-Sufficiency

Outcome	CBRR			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Employment status									
Work for pay in week before survey (%)	179	32.2	(46.5)	197	39.0	(48.8)	− 6.8	(5.3)	− 0.13
Any work for pay since RA (%)	179	61.9	(48.7)	197	64.8	(48.7)	− 2.9	(5.0)	− 0.05
Months worked for pay since RA[b]	179	8.2	(8.3)	195	7.0	(7.8)	1.2	(0.8)	0.14
Hours of work per week at current main job[c]	179	11.5	(16.9)	196	12.9	(17.6)	− 1.4	(1.9)	− 0.08
Income sources and amounts									
Annualized current earnings ($)	174	5,181	(8,720)	191	6,603	(9,466)	− 1,423	(1,000)	− 0.14
Total family income ($)	169	10,784	(8,527)	191	10,801	(8,912)	− 18	(922)	0.00
Anyone in family had earnings in past month (%)	179	47.4	(50.1)	197	48.6	(50.1)	− 1.2	(5.1)	− 0.02
Anyone in family received TANF in past month (%)	179	32.7	(45.5)	196	25.2	(44.0)	7.5	(5.1)	0.14
Anyone in family received SSDI in past month (%)	179	9.1	(27.8)	197	9.6	(29.6)	− 0.5	(2.9)	− 0.02
Anyone in family received SSI in past month (%)	179	15.0	(34.8)	197	11.6	(33.9)	3.4	(3.2)	0.09
Anyone in family received SNAP/Food Stamps in past month (%)	179	87.9	(30.9)	197	83.8	(36.5)	4.1	(3.9)	0.10
Anyone in family received WIC in past month (%)	179	34.6	(47.7)	197	30.6	(45.2)	4.0	(4.8)	0.08
Education and training									
Participated in 2 weeks or more of any school or training since RA (%)	178	29.9	(45.1)	197	20.8	(42.1)	9.1*	(5.0)	0.18
Number of weeks in school/training programs since RA	177	4.4	(10.7)	197	2.5	(7.1)	1.9*	(1.1)	0.17
Participated in 2 weeks or more of school since RA (%)	178	5.4	(23.1)	197	5.2	(23.0)	0.2	(2.7)	0.01
Participated in 2 weeks or more of basic education since RA (%)	178	0.0	(7.5)	197	3.7	(17.2)	− 3.7**	(1.8)	− 0.26
Participated in 2 weeks or more of vocational education since RA (%)	178	1.8	(14.9)	197	5.7	(23.0)	− 3.9*	(2.1)	− 0.14
Food security and hunger									
Household is food insecure (%)	179	24.7	(44.1)	197	32.4	(47.5)	− 7.7	(5.3)	− 0.14
Food insecurity scale[d]	178	1.38	(1.93)	197	1.62	(2.05)	− 0.24	(0.23)	− 0.10
Economic stressors									
Economic stress scale[e]	179	− 0.08	(0.48)	197	− 0.11	(0.49)	0.04	(0.06)	0.06

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error. SNAP = Supplemental Nutrition Assistance Program. SSDI = Social Security Disability Insurance. SSI = Supplemental Security Income. TANF = Temporary Assistance for Needy Families. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire usual care group.

[b] Number of months worked for pay includes partial calendar months.

[c] Hours of work per week includes those not currently working (that is, those with 0 hours of work per week).

[d] Food insecurity scale ranges from 0 to 6, with higher values indicating higher food insecurity.

[e] Economic stress scale ranges from − 1 to 1, with higher values indicating higher economic stress.

Notes: Impact estimates and outcome means are regression adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

The CBRR-versus-PBTH comparison does not yield a strong pattern of effects in any of the five study domains. In the housing stability domain, CBRR appears to have increased the incidence of homelessness (not including stays in transitional housing) somewhat relative to PBTH, according to the survey data. This effect is likely influenced by the fact that 22 percent of PBTH families were still using transitional housing at followup. No similar effect emerges in the use of emergency shelters (based on program use data), however. No effects appear on the proportion of families living in their own house or apartment at followup or the number of residential moves in the past 6 months. In the adult well-being domain, CBRR appears to have lowered the amount of psychological distress for family heads relative to PBTH. This result seems inconsistent with the increased report of emergency shelter use and stays in places not meant for human habitation in the 6 months before the survey.

Given the general paucity of statistically significant results for this comparison, and the inconsistency of the results that do achieve statistical significance, the study team hesitates to draw strong conclusions for this comparison. Overall, the experiences of families assigned to CBRR do not appear to differ greatly from those assigned to PBTH.

CHAPTER 10.
IMPACTS OF POOLED COMPARISONS

n addition to conducting the six pairwise comparisons, the study team combined assignment groups in various ways to examine additional comparisons. The following four comparisons were identified as being of interest to HUD.

1. What is the impact of any kind of housing subsidy for homeless families (permanent housing subsidy [SUB] + community-based rapid re-housing [CBRR] + project-based transitional housing [PBTH]) compared with the impact of the usual care (UC) offered in the community?

2. What is the impact of a housing subsidy with heavy services provided to homeless families (PBTH) compared with the impact of housing subsidies with light or no services (SUB + CBRR)?

3. What is the impact of interventions that are more costly (SUB + PBTH) compared with the impact of a less costly intervention (CBRR)?

4. What is the impact of a housing subsidy with no time limit (SUB) compared with the impact of time-limited housing subsidies (CBRR + PBTH)?

One benefit of pooling interventions in impact comparisons is that it provides larger sample sizes for analysis. A family was included in a pooled comparison if its randomization set included at least one intervention on each side of the impact comparison. For example, a family was included in the SUB + PBTH comparison with CBRR if it had the opportunity to be assigned to CBRR and to *either* SUB or PBTH.[133] Exhibit 10-1 shows the number of families that are included in the comparisons used to address the preceding questions.

Our examination of the impact results from the four pooled comparisons unexpectedly yielded little useful information on the questions posed. Instead, all the estimates appear to be dominated by the relatively large effects of the SUB intervention when compared with any of the other assignment statuses, no matter how the different random assignment arms are grouped. Therefore, we do not discuss the results of the pooled comparisons here in the body of the report; rather, we provide the results in Appendix F with no additional discussion.

Exhibit 10-1. Sample Sizes in the Four Pooled Comparisons

Assigned Intervention	Sample Size in Pooled Comparison[a]			
	SUB + CBRR + PBTH vs. UC	SUB + CBRR vs. PBTH	SUB + PBTH vs. CBRR	CBRR + PBTH vs. SUB
SUB	530	230	381	490
CBRR	455	179	399	308
PBTH	294	291	197	187
UC	578			
Total	1,857	700	977	985

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.
[a] Sample sizes are number of families who responded to the 18-month followup survey.
Source: Family Options Study 18-month followup survey

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[133] The randomization sets that provided the opportunity to be assigned to CBRR and to either SUB or PBTH were {SUB, CBRR, PBTH, UC}, {SUB, CBRR, UC}, and {PBTH, CBRR, UC}.

CHAPTER 11.

DO CERTAIN INTERVENTIONS WORK BETTER WHEN OFFERED TO FAMILIES WHO FACE GREATER DIFFICULTIES?

Previous chapters of this report have examined which interventions work best across all the families in the study. This chapter asks whether some interventions work better than others for families with particular characteristics. For example, previous chapters have shown that, on average, the permanent housing subsidy (SUB) intervention has substantial impacts relative to all other interventions, not only for housing stability but also for outcomes in other domains. But do all families who experience homelessness need a deep permanent housing subsidy, or might some do as well on their own in usual care (UC) or with the shorter and often shallower subsidies of community-based rapid re-housing (CBRR)? The hypotheses set forth in Chapter 3 suggest that the advantage of SUB might increase as families' barriers to housing increase, because SUB overcomes those barriers. Similarly, previous chapters have shown that, on average, project-based transitional housing (PBTH) has only modest impacts confined to housing stability in comparison with UC. Surprisingly, if anything, PBTH has worse impacts on adult well-being relative to CBRR. But might this be a consequence of offering PBTH to families who do not need such intensive services in a supervised setting? Chapter 3 suggests that PBTH might have greater benefits for families who face more of the psychosocial challenges than PBTH is designed to address.

The more general form of this question is whether the relative benefits of the longer term or more intensive interventions (SUB and PBTH) might increase as families' reported difficulties increase. To evaluate this possibility, we created indices of psychosocial challenges and housing barriers and examined whether the impact of the interventions relative to each other and to UC increases as families' scores on these indices increase.

The **psychosocial challenge index** is a count of the number of psychosocial challenges reported by families at the baseline survey just before random assignment. We considered 9 potential challenges, including health and mental health conditions, substance use problems, post-traumatic stress disorder (PTSD), intimate partner violence, felony conviction, history of foster care or institutional placement as a child, and disability of the parent or a child. Several of these factors predicted residential instability (across program type) in the Service and Housing Interventions for Families in Transition (SHIFT) study (Hayes, Zonneville, and Bassuk, 2013). Families reported an average of 2.20 psychosocial challenges.

The **housing barriers index** is a count of the number of 15 potential barriers—including unemployment, lack of income, past evictions or lease violations, lack of transportation, and family composition—that families reported at the time of the baseline survey to be at least small problems in trying to find housing. (We omitted barriers involving criminal activity and disability that overlapped with the psychosocial challenge index.) A similar list of barriers was associated with increased returns to homelessness for families in the Evaluation of the Rapid Rehousing for Homeless Families Demonstration Program (Finkel et al., forthcoming). Families reported an average of 6.52 housing barriers. The two indices were positively correlated, suggesting that they reflect separate but related measures of difficulties that families face.[134]

11.1 Descriptive Results

As shown in Exhibit 11-1, the most common psychosocial challenges reported by the adult respondent living in shelter before randomization were experience of domestic violence (48.9 percent), poor or fair health (29.5 percent), and having been in foster care or an institution as a child (25.3 percent).

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[134] The correlation is $r = 0.25$, $p < .01$ in the full sample. Standard deviations were 1.86 for psychosocial challenges and 2.56 for housing barriers.

FAMILY OPTIONS STUDY

Chapter 11. Do Certain Interventions Work Better
When Offered to Families Who Face Greater Difficulties?

Exhibit 11-1. Percentages of Adult Respondents Reporting Psychosocial Challenges at the Time of Study Enrollment (for families interviewed at 18 months)

Psychosocial Challenges	Percent
Domestic violence	48.9%
Poor or fair health	29.5
In foster care or institution as child	25.3
PTSD	22.4
Severe psychological distress	21.8
Disability	20.7
Drug or alcohol use	20.4
Child with disability	17.0
Past felony	10.6

PTSD = post-traumatic stress disorder.
Source: Family Options Study baseline survey

As shown in Exhibit 11-2, nearly all families reported insufficient income to pay rent and insufficient income to pay a security deposit as problems, and most reported not being employed, having poor credit history, and lacking transportation as problems at the time they enrolled in the study.

11.2 Differential Impacts Depending on Psychosocial Challenges

Exhibit 11-3 illustrates possible differential impacts of interventions based on number of psychosocial challenges by showing the estimated size of the impact of each contrast (for example, SUB versus UC) at the 20th and 80th percentiles of challenge. The 20th percentile is 0 challenges (that is, more than 20 percent of families reported no challenges) and the 80th percentile is 4.0 challenges. The asterisks in the exhibit reflect whether the *variation* in impact by level of each psychosocial challenge is statistically significant.

For example, the first row considers impacts for the confirmatory outcome of at least 1 night homeless or doubled up in the past 6 months or at least 1 night in shelter in the past 12 months. In the first pair of columns, the impact of SUB in comparison with UC is estimated to be a reduction of 28.54 percentage points in this outcome for those with low numbers of challenge and 26.73 percentage points for those with high numbers of challenges. The average effect is very large and significant, as reported previously in Chapter 6. The two impact estimates are nearly the same, however—the variation in impact based on number of psychosocial challenges is trivial.

As in other chapters of this report, we consider findings that are statistically significant at the .10 level or better as evidence of differences in impact magnitude for families with different degrees of challenges. Moreover, as in other chapters, we take into account the number of statistically significant findings relative to the number of tests conducted. For each policy comparison, such as SUB versus UC, we test for variation in impact for each of the 18 key outcome variables included in the executive summary, and so might expect 2 of the 18 tests conducted to reach statistical significance on the basis of

Exhibit 11-2. Percentage of Families Reporting That a Condition Was a Big or Small Problem in Finding a Place to Live at the Time of Study Enrollment (for families interviewed at 18 months)

Housing Barriers	Percent Reporting Big or Small Problem
Not enough income to pay rent	96.7%
Inability to pay a security deposit or first/last month's rent	94.2
Not currently employed	79.9
Poor credit history	73.3
Lack of transportation to look for housing	65.5
No reference from past landlords	43.9
Past eviction	39.6
No rent history at all	39.0
Recently moved to community and no local rent history	32.6
Problems with past landlords	19.6
Three or more children in the household	17.8
Racial discrimination	17.4
Past lease violations	16.8
Someone in the household less than 21 years old	8.5
Teenagers in the household	5.5

Source: Family Options Study baseline survey

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Exhibit 11-3. Impacts Moderated by Psychosocial Challenges Index

Outcome Impact at Low vs. High Challenge	SUB vs. UC		CBRR vs. UC		PBTH vs. UC		SUB vs. CBRR		SUB vs. PBTH		CBRR vs. PBTH	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Housing stability												
At least 1 night homeless[a] or doubled up in past 6 months or in shelter in past 12 months (%)	− 28.54	− 26.73	− 1.17	− 7.29	− 3.63	− 8.16	− 35.84	− 20.68*	− 39.16	− 23.21	− 6.74	14.38*
At least 1 night homeless[a] or doubled up in past 6 months (%)	− 19.75	− 27.39	2.90	− 9.27	1.92	− 7.62	− 27.17	− 16.03	− 34.19	− 19.42	− 3.89	13.92
Number of places lived in past 6 months	− 0.31	− 0.39	0.03	− 0.17	− 0.05	− 0.07	− 0.40	− 0.12	− 0.37	− 0.34	− 0.11	0.10
Any stay in emergency shelter in months 7 to 18 after RA (%)	− 17.50	− 10.02	− 5.01	− 0.75	− 9.87	− 7.06	− 18.46	− 9.21	− 19.81	− 7.99	3.63	− 0.59
Family preservation												
Family has at least one child separated in past 6 months[b] (%)	− 8.53	− 5.87	2.46	− 5.14	− 1.46	− 0.04	− 7.30	3.57*	− 8.67	− 4.06	8.36	− 5.71**
Spouse/partner separated in past 6 months, of those with spouse/partner present at RA[c] (%)	− 0.02	1.49	17.06	2.95	− 3.16	3.51	− 23.77	− 8.98	− 15.13	12.10	14.79	− 1.24
Family has at least one child reunified, of those families with at least one child absent at RA[d] (%)	8.50	3.22	10.25	3.02	0.20	7.32	1.23	− 1.54	18.03	30.18	− 15.86	6.90
Adult well-being												
Health in past 30 days was poor or fair (%)	6.68	− 5.21*	− 2.44	− 4.27	− 0.43	3.50	− 1.96	1.53	3.13	− 8.90	− 3.90	− 11.74
Psychological distress[e]	− 0.47	− 1.27	− 0.29	− 0.86	− 0.50	− 0.12	− 0.76	− 0.11	− 0.76	− 1.62	− 1.55	− 1.80
Alcohol dependence or drug abuse[f] (%)	− 3.15	− 5.59	− 1.61	− 5.01	0.65	− 0.22	0.71	0.12	− 1.66	− 9.49	− 2.44	− 10.62
Experienced intimate partner violence in past 6 months (%)	− 0.56	− 11.37**	− 2.68	0.21	2.00	− 5.16	− 1.33	− 11.54*	− 2.96	− 3.66	− 2.11	0.72
Child well-being												
Number of schools attended since RA[g]	− 0.16	− 0.25	− 0.03	− 0.05	− 0.03	− 0.11	− 0.02	− 0.42***	− 0.07	− 0.20	− 0.24	0.24**
Childcare or school absences in last month[h]	− 0.14	− 0.16	0.05	− 0.26*	0.04	0.07	− 0.14	0.06	− 0.03	− 0.18	0.26	− 0.44***
Poor or fair health (%)	0.28	0.64	− 2.11	1.87	2.79	2.34	2.50	− 2.95*	− 2.30	− 0.06	− 8.92	0.06**
Behavior problems[i]	− 0.09	− 0.16	− 0.12	− 0.07	− 0.08	− 0.18	0.14	0.03	0.10	0.23	− 0.08	0.17
Self-sufficiency												
Work for pay in week before survey (%)	− 2.99	− 6.70	− 6.81	6.46**	5.53	5.77	− 1.23	− 6.91	− 14.99	− 9.65	− 15.46	− 1.30
Total family income ($)	− $1,146	$176	$682	$1,379	$649	$1,374	− $843	− $1,184	− $1,536	− $1,886	− $1,176	$1,490
Household is food insecure (%)	− 11.21	− 7.40	− 2.19	− 10.88	− 0.12	− 3.16	− 6.40	− 2.29	1.28	− 11.90	1.54	− 13.35

CBRR = community-based rapid rehousing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

RA = random assignment.

*/**/*** Impact magnitude varies significantly with level of psychological challenge at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] The definition of *homeless* in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing.

[b] Percentage of families in which a child who was with the family at baseline became separated from the family in the 6 months before the 18-month survey.

[c] Percentage of families in which a spouse or partner who was with the family at baseline became separated from the family in the 6 months before the 18-month survey.

[d] Percentage of families in which at least one child was separated from the family at baseline and no child was reunited with the family at the time of the 18-month survey.

[e] Psychological distress is measured with the Kessler 6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress. Impacts shown as standardized effect sizes. Effect sizes were standardized by dividing impacts by standard deviation for the UC group.

[f] Measures evidence of alcohol dependence or drug abuse using responses to the Rapid Alcohol Problems Screen (RAPS-4) and six items from the Drug Abuse Screening Test (DAST-10).

[g] Number of schools outcome is topcoded at four or more schools.

[h] Absences outcome is defined as 0 = no absences in past month; 1 = 1–2 absences; 2 = 3–5 absences; 3 = 6 or more absences.

[i] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire (SDQ).

Notes: The Low estimate is calculated at the 20th percentile of the moderator in the full sample and the High estimate is calculated at the 80th percentile of the moderator. Impact mean difference estimates are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

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chance alone. Where more than 2 test results exceed the .10 threshold of significance for a given policy comparison—but only modestly more—we also consider whether the statistically significant findings conform to the hypothesis that the more intensive intervention in a given comparison will have larger impacts at higher levels of challenges or barriers. If this pattern does not hold, the existence of modestly more than the number of significant findings expected by chance is not credited as evidence of real impact variation.

11.2.1 SUB Versus UC

SUB, as the more intensive intervention, would be expected to have greater impact relative to UC for families with higher numbers of psychosocial challenges. With only 2 statistically significant test findings among 18 tests conducted—the number expected by chance alone if no true impact variation occurred—we cannot conclude that impacts of SUB in comparison with UC differ for families with different numbers of psychological challenges. Instead, the results are best interpreted as random variation. In general, the levels of psychosocial challenge that families experience do not moderate the substantial average differences between SUB and UC shown in previous chapters.

11.2.2 CBRR Versus UC

CBRR, as the least intensive of the active interventions, would be expected to work better in comparison with UC for families with low psychosocial challenges rather than those with high challenges. With only 2 statistically significant test findings among 18 tests conducted—fewer than the number expected by chance alone if no true impact variation occurred—we cannot conclude that the size of impacts families experience from CBRR compared with UC vary by their number of psychosocial challenges. In particular, no evidence shows that CBRR worked better for families with lower numbers of challenges.

11.2.3 PBTH Versus UC

As the more intensive intervention, and one that addresses psychosocial challenges directly, PBTH would be expected to have greater impact relative to UC for families with higher numbers of these challenges, but this was not the case. No differential effects met the threshold of statistical significance for any of the 18 outcomes examined.

11.2.4 SUB Versus CBRR

SUB, as the more intensive intervention, would be expected to have greater impact than CBRR for families with higher numbers of psychosocial challenges even if SUB does not

address these challenges directly. Of 5 statistically significant results (of 18 tests total), 2 point in the opposite direction: SUB's effects grows *less* favorable relative to CBRR as the number of challenges increases for the confirmatory outcome (any stay in emergency shelter in the 12 months before the survey or a stay in a place not meant for human habitation or doubling up in the 6 months before the survey) and child separations from the family. In fact, the positive point estimate for the latter result implies that SUB causes *more* child separations relative to CBRR for families with a high number of challenges, which is counterintuitive. Of the 3 significant results that conform to the expected pattern—(1) experience of intimate partner violence, (2) number of schools attended, and (3) children's poor or fair health—one seems to be contradictory (for high-challenge families, SUB has a smaller effect on homelessness than CBRR but a larger reduction in the number of schools attended) and another involves a perverse effect (for low-challenge families, SUB worsens children's health relative to CBRR). This inconsistent pattern of effects prevents us from concluding that the size of impacts families experience from SUB compared with CBRR varies by number of psychosocial challenge. These results should be interpreted as spurious, the result of random variation in the data.

11.2.5 SUB Versus PBTH

Because PBTH addresses psychosocial needs more directly than SUB, proponents would expect it to be especially beneficial for families with higher numbers of these challenges. Proponents of SUB make the opposite prediction. With no statistically significant test finding among 18 tests conducted, the evidence does not confirm either point of view. We conclude that psychological challenges do not moderate the size of impacts families experience from PBTH compared with SUB.

11.2.6 CBRR Versus PBTH

As the more intensive intervention, PBTH would be expected to have greater impact relative to CBRR for families with higher psychosocial challenges. Of 5 statistically significant findings (of 18 tests total), 2 point in the opposite direction: *CBRR*'s effects grow more favorable relative to PBTH as the number of challenges increases for child separations and child absences from childcare or school. The effect of PBTH grows more favorable relative to CBRR as challenges increase in 3 significant results: (1) the confirmatory homeless outcome, (2) the number of schools attended, and (3) poor or fair child health. For health, however, the result simply brings the two interventions to parity (at high levels of challenge) from an initial advantage favoring CBRR (at low levels of challenge). With only 2 of 5 results conforming well to the postulated pattern, we are cautious in interpreting the

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evidence as anything other than chance differences that happened to occur in this instance at more than the expected rate (5 in 18 times, rather than 2 in 18).

11.3 Differential Impacts Depending on Housing Barriers

Exhibit 11-4 illustrates possible differential impacts of interventions based on families' numbers of housing barriers by showing the estimated size of the impact of each contrast (for example, SUB versus UC) at the 20th and 80th percentiles of barriers. For housing barriers, the 20th percentile is 4.0 barriers and the 80th percentile 8.57 barriers. As in the previous section on psychosocial challenges, the asterisks reflect whether the *variation* in impact by level of housing barriers is statistically significant. Also, as in that section, we consider both the number of statistically significant findings and their patterns in interpreting whether results show real evidence of variation in impact.

11.3.1 SUB Versus UC

SUB, as the more intensive intervention, would be expected to have greater impact relative to UC for families with higher housing barriers, but this expectation was not the case. None of the 18 comparisons were statistically significant. The substantial average differences between SUB and UC shown in previous chapters hold across numbers of housing barriers.

11.3.2 CBRR Versus UC

CBRR, as the least intensive of the active interventions, would be expected to work best in comparison with UC for families with lower barriers to housing. Some question whether limited-term subsidies are sufficient to overcome higher housing barriers. With only 2 statistically significant test findings among 18 tests conducted—the number expected by chance alone—we cannot conclude that these suppositions are true. Instead, we find no evidence that housing barriers moderate the size of impacts families experience from CBRR compared with UC. The overall pattern of effects does not vary by number of housing barriers.

11.3.3 PBTH Versus UC

As the more intensive intervention, PBTH would be expected to have greater impact relative to UC for families with higher housing barriers. With only 1 statistically significant test finding among 18 tests conducted—less than the number expected by chance alone if no true impact variation occurred—we cannot conclude that the size of impacts families experience from PBTH compared with UC depends on the number of barriers they face.

11.3.4 SUB Versus CBRR

SUB, as the more intensive intervention, would be expected to have greater impact than CBRR for families with higher housing barriers. With only 1 statistically significant test finding among 18 tests conducted—fewer than expected by chance alone—we cannot conclude that the size of impacts families experience from SUB compared with CBRR differ for families with different numbers of housing barriers.

11.3.5 SUB Versus PBTH

Because housing subsidies overcome many barriers to housing, proponents of SUB would expect it to be especially beneficial for families with higher levels of these barriers. Proponents of PBTH make the opposite prediction. The 2 statistically significant results out of 18 fail to confirm either proposition and are best interpreted as chance.

11.3.6 CBRR Versus PBTH

As the more intensive intervention, PBTH would be expected to have greater impact relative to CBRR for families with higher housing barriers. Of 18 results here, 3 reach statistical significance, but the direction of effects is not consistent. *CBRR*'s effects, not PBTH's, grow more favorable as barriers increase for one outcome—child absences from childcare or school. The opposite pattern holds—PBTH's effects growing more favorable relative to CBRR as challenges increase—for 3 other outcomes: 2 correlated homelessness outcomes—spending at least 1 night homeless or doubled up in the past 6 months and the confirmatory outcome. We interpret these results as simply random variation because they are not hugely more common than expected due to chance (3 in 18 times, rather than 2 in 18) and do not point consistently to the superiority of one intervention or another for different groups of families.

11.4 Summary

It is clear that families in this study experience high numbers of psychosocial challenges and even higher numbers of barriers to housing. This result was by design: the study enrolled families only after they had spent at least 7 days in shelter. At the same time, the examination of potential moderator effects of difficulties of this sort does not provide evidence that any of the interventions studied works comparatively better for families who have greater psychosocial challenges or housing barriers than for families who face fewer difficulties. We cannot completely rule out the possibility of differential effects—doing so would require larger sample sizes than are available in the study. At this point, however, the main study results on impacts across *all* families provide the study's clearest guidance for policy and practice.

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Exhibit 11-4. Impacts Moderated by Housing Barriers Index

Outcome	SUB vs. UC		CBRR vs. UC		PBTH vs. UC		SUB vs. CBRR		SUB vs. PBTH		CBRR vs. PBTH	
Impact at Low vs. High Housing Barriers	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Housing stability												
At least 1 night homeless[a] or doubled up in past 6 months or in shelter in past 12 months (%)	− 30.30	− 25.32	− 9.51	− 0.22	− 4.67	− 7.09	− 24.30	− 30.16	− 30.75	− 30.40	− 3.54	13.31*
At least 1 night homeless[a] or doubled up in past 6 months (%)	− 24.50	− 23.49	− 6.65	− 1.82	3.32	− 8.99	− 17.29	− 24.00	− 29.62	− 23.00	− 3.37	15.80*
Number of places lived in past 6 months	− 0.39	− 0.32	− 0.13	− 0.06	0.02	− 0.13	− 0.17	− 0.32	− 0.32	− 0.43	− 0.14	0.14
Any stay in emergency shelter in months 7 to 18 after RA (%)	− 16.92	− 11.00	− 7.93	2.37*	− 11.19	− 5.64	− 13.77	− 13.61	− 13.30	− 13.46	− 2.93	5.38
Family preservation												
Family has at least one child separated in past 6 months[b] (%)	− 5.96	− 7.85	1.51	− 4.82	0.75	− 1.55	− 1.96	− 0.46	− 4.79	− 8.20	3.19	− 3.05
Spouse/partner separated in past 6 months, of those with spouse/partner present at RA[c] (%)	− 5.51	7.44	16.23	2.41	− 0.55	0.68	− 14.33	− 18.29	− 13.00	7.81	5.67	7.68
Family has at least one child reunified, of those families with at least one child absent at RA[d] (%)	1.75	8.91	15.52	1.74	− 0.58	5.63	− 11.16	7.55	13.03	33.27	3.50	4.72
Adult well-being												
Health in past 30 days was poor or fair (%)	0.72	− 0.62	− 2.69	− 5.20	− 0.06	3.40	1.39	− 1.27	− 1.89	− 6.16	− 2.52	− 15.52
Psychological distress[e]	− 1.03	− 0.81	− 1.55	− 0.02**	− 0.62	0.08	0.45	− 1.04*	− 1.08	− 1.77	− 1.84	− 1.99
Alcohol dependence or drug abuse[f] (%)	− 4.46	− 4.52	− 2.39	− 4.92	− 0.50	1.35	1.78	− 0.78	− 0.55	− 11.70	− 6.86	− 8.17
Experienced intimate partner violence in past 6 months (%)	− 8.17	− 5.29	− 0.59	− 2.56	− 0.96	− 2.77	− 5.76	− 7.92	− 8.11	0.27	− 5.81	3.50
Child well-being												
Number of schools attended since RA[g]	− 0.15	− 0.25	0.00	− 0.08	− 0.02	− 0.10	− 0.13	− 0.33	− 0.04	− 0.23	0.05	− 0.05
Childcare or school absences in last month[h]	− 0.19	− 0.12	− 0.17	− 0.11	− 0.08	0.16	− 0.03	− 0.01	0.18	− 0.33***	0.08	− 0.33**
Poor or fair health (%)	− 0.37	0.90	0.03	− 0.22	0.47	4.13	− 0.37	− 0.62	− 3.48	0.70	− 4.05	− 4.60
Behavior problems[i]	− 0.20	− 0.08	− 0.26	− 0.03	− 0.25	− 0.04	0.18	0.00	0.23	0.07	− 0.03	− 0.01
Self-sufficiency												
Work for pay in week before survey (%)	− 6.65	− 3.44	− 0.23	1.80	− 1.11	11.62*	− 2.07	− 6.87	− 6.55	− 15.58	− 2.16	− 13.35
Total family income ($)	− $779	− $111	$1,193	$1,020	$973	$1,071	− $1,515	− $693	− $1,658	− $1,424	$217	$389
Household is food insecure (%)	− 10.84	− 8.20	− 10.37	− 4.60	− 5.16	1.83	− 4.04	− 4.70	1.23	− 13.96*	− 1.04	− 14.45

CBRR = community-based rapid rehousing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

RA = random assignment.

*/**/*** Impact magnitude varies significantly with level of housing barriers at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] The definition of *homeless* in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing.

[b] Percentage of families in which a child who was with the family at baseline became separated from the family in the 6 months before the 18-month survey.

[c] Percentage of families in which a spouse or partner who was with the family at baseline became separated from the family in the 6 months before the 18-month survey.

[d] Percentage of families in which at least one child was separated from the family at baseline and no child was reunited with the family at the time of the 18-month survey.

[e] Psychological distress is measured with the Kessler 6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress. Impacts shown as standardized effect sizes. Effect sizes were standardized by dividing impacts by standard deviation for the UC group.

[f] Measures evidence of alcohol dependence or drug abuse using responses to the Rapid Alcohol Problems Screen (RAPS-4) and six items from the Drug Abuse Screening Test (DAST-10).

[g] Number of schools outcome is topcoded at four or more schools.

[h] Absences outcome is defined as 0 = no absences in past month; 1 = one–two absences; 2 = three—five absences; 3 = six or more absences.

[i] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire, or SDQ.

Notes: The Low estimate is calculated at the 20th percentile of the moderator in the full sample and the High estimate is calculated at the 80th percentile of the moderator. Impact mean difference estimates are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

CHAPTER 12.
INTERVENTION COSTS

This chapter of the report documents the costs of providing the housing or shelter and supportive services in the programs associated with the interventions in the Family Options Study, including the cost of remaining in emergency shelter. For decisionmakers designing and implementing policy to address homelessness among families, understanding the relative costs of the active interventions in this study is a critical complement to understanding their relative impacts. This chapter begins by introducing the concepts and methods used to analyze and describe program costs and then providing a high-level summary of the cost estimates (Section 12.1).

To assess the relative costs of the interventions, it is crucial to understand the cost per month for each program, but also to look at costs from two other perspectives: (1) the cost during the period the family uses the program (the "program stay") and (2) the overall cost to all providers of shelter and housing assistance of giving families priority access to a particular type of program. Following the Introduction and Summary section, the next sections (12.2 through 12.5) present in detail the costs per month of the programs that provided the permanent housing subsidy (SUB), community-based rapid re-housing (CBRR), and project-based transitional housing (PBTH) interventions and of emergency shelter. Those sections also present the average costs per program stay for the families assigned to the active interventions and the costs for the stay in emergency shelter that followed random assignment of families to usual care (UC). Section 12.6 compares monthly costs and costs per stay across the three active interventions and emergency shelter. Section 12.7 compares the costs of *all* use of shelter and housing programs in the followup period after random assignment by families given priority access to each intervention. Finally, Section 12.8 compares the average costs per month of all use of shelter and housing programs used at the time of the followup survey by families given priority access to each intervention.

12.1 Introduction and Summary

The objective of the Family Options Study is to provide evidence to support decisions of policymakers, planners, and practitioners addressing homelessness among families. Although much of the study is focused on estimating relative effects of different types of interventions, such estimates are only one input into decisions about homelessness policy. Another input is the cost of the interventions. Because of differences in the type of housing or shelter provided, the duration of assistance, and the range and intensity of supportive services offered, the programs associated with each active intervention vary in cost. With respect to duration, housing assistance provided by CBRR and PBTH programs is temporary; subsidies provided by SUB programs are indefinite, as long as regular eligibility requirements for the subsidy are maintained. Regarding the intensity of supportive services, programs without supportive services will usually require fewer resources for a given duration than those offering such services.

This chapter reports on the costs of providing the housing and services in the programs associated with the three active interventions: CBRR, PBTH, and SUB. The chapter also reports costs for emergency shelter programs to provide information on the cost of the initial stay in emergency shelter during which families were enrolled in the study and also any subsequent return to shelter during the period between random assignment and the followup survey.[135]

We present analyses for four concepts of costs: (1) per-family monthly program cost, (2) program cost per stay during the followup period, (3) cost of all program use during the followup period, and (4) monthly cost of all program use at the time of the followup survey.

1. *Per-family monthly program cost:* The cost of all resources used to provide shelter or housing and services to a family during the course of a month because they are receiving

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[135] The UC intervention includes whatever housing subsidies or supportive services families were able to obtain without study assistance. Because it was not feasible to determine the extent and costs of any assistance beyond what was provided by the emergency shelter program, for per-family monthly program costs and program cost per stay during the followup period, we report costs associated with emergency shelter only rather than all costs associated with the UC intervention—in particular, for assistance that families may have received after leaving shelter. The third cost measure, the cost of all program use during the followup period does estimate the cost of other program use for all intervention types, including UC.

assistance through a particular program. We estimate per-family monthly program costs of CBRR, PBTH, and emergency shelter programs by cataloging and valuing the housing or shelter dimension of each program (capital and operating costs or rent) and also the services dimension (the personnel, space, and materials used to provide services) in each of 81 study programs. We estimate costs of SUB in each of the 10 sites providing SUB using administrative data. Household-level administrative data provide information on household-level monthly housing assistance payments (HAPs) and housing authority financial reports supply site-level costs of administering the Housing Choice Voucher program.[136]

2. *Program cost per stay during the followup period:* The cost of all resources used to provide shelter or housing and supportive services to a family by the program to which they were given priority access during the time between random assignment and the family's followup survey.[137] We estimate program costs per stay by multiplying per-family monthly program costs by the average number of months of assistance received by families assigned to that program type in the program's site. Combining the monthly cost measure of intensity of assistance with the duration of receipt provides a single measure of the amount of housing or shelter and services provided to families at a study intervention.

3. *Cost of all program use during the followup period:* The cost of all program use during the followup period accounts for costs of *all* programs families used during the followup period. Families given priority access to a particular type of program through random assignment nonetheless used multiple programs—both the program type to which they were randomized and other program types. Random assignment to one program makes it more likely that a family will use that program, but also either more or less likely that the family will use other housing or shelter programs (see Exhibits 6-2, 7-4, and 8-6). When comparing program costs, it is useful for decisionmakers within the homeless services and housing assistance systems to consider the costs of all

program use during the followup period for which this study estimates impacts. As in the cost per stay, this cost includes the expense of providing housing or shelter and related assistance (services) to study families during the time between random assignment and the followup survey. We estimate the cost of all program use by multiplying the average site-level per-family monthly program cost for each program type by the number of months of assistance of each respective type provided to each family, as observed in the Family Options Study Program Usage Data. The cost of all program use during the followup period is the sum of these monthly costs times months of assistance. This chapter reports averages of this amount (calculated using the same nonresponse weights used in the impact analyses) for each of the study's pairwise comparisons. Thus, this estimate provides a total cost of housing or shelter and services that reflects the different mixes of program types used that resulted from a family's being provided priority access to a particular program type.[138]

4. *Monthly cost of all program use at the followup survey:* The monthly cost of all program use at the followup survey considers the average per-family monthly program cost of programs from which families were receiving assistance at the time of the followup survey. Initial random assignment to one program type may make it more or less likely that the family will use other housing or shelter programs in the medium and long terms. As a result, giving families priority access to a particular program type today can change the cost of assistance they receive months and years into the future. These subsequent costs will be analyzed for a longer timeframe and reported in the 36-month report along with impacts measured at 36 months. This chapter reports averages of this point-in-time cost calculated for each of the study's pairwise comparisons.

Each of the four cost measures provides useful, but different, information to a decisionmaker evaluating the relative costs and benefits of CBRR, PBTH, and SUB. A decisionmaker considering the relative cost of funding one particular program

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[136] Gubits et al. (2013) described the type and extent of services linked to the housing or shelter provided by the programs participating in each intervention. This cost analysis adds to that information by estimating the value of the resources that programs and their partners expend on those services per family per month, which can serve as one measure of the depth or intensity of the services.

[137] The length of time between random assignment and the followup survey varied across families, with a median of 20 months. Weighted averages of duration of assistance receipt are calculated at both the study level and site level from the Program Usage Data (see Chapter 4, Exhibit 4-2) using nonresponse weights. All observed months of use of a program of the type to which a family was randomly assigned are counted for families assigned to CBRR, PBTH, and SUB. Emergency shelter durations are calculated as the average duration in the first observed shelter stay, the stay during which families were randomly assigned. Subsequent returns to shelter are not included in this cost measure, but they are captured in the cost of all program use during the followup period.

[138] Many families accessed shelter or housing and related services from programs not in the cost study. All stays at programs that matched a "type" from a study were valued at the site-level average of the per-family monthly program cost. So, assistance from any rapid re-housing program was valued at the sites' average CBRR per-family monthly program cost, and assistance from any transitional housing program was valued at the site's average PBTH per-family monthly program cost. Study families also received assistance from programs the study classifies as permanent supportive housing, public housing, or project-based housing assistance (project-based vouchers or Section 8 projects), for which we have no direct cost estimates. Under the assumption that they have similar program and cost structures, we use site-level average PBTH costs to estimate permanent supportive housing costs and SUB costs to estimate public housing and project-based assistance costs.

type versus another would use per-family monthly costs and program costs per stay to assess the costs associated with serving a family with a particular type of intervention and over a given length of time. For example, the analysis below in Section 12.1.2 shows that the ongoing cost per month of providing a family with CBRR, on average, is lower than the cost of providing either PBTH or SUB and is substantially lower than the cost of continued stay in emergency shelter. Costs per stay within the followup period after random assignment add the consideration that ongoing costs are limited to the duration of the assistance. Continuing our example, CBRR assistance is of shorter duration than PBTH or SUB, and the per-stay cost of providing a family with CBRR is substantially lower than costs for the longer assistance episodes observed for SUB and PBTH. (These computations, however, ignore the possibility that, at the end of this stay in this program, the individual might begin a stay in some other program. The third and fourth measures address that possibility and also the possibility that someone assigned to one program uses another program instead.)

The third measure, the cost of all program use during the followup period, incorporates the reality that a family randomly assigned to one program might nevertheless use a different program at some point over the followup period. The intervention to which a family is assigned also has an indirect effect on the family's use of programs *not* associated with the intervention. For example, this study finds that SUB results in improved housing stability, meaning fewer subsequent stays in costly emergency shelters. As a result of avoiding those stays in emergency shelter, the estimated per-family cost of all program use since random assignment is only $1,478 higher for families assigned to SUB as compared with families assigned to CBRR, even though costs per stay for CBRR are less than one-half as large as costs per stay for SUB.

This third measure of costs represents the total cost of the housing and services provided by the homeless services and housing assistance systems to study families given priority access to each of the active interventions. The costs can then be assessed in the context of the relative impacts of the interventions (reported in Chapters 6 through 9), which the study measured during the same period.

The fourth measure is a first look estimate of how the third measure of all program use might continue to accumulate during a longer time horizon. If families were to continue to use the mix of programs they are observed using at the time

of the followup survey, then each month the average cost of all program use by families assigned to each intervention would grow by this monthly amount.

This approach to estimating costs is different from previous studies that calculate the costs of homelessness. Many studies in recent decades sought to compare the cost of supportive housing for chronically homeless individuals or families with mainstream healthcare and public safety costs of managing this population in the absence of supportive housing.[139] By contrast, this analysis focuses on the costs incurred, not by other systems or services, but by the programs that constitute the interventions in the study. Thus, it is very different from this "cost offset" literature. Instead, this study makes a careful distinction between services *that are an integral part of the program* and other services that the families randomized to any of the four treatment groups might have received from mainstream systems or from specialized systems *but not because they were participating in the SUB, CBRR, and PBTH interventions*. A complete cost-benefit analysis, which is not part of the study design, would include estimates of cost offsets to other systems and of all costs of services that study participants may have received from providers that were not involved with the study, and it would also include an attempt to monetize the benefits associated with differences in impacts.

12.1.1 Cost Data Collection and Analysis Methodology

In calculating the costs of the SUB, CBRR, PBTH, and emergency shelter programs, the study team included all resources that are used to provide the housing or shelter and services that are part of the programs that provided the interventions. Thus, the study team included services provided by partners that are not in the programs' budget, when those services are an integral part of the program—for example, because participants in the program have preferential access to the services. The cost concept also includes the monetary equivalent of in-kind donations of services and materials and, for housing and shelter, we include capital costs incurred.

The study team had two aims in selecting programs to include in the cost analysis. First, programs that served the most study families were selected so that cost estimates would reflect assistance study families actually received. Second, programs of each intervention type offered at each site were included so that cost estimates would reflect variation in the housing or shelter and services provided across programs.

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[139] An introduction to and overview of this literature is provided in Culhane et al. (2007).

Exhibit 12-1 shows the counts of programs included in the cost analysis by intervention type. The programs selected for the cost analysis represent more than 85 percent of study families who accepted a study referral to CBRR and PBTH programs and more than 90 percent of families assigned to UC from shelter programs. The issue of selecting programs did not arise for SUB because administrative data were available for all the SUB programs in the study.

For CBRR, PBTH, and emergency shelter programs, the study collected costs at the program level and normalized the costs by the number of families served by the program (as opposed to tying particular housing units or shelter beds and specific supportive services to study families directly). These program-level costs can be thought of as the average cost of providing housing or shelter and services to a typical family served by the program. The primary source for cost data for CBRR, PBTH, and emergency shelter programs was audited expense statements. Program budgets, staffing lists, partner commitment letters, and program staff estimates of labor and material costs of any services not reflected in expense statements supplemented these statements. The study team developed SUB program costs using HUD Public and Indian Housing Information Center (PIC) and Tenant Rental Assistance Certification System (TRACS) data covering all study families receiving SUB assistance and Financial Data Schedule (FDS) data for all housing agencies providing the SUB intervention.[140]

Because of differences in the underlying data available for different program types, averages are calculated slightly differently for SUB than for CBRR, PBTH, and emergency shelter programs. For CBRR, PBTH, and emergency shelter, study- and site-level average per-family monthly costs are based on program-level cost data assessed through the study team's primary data collection. To reflect actual assistance received, these averages are calculated weighting by the number of study families that enrolled in the programs.

For SUB data, both study- and site-level average per-family monthly program costs are calculated directly from assistance payments for families assigned to SUB observed in administrative data.

To calculate average program cost per stay during the followup period, program-level monthly costs (and site-level for SUB) are multiplied by average months of assistance of the relevant program type received by families assigned to that type who received some assistance.[141] These program-level estimates are again averaged, weighting by the number of study families who enrolled in programs (or that are observed in SUB administrative data). As described in the previous section, the average cost of all program use during the followup period is calculated from household-level data using site-level cost estimates for each program type and individual family months of assistance receipt. Averages are reported for each of the study's pairwise comparison using the same nonresponse weights used in the impact analyses.

This chapter breaks costs into two broad categories:

- *Housing or shelter costs* refer to the rental cost—either observed or estimated—of the space used to provide housing or shelter and program services, and to any maintenance or other facility operation costs (including durable items such as furnishings). The rental cost is net of any rent payments made by the family.

- *Supportive services costs* refer to the cost of any services other than housing or shelter provided as an integral part of the program, including case management, and any cash or in-kind assistance (for example, meals provided in emergency shelters).

Two other categories of costs are measured and included in the calculation of housing or shelter costs and of services costs. Additional detail is shown for these two types of costs because they provide information on typical program structures:

Exhibit 12-1. Programs Included in the Cost Analysis

Intervention	Number of Programs in Cost Analysis
SUB	10 sites (administrative data)
CBRR	12
PBTH	24
ES	45

CBRR = community-based rapid re-housing. ES = emergency shelter. PBTH = project-based transitional housing. SUB = permanent housing subsidy.

Notes: For the 10 sites with the SUB intervention, average costs are calculated from household-level administrative data by site for families who received services from all 18 SUB providers. SUB was not available in Atlanta or Baltimore.

Source: Family Options Study cost data

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[140] PIC and TRACS provide data on housing subsidies. FDS measures administrative costs for SUB.

[141] Because these site-level average durations are calculated using Program Usage Data that is linked to the followup survey, these averages are calculated using the same survey nonresponse weights used to estimate impacts.

- *Administrative and overhead costs* include management salaries; legal, accounting, and other professional services; and program support costs such as insurance premiums and agency and association fees. Administrative and overhead costs are divided among supportive services and housing or shelter costs according to the cost types' relative share of total costs so that they are included in the two broad categories.

- *In-kind and partner costs* include any costs of housing or shelter and supportive services provided to families because they participate in a program. These costs are not provided by the program itself, and, as a result, are not included in program financial statements. Common examples include onsite health or mental health providers funded by an outside agency, community volunteers providing a variety of services, and consumer goods donated to program clients. The importance of these costs varies widely from program to program. When present, they typically are part of the cost of supportive services provided by a program. In some cases, however, housing or shelter costs include the costs of labor, such as handyman services, or of facilities used regularly for program activities that were provided in kind. In other cases, accounting, legal, or administrative services were provided in kind or by partners. In each case, the study team apportioned the cost to the appropriate category.

Further detail on cost collection and estimation methodology is in Appendix G.

12.1.2 Summary of Findings

The Family Options Study interventions were intended to vary in both intensity and duration. SUB programs provide a deep housing subsidy but limited supportive services for an indefinite duration. PBTH programs provide deep housing and services support for a relatively long duration. CBRR programs provide a short-term housing subsidy with little supportive services. Finally, emergency shelter programs often offer supportive services and housing for a very limited time. This section summarizes findings for each of the four cost measures: per-family monthly program cost, program cost per stay during the followup period, cost of all program use during the followup period, and monthly cost of all program use at the followup survey. Subsequent sections provide additional detail and explanation for these reported costs.

Per-Family Monthly Program Costs

Monthly costs of serving a typical family vary considerably by program type. Exhibit 12-2 presents the average per-family monthly program cost for each type of program. SUB programs, on average, cost slightly less than $1,200 per family per month, which consists wholly of the cost of housing, because this intervention provides no supportive services.

CBRR programs have the lowest per-family monthly program cost among the program types, with a program average of slightly less than $900. Housing costs, on average, make up 72 percent of CBRR program costs.

Exhibit 12-2. Average Per-Family Monthly Cost of Supportive Services and Housing or Shelter Across Program Types
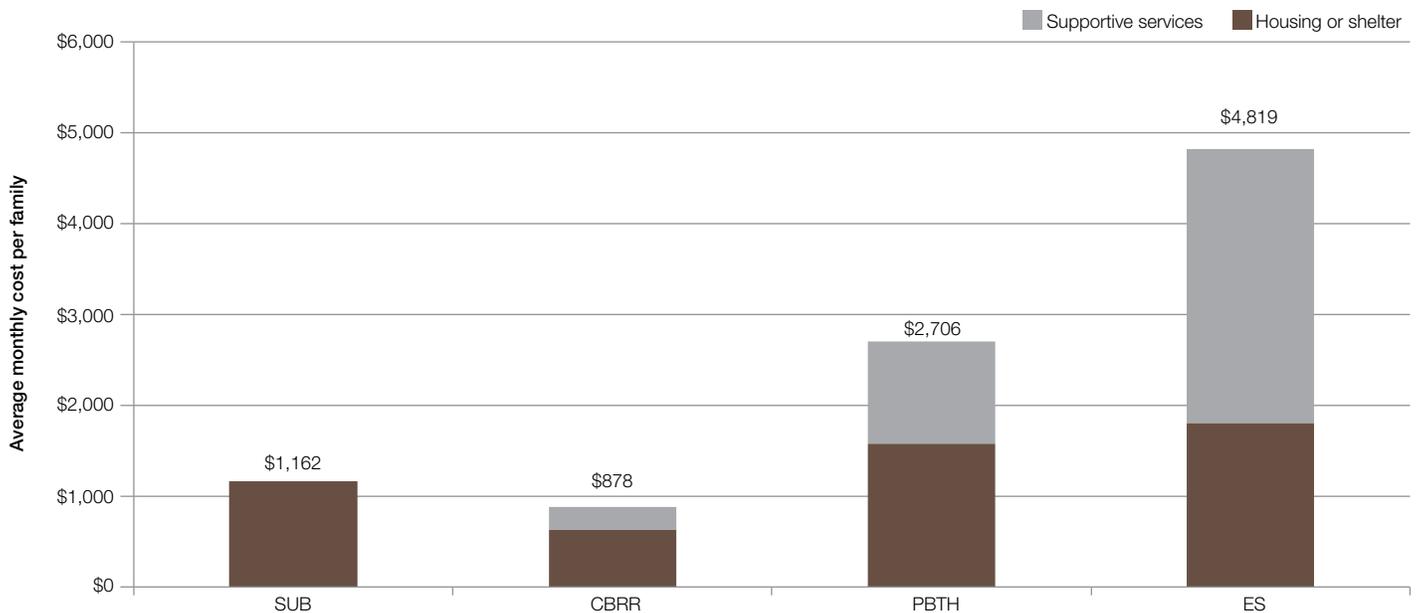
CBRR = community-based rapid re-housing. ES = emergency shelter. PBTH = project-based transitional housing. SUB = permanent housing subsidy.
Sources: Family Options Study cost data (CBRR, PBTH, and ES); HUD Public and Indian Housing Information Center, Tenant Rental Assistance Certification System, and Financial Data Schedule records (SUB)

Emergency shelter programs have the highest per-family monthly program cost for both supportive services and housing or shelter, which, on average, total slightly more than $4,800. Supportive services make up 63 percent of emergency shelter costs, the highest share among the four program types. The higher monthly cost of housing or shelter for emergency shelter programs reflects both program structure and the approach to classifying costs. Emergency shelters tend to have higher per-family levels of facility staffing and expenditure for maintenance and materials than PBTH programs or than what is reflected in rents paid by CBRR and SUB programs. In addition, housing or shelter costs include the capital cost value of all physical space provided by the program, including facilities such as classrooms, case management offices, kitchens, and dedicated childcare centers.[142]

PBTH programs have an average per-family monthly program cost of slightly more than $2,700, with supportive services, on average, constituting 42 percent of PBTH program costs.

Within each study intervention, the study team also found substantial variation in the costs of the individual programs. Exhibit 12-3 shows this variation among per-family monthly program costs for each program type. PBTH and emergency shelter programs have substantial variation, driven largely by variation in supportive services costs but also by variation in capital costs and administrative expenses. For the 24 PBTH programs in the cost analysis, per-family monthly program cost ranges from slightly more than $1,260 to

slightly less than $6,300. Per-family monthly program cost for the 45 emergency shelter programs ranges from $1,900 to slightly more than $9,000.

Variation in CBRR and SUB costs across programs is driven largely by housing costs. For the 12 CBRR programs in the cost analysis, per-family monthly program cost ranges from slightly more than $550 to slightly less than $1,400. Across the 10 sites with the SUB intervention, average per-family monthly program cost ranges from $770 to $2,100, largely reflecting differences in the local cost of rental housing.

Program Costs Per Stay During the Followup Period

We now turn to program costs per stay during the followup period. This cost concept reflects differences in duration of assistance and shows a different cost ordering of the programs. Exhibit 12-4 reports program costs per stay for each program type. This cost concept accounts for duration between random assignment and the followup survey, measured for families who were assigned to and enrolled in programs of each type. Using this measure, the costliest program type is PBTH, at an average of slightly more than $32,500 with an average duration of 13 months.[143] The next most costly program is SUB, with an average of slightly more than $18,800 with an average duration of 16 months. Emergency shelter program costs per stay averaged slightly more than $16,800 with an average length of stay of 4 months.[144] Finally, per-family total costs for families who used rapid re-housing averaged slightly more than $6,500 for an average of 7 months of assistance.

Exhibit 12-3. Summary Statistics of Per-Family Monthly Program Cost by Program Type

Program Type	Per-Family Monthly Program Cost Summary Statistic							
	Families	Programs	Mean ($)	Minimum ($)	25th Percentile ($)	Median ($)	75th Percentile ($)	Maximum ($)
SUB	454	10	$1,162	$770	$844	$1,085	$1,370	$2,095
CBRR	268	12	878	563	713	847	977	1,388
PBTH	107	24	2,706	1,261	1,738	2,352	3,535	6,292
ES	667	45	4,819	1,888	3,907	4,352	5,786	9,170

CBRR = community-based rapid re-housing. ES = emergency shelter. PBTH = project-based transitional housing. SUB = permanent housing subsidy.
Notes: CBRR, PBTH, and ES statistics are calculated from program-level data, weighted by the number of study families that enrolled in the program. SUB statistics are calculated from household-level data.
Sources: Family Options Study cost data (CBRR, PBTH, and ES); HUD Public and Indian Housing Information Center, Tenant Rental Assistance Certification System, and Financial Data Schedule records (SUB)

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[142] This study's finding of higher monthly costs for family shelter programs than for other homelessness assistance program types is consistent with previous estimates reported in HUD's *Costs Associated With First-Time Homelessness for Families and Individuals* (Spellman, et al., 2010), which found emergency shelter monthly costs for families were higher than transitional housing costs and higher than the local Fair Market Rent (FMR) in three of four cities. By contrast, shelters serving individuals had costs that, on average, were equal to or substantially lower than transitional housing costs and the FMR.

[143] Average durations for program costs per stay during the followup period are calculated differently than durations reported in Chapters 6 through 9 for PBTH and CBRR programs. Average durations for program costs per stay are the averages, weighted by the number of study families enrolled in programs represented in the cost study, of site-level average durations for families enrolled in programs of the type to which they were assigned.

[144] This average is the length after random assignment of the initial shelter stay for families assigned to UC. (See Chapter 5, Exhibit 5-2.)

Exhibit 12-4. Average Program Cost Per Stay During the Followup Period Across Program Types
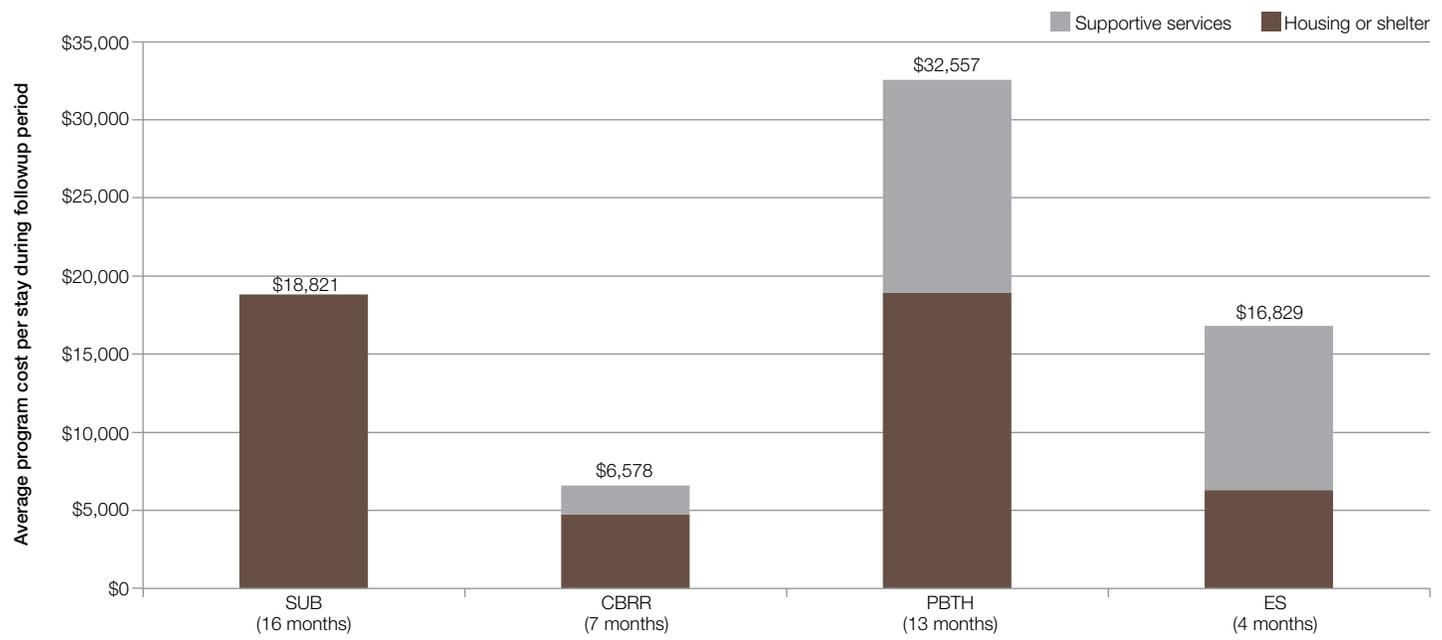
CBRR = community-based rapid re-housing. ES = emergency shelter. PBTH = project-based transitional housing. SUB = permanent housing subsidy.
Note: The durations reported in this exhibit are weighted to align with the program-level cost data and so differ slightly from the durations reported for CBRR and PBTH in other exhibits.
Sources: Family Options Study cost data (CBRR, PBTH, and ES); Family Options Study 18-month followup survey (CBRR and PBTH); HUD Public and Indian Housing Information Center, Tenant Rental Assistance Certification System, and Financial Data Schedule records (SUB).

These estimated costs per stay incorporate costs of assistance provided only through the end of the followup period (approximately 21 calendar months after random assignment). Costs will continue to accrue after the end of the followup period for this study, and these longer term costs will differ across interventions. CBRR and PBTH are explicitly temporary programs. For nearly all study participants, the term of CBRR or PBTH had ended or would end shortly by the end of the followup period. By contrast, SUB is a long-term intervention. Thus, during a longer time horizon, the costs per stay in CBRR, PBTH, and emergency shelter are unlikely to rise much; the cost per stay of SUB is likely to increase substantially. Of the families who used the SUB intervention, 89 percent were still receiving SUB at the followup survey. Our monthly estimates imply that costs for a family who remains in SUB for 5 years, as an example, would total more than $60,000 (using a 5-percent discount rate). Some literature describes the length of time that families use housing vouchers. For example, Thompson (2007) reports that nonelderly/nondisabled households with children that enter the voucher program receive assistance for an average of 3.8 years (as reported in 2002). This mean includes 30 percent of families accessing assistance for less than 1 year. The literature does not include reported duration based on homelessness

experience, however. One could argue such families would have a longer length of stay than typical families because they have more needs or a shorter length of stay (because they have more barriers to maintaining housing).

Cost of All Program Use During the Followup Period
We now consider the total costs of all types of shelter or housing assistance used by families in the different intervention groups during the followup period after random assignment. Relative to monthly costs or per-stay costs, these costs are more homogenous. As observed in the Program Use Since Random Assignment exhibits in Chapters 6 through 9, random assignment to a particular intervention changed usage patterns for other types of shelter programs or housing assistance. For example, assignment to the SUB intervention reduced use of both emergency shelter and PBTH relative to assignment to each of the other intervention arms.

Exhibit 12-5 reports estimates of the total costs of all housing assistance programs (both those assigned and other assistance families accessed) that resulted from these various patterns. In this approach, costs are tallied from random assignment through the date of the followup survey. Furthermore, this approach considers all shelter and housing programs providing services to families.

Exhibit 12-5. Summary of Cost of Program Use Since Random Assignment

Contrast	Estimated Average Total Cost ($) of Observed Housing Assistance of all Types for Families in Comparison Assigned To—			
	SUB	**PBTH**	**CBRR**	**UC**
SUB vs. UC	$30,832			$30,336
CBRR vs. UC			$27,605	$30,629
PBTH vs. UC		$30,817		$28,295
SUB vs. CBRR	$31,158		$29,680	
SUB vs. PBTH	$27,864	$30,914		
CBRR vs. PBTH		$30,510	$22,524	

CBRR = community-based rapid re-housing. ES = emergency shelter. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.
Sources: Family Options Study cost data; Program Usage Data

Using this cost concept, families assigned to SUB have average costs similar to families assigned to UC, slightly higher average costs than families assigned to CBRR, and clearly lower costs than families assigned to PBTH. This pattern is very different from the pattern shown in Exhibit 12-4, which—by only taking the much longer program stays for SUB into account—shows much higher costs for SUB than for CBRR. The only slightly higher cost of SUB as compared with UC for the cost of total program use is driven both by decreased time in emergency shelter and by a decreased use of relatively more expensive PBTH programs by SUB families as compared with UC families. Similarly, the SUB and CBRR interventions differ by only $1,500 (5 percent) in costs because the greater use of SUB programs by families assigned to the SUB intervention is offset by the greater use of CBRR, TH, permanent supportive housing, and emergency shelter programs by families assigned to the CBRR intervention.

As with cost per stay, an important caveat must be applied to these estimates of the total cost of all use of shelter and housing assistance programs during the followup period. The SUB intervention is likely to last beyond that followup period for most families. Thus, SUB may become relatively more costly, even after taking into account use of programs other than those to which families were randomly assigned. These subsequent costs will be analyzed for the longer timeframe and reported in the 36-month report along with impacts measured at 36 months.

Monthly Cost of All Program Use at the Followup Survey

Exhibit 12-6 reports the cost of program use at the time of the followup survey for each assigned program type of each pairwise impact comparison.

The cost of program use at the followup survey—the average per-family monthly program cost of programs that study families were using at followup—follows a similar pattern across treatment arms as the cost of program use since random assignment. For example, because more families assigned to UC are in relatively costly emergency shelters at the followup survey as compared with more families receiving SUB assistance among families assigned to SUB, the cost of program use at the followup survey is nearly equal for the two treatment arms. The extent to which these ongoing cost levels persist will be an important topic of the cost analysis for the 36-month report for the Family Options Study.

Following this high-level summary of the cost findings, the next four sections of this chapter provide a more indepth review of the per-family monthly program costs and program costs per stay during the followup period for the SUB, CBRR, and PBTH interventions and for emergency shelter programs from which families were assigned.

Exhibit 12-6. Summary of Monthly Cost of Program Use at the Time of the Followup Survey

Contrast	Estimated Average Total Monthly Cost ($) of Observed Housing Assistance of all Types for Families in Comparison Assigned To—			
	SUB	**PBTH**	**CBRR**	**UC**
SUB vs. UC	$1,086			$1,066
CBRR vs. UC			$895	$1,098
PBTH vs. UC		$1,009		$1,012
SUB vs. CBRR	$1,081		$979	
SUB vs. PBTH	$1,065	$977		
CBRR vs. PBTH		$718	$989	

CBRR = community-based rapid re-housing. ES = emergency shelter. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.
Sources: Family Options Study cost data; Program Usage Data

12.2 Cost of Permanent Housing Subsidy (SUB)

Permanent housing subsidy programs (SUB) had per-family monthly program costs that averaged $1,162 (Exhibit 12-7). Local rental markets largely determine this cost. This average cost was nearly as low as the average monthly cost of CBRR programs of $878, which was lower because the average amount of the CBRR assistance in some programs was set well below the Fair Market Rent (FMR)—and the tenant income-based housing assistance payment, or HAP, that determines SUB costs. In addition, assistance in some CBRR programs was phased out during a number of months (lowering average monthly assistance). SUB programs' cost per stay during the followup period are nearly three times those of CBRR programs (with an average duration of 7 months), however, because the average duration of SUB programs within the followup period is slightly more than 16 months, at slightly more than $18,800.

On the other hand, SUB programs cost about one-half the cost of PBTH programs on a monthly basis and for the average program stay. This difference is largely because no supportive services are provided with SUB. Average housing costs are also lower for SUB programs, however, because some PBTH programs are located in relatively high-rent areas and maintenance and staffing costs (for example, front desk and security) appear to be higher for some PBTH programs than for a typical small- to medium-sized multifamily apartment building. Because of the greater cost per month, PBTH program stays are more costly than SUB program stays, despite the longer duration of program stays for SUB (averaging 16 versus 13 months for PBTH).

Exhibit 12-8 shows the average cost of SUB programs per month for each site in which SUB was available. Costs of SUB programs are made up of the HAP made on behalf of each family and public housing agency (PHA) administrative costs, both of which vary across sites. HAPs are determined as the difference between the PHAs' payment standard and the income-based tenant payment. Payment standards are set by PHAs to be within 90 and 110 percent of HUD's published FMR, with exceptions approved by HUD (HUD-PIH, 2004). Administrative costs ranged from 6 to 18 percent across sites. Exhibit 12-9, a scatter plot of monthly costs against FMR, shows that, across the 10 sites, SUB program costs are highly correlated with local rental market conditions.

Program costs per stay during the followup period for SUB sites are calculated as the site-level per-family monthly program cost multiplied by the site-level observed average months of assistance received between random assignment and the followup survey. Families received, on average, 16 months of SUB assistance in this period. Of the families who used SUB, 89 percent remained in SUB at the time of the followup survey. Thus, nearly all the variation in duration within the followup period is a result of the time it took for families to "lease up" (make the transition from shelter to moving into a housing unit with a voucher subsidy).

Exhibit 12-7. SUB Program Cost Summary Statistics for Families Who Were Assigned To and Took Up SUB Programs

	Average Over all Families Receiving SUB	Range of Site Averages Across 10 SUB Sites
SUB per-family monthly program cost ($)	1,162	770 to 2,095
SUB program cost per stay during the followup period ($)	18,821	12,304 to 32,449
Duration in SUB during the followup period[a] (months)	16.2	14.4 to 18.2
Housing share (%)	100	No variation
Supportive services share (%)	0	No variation
Partner and in-kind share (%)	0	No variation
Administrative and overhead cost share (included in both housing and supportive services costs)[b] (%)	9	6 to 18

SUB = permanent housing subsidy.

[a] Duration calculated for families assigned to SUB that received some SUB assistance.

[b] Administrative and overhead costs are calculated for each site from site-level administrative data (Financial Data Schedule [FDS]) records. Housing and supportive service shares add to 100; partner and in-kind share and administrative share are included in housing and supportive services.

Note: Averages are calculated directly from family-level records.

Sources: HUD Public and Indian Housing Information Center records; Tenant Rental Assistance Certification System records; FDS records

Exhibit 12-8. Per-Family Monthly Program Costs for SUB Programs
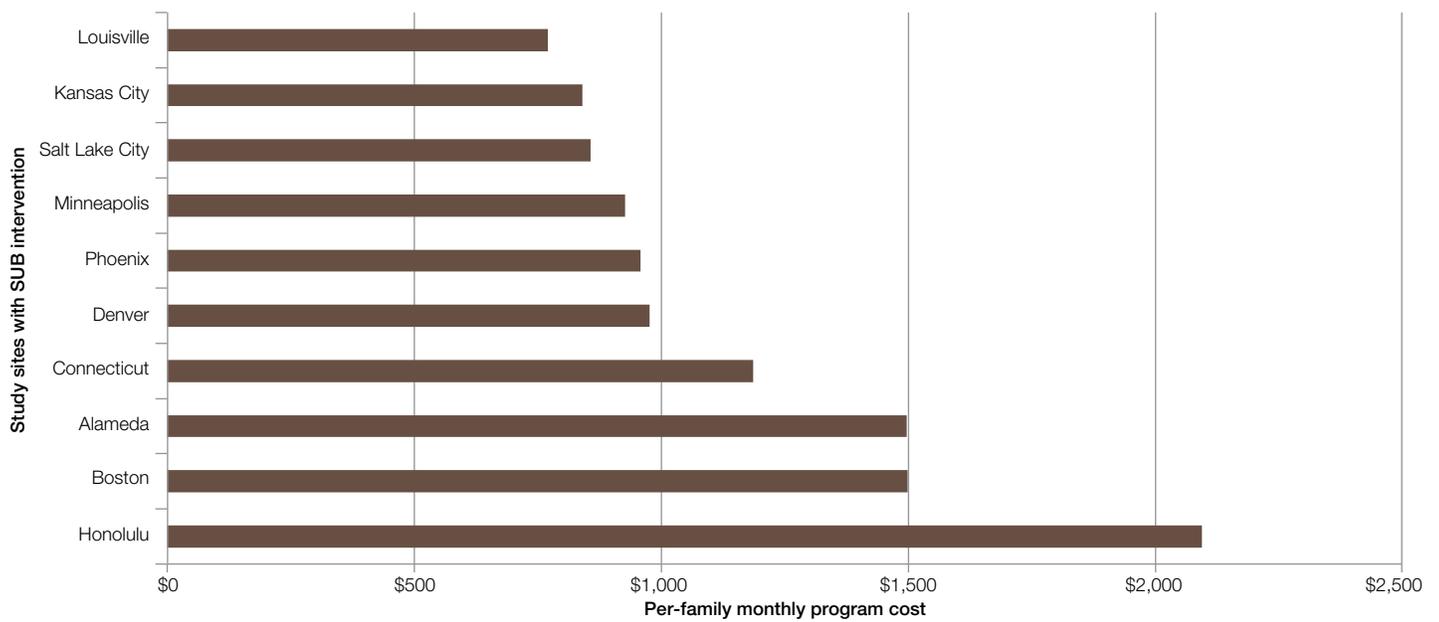
SUB = permanent housing subsidy.

Sources: HUD Public and Indian Housing Information Center records; Tenant Rental Assistance Certification System records; Financial Data Schedule records

Exhibit 12-9. SUB Per-Family Monthly Program Costs and Fair Market Rents
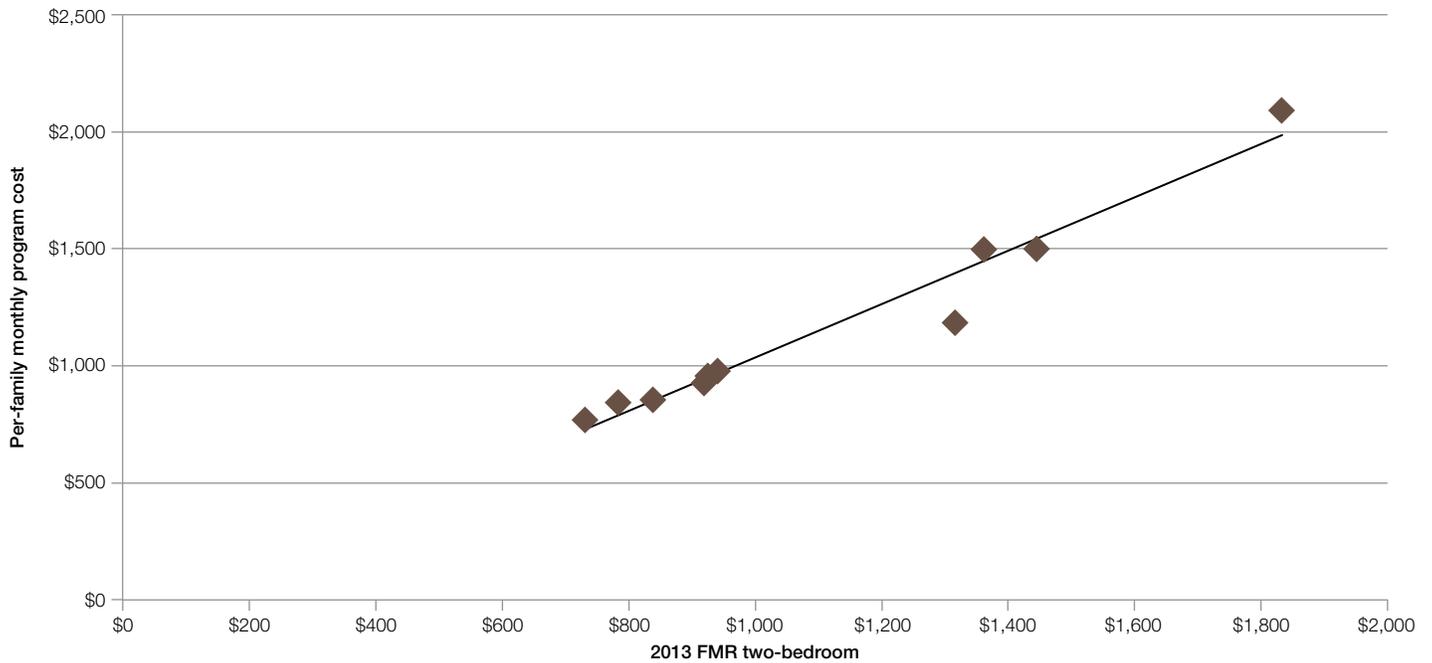
SUB = permanent housing subsidy.

FMR = Fair Market Rent.

Note: The fitted line has been added to this scatter plot to make the strong positive correlation between SUB program costs and FMRs obvious.

Sources: HUD Public and Indian Housing Information Center records (costs); Tenant Rental Assistance Certification System records (costs); Financial Data Schedule records (costs); huduser.gov FMR documentation

12.3 Cost of Community-Based Rapid Re-Housing (CBRR)

Community-based rapid re-housing programs have per-family monthly program costs that average $878, the lowest among the CBRR, PBTH, and SUB program types. Summary statistics for the 12 CBRR programs included in the cost analysis are reported in Exhibit 12-10. The key features of the CBRR intervention—short-term rental assistance with limited case management—are reflected in the cost data: CBRR programs had the shortest duration of 7 months among the active interventions used by families. Rental assistance represents the bulk of program costs, at an average of 72 percent. The

cost data collection confirmed that case management, typically limited to housing search assistance, is nearly always the only supportive service provided by CBRR. The administrative share of costs for CBRR programs (which we apportion between housing or shelter and supportive services costs) averages 11 percent. Some economies of scale are apparent when providing CBRR assistance because, in general, programs with higher per-family monthly program costs or that assisted a greater number of families have lower administrative cost shares.

Housing costs drive most of the variation in costs across CBRR programs. Exhibit 12-11 depicts the per-family monthly

Exhibit 12-10. Program-Level Cost Summary Statistics for 12 CBRR Programs

	Average Across Programs	Range Across Programs
CBRR per-family monthly program cost ($)	878	563 to 1,388
CBRR program cost per stay during the followup period ($)	6,578	3,509 to 15,738
Duration in CBRR during the followup period[a] (months)	7.4	3.7 to 13.5 (across sites)
Housing share	72	57 to 87
Supportive services share	28	43 to 13
Partner and in-kind share (included in housing and supportive services costs as relevant)	Two sites: 1, 3 Ten sites: 0	0 to 3
Administrative and overhead cost share (included in both housing and supportive services costs) (%)	11	3 to 26

CBRR = community-based rapid re-housing.

[a] Duration for study families who were assigned to and enrolled in CBRR.

Notes: Averages are weighted based on the number of study families enrolled in each CBRR program calculated from study enrollment data. Housing and supportive services shares add to 100; partner and in-kind share and administrative share are included in housing and supportive services.

Sources: Family Options Study cost data; Program Usage Data

Exhibit 12-11. Per-Family Monthly Program Costs for CBRR Programs
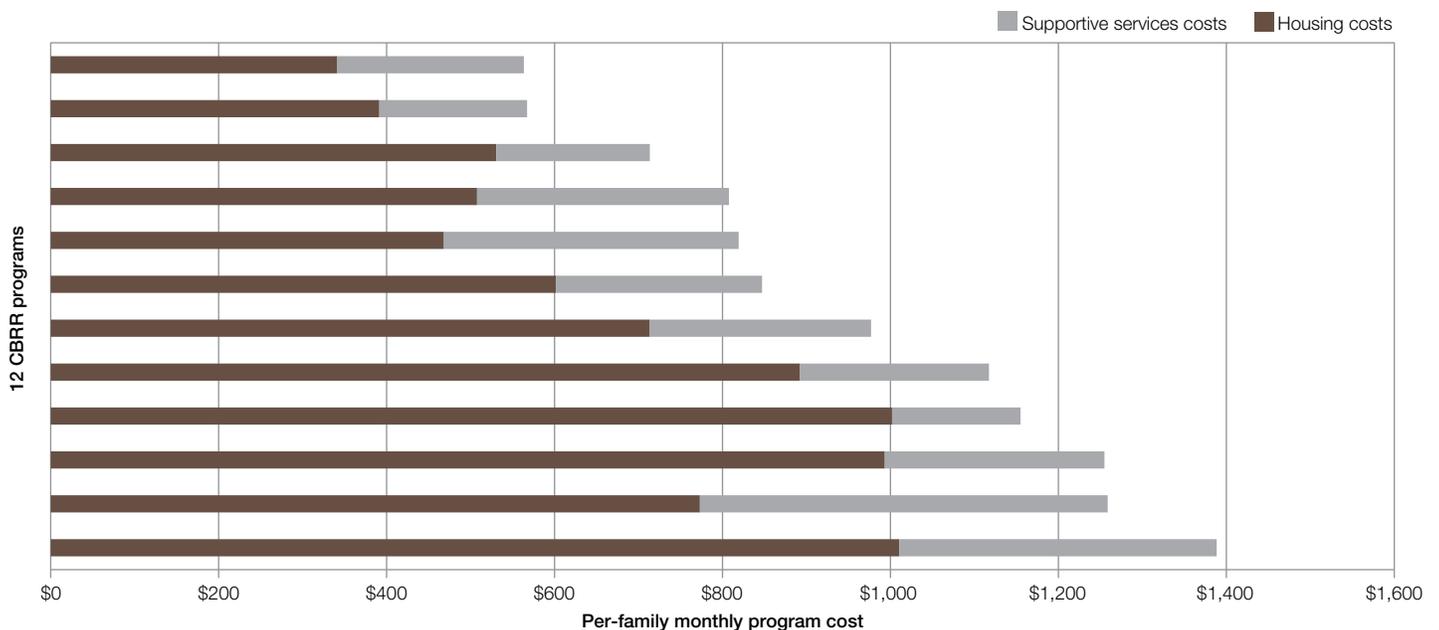
CBRR = community-based rapid re-housing.

Note: Site names are suppressed to preserve program anonymity.

Source: Family Options Study cost data

program costs for the 12 CBRR programs for which the study team obtained costs, one program for each site in which families were randomized to CBRR.

The CBRR programs in the study were funded largely by temporarily available Homelessness Prevention and Rapid Re-Housing Program (HPRP) funds, which did not require that per-family assistance be based on local rents.[145] Many programs included rent, however, along with household income in the formula used to determine assistance. As a result, monthly housing assistance for CBRR programs tends to be greater in sites with higher rental prices (measured by area FMR). The relationship between FMR and monthly average costs is not nearly as strong for CBRR as it is for SUB, however, because not all programs determined assistance based on rent, and because assistance was often phased out over a number of months.

CBRR was intended to provide a short-term rent subsidy. Consistent with that intention, among the CBRR-assigned families who received CBRR assistance, 81 percent received 1 year or less of assistance (as of the followup survey).[146] Because CBRR has the lowest monthly cost among all program types and the shortest duration among CBRR, PBTH, and SUB, at slightly more than $6,500, CBRR is the least costly intervention studied in terms of the program cost per stay during the followup period. As shown in Exhibit 12-5, however, and discussed further in the following section, when all the housing and service programs used by families assigned to CBRR are considered, the cost advantage of the CBRR intervention over the SUB intervention in the

followup period nearly disappears. Similarly, when counting all programs used, the cost advantage of CBRR over PBTH and UC is greatly reduced.

12.4 Cost of Project-Based Transitional Housing (PBTH)

PBTH programs have per-family monthly program costs of $2,706, second to emergency shelter and more than double the monthly costs per family of CBRR and SUB. Among families who used their assigned PBTH programs, program costs per stay during the followup period averaged slightly more than $32,500, the highest of any active intervention. Average monthly housing or shelter costs for PBTH are higher than costs for CBRR and SUB, but the bulk of the cost differential is driven by the greater supportive services that PBTH programs provide. As reported with other cost summary statistics in Exhibit 12-12, supportive services represent, on average, 42 percent of PBTH costs.

The supportive services costs included here are for services provided directly by the program or its partners or volunteers to resident families because they were in the PBTH program. Mainstream services that SUB, CBRR, or PBTH families received outside of the programs to which they were assigned are not included here. It is possible that PBTH services substituted for some of the mainstream services that were used by CBRR or SUB families, but which were not included in the costs we attribute to those programs. Mainstream services are those provided to families because they are available in

Exhibit 12-12. Program-Level Cost Summary Statistics for 24 PBTH Programs

	Average Across Programs	Range Across Programs
PBTH per-family monthly program cost ($)	2,706	1,261 to 6,292
PBTH program cost per stay during the followup period ($)	32,557	16,066 to 60,002
Duration in PBTH during the followup period[a] (months)	12.8	8.4 to 17.1 (across sites)
Housing share (%)	58	21 to 84
Supportive services share (%)	42	79 to 16
Partner and in-kind share (included in housing or shelter or supportive services cost as relevant) (%)	8	0 to 44
Administrative and overhead cost share (included in both housing and supportive services costs) (%)	14	3 to 39

PBTH = project-based transitional housing.

[a] Duration in PBTH programs in the first 18 months after random assignment calculated for study families who were assigned to and enrolled in PBTH.

Notes: Averages are weighted based on the number of study families enrolled in each PBTH program calculated from study enrollment data. Housing and supportive service shares add to 100; partner and in-kind share and administrative share are included in housing and supportive services.

Sources: Family Options Study cost data; Program Usage Data

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[145] HPRP was authorized through the American Recovery and Reinvestment Act of 2009. Across the nation, communities received $1.5 billion in HPRP funding, a one-time funding stream available for 3 years from program inception, to provide both homelessness prevention and rapid re-housing assistance to individuals and families facing homelessness.

[146] Based on program usage data, only 10 percent of CBRR-assigned families who received CBRR assistance were still receiving this assistance as of the followup survey. This proportion compares with 89 percent for SUB and 40 percent for PBTH. In Chapters 5 through 9, duration is reported by contrast for the time before the followup survey.

the community and because the families are eligible, but not because they are participating in a particular housing or shelter program. It also is possible, however, that the intensive case management that is part of the higher PBTH supportive services costs led to more referrals that increased PBTH residents' use of mainstream services compared with use of those services by SUB or CBRR families.

Exhibit 12-13 shows how per-family monthly program cost varies across the PBTH programs. Most of the variation in total costs results from variation in the extent of supportive services provided, which range from 16 to 77 percent of total costs. Supportive services include some level of case management for all PBTH programs. In cost data collection, the study team identified a broad and varied array of additional supportive services that PBTH programs and their partners provided. Examples include onsite mental health and substance abuse therapy; childcare, tutoring, and mentoring; clothing, toiletries, and food; and holiday gifts and event tickets.

Although variation exists across programs in the cost of the housing portion of PBTH, no clear relationship is apparent between local FMR and either total PBTH costs or the housing/shelter portion of costs. Instead, variation in housing or shelter costs appears to arise from differences in the actual space provided to families in PBTH programs and staffing and maintenance costs associated with program facilities. Most programs house families on a dedicated campus with varying mixes of full-time maintenance, front desk, and security staff. Some of these facilities are located in relatively high-cost neighborhoods, while others are located in areas with lower rental rates. A few programs rent housing units that are geographically dispersed within the local community, often referred to as scattered-site units.

As depicted in Exhibit 12-14, the share of administrative costs and of partner and in-kind services vary substantially across programs and has a positive correlation with per-family monthly program costs for PBTH. A positive relationship is also observed between supportive services share and both

Exhibit 12-13. Per-Family Monthly Program Costs for PBTH Programs
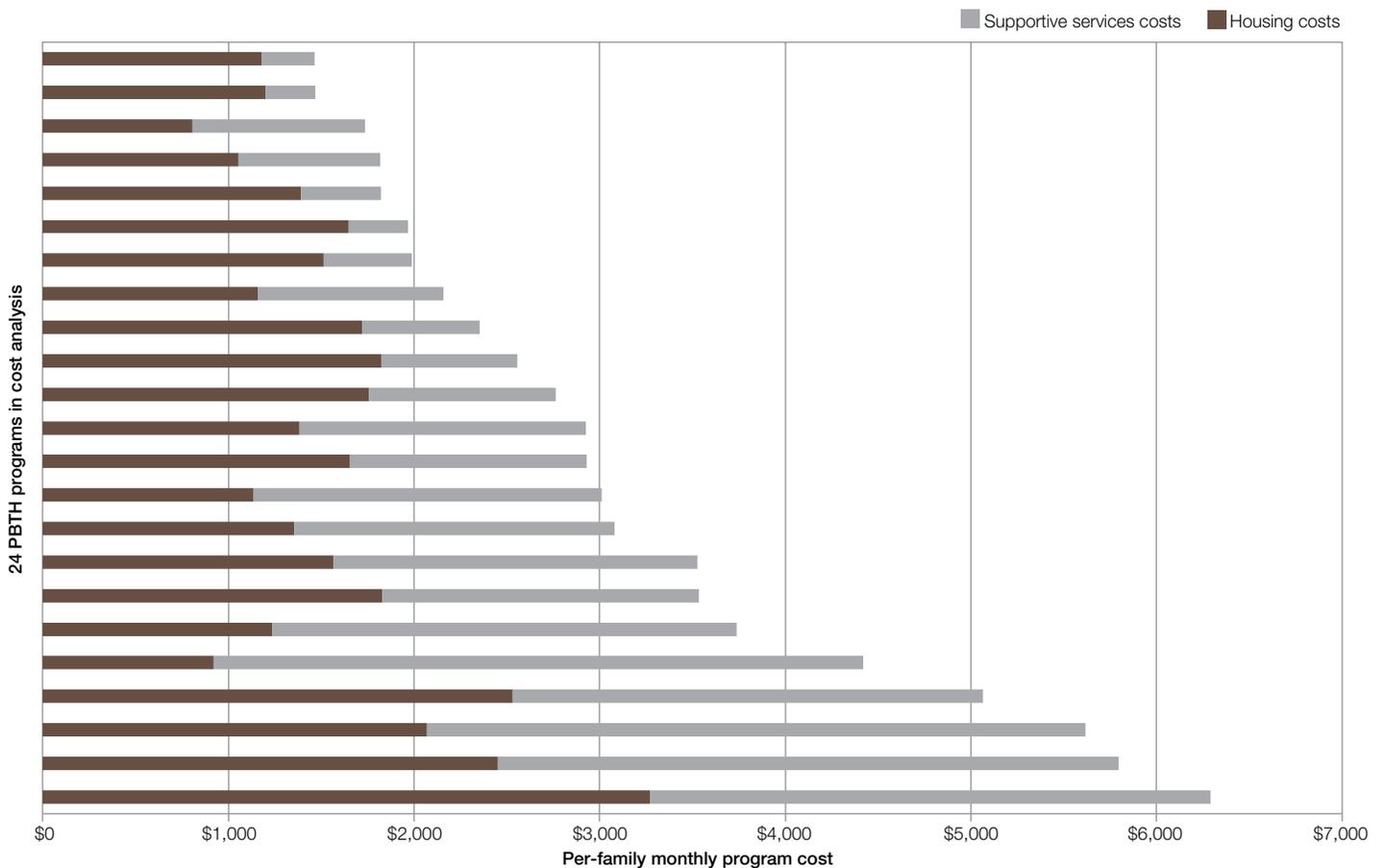
PBTH = project-based transitional housing.
Note: Site names are suppressed to preserve program anonymity.
Source: Family Options Study cost data

Exhibit 12-14. Administrative (panel A) and Partner/In Kind (panel B) Share of Program Costs

Panel A

Panel B
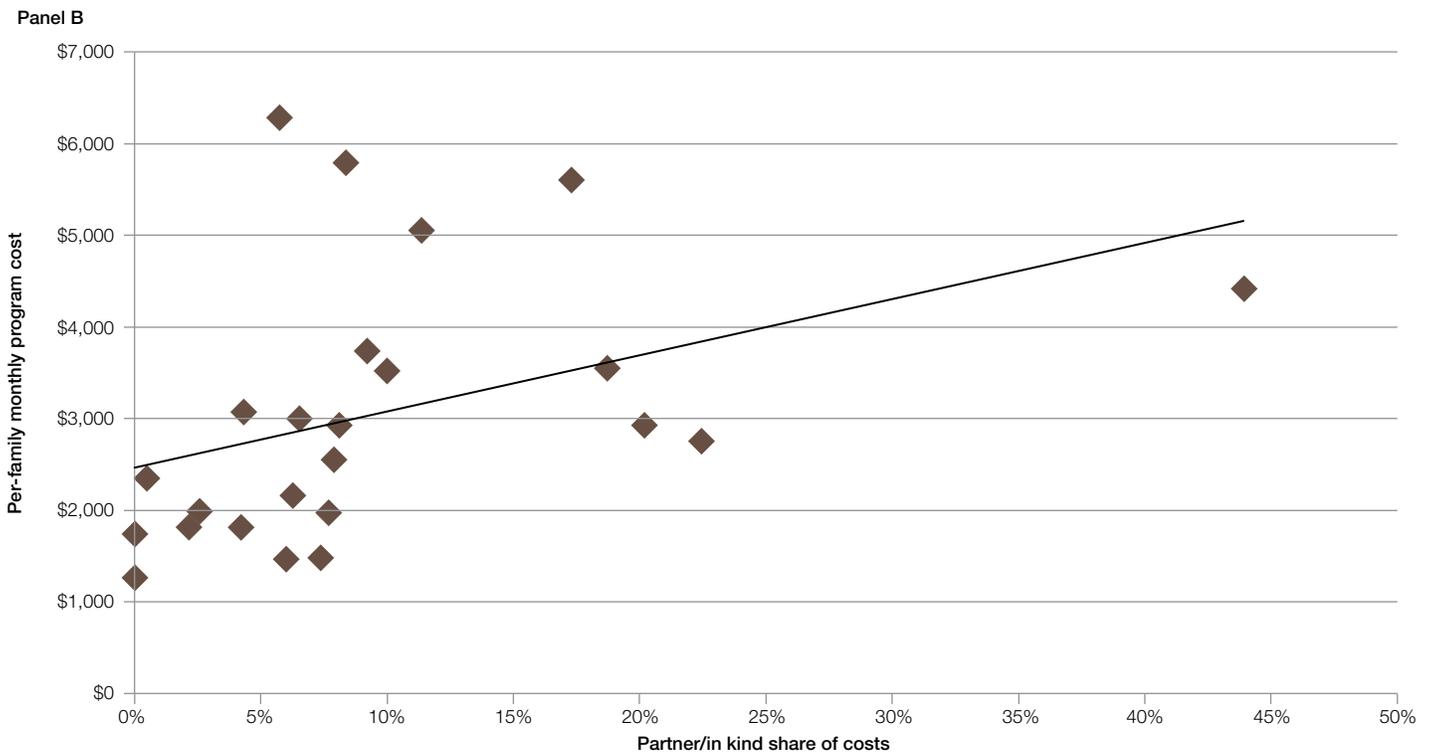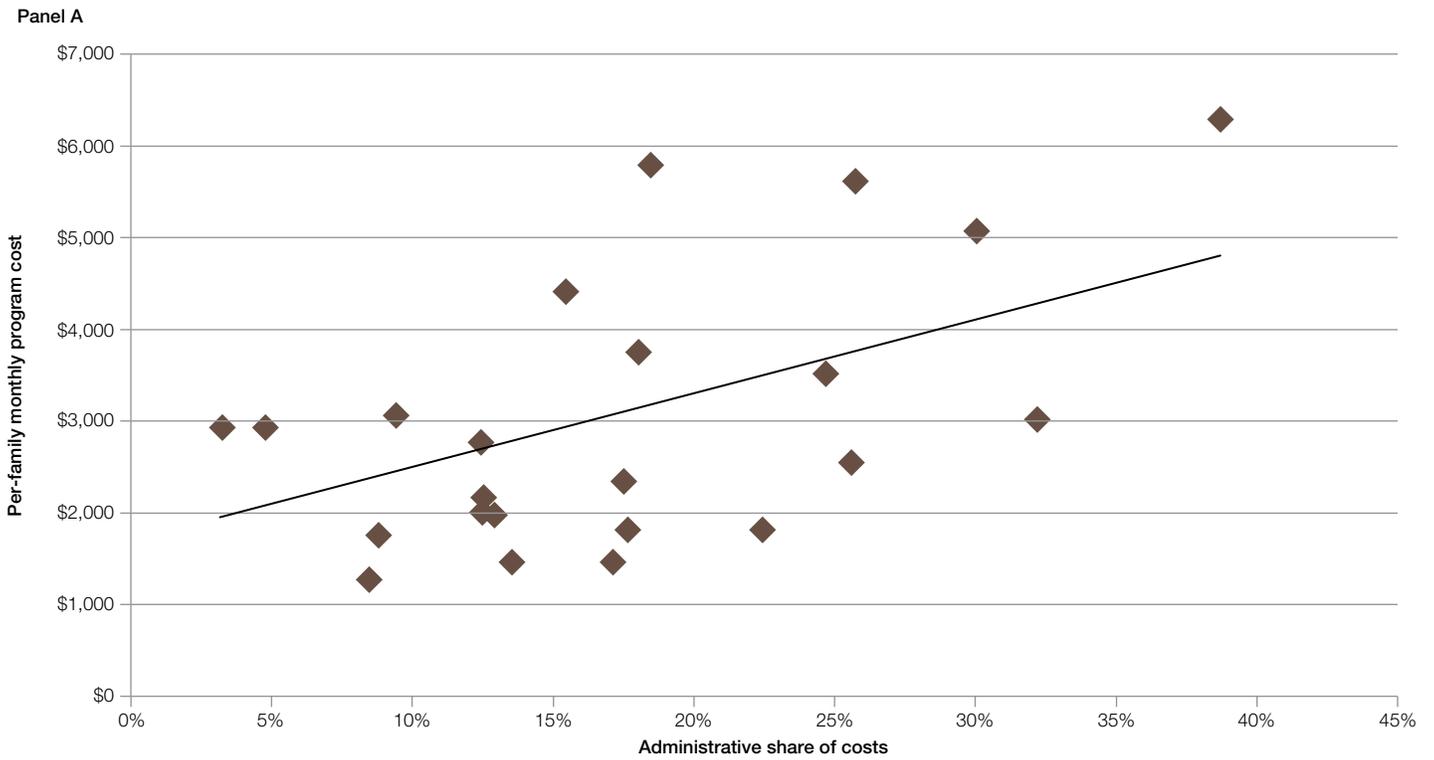
Note: The fitted line has been added to this scatter plot to make the positive correlations obvious.
Source: Family Options Study cost data

partner and in-kind share and administrative cost share. So, in general, programs with more supportive services require greater administrative overhead, perhaps because they more often leverage partner organizations and donations to provide increased supportive services. Looking at the underlying data, no clear association is apparent between the number of families served at a time by the program and average cost per household, administrative cost share, or in-kind share. This finding suggests that cost variation for PBTH programs is largely driven by the type and amount of housing and supportive services provided rather than by the number of households served.

PBTH programs provide time-limited assistance. The limits are typically longer than in CBRR programs and shorter than the period of time families typically continue to qualify for and use vouchers. Duration of assistance within the followup period after random assignment averaged 12 months for families who were assigned to and used PBTH, nearly 4 months less than the average duration for families in SUB during the same period. Many PBTH programs enroll families for longer than 18 months and, indeed, 40 percent of study families who used PBTH were still enrolled in the programs as of the followup survey. Because monthly per-family costs of PBTH are more than double monthly per-family costs for SUB, the average program cost per stay during the followup period for PBTH of more than $32,500 is substantially more than that of SUB during the same period.

12.5 Cost of Emergency Shelter

Emergency shelters have the highest average cost per family per month—more than $4,800. The emergency shelter programs also had the greatest variation across programs in total cost, in the importance of partner services and in-kind donations to program activities, and in the share represented by administrative and overhead costs. Exhibit 12-15

reports overview statistics for emergency shelter programs. Exhibit 12-16 shows the wide variation across programs in both total average per-family monthly program cost and in the shelter and supportive services shares of costs. As with PBTH programs, differences for the shelter component of costs have little relation to FMR differences across sites, but instead are determined by variation in shelter structure (for example, individual units versus congregate beds) and location and by variations in facility-related staffing and maintenance costs. Although administrative cost shares range from 3 to 38 percent of total costs, only a small positive correlation is seen between the administrative cost share and total cost.

Emergency shelters also differ greatly in the importance of partner and in-kind costs to the program structure. For one-third of programs, partner and in-kind donations represent at least 20 percent of total program costs. Exhibit 12-17 shows the positive relationship between partner and in-kind cost share and total average monthly cost per family. Partner services and in-kind donations are nearly always supportive services (including direct assistance), but the study team also observed partner services and in-kind donations in administrative (for example, accounting services) and facility operations (for example, handyman services) that were appropriately categorized as administrative and housing or shelter costs, respectively. Partner and donated supportive services ranged from medical services and counseling to summer camp and therapy animal sessions. In-kind goods provided to families in shelters ranged from food and clothes to concert tickets.

The study team used the duration (after random assignment) of families assigned to UC's initial shelter stay to calculate program cost per stay during the followup stay for emergency shelter programs. This initial stay averaged 4 months after random assignment.

Exhibit 12-15. Emergency Shelter Cost Summary Statistics

	Average Across Programs	Range Across Programs
ES per-family monthly program cost ($)	4,819	1,888 to 9,170
ES program cost per stay after random assignment for the initial shelter stay ($)	16,829	4,366 to 51,637
Duration in ES in initial shelter stay (after random assignment)[a] (months)	3.6	2.0 to 9.0 (across sites)
Shelter share (%)	38	10 to 96
Supportive services share (%)	62	90 to 4
Partner and in-kind share (included in shelter or supportive services cost as relevant) (%)	15	0 to 59
Administrative and overhead cost share (included in both housing and supportive services costs) (%)	16	3 to 38

ES = emergency shelter.

[a] Durations in ES programs in this table are calculated for families assigned to usual care.

Notes: Averages are weighted based on the number of study families enrolled in each ES program calculated from study enrollment data. Housing and supportive services shares add to 100; partner and in-kind share and administrative share are including in housing and supportive services.

Sources: Family Options Study cost data; Program Usage Data

Exhibit 12-16. Per-Family Monthly Program Costs for Emergency Shelter Programs

Legend: ▢ Supportive services costs ▮ Shelter costs

Y-axis: 45 ES programs in cost study
X-axis: Per-family monthly program cost
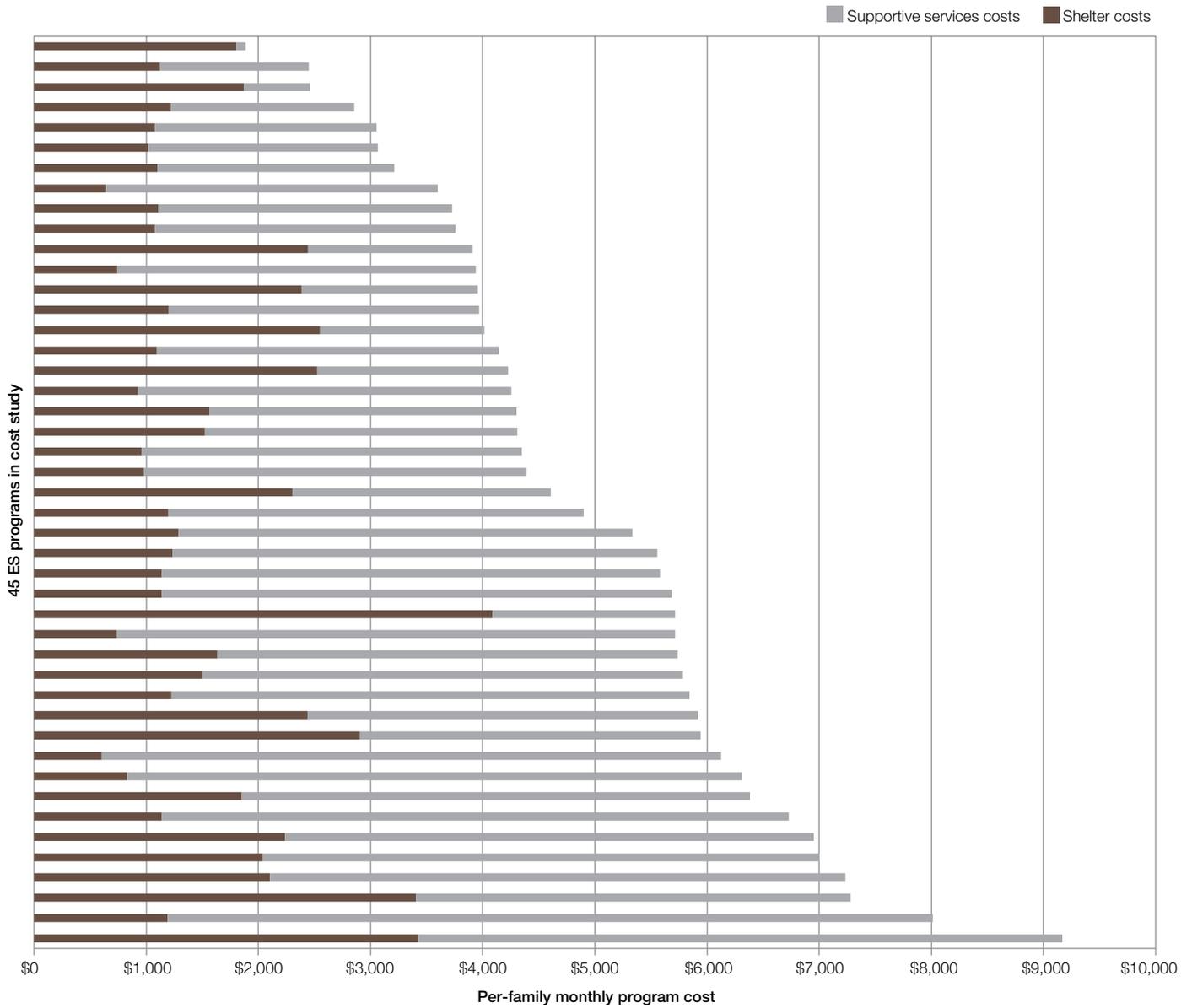
Note: Program names are suppressed to preserve program anonymity.
Source: Family Options Study cost data

Exhibit 12-17. Total Monthly Costs and Partner/In-Kind Share of Program Costs
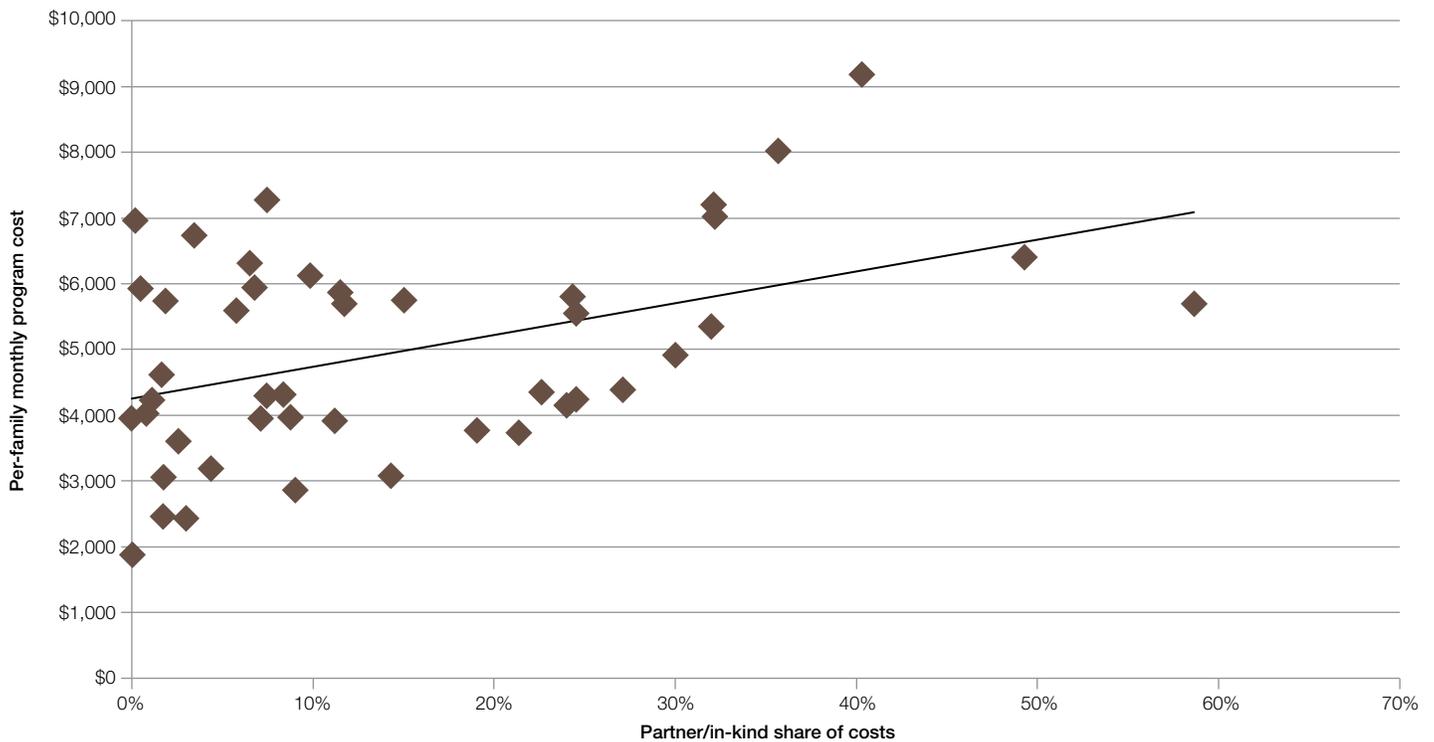
Note: The fitted line has been added to this scatter plot to make the close positive correlation obvious.

Source: Family Options Study cost data

12.6 Comparison of Costs Across Program Types

Differences in the nature of the CBRR, PBTH, SUB, and emergency shelter programs are reflected in the differences in average costs across the programs. Exhibit 12-18 reports summary statistics for the four program types. CBRR and SUB provide assistance for private market housing. In both cases, but particularly for SUB, housing assistance is driven by local housing market conditions, as measured by FMR. Even though CBRR provides some supportive services in the form of housing placement and limited case management assistance, CBRR costs are lower than SUB costs on a per-month average basis, because CBRR assistance is sometimes a fixed amount that is less than the typical HAPs provided by vouchers in the same site, and, in many cases, the subsidy declines the longer the family is in CBRR. CBRR also costs less than the SUB per-program stay, because the assistance lasts, on average, slightly more than 7 months per family. By contrast, SUB provides rental assistance up to the PHA payment standards (tied to FMR) less the household's expected contribution (typically 30 percent of families' incomes every month) and has no time limit. The average duration of SUB for families included in the SUB intervention was 16 months during the followup period.

PBTH and emergency shelter are similar to each other and distinct from CBRR and SUB in that they provide a mix of housing or shelter and supportive services. In fact, many PBTH and emergency shelter programs that study team members visited for cost data collection are operated by the same agency; in a number of instances, shelter and PBTH programs were distinguished only by length of stay, with families in both programs accessing the same supportive services and living in the same facility. Other emergency shelters are distinct in providing congregate shelter or shared rooms for sleeping, whereas PBTH (and SUB and CBRR) largely provide families with private units. Partner and in-kind resources represent a greater share of costs, on average, for emergency shelter programs than for PBTH programs. In general, the study team found that PBTH relied more than did emergency shelter programs on partner organizations to provide professional services such as counseling services or mentoring, whereas emergency shelter programs were more likely to use volunteer and in-kind resources. PBTH programs provided housing and supportive services, on average, for nearly 13.0 months during the followup period, whereas initial shelter stays persisted, on average, for 3.5 months after random assignment.

Exhibit 12-18. Comparison of Cost Summary Statistics Across Program Types

	SUB	CBRR	PBTH	ES
Housing or shelter shares (%)	100	72	58	38
Supportive services share (%)	0	28	42	62
Partner and in-kind share (included in shelter or supportive services cost as relevant) (%)	0	Two sites: 1, 3 Ten sites: 0	8	15
Administrative and overhead cost share (included in both housing and supportive services costs) (%)	9	11	14	16
Per-family monthly program cost ($)	1,162	878	2,706	4,819
Duration of assistance in study program during the followup period (months)	16	7	12	3
Program cost per stay during the followup period ($)	18,821	6,578	32,557	16,829

CBRR = community-based rapid re-housing. ES = emergency shelter. PBTH = project-based transitional housing. SUB = permanent housing subsidy.

Notes: Durations in respective program types are calculated for all families who were assigned to and enrolled in SUB, CBRR, and PBTH. For PBTH and CBRR programs, durations are averages of site-level duration averages, weighted by the number of families enrolling in programs in the cost study. ES duration is based on initial length of shelter stay for families assigned to UC. Housing and supportive services shares add to 100; partner and in-kind share and administrative share are included in housing and supportive services.

Sources: Family Options Study cost data (CBRR, PBTH, and ES); Family Options Study 18-month followup survey (CBRR and PBTH); HUD Public and Indian Housing Information Center records (SUB); Tenant Rental Assistance Certification System records (SUB); Financial Data Schedule records (SUB).

12.7 Cost of All Program Use During the Followup Period by Families in Each Intervention Arm

Thus far, this chapter has presented estimates of average per-family monthly program costs based on data collected and observed for the programs that provided the three active study interventions and emergency shelter. The chapter has also compared average program costs per stay during the followup period, which adjusts monthly costs with site-level averages of number of months spent in the respective program types by families assigned to each intervention.

This section now turns to estimates of the cost of all use of shelter and housing assistance programs during the followup period. These estimates can be thought of as the costs of achieving the relative impacts of the interventions reported in Chapters 6 through 9. They take account of the extent to which families assigned to each intervention used that type of program and also used different types of assistance. Assignment to receive priority access to a particular type of program both increased the rate at which families used that program and affected the rate at which families used other types of shelter and housing assistance programs during the followup period.

These estimates use the per-family monthly program costs, together with the observed patters of program usage reported in Chapters 6 through 9, to construct estimates of total costs of the mix of homeless or housing assistance programs that served study families in each of the intervention arms in the period between random assignment and the followup survey.

Program use data measured the number of months each family received seven types of homeless or housing assistance programs. The seven types of programs are: subsidy, rapid re-housing, transitional housing, emergency shelter, permanent

supportive housing, public housing, and project-based housing assistance (project-based vouchers or Section 8 projects). (See Chapters 6 through 9 for more information on program use, particularly the respective "Program Use Since Random Assignment" exhibits.)

Translating the number of months of assistance received into the cost of all housing and service programs used since random assignment requires additional assumptions. This requirement is mainly because many families accessed shelter or housing and related services from programs not in the cost study. We used the following assumptions.

First, we used site-level per-family monthly program costs for each of our four program types as cost estimates for a month of assistance at any program of that type. This approach treats, for example, all transitional housing programs in a site as having the same per-family monthly program cost as the PBTH cost we estimate in this chapter.

Second, the study data track families' use of permanent supportive housing, public housing, and project-based housing assistance that was not associated with the study or included in the cost analysis. Under the assumption that they have similar program and cost structures, the estimates reported in this section use site-level PBTH costs as a proxy for the cost of permanent supportive housing and SUB costs as a proxy for the costs of public housing and project-based housing assistance.

The study team examined these costs of all program use associated with the combination of assistance that the families received for each of the six pairwise comparisons (see Exhibit 1-1 for an overview of the pairwise comparisons):

- SUB versus UC.
- CBRR versus UC.
- PBTH versus UC.
- SUB versus CBRR.
- SUB versus PBTH.
- CBRR versus PBTH.

As reported in Chapters 6 through 9, different sets of families took part in each of the study's pairwise comparisons. Exhibit 12-19 presents the average cost of all program use during the followup period for the families in each assignment arm of each comparison. Looking across all the pairwise comparisons, whenever families are assigned to SUB or PBTH, costs of SUB or PBTH interventions represent the highest share of all program costs. Substantial emergency shelter costs remain even in these instances, however, and costs of emergency shelter represent the highest cost

Exhibit 12-19. Cost of Program Use Since Random Assignment for Each Intervention Contrast

CBRR = community-based rapid re-housing. ES = emergency shelter. PBTH = project-based transitional housing. SUB = permanent housing subsidy.

Notes: Averages are for all 18-month survey respondents in each arm of each pairwise comparison, and are weighted for survey nonresponse to represent full comparison sample. Cost estimates assume a site-specific average cost per month based on the Family Options Study cost data and HUD administrative data. The *other* category includes permanent supportive housing, public housing, and project-based assistance (project-based vouchers or Section 8 projects).

Sources: Family Options Study cost data; HUD Public and Indian Housing Information Center records (SUB); Tenant Rental Assistance Certification System records (SUB); Financial Data Schedule records (SUB); Family Options Study Program Usage data

share whenever families are not assigned to SUB or PBTH. This finding illustrates that, when families have been in shelter for 7 days or more, substantial shelter costs are associated with assisting all families up until the time they leave the emergency shelter either to use a program to which they were given priority access or to go somewhere else.

Total costs for the average family in the SUB-versus-UC pairwise comparison group are shown in the far left set of stacked bar charts in Panel A of Exhibit 12-19. During the period between random assignment and the followup survey, costs of homeless and housing assistance programs provided to UC participants were similar to costs for assistance to SUB participants. When we include the cost of *all program use* for each set of families—families assigned to SUB versus families assigned to UC—the total average cost per family assigned to SUB is only $500 more than for families assigned to UC. The decreased use of programs providing PBTH, CBRR, and emergency shelter outweighs most of the increased use of SUB. In other comparisons, families assigned to SUB have slightly higher average costs than families assigned to CBRR, and they clearly have lower costs than families assigned to PBTH (see Panel B of Exhibit 12-19).

In the three contrasts containing the PBTH intervention, the high monthly cost of PBTH programs results in a higher average cost of all programs used for families assigned to PBTH compared with other interventions. On the other hand, in each of the three comparisons involving the CBRR intervention, families assigned to CBRR have the lower average cost of all programs used, reflected the lower monthly cost of the CBRR intervention. For CBRR versus UC, CBRR families have an average cost of all programs used that is $3,000 lower that those assigned to UC, while for SUB versus CBRR, CBRR families' average cost of all programs used is $1,500 lower than those assigned to SUB.

12.8 Monthly Cost of All Program Use at the Followup Survey by Families in Each Intervention Arm

Exhibit 12-20 shows the monthly costs of all program use at the followup survey for each pairwise comparison. This analysis uses the per-family monthly program cost for each type of program and information about the mix of program types families were using at the time of the followup survey. As discussed in Chapters 6 through 9, the mix of programs used during the month of the followup survey is different than what is observed during the entire followup period. For example, in the SUB-versus-UC comparison, 84 percent of families assigned to SUB used SUB at some point during

the followup period and 75 percent were using SUB at the time of the survey (see Exhibit 6-2). Of the families assigned to SUB, 13 percent used rapid re-housing during the followup period, but none were using rapid re-housing during the month of the survey. Altogether, 6 percent of families assigned to SUB used transitional housing at some time during the followup period, but only 1 percent of families were using transitional housing at the time of the survey. Among families assigned to UC, 12 percent used SUB during the followup period and 11 percent were using SUB in the month of the survey; 20 percent used rapid re-housing during the followup period but only 3 percent used rapid re-housing during the month of the survey. Similarly, 21 percent of families assigned to UC used transitional housing during the followup period but only 8 percent were using this type of assistance during the month of the survey. Do the relative costs of programs used by families in each intervention arm also differ when we consider only the month of the followup survey?

Exhibit 12-20 shows that in contrasts involving SUB and CBRR, the relative costs of the program use associated with each intervention arm are similar for the entire followup period and in the month of the followup survey. In the month of the followup survey, costs of program use for families assigned to CBRR are lower than for families assigned to SUB (by $102), UC (by $203), and PBTH (by $271). This pattern is consistent with comparisons of the costs of program use during the entire followup period, in which families assigned to CBRR had lower total costs of all program use than did families assigned to any of the other interventions. This finding reflects the greater use of and the lower per-family monthly program cost of CBRR compared with other interventions.

In all contrasts involving SUB, the costs of program use during the month of the followup survey are slightly higher for families assigned to SUB. Compared with families assigned to UC, costs of program use for families assigned to SUB were $20 higher in the month of the followup survey. The costs of program use for families assigned to SUB were $88 higher than for families assigned to PBTH and were $102 higher than for families assigned to CBRR. These differences in costs are relatively small because the costs associated with the greater use of SUB during the month of the followup survey were offset by the use of the higher cost emergency shelter and PBTH among families assigned to the other interventions.

For the PBTH-versus-UC and SUB-versus-PBTH comparisons, the relative costs for the followup survey month are different than for the entire followup period. For example, in the PBTH-versus-UC comparison, the costs of program use during the full followup period are $2,432 higher for families assigned

Exhibit 12-20. Average Per-Family Monthly Costs for Program Use at Time of the Followup Survey, by Comparison

Panel A

Legend: Other, SUB, CBRR, PBTH, ES

Panel B

CBRR = community-based rapid re-housing. ES = emergency shelter. PBTH = project-based transitional housing. SUB = permanent housing subsidy.

Notes: Averages are for all 18-month survey respondents in each arm of each pairwise comparison and are weighted for survey nonresponse to represent full comparison sample. Cost estimates assume a site-specific average cost per month based on the Family Options Study cost data and HUD administrative data. The *other* category includes permanent supportive housing, public housing, and project-based assistance (project-based vouchers or Section 8 projects).

Sources: Family Options Study cost data; HUD Public and Indian Housing Information Center records (SUB); Tenant Rental Assistance Certification System records (SUB); Financial Data Schedule records (SUB); Family Options Study Program Usage Data

to PBTH but are nearly equivalent in the month of the fol-lowup survey. Compared with SUB, the costs of program use for families assigned to PBTH are $3,063 *higher* during the entire followup period but are $88 *less* in the month of the followup survey. Compared with CBRR, families assigned to PBTH have higher costs of program use in the month of the survey and during the entire followup period.

It is not clear how expected future costs of homeless or housing assistance will compare across the interventions. Importantly, the SUB intervention usually lasts beyond the followup period reported here. Costs of providing SUB are indefinite and will likely continue to grow at nearly the per-month cost. Families assigned to UC or the other interven-tions, however, may experience greater housing instability than their counterparts assigned to SUB. This instability could result in higher future costs from subsequent use of relatively more expensive shelter and transitional housing programs. The costs of program use during a longer (36-month) period will be examined in the 36-month report for the Family Options Study along with the impacts measured during the longer period.

CHAPTER 13.
CONCLUSIONS

HUD launched the Family Options Study in 2008 to fill a gap in knowledge about which housing and services interventions work best for families experiencing homelessness. This report provides the first rigorous evidence about the relative effects of priority access to permanent housing subsidies (SUB), community-based rapid re-housing (CBRR), project-based transitional housing (PBTH), and usual care (UC)—that is, leaving families to find their way out of shelter without priority access to one of the three active interventions. Nearly 2,300 families in 12 sites across the country were randomly assigned to one of these four treatment arms after spending at least 7 days in emergency shelter. Random assignment yielded well-matched groups of families, with no systematic differences in baseline characteristics. Families were free to take up their assigned interventions or make other arrangements on their own, so families in each treatment arm used a mix of programs. Nonetheless, the study generated substantial contrasts in program use during the followup period—that is, the program or set of programs families used was influenced strongly by the intervention to which families were randomly assigned. Random assignment and the subsequent contrasts in program use provide a strong basis for drawing conclusions about the relative impacts of the alternative interventions on several aspects of family well-being.

What do the findings from the study tell us about these interventions and their effects? Each of the four sets of families created through random assignment supply important information for policy, information summarized in turn in this chapter for the UC, SUB, CBRR, and PBTH interventions. The most important lessons from the study emerge from comparisons between the interventions, which tell us how effective a given approach to homelessness assistance is by contrast with an alternative approach. Of particular interest is how the active interventions—PBTH, CBRR, and SUB—that offer priority access to particular forms of assistance compared with allowing families to navigate the UC system on their own. To interpret these comparisons, the chapter begins by addressing how the Family Options Study, in its design and in the program use patterns that emerged within that design, informs policy.

13.1 Meaning of Impact Comparisons

The inherent strength of the experimental research design employed in the Family Options Study is the assurance that the groups that are created through the random assignment process will be similar to each other. Because it is not possible to account for, or to use statistical methods to control for, all the variability that may exist among individual families, randomly assigning a large number of families to different interventions is the most certain way to ensure that the groups will be comparable.

The Family Options Study tests for the impacts of three different potential emphases in federal or local assistance policy to homeless families; (1) What impact would priority access to project-based transitional housing (the PBTH arm of the experiment) have on families in shelter who are not able to resolve their episodes of homelessness quickly? (2) How does this impact compare with the impact of providing access to community-based rapid re-housing (the CBRR arm)? (3) How does this impact compare with the impact of providing access to a permanent housing subsidy (the SUB arm)? In each case, the corresponding policy question is, what impact would this policy emphasis have on the outcomes of families in shelter, relative to usual care or another policy emphasis?

The followup data for study participants tell us what would happen were each of these ways of targeting offers and access pursued as federal or local policy. The pairwise comparisons between active interventions show the impact of offering families priority access to one intervention rather than another. The data also allow for the comparison of each of these options with current policies that do not create priority access to any particular form of housing assistance (that is, the UC arm). The pairwise comparisons between active intervention arms and UC show the impact of referring a family to a specific type of program compared with the impact of letting families pursue assistance on their own.

The analysis in this report measures the impact of having been offered a particular intervention regardless of whether the family involved actually received the intervention. The findings reflect the real way in which the homeless assistance system interacts with families, in that families are offered an

intervention rather than mandated to accept the assistance being offered. Whether families participate in an assigned program reflects the relative desirability and accessibility of the interventions for families within the context of the other options they may choose to pursue on their own.

As is shown in the report, a substantial number of families did not use the active intervention to which they were referred, and some used other interventions. The full experimental sample for a given arm collectively shows how different forms of housing assistance are used when families are given priority access to one particular program type while simultaneously having the freedom to use other forms of assistance available in their communities. Including all the families randomly assigned to UC similarly reveals the range of programs used when no priority access is provided. The programs used by UC families (including the interventions examined in this study) exist in communities and would each continue to exist even with a stronger federal or local push for only one of them. Thus, the full-sample comparisons between random assignment arms—known as intention-to-treat (ITT) impact estimates—provide the best guide to policymakers in a messy, complex world and are reported here as the main study findings.

All this said, evidence of the effects of a particular program type *on families who actually use that approach* (for example, the effect of CBRR on the families who use CBRR) compared with equivalent families who do not use the approach would have high value to the homeless assistance field. Such information is important not because any federal or local policy action could actually create such a contrast for the population of all shelter-housed families, but because efforts to improve a particular intervention model need to be based on knowledge of what actually participating in that model does for families as compared with not participating. Furthermore, an individual family's choice among the options available in its community is best guided by head-to-head contrasts in the results to be expected if the family actually participated in one program type versus another. For these reasons, analyses of the effect of treatment on the treated (using quasi-experimental methods not structured exclusively around full-sample random assignment comparisons) will be important to consumers of the study's results. The evaluation will seek to provide such information in future project reports—particularly regarding the SUB and CBRR interventions—building off the core ITT analyses and policy information presented here but subject to statistical limitations in isolating the direct effects of participation in the experimental data.

13.2 Usual Care (UC)

Emergency shelters in this study were the entry points into homeless assistance in each site. Families randomly assigned to UC typically remained in emergency shelter and sought whatever assistance was available in the community. The experiences of UC families reflect how the homeless services system works when families in shelter are not given priority access to another homeless or housing assistance program. The study provides valuable information about what types of assistance families use without special offers of assistance and how families in shelter for at least 7 days fare over time.

UC families (that is, families to whom random assignment did not give priority access to any active intervention) spent substantial periods of time in emergency shelter after random assignment. UC families spent an average of 4 months in emergency shelter after random assignment (nearly all immediately after random assignment). More than one-half (53 percent) of UC families spent 3 or fewer months in emergency shelter, 23 percent spent 4 to 6 months, and 24 percent spent more than 6 months in emergency shelter during the followup period.[147]

Emergency shelters offered a range of supportive services. The shelters provided a range of supportive services in primarily congregate settings (dorms or other group living situations). All the shelters offered comprehensive needs assessments, case management, supportive services, and referrals to other programs. Shelters in some instances also offered supportive services such as access to physical health care, employment training, child advocacy, life skills training, mental health care, and parenting services.

UC families participated in homeless and housing assistance programs at fairly high rates. Some families assigned to UC did not use any other form of homeless or housing assistance besides shelters, but most did. In particular, 28 percent of UC families accessed some form of permanent subsidy, 25 percent received transitional housing, and 18 percent received rapid re-housing.

UC families were not faring well 20 months after study enrollment. One-half of UC families reported being homeless or doubled up in the 6 months before the survey or had a stay in shelter in the year preceding followup data collection. In months 7 through 18 after random assignment, 28 percent of UC families stayed in emergency shelter. In the 6 months before the survey, 15 percent of families had been separated

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[147] Analysis of program use and cost of total program use used data during a median of 21 calendar months.

from a child who was with the family in shelter at study outset, and 4 percent had children in foster care. Fair or poor health was reported by 32 percent of UC family heads, and 31 percent worked in the week before the followup survey. At the time of the survey, 15 percent reported alcohol dependence or substance abuse, and 12 percent had experienced intimate partner violence in the past 6 months. More than one-third of families were food insecure. Most children had experienced a school move since random assignment.

Monthly costs for emergency shelter were substantial. The study found that the emergency shelter programs used by the UC families cost slightly more than $4,800 per month per family. Of this total, 63 percent were for supportive services. Altogether, costs of all the homeless and housing programs and associated services that families assigned to the UC group accessed—whether in a shelter or in active programs—were about $30,000 during the followup period in the comparisons involving UC.

13.3 Permanent Housing Subsidy (SUB)

In most cases, the families assigned to the SUB active intervention were given priority access to a housing choice voucher, or HCV, and they may have been offered housing search assistance (they were not offered ongoing social services). This type of assistance is not generally accessible to families while in emergency shelter unless they reach the top of waiting lists for subsidies during that period. What does the Family Options Study tell us about permanent subsidies for homeless families?

When SUB is available to families in shelter, they take it up at high rates and continue to use it for a sustained period. SUB programs were the least likely of the active interventions to exclude families because of eligibility rules. For example, only 2 percent of families in the study were not given the opportunity to be randomly assigned to SUB because of answers to screening questions asked before random assignment. Of the families randomly assigned to SUB, however, 11 percent were subsequently found to be ineligible. Altogether, 84 percent of respondent families assigned to SUB used SUB at some point during the followup period, for an average of 16 months. Smaller numbers of families assigned to SUB used CBRR (13 percent) and transitional housing (6 percent), with some overlap among the three groups.[148] Some families assigned to SUB used other forms

of permanent subsidy to which they did not have priority access (for example, public housing or permanent supportive housing [PSH]), bringing the total who used any form of permanent subsidy to 87 percent.

Compared with CBRR, PBTH, and UC, SUB caused striking improvements in housing stability. Priority access to SUB reduced the incidence of subsequent stays in shelter or places not meant for human habitation by one-half when compared with priority access to CBRR or PBTH or with UC alone. SUB also led to notable improvements in other aspects of housing stability relative to the other interventions, reducing the incidence of doubling up, subsequent emergency shelter stays, housing crowding, and number of places lived during the followup period.

The benefits of SUB extended beyond housing stability, especially when compared with UC. The benefits of priority access to SUB extended beyond housing stability, with reductions in child separations relative to UC and PBTH and reductions in foster care placements relative to UC. SUB also reduced psychological distress relative to UC and PBTH and reduced reported alcohol and drug problems relative to UC. SUB reduced intimate partner violence when compared with UC or CBRR. Finally, SUB lowered the number of schools attended by focal children relative to the all the other interventions.

SUB reduced labor market engagement but improved food security and reduced economic stress. Assignment to SUB led to reductions in employment during the followup period relative to all other interventions and reduced employment in the week before the followup survey compared with assignment to UC and PBTH. For example, 61 percent of the UC group had worked for pay at some point after random assignment, but only 50 percent of the SUB group had done so. Relative to CBRR and PBTH, SUB reduced current earnings and reduced annual family income in the year before the survey. Compared with UC, SUB increased the proportion of families receiving Temporary Assistance for Needy Families, or TANF, and the Supplemental Nutrition Assistance Program (SNAP) and reduced the proportion of families with income from earnings in the month before the survey. Compared with PBTH and UC, SUB led to improvements in food security.

Families assigned to SUB reported less economic stress in the 6 months before the interview compared with reports from CBRR, PBTH, and UC families.

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[148] For example, the same family may have used PBTH and SUB at different points during the followup period.

The benefits of SUB were achieved at lower cost than UC and PBTH and at only slightly greater cost than CBRR. On average, SUB programs cost slightly less than $1,200 per family per month, lower than the corresponding monthly costs for emergency shelter and PBTH but higher than the monthly cost for CBRR. SUB families used less emergency shelter and PBTH during the followup period than families assigned to those interventions. As a result, total costs of program use by families assigned to SUB were clearly less than those of PBTH families (by about $3,100) and only slightly higher than those assigned to UC (by $500). Total cost of program use for families assigned to SUB was $1,500 more than for families assigned to CBRR. The nearly equivalent cost of program use for SUB as compared with UC during the followup period was driven both by decreased time in relatively more expensive emergency shelter and by decreased use of relatively more expensive PBTH programs.

13.4 Community-Based Rapid Re-Housing (CBRR)

The CBRR intervention offered short-term rental assistance lasting up to 18 months (median length of use was 7 months) to rent private-market housing. CBRR also offered limited case management services focused on housing and self-sufficiency. CBRR typically received funding from the Homelessness Prevention and Rapid Re-Housing Program, or HPRP. What do the findings from this study tell us about this intervention?

Takeup of CBRR was relatively low. Of families randomly assigned to CBRR, 60 percent used CBRR during the 20-month followup period, much lower than the 84-percent takeup rate for SUB in that random assignment arm. Families assigned to CBRR in some instances also used transitional housing (19 percent) and multiple forms of permanent subsidies (23 percent across all types of permanent subsidy). Qualitative research suggested that the short duration or uncertainty about the duration of assistance made some families reluctant to use CBRR assistance (Fisher et al., 2014).

CBRR led to more rapid departures from emergency shelter than UC. One of the goals of CBRR was to promote more rapid exit from emergency shelter into housing. The impacts measured by the study provide evidence that this goal was achieved, relative to UC. Assignment to CBRR leads to slightly faster exit from emergency shelter than assignment to UC, with no significant difference compared with shelter exits in SUB or PBTH.

CBRR was equivalent to UC and less effective than SUB in preventing subsequent stays in shelters and places not meant for human habitation and in improving other aspects of housing stability. The study found that priority access to CBRR was equivalent to leaving families in UC—and substantially less effective than priority access to SUB—in reducing subsequent stays in shelters or places not meant for human habitation and in improving other aspects of housing stability. Modestly worse results for CBRR than for PBTH may result from the fact that 22 percent of families assigned to PBTH were still in PBTH programs at the time of the followup survey, but only 6 percent of CBRR families were still receiving CBRR. Priority access to CBRR had little impact on other outcomes compared with priority access to UC, with the exception of increasing family income, receipt of SNAP, and food security. As noted previously, SUB had slightly better outcomes than CBRR regarding separation of spouses, intimate partner violence, children's school outcomes, and economic stress, but CBRR improved work effort, annualized earnings, and annual family income compared with SUB. Perhaps surprisingly given the additional services provided by PBTH, CBRR enhanced several aspects of adult well-being relative to PBTH, reducing psychological distress, alcohol dependence or drug abuse, and the frequency of fair or poor health.

CBRR has the lowest monthly cost of the active interventions studied, and total costs during the 21 months after random assignment for those assigned to CBRR were slightly lower than those of families assigned to SUB. CBRR programs had a lower per-family, per-month cost than PBTH and SUB, averaging slightly less than $900. Housing costs comprised, on average, 72 percent of these costs. Total costs of all programs used by participants assigned to the CBRR intervention during the followup period were on average lower than total costs for all the other interventions. CBRR total costs were only 5 percent lower than SUB, however, because the greater use of SUB programs by families in the SUB randomization arm was offset by the greater use of transitional housing, PSH, and emergency shelter programs by CBRR families. Costs of program use for families assigned to CBRR were $3,000 lower than for UC, $8,000 lower than for PBTH, and $1,500 lower than for SUB over 21 months.

13.5 Project-Based Transitional Housing (PBTH)

The PBTH intervention offered housing for up to 24 months, coupled with a wide array of social services. The study focused primarily on housing provided in facility-based settings (although some PBTH families were referred to programs with scattered-site units from which they were required to move when assistance ended). PBTH programs offered

comprehensive case management, referral to outside providers, and direct services in several areas and also offered access to employment training, life skills, mental health care, parenting skills, and physical health care. The scope of needs addressed in PBTH programs was similar to that of emergency shelters. During the followup period, 54 percent of respondent families assigned to PBTH used that form of assistance for an average of 12 months. The Family Options Study provides several lessons about the PBTH model.

Takeup of PBTH was relatively low. PBTH providers were more selective than either SUB or CBRR providers regarding the families they would serve. Only 77 percent of families considered for the study passed the initial screening for PBTH that took place before random assignment, and 18 percent of those who passed and were assigned to PBTH were subsequently screened out by the PBTH programs as ineligible. Of the families assigned to PBTH, 54 percent used some form of transitional housing during the followup period. This low level of takeup reflects a combination of family choices and program eligibility requirements, with some families considered ineligible by the programs to which they were assigned and some families choosing not to use PBTH assistance. Qualitative interviews suggest that the fixed location of PBTH units may have been a barrier when the assigned location was not close to families' schools, work, transportation, and support networks, or when families perceived the programs to be in bad neighborhoods (Fisher et al., 2014). Families assigned to PBTH also used CBRR (10 percent) and various forms of permanent subsidy (21 percent, including SUB and other forms of permanent subsidy).

PBTH reduced stays in emergency shelter and on the street compared with UC but did not lead to other effects. Compared with UC, priority access to PBTH reduced the proportion of families who reported stays in shelters or places not meant for human habitation in the 6 months before the survey. This finding may reflect the fact that about 22 percent of families who were assigned to and who used PBTH were still in PBTH at the time of the followup survey. In four other domains, however, most indicators examined reveal equivalent results with or without assignment to PBTH after shelter (that is, compared with UC assignment).

PBTH costs less than shelters on a per-family, per-month basis, but total costs for PBTH families during the period after random assignment were the highest among all interventions, including UC. PBTH programs cost slightly more than $2,700 per family per month, with supportive services constituting 42 percent of these costs—a lower monthly cost than emergency shelter but higher than SUB and CBRR.

The cost of total program use for PBTH families during the followup period was substantially higher than for UC (by $2,500), SUB (by $3,100), and CBRR (by $8,000).

13.6 Family Challenges

Families participating in the Family Options Study experienced numerous housing barriers and psychosocial challenges. The study did not yield evidence during the 20-month period of followup that any of the interventions studied works comparatively better for families who have greater psychosocial challenges or housing barriers than for families who face fewer difficulties. Thus, the main study results on impacts across *all* families provide the study's clearest guidance for policy in the medium term.

13.7 Implications for Theory

In addition to findings on the effects of priority access to the three active interventions (relative to UC and relative to each other) and on intervention costs, the study is also informative about the theories underlying the active interventions. This section draws out those implications.

Study findings lend support for the underlying theoretical model for SUB. The striking impacts of SUB in reducing subsequent stays in shelters or places not meant for human habitation provide support for the view that homelessness is for many families a housing affordability problem that can be remedied with permanent subsidies without specialized homeless-specific psychosocial services. The findings also provide support for the theoretical proposition that resolving homelessness has a radiating impact, given the measured impacts of SUB on family preservation and adult well-being compared with those of UC.

The temporary housing subsidies of CBRR were not strong enough to improve housing stability of families given priority access to that intervention in the followup period studied, although the study provides evidence that families assigned to CBRR left shelter sooner than families who remained in UC. With no marked improvement in housing stability, CBRR had little effect on other outcomes presumed to emanate from enhanced stability.

Few study findings to date support the theoretical model underlying PBTH. PBTH is intended to address psychosocial challenges and barriers to housing by providing social services. The study does not provide evidence that the intervention meets this goal. Although priority access to PBTH led to reductions in homelessness when compared with UC, it did not produce effects in other aspects of family well-being.

13.8 Questions for Longer Term Followup

The Family Options Study is continuing to follow families through 36 months after study enrollment. This additional wave of data collection will provide information on a number of important questions.

The 36-month analysis will address whether the types of outcomes that are improved by random assignment to SUB are dependent on contemporaneous receipt of the housing assistance. Could effects fade if assistance ends? During the followup period, 84 percent of SUB families had used SUB. At the end of this period SUB use had fallen to 75 percent, although 77 percent received some form of permanent subsidy at that point. The 36-month analysis will examine whether families retain different forms of permanent housing assistance and their benefits during a longer interval.

It is also possible that the reduced stress and greater stability observed for SUB families at 20 months will yield additional benefits for adult and child-well-being during the longer term that are not yet evident. Reductions in work effort in the short term could persist or—as observed in the *Effects of Housing Vouchers on Welfare Families* study (Mills et al., 2006)—may fade during the longer term.

The 36-month analysis will also examine whether the focus of PBTH on addressing psychosocial challenges and enhancing skills leads to benefits during the longer term that are not evident after 20 months. The challenges to adult well-being relative to CBRR may be temporary, reflecting anxiety on the part of PBTH families that benefits are coming to an end (or have recently ended). When all families have left the PBTH programs to which they were given priority access, they may return to emergency shelter or experience other forms of housing instability.

As of 20 months after random assignment of families who had been in emergency shelter for at least a week, the two major advantages of CBRR over other interventions are greater work effort relative to SUB and, considering the cost of all program use during the followup period, lower cost relative to PBTH, UC, and SUB. Work effort could lead families to better economic outcomes in the future with radiating benefits for other outcomes. In any case, if CBRR continues to have similar outcomes to UC in most domains, but at lower cost, that finding will be important.

The relative costs of homeless assistance in the different interventions are likely to change over time. Participation in SUB often lasts beyond the period for which the study team measured impacts and costs in this report. The continuing costs of SUB programs may or may not be offset by cost savings through reductions in use of shelter and other programs. These future costs will be addressed in the 36-month analysis in conjunction with impacts measured during the longer term.

13.9 Summary

The Family Options Study's random assignment design for measuring intervention impacts is a stronger design than that of other studies of interventions for homeless families. As a result, the Family Options Study provides important new information about what happens to families who experience homelessness in the absence of any special offers of assistance and about the impact of priority access to three particular interventions, SUB, PBTH, and CBRR. The experimental design of the study and the contrasts in program use during the followup period provide a solid foundation for estimating the impacts of enhancing access to different kinds of assistance. The study provides the first clear evidence about these effects and thus can serve as a solid basis for future policy decisionmaking.

Approximately 20 months after entry into shelter and random assignment, families assigned to SUB appear to be doing better than the families assigned to CBRR, PBTH, and UC. The benefits of priority access to SUB have been achieved at cost comparable with that of UC, slightly higher costs than CBRR, and at substantially lower cost than PBTH. Compared with those assigned to UC, the families randomly assigned to SUB on average have had fewer negative experiences (stays in shelters or places not meant for human habitation, doubling up, child separations, and intimate partner violence). SUB families are also somewhat more likely to live in their own place. Moreover, children in SUB families move among schools less, and families experience greater food security and less economic stress. On the negative side, heads of these families exert less work effort. Families given priority access to CBRR do about as well as families assigned to UC but have substantially lower cost, mainly because CBRR lowers the rate at which families use costly transitional housing programs. PBTH is more costly and at this point has few advantages over other programs. Furthermore, no evidence indicates that intervention impacts differ according to families' psychosocial challenges or housing barriers whatever form of active assistance is prioritized. The 36-month followup analysis will examine whether these differences among interventions continue to hold and whether new differences emerge after another 16 months elapse.

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APPENDIX A.

DATA SOURCES AND DATASET CONSTRUCTION

This appendix of the Family Options Study short-term impacts report describes the data sources, data collection procedures, response rates, and data processing procedures used in the Family Options Study. The study enrolled 2,282 families across 12 sites between September 2010 and January 2012. Exhibit A-1 shows the timing of sample enrollment and the enrollment numbers by site and intervention group. Of the 2,282 families who enrolled in the study, 1,857 completed the 18-month adult survey.

Exhibit A-1. Sample Enrollment Period and Number of Families Enrolled by Intervention and Site

Site	Enrollment Period	Families Randomly Assigned, by Intervention (N)				Total (N)
		CBRR	PBTH	SUB	UC	
Alameda County	Sep 2010–Jan 2012	56	49	76	77	258
Atlanta	Oct 2010–Jan 2012	73	41	—	75	189
Baltimore	Mar 2011–Jan 2012	20	17	—	21	58
Boston	Feb 2011–Jan 2012	53	—	64	64	181
Connecticut*	Oct 2010–Dec 2011	73	18	47	76	214
Denver	Jan 2011–Jan 2012	8	23	76	65	172
Honolulu	Oct 2010–Jan 2012	44	66	42	65	217
Kansas City	Oct 2010–Jan 2012	30	42	54	50	176
Louisville	Apr 2011–Jan 2012	18	24	32	35	109
Minneapolis	Nov 2010–Jan 2012	52	4	62	63	181
Phoenix	Oct 2010–Dec 2011	62	65	71	81	279
Salt Lake City	Sep 2010–Oct 2011	80	19	75	74	248
Total		**569**	**368**	**599**	**746**	**2,282**

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.
*Includes the cities of New Haven and Bridgeport, Connecticut.
Source: Random assignment records

A.1   Timing of Followup

The period of observation during which intervention effects were measured is the date of random assignment to the 18-month followup survey for the 1,857 families who completed an adult survey. A minimum of 18 months elapsed between random assignment and the followup survey for all families who completed the survey.[1] Of all survey completers, 80.8

[1] At least 18 months passed from the date of random assignment before the interviewer began to contact families to conduct the followup survey. Families who were difficult to locate had a longer period of time elapse between the dates of random assignment and the 18-month followup survey.

percent completed the survey within 4 months of initial contact for the 18-month followup survey. The analysis period, during which all impacts were estimated, was thus between 18 and 24 months after random assignment for most families (Exhibit A-2).

Exhibit A-2.   Length of Time From Random Assignment to the 18-Month Followup Survey

Duration (months)	Percent of Families
From 18 to 19 [a]	7.4
From 19 to 20	35.2
From 20 to 21	24.0
From 21 to 22	12.3
From 22 to 23	8.4
From 23 to 24	4.3
From 24 to 25	2.2
25 or more	6.3
Median: 20.4 months (612 days)	
Mean: 21.1 months (633 days)	

Notes: N = 1,857. Percents are unweighted.
[a] Includes four families who were interviewed between 17 months, 3 weeks and 18 months.
Source: Family Options Study 18-month followup data

A.2   Random Assignment Data

The study team created a secure website to support the enrollment and random assignment of families into the Family Options Study. Local site interviewers used the random assignment website to—

– Document that the adult respondent provided informed consent.

– Enter the personal identifiers for the adult respondent and a spouse/partner, if applicable.

– Check that intervention providers had openings available in their programs, making it possible to conduct random assignment.

– Document that the baseline survey was complete.

– Randomly assign the family to available intervention groups.

Gubits et al. (2013) provides further details about the enrollment process.

Eligibility Determination

In an attempt to maximize the likelihood that families assigned to one of the interventions would be accepted by the intervention provider, the study team conducted screening before random assignment. The study team collected the eligibility requirements of each provider and used those requirements to develop eligibility screening questions that were administered after informed consent but before random assignment. The study team asked the family only the eligibility screening questions relevant to the intervention providers in that site with openings available. A family was eligible for random assignment to an intervention if the adult respondent's answers to the screener questions met the eligibility requirements for at least one participating provider of that intervention with an opening at the time of random assignment. The screener questions improved the likelihood that families would be eligible for the assigned intervention.[2] The study team retained data on the eligibility screening responses. Gubits et al. (2013) provides further details about eligibility determination.

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[2] After random assignment to one of the study interventions and referral to an intervention provider, families were required to complete the provider's regular eligibility determination process, including, for some programs, criminal background checks, drug testing, and income verification.

A.3   Baseline Data

As part of the study enrollment process, all families who provided informed consent and who were determined eligible for available interventions completed a baseline survey. The baseline survey covered a number of topics, including family composition, demographic characteristics, housing stability, history of homelessness, employment, income, and health. The study team collected baseline survey data in the shelter where the family was staying at the time of random assignment. The study team used Computer-Assisted Personal Interviewing (CAPI) technology to administer the survey, which took an average of 40 minutes per survey. The covariates, discussed in Appendix C.1, were derived from the baseline survey responses. Gubits et al. (2013) provides further details about the baseline survey and data collection.

A.4   Enrollment Verification Data

The study team collected information from participating providers to document enrollment in the assigned intervention. The study team contacted participating providers regularly (weekly or monthly) to inquire about the status of families who had been referred to their programs. This information is referred to as the enrollment verification data. The study team collected the following information:

- Whether the study family made contact with the provider to which they were referred.

- Whether the family was accepted by the program (enrolled).

- Whether the family actually moved into a housing unit using that assistance.

- For families who were accepted by the program but did not move in, why they did not use the housing assistance.

The calls were made throughout the enrollment period—September 2011 to January 2012—and continued through September 30, 2012, 9 months after the last family enrolled. These enrollment verification data were used in the Program Usage Data file, discussed in Section A.13. Gubits et al. (2013) provides further details about the enrollment verification process.

A.5   6- and 12-Month Tracking Surveys

During the followup period the study team conducted brief tracking surveys 6 and 12 months after enrollment. These surveys lasted an average of 10 minutes and provided updated contact information for the adult respondent and secondary contacts. The tracking surveys also captured data on the current living situation, receipt of housing assistance, and family composition for each family. Local site interviewers administered the tracking surveys using CAPI technology. In most sites, the interviewer was the same person who administered the baseline survey. Because the tracking surveys were relatively short, most participants opted to complete the survey by telephone rather than in person.

A.6   18-Month Followup Adult Survey and Focal Child Selection

The 18-month followup data collection had a number of components: adult survey, child survey, and child assessments. The 18-month followup adult survey collected information about housing stability, family preservation, adult well-being, child well-being, and self-sufficiency. Exhibit A-3 offers a detailed list of topics included in the adult survey. The adult survey took an average of 60 minutes to complete.

The adult survey contained a child screener module and a parent-on-child module. The child screener module was designed to help the study team identify eligible children for selection as focal children. Up to two focal children were selected for each family. The adult survey also included a parent-on-child module in which the parent provided information about the focal children. The section that follows describes the process of focal child selection and the parent-on-child module.

Exhibit A-3.   Content of Participant Data Collected for Family Options Study 18-Month Impact Analysis

	Adult	Child 12 to 41 Months	Child 3 Years, 6 Months to 7 Years, 11 Months	Child 8 Years to 17 years, 11 Months[a]
Survey topics	Housing situation, quality and affordability Employment Income Education and training Economic hardship Food security Family composition Family separation and reunification Physical health Behavioral health Substance use Service receipt Child education[b] Child health[b] Child behavior[b] Family routines			Fears Anxiety Life events Substance use School attendance Grades School problems School effort
Assessments		Developmental milestones (parent report)[c]	Executive functioning (self-regulation)[d] Woodcock Johnson III Letter-word identification (reading) test Applied Problems (mathematics) test	

[a] Children and youth ages 8 to 17 completed a survey.
[b] The adult respondent was asked questions about each focal child.
[c] The adult respondent provided information on developmental milestones using the Ages and Stages Questionnaire (ASQ-3).
[d] Children ages 3 years, 6 months to 7 years, 11 months completed the Head Toes Knees Shoulders (HTKS) assessment, which measures executive functioning.
Source: Family Options Study 18-month followup survey

Focal Child Selection

To analyze the relative impacts of the permanent housing subsidy (SUB), community-based rapid re-housing (CBRR), project-based transitional housing (PBTH), and usual care (UC) interventions on child well-being, the study team selected up to two focal children for each family who completed the adult survey. The study team then collected information about the focal children to measure child well-being outcomes. The items collected depended on the age of the focal children. This section describes the process for selecting focal children.

Two types of children were considered for focal child selection. First, *all children identified at baseline*—those in shelter with the adult at random assignment and those who were "part of the family" but not in shelter with the adult at enrollment— were eligible for focal child selection. If focal child sample selection had been restricted to children identified at baseline, the focal child sample could have been defined before the start of the 18-month data collection. The study team expanded the focal child selection criteria, however, to include children who were born after random assignment. The study team referred to these children as "newborns." Because newborns could not be identified before the start of the 18-month data collection, the study team administered the focal child selection screener during the 18-month survey. To ensure that all newborns had a chance to be selected as focal children, the study team generated a randomly ordered list of all the children identified at baseline and two slots for up to two newborn children and assigned each child a number. This number determined the order in which the children were screened for focal child selection.

To be selected as a focal child, each child had to first meet these two criteria.

1. The child was one of the following:

    a. Listed as a child on the household roster from the baseline survey.[3]

    b. Identified as a newborn, by the adult respondent in the focal child screener section.[4]

2. The child was at least 12 months of age but younger than 18 years of age, as confirmed in the focal child screener.

After the potential child was confirmed eligible for selection based on the first two criteria, the screener determined if the adult respondent was knowledgeable enough about the child's activities in the past 30 days to answer the parent-on-child module. The screener made this determination using the next series of questions, indicating the third criterion for selection eligibility.

3. The child was one of the following:

    a. Living in the same household as the adult respondent "at least half of the time" or "all of the time" at the 18-month followup point.[5]

    b. The parent spent time with the child frequently and was at least somewhat familiar with the child's activities.[6]

The preceding criteria constitute the minimal selection criteria. If possible, the first focal child would also meet these additional criteria.

4. The child's age at the followup survey was greater than or equal to 3 years, 6 months.

5. The child was living with the parent in the shelter at baseline.

6. The child was living in the same household as the parent "at least half of the time" or "all of the time" at the 18-month followup survey.[7]

Potential focal children were then classified into one of three types.

Type 1: Met all the minimal criteria; was at least 3 year, 6 months of age but younger than 18 years of age; was living in the shelter with the adult respondent at enrollment; and lived with the respondent "at least half of the time" or "all of the time" at the time of the 18-month survey.

Type 2: Met the minimal criteria, but did not meet the additional criteria.

Type 3: Did not meet the minimal criteria.

The focal child selection process worked as follows.

If the parent had any Type 1 children, the study team randomly selected one as "Focal Child A." Next, if the parent had any other Type 1 or Type 2 children, the study team randomly selected one as "Focal Child B."

If the parent had no Type 1 children but did have at least one Type 2 child, then the study team did not select a "Focal Child A" but randomly selected one Type 2 child as "Focal Child B." Next, if the parent had any other Type 2 children, the study team randomly selected one as "Focal Child C."

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[3] On the baseline survey, the team collected children's ages but not dates of birth, and all *children* on the household roster were age 17 or younger. The roster included children who the adult respondent thought were part of the family, even if they were not in the shelter with the respondent. All randomly assigned families had at least one child age 15 or younger.

[4] Screener question 1: "Between [random assignment date] and [6 months before today's date] have you (given birth to/fathered) a child?"

[5] The point-in-time question to the parent was, "Do you currently live in the same household as [child name] …?" It was not a question about the entire period between baseline and followup.

[6] Two criteria had to be satisfied. First, the parent spent "1 or more hours a day" with the child at least a few times a week during the month before the followup survey. Second, during that month, the parent "always," "usually," or "sometimes" knew at least two of the following: (1) how the child spent time when not in school or childcare, (2) which other kids the child spent time with, (3) whether the child had finished her/his schoolwork or studying, and (4) which TV programs the child watched.

[7] This criterion is the same as criterion 3a. The difference is that the minimal criteria accept either 3a or 3b, whereas the additional criteria require 3a.

If the parent had only Type 3 children, a focal child was not selected.

Focal Child A criteria excluded newborns and focal children who were not living with the respondent at least half of the time. This exclusion helped to maximize the number of families in which focal child selection included at least one focal child for whom direct child data collection (child assessments or child survey) was possible.

The focal child screening (confirmation/collection of date of birth and collection of information for other criteria) was performed for each child in turn, following the randomly ordered list, until two focal children were selected. After two focal children were selected, the focal child screening ceased. Therefore, collection of information for screening criteria other than date of birth was not performed for every child in the respondent study families.

Within the 1,857 households in which an adult survey was completed, the study team selected 2,784 focal children.[8] About 530 children screened for selection as focal children were living with the family head less than half of the time (out of about 4,200 total children screened). Of those children, the family head was knowledgeable about only 60 of the children. In accordance with the focal child selection protocol, those 60 children were selected as focal children (along with 2,724 other selected focal children who were living with the family head at least half of the time). During analysis, however, it was decided that such a small number of children would not allow for estimates to generalize to the whole group of largely absent children. Therefore, the 60 children were not included in impact analyses. As a result, the child impact results generalize only to children living with the family head half of the time or more at the time of the adult survey.

Exhibit A-4 shows the focal child sample sizes by age group and intervention group. Details on variations in focal child selection and corresponding child weights are included in Appendix C.3.

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[8] No focal child was selected in 130 families, mainly because children were no longer residing with the respondent and the respondent did not know enough about the child's activities during the previous 30 days to respond properly and also because the children aged out of the age range by the time of the followup survey.

Exhibit A-4. Focal Child Sample Distribution, by Site and Intervention Group

Site Name	Intervention Group	Focal Child Age (N)			Total Focal Child Sample (N)
		12 to 41 Months	3 Years, 6 Months to 7 Years, 11 Months	8 Years to 17 Years, 11 Months	
Alameda County	CBRR	17	23	15	55
	PBTH	13	25	14	52
	SUB	29	44	28	101
	UC	12	35	25	72
Total		**71**	**127**	**82**	**280**
Atlanta	CBRR	11	31	43	85
	PBTH	10	19	34	63
	UC	14	25	49	88
Total		**35**	**75**	**126**	**236**
Baltimore	CBRR	2	10	17	29
	PBTH	5	4	10	19
	UC	4	6	11	21
Total		**11**	**20**	**38**	**69**
Boston	CBRR	17	33	24	74
	SUB	28	28	36	92
	UC	20	34	29	83
Total		**65**	**95**	**89**	**249**
Connecticut*	CBRR	10	26	39	75
	PBTH	4	10	9	23
	SUB	12	14	30	56
	UC	16	29	36	81
Total		**42**	**79**	**114**	**235**
Denver	CBRR	1	6	3	10
	PBTH	7	10	4	21
	SUB	15	44	42	101
	UC	15	24	28	67
Total		**38**	**84**	**77**	**199**
Honolulu	CBRR	17	24	17	58
	PBTH	18	40	34	92
	SUB	16	31	11	58
	UC	25	29	40	94
Total		**76**	**124**	**102**	**302**
Kansas City	CBRR	6	6	20	32
	PBTH	8	19	22	49
	SUB	17	31	29	77
	UC	12	19	23	54
Total		**43**	**75**	**94**	**212**
Louisville	CBRR	5	8	4	17
	PBTH	5	13	10	28
	SUB	10	17	14	41
	UC	9	19	14	42
Total		**29**	**57**	**42**	**128**
Minneapolis	CBRR	14	36	34	84
	PBTH	1	1	4	6
	SUB	22	38	23	83
	UC	18	37	30	85
Total		**55**	**112**	**91**	**258**
Phoenix	CBRR	18	29	26	73
	PBTH	14	35	35	84
	SUB	18	39	37	94
	UC	12	30	36	78
Total		**62**	**133**	**134**	**329**
Salt Lake City	CBRR	14	30	45	89
	PBTH	4	11	8	23
	SUB	14	30	46	90
	UC	17	27	41	85
Total		**49**	**98**	**140**	**287**
Overall	CBRR	132	262	287	681
	PBTH	89	187	184	460
	SUB	181	316	296	793
	UC	174	314	362	850
Grand Total		**576**	**1,079**	**1,129**	**2,784**

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

*Includes the cities of New Haven and Bridgeport, Connecticut.

Sources: Family Options Study baseline survey; followup survey

Parent-on-Child Module in Adult Survey

In the parent-on-child module, the adult respondent provided information about school attendance, academic performance, behavior, health, and family routines. All focal children were between the ages of 12 months and 17 years, 11 months. If a focal child's CAPI-calculated age was 12 to 41 months, the interviewer administered the Ages and Stages Questionnaire (ASQ-3) to the adult as part of the parent-on-child module. If a focal child's CAPI-calculated age was 3 years to 17 years, 11 months, the interviewer administered the Strengths and Difficulties Questionnaire (SDQ).

The ASQ-3 is a family of questionnaires that assess gross and fine motor skills, social development, communication, and problem solving as observed by parents (Squires and Bricker, 2009). Adult respondents completed the ASQ-3 for children ages 12 to 41 months.[9] The ASQ-3 took an average of 10 minutes to complete. The questionnaire was self-administered for in-person adult surveys. For surveys conducted by phone, the questionnaire was administered to the adult by phone. Details on the component questions of the ASQ-3 and scoring are in Appendix B.4.

The SDQ is a behavioral and personality assessment. The questionnaire addresses child emotional symptoms, conduct problems, hyperactivity, peer problems, and prosocial behavior. Adult respondents completed this questionnaire for focal children between ages 3 years and 17 years, 11 months. Details on the component questions of the SDQ and scoring are in Appendix B.5.

A.7   18-Month Followup Child Survey

The study team administered the 18-month followup child survey to focal children between ages 8 years and 17 years, 11 months.[10] Interviewers administered the survey using CAPI, with surveys lasting 30 minutes on average. Surveys were conducted either in person or by telephone. The child survey asked questions about anxiety using the A-Trait scale from the State-Trait Anxiety Inventory for Children, or STAIC (Spielberger et al., 1973); fears (Ramirez, Masten, and Samsa, 1991); substance use (CDC, 2012); school attendance, effort, and disciplinary problems; and goal-oriented thinking using a modified version of the Children's Hope Scale (Snyder et al., 1997). Details on the component questions and scoring are in Appendix B.

A.8   18-Month Followup Child Assessments

The study team administered two child assessment tests to focal children between the ages of 3 years, 6 months and 7 years, 11 months.[11] These assessments were the Woodcock-Johnson III (WJ III) and the Head Toes Knees Shoulders (HTKS) assessments.

The WJ III assessment consisted of two tests. The first was the Letter-Word Identification test and the second was the Applied Problems test (McGrew, Shrank, and Woodcock, 2007). These tests are subtests of educational achievement from the broader WJIII battery of tests measuring verbal and quantitative/analytic skills. The WJ III tests were administered in person and took an average of 30 minutes to complete per child. Details on scoring the WJ III tests are in Appendix B.5.

The HTKS assessment (Pontiz et al., 2007) measures self-regulation, in which children must remember rules and inhibit incorrect responses. HTKS was conducted in person and separately for each focal child. The HTKS took an average of 15 minutes per child to administer. Details on scoring HTKS are in Appendix B.5.

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[9] The CAPI program instructed interviewers to administer the ASQ-3 during the adult survey based on whether CAPI calculated the focal child's age to be 12 to 41 months. The CAPI age calculation was based on the child's date of birth and the adult survey date. The interviewers used the ASQ-3 online age calculator to determine which questionnaire to administer.

[10] The CAPI program used the date of birth for selected focal children and the adult survey date to calculate the selected focal child's age in months and years.

[11] The CAPI program used the date of birth for selected focal children and the adult survey date to calculate the selected focal child's age in months and years.

A.9   18-Month Followup HOME Inventory

Interviewers on the study team completed an observation form based on a subset of questions from the Home Observation for Measurement of the Environment (HOME) inventory. The HOME inventory questions used were based on observation-only items about parent-child interactions.[12] Interviewers conducting in-person surveys completed this form as part of the 18-month followup data collection. The questions on the HOME inventory form asked about interactions between the adult taking the adult survey and each focal child.[13] For purposes of the HOME inventory tool, the interviewer was instructed to explicitly praise each child during the adult survey and observe the adult respondent's reaction. The interviewer praised each focal child up to four times throughout the survey until the adult expressed reaction. The HOME inventory data were not used in analyses in this report.

A.10 Qualitative Surveys

In 2011, the study team conducted indepth surveys with 80 families (20 families from each intervention group) in four sites: Alameda County, California; Bridgeport and New Haven, Connecticut; Kansas City, Missouri; and Phoenix, Arizona. Surveys were administered in person 3 to 10 months after random assignment (6.4 months on average), usually in the respondent's place of residence. The qualitative data collection was designed to collect information to answer the following questions.

1. How do families make housing decisions?

2. What are families' experiences (challenges) navigating the housing service system?

3. What explains separations of parents from children and partners from each other?

4. How do housing situations influence family processes?

A team of two interviewers met with families to conduct in-depth surveys, lasting an average of 2 hours. The surveys covered the following topics:

1. Current housing situation, satisfaction with current situation, housing payments, and number of addresses since study enrollment.

2. Subsidy use.

3. Eligibility and takeup of assigned intervention, including reasons for not using the assigned intervention assistance.

4. Service receipt and satisfaction.

5. Household composition—child and spouse separations and reunifications.

6. Family processes and rituals.

Surveys were audio recorded and accompanied by handwritten notes. Survey summaries were transcribed using NVivo software and were coded. The qualitative data identified factors that influenced the family's housing decisions as they left shelter (Fisher et al., 2014). These qualitative data were used to interpret impact findings presented in this report.

A.11 Additional Details About Surveys and Data Collection

This section provides additional details on the surveys and data collection process and results. The following section summarizes the topics covered in each of the aforementioned survey instruments, the household members supplying different data components, and implementation strategies for the 18-month followup data collection. This section also discusses the study team's efforts to maximize response rates, incentives to participate in the study, and a summary of overall response rates.

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[12] The full HOME inventory contains three types of items: (1) items asked about during a survey, (2) items either asked about during a survey or observed, and (3) items based only on observation. The form was based on observation-only HOME inventory items that were related to parent-child interactions.

[13] In most cases for in-person surveys, the adult and focal child were present, but, in some cases, the adult and child components were not conducted on the same day and interactions may not have been observed.

Exhibit A-3 in an earlier section of this appendix provides an overview of survey topics by study family members contributing information—adults; children ages 12 to 41 months; children 3 years, 6 months to 7 years, 11 months; and children 8 years to 17 years, 11 months.

Implementation of 18-Month Data Collection

The 18-month followup data collection began in July 2012 and concluded in October 2013.[14] Field interviewers conducted the followup surveys. Field managers re-contacted 10 percent of all respondents and administered a brief "validation questionnaire" to assure that the survey was done with the correct respondent and that the interviewer followed proper protocols.

The 18-month followup adult survey data collection process included—

7. Locating—reviewing contact history.

8. Adult informed consent—renewing consent for the adult respondent.

9. Adult survey administration—including focal child selection.

–   If no focal child selected, data collection concluded here.

–   If at least one focal child selected then data collection continued.

Focal child data collection steps included—

1. Parental permission—required before interviewers could contact focal children.

2. Child assent—if focal child was ages 8 years to 17 years, 11 months.

3. Child data collection.

–   Parent completes ASQ-3 and SDQ (focal child ages 12 to 41 months).

–   Child assessments with focal child ages 3 years, 6 months to 7 years, 11 months.

–   Child survey with focal child ages 8 years to 17 years, 11 months.

4. HOME inventory by the interviewer.

At the time of the survey, interviewers first renewed consent with the adult sample member. Study participants completed a participation agreement when they enrolled in the study, providing their informed consent to participate in the research study. The team renewed consent with participating families at 18 months to remind them of the voluntary nature of participation, the study requirements, and risks of participation. The renewed consent form introduced the child data collection component.

When consent was renewed, interviewers administered the adult survey to the respondent. Although the survey instrument was designed to be conducted in person, 759 (40.9 percent) of adult respondents chose to do the survey by phone. In-person surveys were conducted in a variety of locations, both inside and outside the respondent's residence. Local interviewers completed all adult surveys using laptops equipped with CAPI technology.

If at least one focal child was selected for the study, interviewers reviewed the parental permission form with adult respondents after completing the adult survey. Adult respondents could decline study participation for focal children independently of whether they granted permission for another focal child in the family. If the focal child was 12 to 41 months of age, the adult respondent was asked to complete the ASQ-3 and all items in the parent-on-child module of the adult survey pertaining to children in that age range.

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[14] A small number of child cases were finalized in November 2013.

If a focal child was age 3 years, 6 months to 7 years, 11 months, the interviewer made an appointment to meet with the adult respondent and the focal child to conduct the child assessments. After obtaining adult permission, interviewers also requested focal child permission to conduct the child assessments. In total, 41 attempts to administer the child assessments were refused by either the adult or focal child. All child assessments were completed in person.

Interviewers directly contacted focal children aged 8 to 17 years, 11 months to make an appointment to administer the child survey. Before beginning the child survey, interviewers reviewed the child assent form with the respondent and, if assent was granted, proceeded to conduct the survey. Not all focal children decided to participate. In total, 91 attempts to administer the child survey were refused by either the parent or focal child. Like the adult survey, a substantial percentage of the older focal children (45.0 percent) preferred to do the survey by telephone.

Efforts To Improve Response Rates

The study team used a variety of methods to maintain current contact information on study families, with an effort to minimize participant burden. Study families were contacted quarterly. The contacts ranged from a call (3 months after random assignment) to a mailing (at 9 and 15 months after random assignment) to a more intensive tracking survey (at 6 and 12 months after random assignment).

Incentives

All respondents received an incentive payment in appreciation for their time spent to complete the data collection. Adults who completed the baseline survey received a $35 money order. Each time the adult participant responded to a tracking effort, they received a $15 money order. Adults who completed the 18-month followup survey received a $50 money order. Adults also received a $15 money order on behalf of each child who completed the child assessments or the child survey.

Response Rates

Exhibit A-5 shows the overall response rates for each participant data collection effort. The completion rate represents the number of completed surveys as a percentage of the total cases attempted. The analytic response rate is applicable only to the focal child data collection components (child assessment and survey components).

The final enrollment for the study was 2,282 families, which was the sample base for all the data collection efforts. The 18-month followup adult survey achieved an 81 percent completion rate. During the 18-month followup period, 11 adult respondents were confirmed deceased.

Exhibit A-5.   Overall Family Options Study Survey Response Rates

	Sample Released (N)	Cases Completed (N)	Completion Rate (%)	Analytic Response Rate (%)
Baseline	2,282	2,282	100.0	100.0
6-month tracking	2,282	1,671	73.2	73.2
12-month tracking	2,282	1,632	71.5	71.5
18-month adult	2,282	1,857	81.4	81.4
Ages and Stages	577	560	91.1	72.4
Head Toes Knees Shoulders	1,079	780	72.3	58.9
WJ III Letter-Word	1,079	876	81.2	66.1
WJ III Applied Problems	1,079	846	78.4	63.8
Child survey	1,128	945	83.8	68.2

WJ III = Woodcock-Johnson III.
Notes: The child assessment data collection analytic response rate at 18 months is a product of its completion rate for focal children and the 81.4 percent response rate for family heads. Similarly, the child survey data collection at 18 months is a product of its 83.8 completion rate for focal children and the 81.4 percent response rate for family heads.
Sources: Family Options Study baseline survey; 6-month tracking survey; 12-month tracking survey; adult survey; child assessments; child survey; HOME observations.

Child data collection could be done only after an adult survey was completed because focal child selection occurred as part of the adult survey. Further, the adult respondent had to give parental permission before the child data collection could commence. The child completion rates are based on the number of completed child components as a percentage of the focal children selected in households with a completed adult survey. Because an adult survey was completed with only 81 percent of the adult sample, the child data collection analytic response rates are lower, after adjusting for the households without completed adult surveys.

Exhibit A-6 shows the number and percentage of families who responded to one, two, three, or four surveys. More than one-half (55.2 percent) of the sample responded to all four survey efforts, and 79 percent of the sample responded to at least three of the four survey efforts.

Exhibit A-6.   Survey Response Status for Family Options Study Surveys

Baseline Survey	6 Month Tracking Survey	12 Month Tracking Survey	18 Month Adult Survey	Families (N)	%
Yes	No	No	No	179	7.8
Yes	No	No	Yes	164	7.2
Yes	No	Yes	No	46	2.0
Yes	No	Yes	Yes	222	9.7
Yes	Yes	No	No	95	4.2
Yes	Yes	No	Yes	212	9.3
Yes	Yes	Yes	No	105	4.6
Yes	Yes	Yes	Yes	1,259	55.2
Total				**2,282**	**100.0**

Sources: Family Options Study baseline survey; 6-month tracking survey; 12-month tracking survey; 18-month followup survey.

A.12 Administrative Data

The Family Options Study drew on two main administrative data sources: (1) the Homeless Management Information System (HMIS) data from each study site and (2) HUD's Public and Indian Housing Information Center (PIC) and Tenant Rental Assistance Certification System (TRACS) data. Each source of administrative data is described below.

HMIS Data

An HMIS[15] is the electronic information system designated by the local Continuum of Care (CoC) program to record data on all people served within a CoC's shelter, housing, and service system for individuals and families experiencing homelessness. Agencies collect information directly from people they serve and enter the data into their CoC's HMIS.

Exhibit A-7 shows the HMIS participation rates for the CoCs containing our sample sites based on information reported by communities to HUD in the spring of 2011. HMIS bed participation refers to the percentage of beds that are covered in the HMIS. Thus, for example, data on clients staying in 83 percent of the beds designated for families in emergency shelters in Alameda County that are participating in the study are included in HMIS.

The study team used HMIS records to measure use of emergency shelter, rapid re-housing, transitional housing, and permanent supportive housing (PSH) and the length of time families spent in these housing programs.

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[15] See http://www.hudexchange.info/hmis for more information on HMIS.

Exhibit A-7. HMIS Participation Rates for Emergency Shelter and Transitional Housing Providers in the Study Sites, 2011

Study Site	HMIS Bed Participation Rates for All Providers in the CoC (%)		HMIS Bed Participation Rates for Providers in the Study (%)	
	ES	TH	ES	TH
Alameda County	53	93	83	93
Atlanta	86	87	100	85
Baltimore	88	98	100	98
Boston	91	96	86	NA
Connecticut*	94–100	78–100	100	100
Denver	100	100	100	100
Honolulu	96	92	100	100
Kansas City	100	100	100	100
Louisville	80	100	100	100
Minneapolis	84	81	100	68
Phoenix	96	95	100	89
Salt Lake City	100	96	100	96

ES = emergency shelter. TH = transitional housing. CoC = Continuum of Care. NA = not available.

* This study site comprises four CoCs in the New Haven/Bridgeport, Connecticut area; therefore, the figures reported for CoC coverage represent the range of coverage levels in these four CoCs.

Note: All "beds" (that is, program slots) enumerated in this table are considered "beds for families" by the CoCs.

Source: HUD Homeless Data Exchange, or HDX.

HMIS data elements supplied by sites were—

- Program entry date.

- Program exit date.

- Program name.

- Program type.

Providers enter a new HMIS record for every new entry into a program. Thus, for people who receive more than one episode of assistance, HMIS contains multiple records per person. Providers ask clients entering programs to provide personally identifying information, but clients are not required to comply to receive services. Exhibit A-8 shows the number and percentage of families in the sample that were identified in the site's HMIS. A family is considered matched in the HMIS if at least one program record was found for the head of household in the HMIS data received and time of program use occurred after the random assignment date.

The study team gathered supplementary shelter program-use data for Minneapolis, Minnesota, and Boston, Massachusetts. Hennepin County provided records for emergency shelters that were not covered in the Minneapolis HMIS. The State of Massachusetts Office of Community Development provided records of Emergency Assistance program use that were not covered in the Boston HMIS. In addition, the Connecticut HMIS data were provided by the Bridgeport CoC and New Haven CoC separately.

Exhibit A-8. HMIS Match Rates With the Family Options Sample, by Site

Site	Original Sample (N)	Sample Families in HMIS (N)	Sample Families in HMIS (%)
Alameda	258	228	88.4
Atlanta	189	155	82.0
Baltimore	58	53	91.4
Boston	181	178	98.3
Connecticut*	214	191	89.3
Denver	172	141	82.0
Honolulu	218	211	96.8
Kansas City	175	170	97.1
Louisville	109	101	92.7
Minneapolis	181	175	96.7
Phoenix	279	274	98.2
Salt Lake City	248	187	75.4
All Sites	**2,282**	**2,064**	**90.4**

*Includes the cities of New Haven and Bridgeport, Connecticut.
Source: Homeless Management Information Systems (HMIS)

PIC and TRACS Data Files

The study team used two HUD administrative data files, PIC and TRACS. PIC data were used to measure sample members' receipt of housing assistance from one of three programs—public housing, the Housing Choice Voucher (HCV) program, and project-based voucher assistance.[16] TRACS data were used to track information regarding program entry and exit for project-based Section 8 programs.[17] PIC and TRACS data measure use of the SUB intervention.

HUD provided the data in 20 PIC and 20 TRACS extracts with quarterly data. The quarterly extracts cover the period from March 2009 through December 2013 and cover the effective date period from January 1, 2008, until December 31, 2013. The PIC extracts contained 57 variables and 889 individuals in 759 families. The TRACS extracts contained 41 variables and 80 individuals in 74 families. Together, the 40 quarterly extracts accounted for 959 individuals in 827 families.

For families using vouchers, the study team used PIC data to identify the date on which the household began to receive rental assistance, referred to as the lease-up date. The program admission date, effective date of the action, program type code, and program action code were the major variables used from the PIC extracts to determine the timing of new admissions (versus annual reexaminations, interim reexaminations, or other actions).[18]

Depending on the type of action recorded in PIC, the date of program admission is either the same as or earlier than the effective date of action. For new admissions, the date of admission and the effective date of action are normally the same. When they differ, the effective date is considered the better indicator of lease up, because the effective date refers to either the signing of the lease or the actual occupancy of the unit (as opposed to, for instance, the issuance of the voucher to the participant). Among records of actions other than new admissions, some effective dates fell up to a year after the date of random assignment.[19] Therefore, for action types other than new admission, the date of program admission was consistently used as the date of lease up. Exhibit A-9 summarizes the number of sample families who were matched in PIC/TRACS and the number assigned to SUB matched in PIC/TRACS.

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[16] HUD Form 50058 describes the full list of variables available in the PIC data and is accessible on line at http://portal.hud.gov/hudportal/documents/huddoc?id=50058.pdf.

[17] Documentation on the TRACS data is accessible on line at http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/mfh/trx/trxdocs.

[18] An action is the administrative transaction that triggers the completion of the HUD Form 50058 that is submitted to PIC. The 50058 includes 14 action codes: new admission, annual reexamination, interim reexamination, portability move-in, portability move-out, end of participation, other change of unit, Family Self-Sufficiency (FSS)/Welfare to Work (WtW) addendum, annual reexamination, issuance of voucher, expiration of voucher, flat rent annual update, annual Housing Quality Standards (HQS) inspection, and historical adjustment.

[19] This lapse in time might occur, for instance, if the housing authority (HA) simply failed to record the new admission but recorded a subsequent action.

Exhibit A-9.   Sample Families in PIC/TRACS Data and Those Assigned to the SUB Intervention in PIC/TRACS Data, by Site

	Sample Families in PIC/TRACS (N)	All Families Assigned to SUB (N)	All Families Assigned to SUB in PIC/TRACS (N)	Percent SUB Assigned Families in PIC/TRACS
Alameda County	97	76	68	89.5
Atlanta	30	0	0	NA
Baltimore	15	0	0	NA
Boston	116	64	58	90.6
Connecticut*	74	47	41	87.2
Denver	88	76	64	84.2
Honolulu	64	43	29	67.4
Kansas City	72	53	37	69.8
Louisville	39	32	20	62.5
Minneapolis	69	62	45	72.6
Phoenix	84	71	63	88.7
Salt Lake City	76	75	52	69.3
All Sites	**824**	**599**	**477**	**79.6**

PIC = Public and Indian Housing Information Center. SUB = permanent housing subsidy. TRACS = Tenant Rental Assistance Certification System.
*Includes the cities of New Haven and Bridgeport, Connecticut
Source: PIC/TRACS data

A.13 Program Usage Data File

The study used several types of information to understand what assistance people received during the followup period. Enrollment verification data, tracking and followup surveys, and administrative data, each described previously in Appendix A, were combined to form a Program Usage Data file, with information about housing program use for every month starting at the date of random assignment through the date of the adult survey. This section describes how the study team created the Program Usage Data file, which contains data on the 1,857 families who responded to the 18-month followup adult survey.

The study team gathered family-level information on program entry dates, program exit dates, and program types using six data sources throughout the course of the Family Options Study. The data sources are—

1.   Enrollment verification data.

2.   6-month tracking survey.

3.   12-month tracking survey.

4.   18-month followup adult survey.

5.   HMIS.

6.   PIC/TRACS.

Each data source has information about program use since the date of random assignment. The data sources vary in the amount of time they cover. For example, the administrative data and the 18-month survey cover the full analysis period, but the tracking surveys and enrollment verification cover only part of the period.

The study team considered data from all six sources when compiling family histories of program use. In many cases, the same instance of program use by a family was recorded in more than one data source. In some of these cases, the multiple data sources were in complete agreement. In other cases, the data sources had discrepant information about entry dates, exit dates, and/or program type.

To resolve conflicting information across data sources, the study team devised a system of decision rules. The fundamental rule for cleaning the data was that two instances of program use could not overlap, forcing the study team to clean dates that

indicated the family was in two or more programs simultaneously. The study team ranked the data sources in the order believed to contain the most to least reliable program use information. Perceived reliability of the data sources varied by data item—program entry date, exit date, and type. Exhibit A-10 summarizes the reliability ratings.

The study team considered the program entry date from the enrollment verification data most reliable because the team collected these data directly from the participating provider specifically about the study families. The administrative data— HMIS and PIC/TRACS—were also treated as highly reliable, second to the enrollment verification. The administrative data are maintained by communities and HUD. Program entry date information from the tracking surveys and 18-month followup survey was considered less reliable because of human recall error. If entry date information was available only in the surveys, the study team considered program entry dates closest to survey dates as more reliable than other older entry dates because they would have lower recall error.

The study team considered the program exit date from the administrative data to be most reliable. The exit date from the enrollment verification data was considered least reliable because data were not collected for a long enough period to record an exit date. The tracking surveys also contained missing exit date information if the family was in a housing program at the time of those surveys and could suffer from recall error. The18-month followup information on exit dates covered the full study period but could still suffer from recall error.

The study team considered the program type data from the enrollment verification as the most reliable because these providers were involved in the study to represent an intervention program type. Program type data from administrative sources were considered to also be highly reliable, second to the enrollment verification data. The study team worked closely with the HMIS administrators to accurately code programs. Data from PIC/TRACS were also considered highly reliable because data are maintained by HUD. Program type information in the 18-month followup and tracking surveys were considered to be least reliable because of recall error and likely lack of knowledge of the program type beyond the name of the program.

Basing its analysis on these and other site-specific rules, the study team manually determined which records and information were preserved that most accurately reflected the program use history of a family. These data were converted into the Program Usage Data file, which contained one record per family. The Program Usage Data file contained a series of monthly indicator binary variables reflecting the period from the month of random assignment through the month of the last 18-month survey end date in the study. The study team prepared a separate set of indicator variables for several program types: emergency shelter, transitional housing, community-based rapid re-housing, HCVs, PSH, public housing, and Section 8 projects/project-based vouchers. An indicator variable was set equal to 1 to indicate that the study family used a particular program type at least 1 day during the month, or it was set equal to 0 to indicate no use of that program type in that month. The Program Usage Data file was constructed to complement the outcomes reported in the 18-month followup adult survey. Therefore, information provided by administrative data beyond the month of followup survey response was not incorporated into the file.

Exhibit A-10.   Data Source Reliability, by Program Use Data Item

Program Use Data Item	Higher Reliability	Lower Reliability
Program entry date	Enrollment verification HMIS; PIC/TRACS	18-month followup survey; tracking surveys
Program exit date	HMIS; PIC/TRACS	18-month followup survey; tracking surveys; enrollment verification
Program type	Enrollment verification HMIS; PIC/TRACS	18-month followup survey; tracking surveys

HMIS = Homeless Management Information System. PIC = Public and Indian Housing Information Center. TRACS = Tenant Rental Assistance Certification System.
Sources: Enrollment verification data; 6-month tracking survey; 12-month tracking survey; 18-month followup survey; HMIS; PIC/TRACS

APPENDIX B.

CONSTRUCTION OF OUTCOMES

This appendix of the Family Options Study short-term impacts report describes how the study team constructed outcomes measures from the 18-month followup survey and administrative data. It supplements information in Chapter 5. The section is organized by outcome domain: housing stability, family preservation, adult well-being, child well-being, and self-sufficiency.

B.1 Measures of Housing Stability

Homelessness during followup period. The study team developed seven measures related to homelessness experienced during the 18-month followup period.

1. **At least 1 night homeless or doubled up during past 6 months.** This binary variable is constructed from responses to Questions A9 and A11. It measures the percentage of study families who reported spending at least 1 night during the 6 months before the 18-month followup survey either homeless (residing in a shelter or institution or staying in a place not typically used for sleeping, such as the street, car, abandoned building, or train station) or living with friends or relatives because they could not find or afford a place of their own. The survey item explicitly excluded transitional housing. Although transitional housing is included in the federal definition of homelessness, this outcome does not reflect stays in transitional housing. Data were missing on this measure for less than 0.1 percent of cases.

2. **At least 1 night homeless during past 6 months.** This binary variable is constructed from responses to Question A9. It measures the percentage of families who said they spent at least 1 night homeless during the 6 months before the 18-month followup survey. This outcome does not reflect stays in transitional housing. Data were missing on this measure for 0.1 percent of cases.

3. **At least 1 night doubled up during past 6 months.** This binary variable is constructed from responses to Question A11. It measures the percentage of families who said they spent at least 1 night living with friends or relatives during the 6 months before the 18-month followup survey. No cases had missing data on this measure.

4. **Any stay in emergency shelter in months 7 to 18 after random assignment.** This binary variable is constructed using Program Usage Data. Cases indicating enrollment in emergency shelter in the period from 7 to 18 months after random assignment are coded as 1. Homeless Management Information System, or HMIS, records were the source of most (87 percent) of the spell data for emergency shelter. The surveys were the other sources of emergency shelter spell data. No cases had missing data on this measure.

5. **Number of days homeless or doubled up during past 6 months.** This continuous variable is constructed from responses to Questions A10a1 to A10a3 and A12a1 to A12a3. The outcome counts the total number of days spent homeless or doubled up in the 6 months before the 18-month followup survey. This outcome does not reflect stays in transitional housing. Data were missing on this measure for less than 0.3 percent of cases.

6. **Number of days homeless during past 6 months.** This continuous variable is constructed from responses to Questions A10a1 to A10a3. The outcome counts the total number of days spent homeless in the 6 months before the 18-month followup survey. This outcome does not reflect stays in transitional housing. Data were missing on this measure for 0.7 percent of cases.

7. **Number of days doubled up during past 6 months.** This continuous variable is constructed from responses to Questions A12a1 to A12a3. The outcome counts the total number of days spent doubled up in the 6 months before the survey. Data were missing on this measure for less than 0.1 percent of cases.

Homelessness during the followup period: confirmatory outcome. The study team also constructed a single composite binary outcome defined as recent experience of homelessness from two binary outcomes within the housing stability domain.

1. "At least 1 night spent homeless or doubled up during the past 6 months" at the time of the 18-month followup survey. This outcome does not reflect stays in transitional housing.

2. "Any stay in emergency shelter in the 12 months prior to the date of the 18-month survey" measured from Program Usage Data.

If either of the two binary outcomes were coded as 1, the composite confirmatory outcome was also coded as 1. Data were missing on this measure for less than 0.1 percent of cases.

Housing independence. The study team used data from the adult survey to construct three outcomes pertaining to the type of living arrangements at the time of the 18-month followup survey.

1. **Living in own house or apartment at time of survey.** This binary variable is constructed from responses to Question A4a, which asks if the respondent is currently living in a house or apartment that he or she owns or rents. The interviewer instructed the respondent not to include his or her parent's or guardian's home or apartment. Data were missing on this measure for 2.3 percent of cases.

2. **Living in own house or apartment at time of survey with no housing assistance.** This binary variable is based on responses to Question A4a about living situation and Questions A7 and A8 about receipt of housing assistance at the time of the 18-month followup survey. The outcome is assigned a value of 1 for respondents who answered Question A4a to indicate they were living in a house or apartment that they own or rent and who answered no to Questions A7 and A8 about whether they received housing assistance. Data were missing on this measure for 2.3 percent of cases.

3. **Living in own house or apartment at time of survey with housing assistance.** This binary variable is constructed from responses to Question A4a about living situation and Questions A7 and A8 about receipt of housing assistance at the time of the 18-month followup survey. The outcome is assigned a value of 1 for respondents who answered Question A4a to indicate they were living in a house or apartment that they own or rent and who answered yes to Questions A7 and A8 about whether they received housing assistance. Data were missing on this measure for 2.3 percent of cases.

Number of places lived. The research also measured an outcome related to housing instability during the followup period using the parent survey.

Number of places lived/stayed during past 6 months. This continuous variable is constructed from responses to Question A13. The outcome measures the count of places lived during the 6 months before the parent survey. The variable is topcoded at five places. A value of 6 means that the adult respondent reporting having lived in five or more places in the 6 months before the survey. Data were missing on this measure for 0.2 percent of cases.

Housing quality. The housing domain also includes two outcomes measuring the quality of sample members' housing at the time of the 18-month followup survey.

1. **Persons per room.** This continuous variable is based on responses to Question B7 (number of rooms not including kitchens, bathrooms, and hallways) and Questions B1A_1 to B1A_14 and B3a and B3b (number of persons living with the adult respondent). The outcome was constructed by dividing the number of people by the number of rooms. Data were missing on this measure for 1.8 percent of cases.

2. **Housing quality is poor.** This binary variable is based on responses to Question B8. Respondents were asked to rate the condition of their current house or apartment as either excellent, good, fair, or poor. Data were missing on this measure for 0.8 percent of cases.

B.2   Measures of Family Preservation

The study team collected detailed information about the composition of the study families and changes in family composition that occurred during the followup period. The study team specifically collected names and ages of family members with the adult respondent in shelter at the time of enrollment and of family members who were not with the adult respondent at enrollment but whom the adult respondent considered to be part of the family. Then, at the 18-month followup survey, the study team collected information on the whereabouts of all family members reported at baseline and about new family members who had joined the family since the previous survey.

The study team used this information to construct outcomes measuring recent separations of family members who were present at baseline. The three outcomes are—

1. **Family has at least one child separated in past 6 months (percent of families).** This binary variable is constructed from items in Section D of the 18-month followup survey and from information gathered from Section E of the baseline survey. This variable measures the percentage of families in which a child who had been with the family at baseline became separated in the 6 months before the 18-month followup survey. Data were missing on this measure for 1.5 percent of cases.

2. **Family has at least one foster care placement in the past 6 months (percent of families).** This binary variable is constructed from items in Section D of the 18-month followup survey. It measures the percentage of families in which any children were living in foster care in the 6 months before the survey. Data were missing on this measure for 1.2 percent of cases.

3. **Spouse/partner separated in past 6 months, of those with a spouse/partner present at random assignment (percent of families).** This binary variable is constructed from items in Section D of the 18-month followup survey and Section E of the baseline survey. This outcome measures the percentage of families in which a spouse or partner who was with the family at baseline became separated in the 6 months before the 18-month followup survey.

The team also constructed the following two family reunification outcomes that measure reunification of family members who had been reported as separated from the family at baseline.

1. **Family has at least one child reunified, of those families with at least one child absent at random assignment (percent of families).** This binary variable is constructed from Section D of the 18-month followup survey and Section E of the baseline survey. It measures the percentage of families in which a child who was not with the family at baseline was residing with the family at the time of the 18-month followup survey.

2. **Spouse or partner reunified (percent of families).** This binary variable is taken from Section D of the 18-month followup survey and Section E of the baseline survey. It measures the percentage of families in which a spouse or partner who was not with the family at baseline was residing with the family at the time of the 18-month followup survey.

B.3 Measures of Adult Well-Being

The study team used the adult survey to construct the following outcomes measuring several aspects of well-being for the adult respondent: adult physical health, adult behavioral health, adult trauma symptoms, adult substance abuse, and experience of intimate partner violence.

Adult physical health is fair or poor. This binary variable is constructed from responses to Question E1. The adult respondent was asked to report on overall health in the 30 days before the survey. Response options were excellent, very good, good, fair, or poor. The outcome value is 1 if respondents rated health as fair or poor. Data were missing on this measure for 0.1 percent of cases.

Goal-oriented thinking. The adult survey collected six items of the State Hope Scale (Snyder et al., 1996) in Questions E2a to E2f. Participants respond to each item using a 6-point scale.

1 = definitely false.

2 = mostly false.

3 = somewhat false.

4 = somewhat true.

5 = mostly true.

6 = definitely true.

The items are—

1. If I should find myself in a jam, I could think of many ways to get out of it.

2. At the present time, I am energetically pursuing my goals.

3. There are lots of ways around any problem that I am facing now.

4. Right now I see myself as being pretty successful.

5. I can think of many ways to reach my current goals.

6. At this time, I am meeting the goals that I have set for myself.

The study team created a score for the State Hope Scale if the respondent answered at least four of the six items. For each respondent, the analysts averaged the responses given. This process yields measures ranging from 1 to 6 with higher scores indicating greater hope. The adult State Hope Scale measures Snyder's cognitive model of hope which defines hope as "a positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed energy), and (b) pathways (planning to meet goals)" (Snyder, Irving, and Anderson, 1991: 287). Data were missing on this measure for 0.6 percent of cases.

Psychological Distress. This continuous variable is the Kessler 6 Psychological Distress Scale (Kessler et al., 2003). It is derived from six survey items (Questions E31 to E36). The respondents were asked how much of the time in the past 30 days they had felt each of six measures of distress—

1. Nervous?

2. Hopeless?

3. Restless or fidgety?

4. So depressed that nothing could cheer you up?

5. That everything was an effort?

6. Worthless?

Responses options were—

1 = all of the time.

2 = some of the time.

3 = a little of the time.

4 = none of the time.

The study team created a score for each respondent if the respondent answered at least four of the items. Scores were reversed such that a response of all of the time = 4, most of the time = 3, some of the time = 2, a little of the time = 1, and none of the time = 0. The scores were summed, creating a continuous indicator of psychological distress. The score ranges from 0 to 24 with higher values indicating greater distress. Data were missing on this measure for 0.4 percent of cases.

Exhibit 5-10 in Chapter 5 reports the percent of family heads reporting symptoms of serious psychological distress. That measure was derived from the continuous distress scale using a cutoff of 13 (that is, scores of 13 and over were coded to indicate serious psychological distress). This score was the optimal cutoff point for the general population sample in the Kessler et al. (2003) validation study.

Post-traumatic stress disorder (PTSD) symptoms. This binary outcome is constructed from responses to Questions E4a to E4q. It measures the presence of PTSD symptoms in adult respondents in the month before the survey. These questions are the Posttraumatic Stress Diagnostic Scale (PDS) assessment that is designed to aid in the detection and diagnosis of PTSD. The PDS assessment parallels *DSM-IV*® diagnostic criteria for a PTSD diagnosis and may be administered repeatedly over time to help monitor changes in symptoms.

Respondents were asked to report on how much each of the following items had bothered them in the month before the survey.

Subset 1
E4a. Repeated, disturbing memories, thoughts, or images of a stressful experience?

E4b. Repeated, disturbing dreams of a stressful experience?

E4c. Suddenly acting or feeling as if stressful experiences were happening again (as if you were reliving it)?

E4d. Feeling very upset when something reminded you of a stressful experience?

E4e. Having physical reactions (for example, heart pounding, trouble breathing, or sweating) when something reminded you of a stressful experience?

Subset 2
E4f. Avoid thinking about or talking about the stressful experiences or avoid having feelings related to it?

E4g. Avoid activities or situations because they remind you of a stressful experience?

E4h. Trouble remembering important parts of the stressful experience?

E4i. Loss of interest in things that you used to enjoy?

E4j. Feeling distant or cut off from other people?

E4k. Feeling emotionally numb or being unable to have loving feelings for those close to you?

E4l. Feeling as if your *future* will somehow be *cut short*?

Subset 3

E4m. Trouble falling or staying asleep?

E4n. Feeling *irritable* or having *angry* outbursts?

E4o. Having difficulty concentrating?

E4p. Being *"super alert"* or watchful on guard?

E4q. Feeling *jumpy* or easily startled?

Responses options were—

1 = not at all.

2 = a little bit.

3 = moderately.

4 = quite a bit.

5 = extremely.

The PTSD outcome was created if the respondent answered at least 12 of the 17 items. The first step in scoring the responses was to assess if the respondent was symptomatic on each item. Responses of 3 = moderately, 4 = quite a bit, or 5 = extremely to any of the items indicate the respondent is symptomatic and receive a value of 1. If a respondent answered 1 = not at all or 2 = a little bit to an item they were assessed as not symptomatic and received a value of 0.

The 17 items were then divided into subscales.

Subscale B: sum of 5 items in Subset 1: a–e.

Subscale C: sum of 7 items in Subset 2: f–l.

Subscale D: sum of 5 items in Subset 3: m–q.

To receive a value of 1 for the PTSD binary variable, the respondent had to be symptomatic on one or more items in subscale B, three or more items in subscale C, *and* on two or more items in subscale D. This measure of PTSD was also collected at baseline and serves as a covariate scored in the same manner (see Appendix C.1). Data were missing on this measure for less than 0.8 percent of cases.

Adult substance abuse. The study team measured three outcomes related to substance abuse. The first is a binary variable indicating alcohol dependence, the second is a binary variable indicating drug abuse, and the third is a binary variable indicating alcohol dependence or drug abuse.

Alcohol dependence is constructed from responses to Questions E5 through E8 in the 18-month followup survey, which asked the following four items in the Rapid Alcohol Problems Screen (RAPS4; Cherpitel, 2000).

E5. Do you sometimes take a drink in the morning when you first get up?

E6. During the past 6 months, has a friend or family member ever told you about things you said or did while you were drinking that you could not remember?

E7. During the past 6 months, have you had a feeling of guilt or remorse after drinking?

E8. During the past 6 months, have you failed to do what was normally expected of you because of drinking?

An affirmative answer to any of the items indicates an alcohol problem. Data were missing on this measure for 0.3 percent of cases.

The Rapid Alcohol Problems Screen is a five-item instrument, derived from other screens, that is designed to maximize sensitivity while maintaining good specificity. The RAPS4, a further refinement of the five-item

instrument, asks if an individual felt guilt after their drinking (Remorse), could not remember things said or did after drinking (Amnesia), failed to do what was normally expected after drinking (Perform), or had a morning drink (Starter). The RAPS4 indicates alcohol abuse for the Family Options Study.

The outcome indicating drug abuse is constructed from responses to Questions E10a through E10h. The survey instrument included six items regarding use of illegal drugs, all of which are part of the short version of the Drug Abuse Screening Test, or DAST-10 (Skinner, 1982; Yudko, Lozhkina, and Fouts, 2007). The following six items were asked of respondents in relation to the 6 months before the survey date.[20]

E10a. Have you used more than one drug at a time?

E10b. Have you had "blackouts" or "flashbacks" as a result of drug use?

E10e. Have you ever not spent time with your family or missed work because of drug use?

E10f. Have you engaged in illegal activities in order to obtain drugs?

E10g. Have you ever experienced withdrawal symptoms as a result of heavy drug intake?

E10h. Have you had medical problems as a result of drug use (for example memory loss, hepatitis, convulsions, bleeding?)

An affirmative answer to any of these six items indicates a drug problem. Data were missing on this measure for 0.4 percent of cases.

If the respondent is determined to have an alcohol problem or a drug problem, the outcome alcohol dependence or drug abuse is assigned a value of 1. Data were missing on this measure for 0.4 percent of cases.

Experienced intimate partner violence in the past 6 months. This binary variable is based on responses to Question E11. E11 asks if, in the past 6 months, the adult respondent has been physically abused or threatened with violence by a person with whom she/he was romantically involved, such as a spouse, boy/girlfriend, or partner. Data were missing on this measure for 0.3 percent of cases.

B.4   Measures of Child Well-Being

The study team used information reported by the parent about the focal children to construct the following child well-being outcomes across all age groups.

Education

Preschool or Head Start enrollment. This binary variable is based on responses to Questions F10a and F11_2 on the parent survey. The adult respondent was first asked about the number of different childcare arrangements or schools the child had been in for at least 10 hours a week since the random assignment date (F10a). If the child had at least one arrangement, the respondent was then asked to describe the type of care from the following list:

- Family-based care in someone's home with other children.

- School- or center-based care.

- Childcare provided in my home.

If the response was school- or center-based care, then the indicator for preschool or Head Start enrollment was coded as yes.

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[20] Respondents were also asked about two additional items related to drug use that are not used in the DAST-10 and were not used to create the drug abuse outcome. E10c asked, "Have your friends or relatives known or suspected that you used drugs?" and E10d asked, "Have you ever lost friends because of drugs?"

School enrollment. This binary variable is based on responses to Questions F6, F8, and F9. The adult respondent was asked about enrollment of children ages 4 to 17 years in school (ages 6 to 17) or childcare (ages 4 to younger than 6). If the respondent answered yes or volunteered information that the child is homeschooled or on summer/school vacation and the response to the child's highest grade or year of school completed was not that they were currently in any form of childcare or preschool (F8), then enrollment was indicated as yes. Also, if the respondent indicated that the child's highest grade or year of school that he or she ever completed was the 12th grade and the child received a high school diploma, then school enrollment was also indicated as yes.

Childcare or school absences (past month). This variable is treated as continuous based on responses to Question F13 for children ages 1 year, 6 months to 17 years, 11 months. Respondents were asked to report on the number of days the child missed school in the past month (or the last month of school if the survey is conducted during the summer (F6_4)). The outcome is measured using a scale of 0 to 3: 0 = no absences, 1 = 1 to 2 absences, 2 = 3 to 5 absences, 3 = 6 or more absences.

Number of schools attended since random assignment. This continuous variable is based on responses to Question F12a. The number of schools is top coded at four or more schools. The values of the outcome are—

1 = one school.

2 = two schools.

3 = three schools.

4 = four or more schools.

Grade completion. This binary variable is based on responses to Question F12b. It measures whether a child age 4 to 17 years repeated a grade since the time of random assignment.

Positive childcare or school experiences. This continuous variable is based on responses to F17, in which parents assess the child's childcare or school experiences, using these ratings—

1 = mostly positive.

0 = both positive and negative.

-1 = mostly negative.

Positive childcare or school attitudes. This continuous variable is constructed from responses to Question F16 in which the parent assesses the child's attitude toward school or childcare. The question is worded as follows:

How much does your child like school/childcare? The response options were—

1 = not at all.

2 = not very much.

3 = some.

4 = pretty much.

5 = very much.

School grades. This continuous outcome was constructed using responses to Question F12c. The parent was asked to describe the child's grades in the most recently completed school term. The outcome uses a 4-point scale with the following values.

1 = mostly Ds and Fs.

2 = mostly Cs.

3 = mostly Bs.

4 = mostly As.

Childcare or school conduct problems. This binary variable is based on responses to Questions F14 and F16. The outcome measures whether the parent has received reports of conduct problems from the childcare center or school or whether the child has been suspended or expelled from the childcare provider or school. The outcome uses the following values.

0 = no calls to parent.

1 = parent got reports of bad conduct or suspension/expulsion.

Health

Poor or fair health (at the time of the survey). This binary outcome is based on responses to Question F18, which asks the parent to assess the child's health at the time of the survey. Allowable responses were excellent, very good, good, fair, or poor. The outcome has a value of 1 if responses were fair or poor.

Well-child check (in 12 months before the survey). This binary outcome is based on responses to Question F19. Parents are asked whether outcome measures the percentage of focal children who received a physical examination or well-child checkup in the year before the survey, based on the parent's report.

Regular source of (health) care. This binary outcome is based on responses to Question F18a.

Sleep problems. This continuous variable is based on responses to Questions F26i, F26j, and F26k. The parent is asked to report on the frequency of two indicators of sleep problems—tiredness on waking and tiredness during the day. The allowable responses are—

1 = almost always.

2 = most days.

3 = sometimes.

4 = rarely.

5 = almost never.

The questions are worded as follows:

Would you say that…

[CHILD] has difficulty waking up in the morning?

[CHILD] has difficulty waking up on school days?

[CHILD] is tired during the day?

To create the outcome, the study team reverse-coded the response options (for example, almost never = 1; almost always = 5). The value of the outcome thus ranges from 1 to 5 with higher values indicating greater tiredness on waking and during the day.

Low birth weight. This binary outcome is measured only for children born since random assignment who were at least 1 year old at the time of the parent survey. The measure is calculated using responses to Question F2, in which the parent was asked to report the birth weight of the child in pounds and ounces. Birth weights below 5 pounds, 8 ounces were coded as 1 to indicate low birth weight (WHO, 2010: 152).

Behavioral Strengths and Challenges

Behavioral problems. This continuous variable is measured as the standardized total difference score from the Strengths and Difficulties Questionnaire (SDQ). The SDQ is a behavioral and personality assessment. The total problem score measures emotional symptoms, conduct problems, hyperactivity, and peer problems. The outcome is measured using responses to Questions F21 (for 3-year-olds), F22 (4- to 10-year-olds), and F23 (11- to 17-year-olds) on the parent survey. Parents indicated whether a series of statements were not true, somewhat true, or certainly true for the child during the 6 months before the survey.

Prosocial behavior. This continuous variable is measured as the standardized prosocial domain score from the SDQ.

The SDQ test was administered to parents during the parent survey, asking about all focal children between ages 3 years and 17 years, 11 months. Parents were asked the same questions for all focal children, although the wording of some questions varied depending on the age group: 3-year-olds (Question F21a–y), 4- to 10-year-olds (Question F22a–y), and 11- to 17-year-olds (Question F23a–y).

The SDQ contains 25 questions split into five sections: emotional symptoms, conduct problems, hyperactivity, peer problems, and prosocial. Each section asks a set of five descriptions related to the aforementioned section headings. The responses to the descriptions are 1 = not true, 2 = somewhat true, and 3 = certainly true. /The items from each section follow.

Emotional symptoms—

– Often unhappy, depressed, or tearful.

– Often complains of headaches, stomach-aches, or sickness.

– Many worries or often seems worried.

– *For children ages 11 to 17*: Nervous in new situations; easily loses confidence. *For children ages 3 to 10*: Nervous or clingy in new situations; easily loses confidence.

– Many fears; easily scared.

Conduct problems—

– *For children ages 4 to 17*: Often lies or cheats. *For children age 3*: Often argumentative with adults.

– Often loses temper.

– Generally well behaved; usually does what adults request.

– *For children ages 11 to 17*: Often fights with other youth or bullies them. *For children ages 3 to 10*: Often fights with other children or bullies them.

– *For children ages 4 to 17*: Steals from home, school, or elsewhere. *For children age 3*: Can be spiteful to others.

Hyperactivity—

– Easily distracted; concentration wanders.

– Restless, overactive; cannot stay still for long.

– Constantly fidgeting or squirming.

– *For children ages 4 to 17*: Thinks things out before acting. *For children age 3*: Can stop and think things out before acting.

– *For children ages 4 to 17*: Good attention span; sees work through to the end. *For children age 3*: Good attention span; sees tasks through to the end.

Peer problems—

– Generally liked by other youth/children.

– *For youth ages 11 to 17*: Would rather be alone than with other youth. *For children ages 3 to 10*: Rather solitary; prefers to play alone.

- Has at least one good friend.

- Picked on or bullied by other youth/children.

- Gets along better with adults than with other children.

Prosocial—

- Considerate of other people's feelings.

- *For children ages 11 to 17*: Shares readily with other youth; for example, shares books, games, and food. *For children ages 3 to 10*: Shares readily with other children; for example, shares toys, treats, and pencils.

- Helpful if someone is hurt, upset, or feeling ill.

- Kind to younger children.

- Often offers to help others (parents, teachers, other children).

The descriptions are more often worded with negative valence—"not true" = 0 points, "somewhat true" = 1 point, and "certainly true" = 2 points—such that more negative behaviors or tendencies are given more points. Some questions are worded with positive valence, however, such as "Generally liked by other children." Questions of a positive valence are scored so that "not true" is given 2 points, "somewhat true" is given 1 point, and "certainly true" is given 0 points. This scoring arrangement is such that higher scores for the Total Difficulties score indicate more negative behavior.

Each of the five sections is given an individual score ranging from 0 to 10. Only the first four sections are included in the overall Total Difficulties score; the prosocial scale is excluded. The Total Difficulties score has a range from 0 to 40. To compute a total score, at least two-thirds (three of five) of the questions within each domain had to be answered. If one or two items were missing within a domain, the average score of those items was multiplied by 5 to impute the total score for that domain. If more than three items in any domain were missing, both the domain score and the total problems score were counted as missing. The scores were also standardized by age and gender.

Ages 1 Year to 3 Years, 6 Months

Met developmental milestones. This outcome is defined as scoring above the typical developmental cutoffs in all five domains of the Ages and Stages Questionnaire (ASQ-3). This binary variable indicates if the child passed all five domains in the ASQ-3 corresponding to his or her age. The study used 12 versions of the ASQ-3 for children ages 11 to 44 months.

The ASQ-3 is a developmental assessment for children of ages from 1 month to 5 years, 6 months. The study team administered the test to the parents, asking about all focal children between the ages of 1 year and 3 years, 6 months (12 to 41 months). The test was typically administered directly after the parent survey.

The study team administered 12 versions of the test across the age groups.

1. The 12-month test for focal children ages 11 months through 12 months, 30 days.

2. The 14-month test for focal children ages 13 months through 14 months, 30 days.

3. The 16-month test for focal children ages 15 months through 16 months, 30 days.

4. The 18-month test for focal children ages 17 months through 18 months, 30 days.

5. The 20-month test for focal children ages 19 months through 20 months, 30 days.

6. The 22-month test for focal children ages 21 months through 22 months, 30 days.

7. The 24-month test for focal children ages 23 months through 25 months, 15 days.

8. The 27-month test for focal children ages 25 months and 16 days through 28 months, 15 days.

9. The 30-month test for focal children ages 28 months and 16 days through 31 months, 15 days.

10. The 33-month test for focal children ages 31 months and 16 days through 34 months, 15 days.

11. The 36-month test for focal children ages 34 months and 16 days through 38 months, 30 days.

12. The 42-month test for focal children ages 39 months through 44 months, 30 days.

The test is structured the same for each version of the test, although the questions differ. Each test has six sections: (1) communication, (2) gross motor, (3) fine motor, (4) problemsolving, (5) personal-social, and (6) overall. The first five sections have six questions that can be answered "yes," "sometimes," or "not yet." The last section—Overall—has between 8 and 10 open-ended questions that are not included in the final score.

Each "yes" answer receives 10 points, "sometimes" answer receives 5 points, and "not yet" answer receives 0 points. The scores for each section range from 0 to 60. A raw score was calculated separately for each of the five sections. A section is scored when at least four of the six questions in the section are answered. When all six questions are answered, the scores from those six available answers are summed together. When a section has four or five answers, the missing scores are assigned a value derived from the average of the available scores, and all six scores are summed.

The ASQ-3 has national norms for scores for each domain by each age version and a raw score that can be used as a diagnostic cutoff point for the domain set at two standard deviations below the mean. Scores greater than the cutoff are considering "passing," whereas scores at or below the cutoff may indicate the potential presence of a developmental delay in that domain and can be used for making a referral for a more comprehensive assessment. The team calculated z-scores for each domain by subtracting the domain raw score from the national domain mean (for the appropriate age version) and dividing by the national domain standard deviation. For the outcome measure, raw scores in each domain were compared with the cutoff scores and scores above the cutoff were counted as passing. The outcome then was whether children passed all valid domains. If children were missing one of the five domains, they were still included in the outcome and were assessed on whether they passed all four nonmissing domains.

Nearly one-fourth (23.6 percent) of cases had discrepancies between the age of the child in our survey and the version of the ASQ-3 administered. In 98 percent of these cases, the structure of the ASQ-3 survey allowed for imputation of scores, resulting in a final missing data rate of 2 percent because of age-version discrepancies (details about imputation and missing data are available on request).

Ages 3 Years, 6 Months to 7 Years

Verbal ability. This outcome is measured as the nationally standardized score from the Woodcock-Johnson III (WJ III) Letter-Word Identification test.

Math ability. This outcome is measured as the nationally standardized score from the WJ III Applied Problems test.

The study team administered two tests from the WJ III tests of achievement to eligible sample children ages 3 to 7 years—the Letter-Word Identification test, with 76 possible questions, and the Applied Problems test, with 63 possible questions. The interviewers began tests at Question 1 regardless of age. Interviewers did not calculate final raw scores in the field because it is subject to error. The analysis team independently calculated raw scores.

For both the Letter-Word Identification and Applied Problems tests, the study team calculated raw scores based on a series of rules. First, children were allowed to refuse the test either at the beginning or during the test. Refusals were coded as missing test scores. The raw score was a sum of all the correct answers, starting at Question 1, until the child answered six consecutive questions incorrectly. Each question was weighted the same, with a value of "1" indicating a correct response and a value of "0" indicating an incorrect response.

Exhibit B-1 shows the final distribution of the number of children who completed the WJ III tests.

Exhibit B-1.   Children's Completion Rates for WJ III Letter-Word Identification and Applied Problems Tests

WJ III Test Distribution	n	%
Total children completed WJ III	901	100.0
Both tests (Letter-Word Identification and Applied Problems) completed	851	94.5
Only Letter-Word Identification test completed	40	4.4
Only Applied Problems test completed	10	1.1

WJ III = Woodcock-Johnson III.
Source: Woodcock-Johnson Tests of Academic Achievement

The study team entered raw scores into the WJ III Compuscore software to calculate *z*-scores that are age and gender adjusted.[21] Raw scores were entered into "Woodcock-Johnson III Test of Academic Achievement—Form A" for "Standard Battery" tests 1 and 10, where test 1 is the Letter-Word Identification test and test 10 is the Applied Problems test.

The study team exported the key information into an Excel file and entered raw scores into the WJ III Compuscore software that converts raw scores into the *z*-scores used in report analyses. Data from the Excel file were copied and pasted rather than entered manually into Compuscore to reduce data entry error. Within the Compuscore software, the following information was entered: first name, gender, study identification number, and date of birth, and date of testing. On exporting data from the Compuscore software, the "Norm Basis" of age and the "Standard Set" of scores were selected for inclusion in the export, resulting in a comma-delimited file that includes, among the standard set of scores, the *z*-score of each test for each child.

Executive functioning (self-regulation). This outcome is measured with the score on the Head Toes Knees Shoulders (HTKS) assessment.

HTKS is a development assessment testing inhibitory control, attention, and working memory. The study team administered this test directly to focal children ages 3 years, 6 months to 7 years, 11 months. All children were given the same test, regardless of age.

The test consists of 20 questions divided into two parts. The test began with a demonstration of the exercise in which the children were instructed to touch their toes when they were told to "touch your head" and to touch their head when told to "touch your toes," in effect doing the opposite of what they were told. After some practice and repeated reminders to make sure that the children understood the instructions, the assessment began. The first 10 questions instructed the children to "touch your head" or "touch your toes." The responses to "touch your head" would be for the child to touch his or her toes (the correct response), to motion toward touching his or her head and then correct him/herself and touch his or her toes (a self-corrected response), or to touch his or her head (the incorrect response). Each correct response received 2 points, each self-corrected response received 1 point, and each incorrect response received 0 points. If a child had 6 or more incorrect responses in the first 10 questions, the test was discontinued.

Children who answered 5 or fewer of the 10 questions incorrectly moved to the second set of 10 questions. For the second part, children were instructed to touch their knees when told to "touch your shoulders" and to touch their shoulders when told to "touch your knees." This principle of doing the opposite of what is told was the same for this part of the test—the only change was the body part touched. The children were taken through a second demonstration in which they practiced touching their knees when told to touch their shoulders and touching their shoulders when instructed to touch their knees. After practice and only one reminder, the second set of 10 questions began.

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[21] Reference the WJ III technical manual for details about the *z*-score (McGrew, Shrank, and Woodcock, 2007).

In the second set of 10 questions, children received all four instructions—touching the head when instructed to touch the toes and vice versa and touching the shoulders when instructed to touch the knees and vice versa, adding to the complexity of the test. The scoring was the same, with correct responses receiving 2 points, self-corrected responses receiving 1 point, and incorrect responses receiving 0 points.

Missing values were imputed if two-thirds of the overall questions children were administered were nonmissing. The scores assigned to these missing values were the average from the answered items multiplied by the total number of trials each child was eligible for, so that, if a child were administered 10 trials, the imputation would be the average score of the answered items times 10. Children could receive a total score of between 0 and 40 points from the 20 questions.

Ages 8 to 17 Years

The study team collected information from children and youth ages 8 to 17 years on the child survey from which several outcome measures were constructed. The outcomes are described in this section.

Anxiety. Question A1 on the child survey is used to create an indicator of anxiety. Question A1 is the A-Trait scale from the State-Trait Anxiety Inventory for Children, or STAIC (Spielberger et al., 1973). Scores range from 20 to 60, with higher scores indicating greater anxiety. The scale is proprietary, so only a partial list is shown here. Respondents reported on the frequency with which they felt several items using these response options—

1 = hardly ever.

2 = sometimes.

3 = often.

Examples of the items are—

I worry about making mistakes.

I have trouble deciding what to do.

I worry about things that may happen.

Fears. This outcome is based on responses to Questions B1 to B33 of the child survey. Respondents reported on the extent to which they had fears using these response options.

1 = not at all.

2 = some.

3 = a lot.

Questions B1 to B33 asked about the following fears: spiders, getting sick, being robbed, having no friends, dogs, what will happen in the future, having no place to live, something bad happening to people in my family, snakes, getting bad grades, people fighting, being teased, what other people think of me, being hit by a car or truck, drug dealers, being alone, flunking school, gangs, being lost, rats, that other children/tweens will not want to play/spend time with me, police, having no place to sleep, dying, nightmares, being hungry, having no food to eat, being sent to the principal, guns, fire, losing my favorite stuff, I worry about my parents, I worry about my brothers and sisters, I worry about myself. The response scores were summed, yielding total scores ranging from 33 to 99, with higher scores indicating greater fear.

Substance use. This outcome has values of 0 to 2 and is based on responses to Questions D6 to D23 on the child survey. The outcome is measured with 23 items from the Centers for Disease Control and Prevention, or CDC, 2011 Youth Risk Behavior Survey. This outcome measures whether the child had used tobacco, alcohol, or marijuana in the past 30 days or had ever used other substances (cocaine, inhalants, steroids—ages 8 to 17—or ecstasy, meth, heroin, controlled prescription drugs, or injected drugs—ages 13 to 17 only).

Goal-oriented thinking (positive thinking). This outcome is measured using responses to Questions G1 to G6 on the child survey. These items are a modified version of the Children's Hope Scale. Scores range from 6 to 30 with higher scores indicating greater hope. Respondents indicated how frequently they felt six items using these response options—

1 = none of the time.

2 = a little of the time.

3 = a lot of the time.

4 = most of the time.

5 = all of the time.

The six items were—

1. You think you are doing pretty well.

2. You can think of many ways to get the things in life that are most important to you.

3. You are doing just as well as other kids your age.

4. When you have a problem, you can come up with lots of ways to solve it.

5. You think the things you have done in the past will help you in the future.

6. Even when others want to quit, you know you can find ways to solve the problem.

School effort. This outcome is constructed from responses to Questions E4 and E5. Respondents were asked two questions about their school effort in the month before the survey.

Response options were—

1 = could have done a lot better.

2 = could have done a little better.

3 = did about as well as you could.

4 = did very well; could not have done better.

The questions are worded likes this—

In the last month, how hard have you worked on your homework?

In the last month, how hard have you tried to work during the school day?

Arrests or police involvement. This binary outcome is constructed from responses from the parent to Questions F24 and F25 on the parent survey. Parents were asked whether the child had been arrested in the 6 months before the survey and whether the focal child had had any problems that involved the police contacting the parent in the 6 months before the survey.

B.5   Measures of Self-Sufficiency

The impact analysis examines effects of the four interventions on several outcomes related to self-sufficiency of sample members. These outcomes pertain to employment status (adult respondent), income sources (family), participation in education and training (adult respondent), food security (family), and economic hardship (family).

Employment status. Adult respondents reported on work activity in the week preceding the 18-month followup survey and whether they had worked at any time since random assignment. Those who had worked since random assignment answered questions about the number of jobs held since random assignment and the number of months worked since random assignment. Sample members who reported having worked for pay in the week before the 18-month followup survey were asked to provide details about the number of hours worked per week and earnings at the main job. The analysts used this information to construct five outcomes.

1. **Work for pay in the week before the survey.** This binary variable is based on responses to Question C1. Data were missing on this measure for less than 0.1 percent of cases.

2. **Any work for pay since random assignment.** This binary variable is based on responses to Question C2. Data were missing on this measure for 0.1 percent of cases.

3. **Calendar months worked for pay since random assignment.** This continuous variable is based on responses to Question C4. Respondents who reported that they had not worked since random assignment were assumed to have worked 0 months since random assignment. Data were missing on this measure for 1.2 percent of cases.

4. **Number of hours worked per week at the main job.** This continuous variable is based on responses to Question C5.[22] For adult respondents who said they did not work in the week before the survey, the number of hours worked was assumed to be 0. Data were missing on this measure for 0.3 percent of cases.

5. **Annualized earnings from the main job.** This continuous variable is based on responses to Questions C6 through C11 about wages paid at the main job. The outcome measures the annualized earnings from the main job. For adult respondents who said they did not work in the week before the survey, the annualized earnings are assumed to be 0. Data were missing on this measure for 2.1 percent of cases.

Income sources/amounts. Question C12 on the 18-month followup survey asked whether the respondent or anyone in the respondent's family received income from various sources or various types of government assistance in the month before the survey. The analysts used responses to these questions to construct binary outcomes to indicate receipt of the following types of income or assistance for the family. Data were missing on each of these measures for 0.1 percent of cases.

– Earnings.

– Temporary Assistance for Needy Families, or TANF.

– Social Security Disability Insurance, or SSDI.

– Supplemental Security Income, or SSI.

– Supplemental Nutrition Assistance Program, or SNAP.

– Special Supplemental Nutrition Program for Women, Infants, and Children, or WIC.

Sample members also were asked in Questions C13 through C19 to estimate total annual income for the family from all sources for the most recently completed calendar year (2011 or 2012) preceding the 18-month followup survey. The analysts used responses to these questions to construct a continuous outcome variable measuring total annual family income for the family. Data were missing on this measure for 3 percent of cases.

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[22] If the respondent reported having more than one job, the interviewers instructed the respondent to provide the number of hours worked at the main job. The main job was defined as the job at which the respondent usually worked the most number of hours per week.

Education and training. The study team used the adult survey to construct several outcomes measuring participation in education and training in the followup period. Adult respondents indicated whether they had participated in any education or training activities since random assignment. If so, they reported on the number of weeks they spent in training. For up to six programs reported, sample members reported on the type of program, using the following response options.

1 = regular high school (HS), directed to HS diploma.

2 = preparation for a general educational development (GED) exam.

3 = 2-year college directed toward a degree.

4 = 4-year college directed toward a degree.

5 = graduate courses.

6 = college courses not directed toward a degree.

7 = vocational education outside a college (business or technical schools, employer or union-provided training, or military training in vocational but not military skills).

8 = nonvocational adult education not directed toward a degree (basic education, literacy training, English as a second language).

9 = job search assistance, job finding, orientation to the world of work.

The education and training outcomes are described as follows.

Participated in any school or training lasting 2 weeks or more since random assignment. This binary variable is constructed from responses to Question C24. Data were missing on this measure for 0.2 percent of cases.

Number of weeks in training programs since random assignment. This continuous variable is based on responses to Question C27. Data were missing on this measure for 0.9 percent of cases.

Participated in school/academic training lasting 2 weeks or more since random assignment. This binary variable is based on responses to Question C26. School or academic training is defined as regular high school directed toward a high school diploma, preparation for a GED exam, 2-year college, 4-year college, or graduate courses. Data were missing on this measure for 0.2 percent of cases.

Participated in basic education lasting 2 weeks or more since random assignment (percentage of families). This binary variable is constructed from responses to Question C26. Basic education is defined as nonvocational adult education (such as basic education, literacy training, or English as a second language) not directed toward a degree. Data were missing on this measure for 0.2 percent of cases.

Participated in vocational education/training lasting 2 weeks or more since random assignment (percentage of families). This binary variable is constructed from responses to Question C26. Vocational education/training is defined as vocational education outside a college such as business or technical schools, employer- or union-provided training, or military training in vocational skills (not military skills). Data were missing on this measure for 0.2 percent of cases.

Food security/hunger. The study team also measured food security on the adult survey in Questions C28 through C32. The first outcome is a binary variable that equals 1 if a household was "food insecure" according to criteria used by the U.S. Department of Agriculture (USDA).[23] Survey respondents were asked a series of questions used by USDA and the U.S. Census Bureau to measure food security. More than two affirmative answers to these questions mean that a household is considered "insecure." No cases had missing data on this measure. For the second

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[23] See Nord, Andrews, and Carlsen (2005). Our assessment of food insecurity is based on two USDA "short form" metrics, which are scores assigned to households based on answers to six survey questions.

measure, survey answers are translated into a food security scale, and households with high scores on this scale are determined to be insecure. Data were missing on this measure for 0.4 percent of cases.

Respondents were asked to indicate whether each of the following food security statements were often true, sometimes true, or never true in the 30 days before the survey.

– We couldn't afford to eat balanced meals.

– The food that (I/we) bought just didn't last, and (I/we) didn't have money to get more.

Respondents were also asked whether in the past 30 days they or other adults in the household had ever cut the size of meals because they did not have enough money for food. The respondents were also asked whether in the 30 days before the survey they had ever eaten less than they thought they should because they did not have enough money to buy food, if they had ever been hungry but didn't eat because they couldn't afford enough food, and if they or other adults in the household ever did not eat for a whole day because they did not have enough money for food.

Economic stressors. The analysts also measured the economic hardship reported by each family at the time of the 18-month followup survey. Questions 33a through 33d asked the adult respondents to report on the frequency with which the family experienced four items related to economic hardship in the 6 months before the survey. The response options were (1 = never; 2 = once in a while; 3 = fairly often; and 4 = very often). The question was worded as follows.

How often does it happen that you do not have enough money to afford—

– The kind of medical care your family should have?

– The kind of clothing your family should have?

– The leisure activities your family wants?

– Your rent?

Question C34 asked how the family's finances usually work out at the end of the month, with these possibly response codes:

1 = some money left over.

2 = just enough money to make ends meet.

3 = not enough money to make ends meet.

For both questions, higher values indicate higher economic stress. The economic stress outcome is calculated for cases in which four of the five items (Question 33a through 33d and Question 34) are nonmissing. For Questions 33a through 33d, the responses were recoded into a scale ranging from less economically stressed to more economically stressed where 1 = -1, 2 = -0.33, 3 = 0.33, 4 = 1. For Question 24, responses were recoded as 1 = -1, 2 = 0, 3 = 1. The nonmissing recoded responses were then averaged. The economic stress scale ranges from -1 to 1, with higher values indicating higher economic stress. Data were missing on this measure for 0.5 percent of cases.

B.6   Program Use Outcomes

The study team used the Program Usage Data to create the outcomes reported in the report's program use exhibits. The study team created each type of program use outcome for each of seven program types: (1) permanent housing subsidy (SUB), (2) community-based rapid re-housing (CBRR), (3) transitional housing, (4) permanent supportive housing (PSH), (5) public housing, (6) project-based vouchers/Section 8 projects, and (7) emergency shelter.

Ever used a particular program type. These series of binary variables were coded as 1 if any monthly binary indicator from the calendar month of random assignment to the calendar month of the 18-month followup survey response indicated use of the program type.

Used a particular program type in the survey month. These series of binary variables were coded as 1 if the monthly binary indicator from the calendar month of the 18-month followup survey response indicated use of the program type.

Number of months of use of a particular program type. These continuous variables were defined using assumptions about how families use the various homeless and housing programs. Because the monthly indicator variables in the Program Usage Data are coded as 1 if a particular program was used *at least 1 night* of a particular calendar month, simply counting the number indicator variables equal to 1 would systematically inflate measures of program use. The study team assumed—

- Entry to all program types could happen at any time during the month.

- Exits from emergency shelter, transitional housing, and PSH could happen at any time during the month.

- Exits from SUB, CBRR, public housing, and project-based vouchers/Section 8 projects always happened at the end of the month, because assistance is provided in monthly increments.

These assumptions were developed and confirmed with practitioners in the field. In addition, the study team assumed all stays in the followup survey month (for all program types) extended to the end of the month, because the end of the observation "window" was an artifact of data collection. A single "stay" of a program type was identified in the data by month indicators before and after a stay with no use of that particular program type. Using these assumptions as a basis for correcting counts meant—

For stays longer than 1 month—

- Subtracting 1 month from counts of calendar months for emergency shelter, transitional housing, and PSH stays.

- Subtracting 1/2 month for stays in SUB, CBRR, public housing, and project-based vouchers/Section 8 projects.

- For stays that lasted a single calendar month—

- Stays for emergency shelter, transitional housing, and PSH were shortened to 1/4 month (1/4 month is the expected length assuming that entry and exit are equally likely at any point in the month).

- Stays for SUB, CBRR, public housing, and project-based vouchers/Section 8 projects were shortened to 1/2 month (1/2 month is the expected length assuming that entry is equally likely at any point in the month and that exit occurs at the end of the month).

Appendix E shows impact estimates for additional program use outcomes. The outcomes that measure any use of a particular program type (or types) during months 0 to 18 or months 7 to 18 are coded as 1 if any monthly binary indicator during the relevant time period indicated use of the program type (or types). The outcomes that measure number of months of emergency shelter or transitional housing during months 0 to 18, number of months of emergency shelter during months 0 to 18, and number of months of transitional housing during months 0 to 18 are created in a nearly identical manner to the number of months outcomes described previously. The only difference is how stays that include the 18th month after random assignment are counted. If the 19th month indicator showed use of the relevant program type(s), then it was assumed that the stay continued through the end of the 18th month. If the 19th month indicator showed no use of the relevant program type(s), then it was assumed that the stay ended at some point during the month. For stays of more than 1 month that included the 18th month, either a full month in the 18th month was counted (if the stay continued to the 19th month) or 1/2 month in the 18th month was counted (if the stay did not continue to the 19th month). For single-calendar-month stays in the 18th month, either 1/2 month in the 18th month was counted (if the stay continued to the 19th month) or 1/4 month in the 18th month was counted (if the stay did not continue to the 19th month).

APPENDIX C.

ANALYSIS METHODS

The impact estimation models for family, adult, and child outcomes are described in Chapter 4 of the Family Options Study short-term impacts report. This appendix provides additional details about the covariates used in the impact models, imputation of missing data, family/adult weights, child weights, and the multiple comparisons adjustment for confirmatory hypothesis tests.

C.1 Covariates

Covariates in the impact models improved the precision of the estimates. Because individuals were randomly assigned to control and treatment groups, the addition of these covariates does not affect the expected value of the estimate itself. All covariates had to be characteristics that were known (or determined) before randomization. In selecting covariates, the study team considered (1) the importance of the variable in predicting the outcomes of interest, (2) the extent of variation on the variable for the sample, and (3) the completeness of the data.

A full set of covariates measured in the baseline survey was included in the impact models for housing stability, adult well-being, and self-sufficiency outcomes. Because of smaller sample sizes, more limited sets of covariates were included in the impact models for family preservation and child outcomes. The superscript "a" indicates those covariates included in the impact model for family preservation outcomes. The superscript "b" indicates those covariates included in the impact model for child outcomes.

Continuous Variables

Age of family head at baseline (linear), age squared (quadratic)[b].

Number of children with family in shelter[a].

Annualized current earnings.

Family income (linear categories: ≥ \$0 to < \$5,000; \$5,000 to < \$10,000; \$10,000 to < \$15,000; \$15,000 to < \$20,000; \$20,000 to < \$25,000; ≥ \$25,000[a]; and income categories squared).

Total years stayed with family or friends because of economic necessity in past 5 years as an adult.

Total years previously homeless in your life before entering the current shelter.

Binary Variables

Race/ethnicity (categories: White; Black or African-American; Asian, Native Hawaiian, or other Pacific Islander; Hispanic or Latino; other)[b].

Gender[a].

Marital status (categories: divorced; married; single/never married; widowed).

Children of a certain age group (categories: family has a child younger than age 1; family has a child between age 1 and 5 years; family has a child between age 13 and 17 years)[a].

Children not with family in shelter at baseline (categories: any child; two or more children)[a].

Number of children with family in shelter (categories: one child; two children; three children; four or more children).

Have a spouse or partner that is with the family in shelter at baseline.

Have a spouse or partner that is not with the family in shelter at baseline.

Pregnant at baseline.

Any health problems (has self-reported poor health; has diabetes; has anemia; has high blood pressure; has heart disease; had a stroke; has hepatitis/liver problems; has arthritis, rheumatism, joint problems; has chest infection, cold, cough, bronchitis; has pneumonia; has tuberculosis; has cancer; has problems walking, a lost limb, or other mobility impairment; has gonorrhea, syphilis, herpes, chlamydia, other sexually transmitted diseases; is HIV (Human Immunodeficiency Virus) positive; has AIDS (Acquired Immune Deficiency Syndrome); uses drugs intravenously; has other medical condition).

Severe psychological distress at baseline.

Post-traumatic stress disorder (PTSD) symptoms at baseline.

A family member has a disability that limits or prevents the household head from working for pay.

Family head has a disability that limits or prevents working for pay.

Substance abuse problems (drug or alcohol)[a].

Highest level of education (categories: less than a high school diploma; high school diploma; more than a high school diploma or general educational development).

Working for pay at baseline[a].

Ever worked for pay.

Unemployment (categories: no work in the past 6 months; no work in the past 24 months).

Receipt of various types of public assistance at baseline (categories: any health insurance—Medicaid, state health insurance, State Children's Health Insurance Program; Supplemental Nutrition Assistance Program, or SNAP; Supplemental Security Income (SSI) or Social Security Disability Income (SSDI); Temporary Assistance for Needy Families, or TANF; unemployment insurance; Special Supplemental Nutrition Program for Women, Infants, and Children).

Family income is under $5,000[a].

Owned or rented own house or apartment before entering shelter.

Number of months since family had a regular place to stay and months squared.

Previously stayed with family or friends because of economic necessity.

Previously experienced homelessness[a].

Past evictions, lease violations, or problems with a landlord.

Ever convicted of a felony[a].

Ever been in foster care as a child (foster home, group home, or any other kind of institution).

Ever homeless as a child.

Ever experienced intimate partner violence in adulthood.

Ineligible families (categories: 1 to 7, indicating the family was not eligible for an available treatment group)[b].

Site location × random assignment regime interaction terms (categories: Alameda County; Atlanta; Baltimore; Boston; Connecticut; Denver; Honolulu; Kansas City; Louisville-1; Louisville-2; Minneapolis; Phoenix; Salt Lake City-1; Salt Lake City-2)[ab].

Binary Variables for Child Outcomes Only

Focal child age.

Focal child gender.

In addition to including these sets of covariates, the impact models for the pooled comparisons (permanent housing subsidy [SUB] + community-based rapid re-housing [CBRR] + project-based transitional housing [PBTH] vs. usual care [UC], SUB + CBRR vs. PBTH, SUB + PBTH vs. CBRR, CBRR + PBTH vs. SUB) included interaction terms between site/random assignment regime and randomization set (to correctly control for differing random assignment ratios across sites and assignment groups).

Because of very small sample sizes, the covariate set for the low birth weight child outcome was limited to parent's age at baseline, focal child gender, and (for pooled comparisons only) the interaction terms between site/random assignment regime and randomization set.

Finally, a few outcomes included one or two additional covariates to control for closely related baseline variables (when these baseline variables were not already included in the main covariate set).

Outcome: anyone in family had earnings in past month; extra covariate: anyone in family had earnings at baseline.

Outcomes: anyone in family received SSI in past month, anyone in family received SSDI in past month; extra covariate: anyone in family received SSI at baseline.

Outcome: adult health in past 30 days was poor or fair; extra covariates: adult health in past 30 days was poor, adult health in past 30 days was fair.

Outcomes: alcohol dependence or drug abuse, alcohol dependence, drug abuse; extra covariates: drug abuse at baseline, behavioral health problem at baseline.

Outcomes: goal-oriented thinking, psychological distress, PTSD symptoms in past 30 days; extra covariate: behavioral health problem at baseline.

C.2 Missing Data and Imputations

Although respondents were asked to complete all questions from the baseline survey, some data in the Family Options Study remained missing. Overall, most covariates used in the imputation models had no missing data. Only eight of the covariates had more than 1 percent missing data and no covariates had more than 5 percent missing. To account for missing data on covariates, the study team used a single stochastic imputation using SAS's PROC MI to impute missing covariate values.[24] This method assigns values to missing variables using a regression model that predicts the value of the missing variable based on other characteristics of the sample member and the responses of other study participants who are similar. The characteristics used in the imputation include all covariates used in the impact model.

C.3 Family/Adult Weights

The study achieved an 81-percent response rate for the 18-month followup survey. Nonresponse raises two concerns. First, nonresponse to a followup survey used to measure outcomes presents a challenge to the internal validity of the study if the intervention groups (that is, SUB, CBRR, PBTH, and UC) have different patterns of nonresponse. Second, followup survey nonresponse can threaten the generalizability of results to the entire enrolled sample if survey nonrespondents differ from respondents, even if they do so *symmetrically* across randomization arms.

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[24] Single stochastic imputation adds a random error term to every imputed value so that the data do not have artificially low variability. This varying component is randomly drawn from a distribution with the same variance as the observed values.

To address both of these issues, the study team prepared 10 sets of weights that adjusted for adult survey nonresponse to the 18-month survey: 1 set for each pairwise and pooled comparison.[25] The weights were used in the impact regressions for the outcomes in this report that are defined at the family level and at the adult respondent level. These weights were constructed by, (1) for each intervention group within a pairwise comparison (or each side of a pooled comparison), separately regressing a dummy variable for survey response on the same baseline characteristics included in the impact model and using the results to generate a propensity to respond for each family[26]; (2) for each intervention group within a pairwise comparison (or each side of a pooled comparison), dividing each group into quintiles based on its modeled propensity; (3) within each intervention group-quintile, the total number of sample families in the quintile divided by the number of respondent families in the quintile calculated the weights for respondents. This last step raises the representation of respondent families to the level of the full sample in the weighted data, thereby restoring the composition of the analysis data to that of the full sample on the factors used to estimate propensities to respond.

C.4   Child Weights

The study team prepared 50 sets of weights to be used for estimating impacts on child outcomes: 5 sets for each of the 10 pairwise and pooled comparisons. The 5 sets of weights correspond to the 5 types of data used to construct child outcomes:

1.   Parent-report survey data (from the 18-month adult survey).

2.   Ages and Stages Questionnaire (ASQ-3) data.

3.   Woodcock-Johnson III (WJ III) assessment data.

4.   Head Toes Knees Shoulders (HTKS) assessment data.

5.   Child survey data.

The weights for the parent-reported outcomes were calculated as—

$$CWPR_{ij} = FamilyNonResponseWeight_i \times ChildSelectionWeight_{ij},$$

where—

$CWPR_{ij}$ = the child weight for parent-reported outcomes for child j in family i.

$FamilyNonResponseWeight_i$ = the family/adult nonresponse weight for family *i* (described in Section C.3).

$ChildSelectionWeight_{ij}$ = the inverse probability of being selected as a focal child for child *j* in family *i*. (The focal child selection process is described in Appendix A, Section A.6.) [27]

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[25] The construction of weights to address survey nonresponse is discussed in Little (1986).

[26] The purpose of the nonresponse regressions was purely predictive, rather than inferential, which implied that the number of covariates in the model was not of concern (as it was in the impact regressions). Thus, rather than using single stochastic imputation to address missing covariate values for the nonresponse regressions, all missing values were imputed as the value "0". Then, in addition to the impact model baseline covariates, the regression models also included dummy variables that indicated when values for covariates were missing.

[27] Section A.6 notes that after two focal children were selected for a family, the focal child screening ceased. Therefore, collection of information for screening criteria other than date of birth was not performed for every child in the study families. For "nonscreened" children, the study team used other information collected in the survey about whether each child was currently living with the family to determine ex-post eligibility for selection (to calculate selection probabilities for selected children). It was assumed that children currently living with the family would be eligible for focal child selection (if age was in targeted range), and it was assumed that children not currently living with the family would be ineligible (regardless of age). The assumption of ineligibility for *unscreened* children not currently living with the family was based on the fact that most *screened* children who were not currently living with the family did not meet the extra criteria necessary for eligibility: for 89 percent of these children, the parent either did not regularly spend time with the child or was not at least somewhat familiar with the child's activities.

The weights for other types of outcomes were calculated as—

$$CW[datatsource]_{ij} = CWPR_{ij} \times ChildNonResponseWeight[datatsource]_{ij},$$

where—

$CW[datatsource]_{ij}$ = the child weight for [data source] (either ASQ-3, WJ III, HTKS, or child survey) for child j in family i.

$ChildNonResponseWeight[datatsource]_{ij}$ = the child nonresponse weight for [data source] for child j in family i.

The child nonresponse weights were calculated in a three-step process: (1) for each intervention group within a pairwise comparison (or each side of a pooled comparison), separately regressing a dummy variable for unit response to the questionnaire, assessment, or survey on a limited set of predictors[28] and using the results to generate a propensity to respond for each child to the particular instrument; (2) for each intervention group within a pairwise comparison (or each side of a pooled comparison), dividing the group into quintiles based on its modeled propensity; (3) within each intervention group-quintile, calculating the nonresponse weight for the respondents the *weighted* total number of focal children in the quintile divided by the *weighted* number of respondent children in the quintile, where the weights were the child selection weights (inverse probability of focal child selection). The construction of the child weights from family nonresponse weights, focal child selection weights, and child nonresponse weights implies that, for all child outcomes, the respondent samples are weighted to represent all the appropriately aged children in all study families.[29]

C.5 Multiple Comparisons Adjustment for Confirmatory Hypothesis Tests

Statement of the Problem

Simply stated, the multiple comparisons problem is that, as the number of hypothesis tests conducted grows, the likelihood of finding a statistically significant impact somewhere among the tested outcomes simply by chance increases far above the desired risk level for producing "false positive" results. This multiple comparisons problem is particularly salient for the Family Options Study because the number of hypothesis tests performed is extremely large.

Because the study design is based on four intervention arms, the study examines impacts in six pairwise comparisons and four pooled comparisons. For each of these comparisons, the study looks at five outcome domains (housing stability, self-sufficiency, adult well-being, child well-being, and family preservation), with each domain containing several outcome variables.

The multiple arms, multiple domains, and multiple outcomes cumulatively generate an extremely large number of hypothesis tests. Given this large number of tests, the probability of finding an impact, even in the case of no true impacts, is quite large, well above the nominal 10-percent level. In particular, the probability of finding at least one significant impact at the .10 level in k independent tests when all true impacts are 0 is given by Equation 1.

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[28] The relatively small sample sizes for each collection instrument necessitated a smaller set of predictor variables than that used to create family/adult nonresponse weights. The predictors included: child's age, child's gender, parent respondent's age, parent respondent's gender, parent's race/ethnicity (categories: White; Black or African-American; Asian, Native Hawaiian or other Pacific Islander; Hispanic or Latino; other), children not with family in shelter at baseline (categories: any child; two or more children), children of a certain age group (categories: family has a child younger than 1 year, a child ages 1 to 5 years, a child ages 13 to 17 years), parent's substance abuse problems (drug or alcohol), parent ever convicted of a felony, family income category, family income under $5,000, number of children with the family at baseline, whether the adult respondent has a spouse or partner at baseline (either in shelter or not in shelter), parent had previously experienced homelessness, parent working for pay at baseline, and site location × random assignment regime interaction terms.

[29] An implicit assumption in this weighting method is that, within an adult survey response propensity quintile, the distribution of numbers and ages of children in the families who did not respond at all to the 18-month adult survey is the same as that of the families who did respond to the 18-month adult survey.

$$Pr\ b(\min p \leq .10|all\ true\ impactsi= 0)\ =\ 1 - 0.90^k. \tag{1}$$

Thus, if 10 independent tests are performed, then the probability of finding at least one significant impact at the .10 level—often taken as the litmus test for a "successful" intervention—when all true impacts are equal to 0 is $1-0.90^{10}=0.65$; that is, about two-thirds of the time one would conclude an unsuccessful intervention is successful. When 20 independent tests are performed, the probability is 0.88; that is, nearly 9 times out of 10. In fact, with hundreds of tests, it is nearly certain to spuriously detect a "successful" intervention, even if the intervention was not truly "successful" for any outcome.

This probability of finding at least one significant impact (or more generally, rejecting at least one null hypothesis) when all true impacts equal 0 (or more generally, when all null hypotheses are true) in a "family" of k tests is called the familywise error rate (FWER). In general, the FWER decreases as the k test statistics used become more correlated (that is, the outcome measures tested become more closely related), leading to somewhat less risk of false positive conclusions than indicated in the previous numerical estimates. Many multiple comparison adjustment procedures have been devised to keep the FWER at or below the desired level (such as 0.05 or 0.10), some of which take account of correlation among outcomes.

Study Response to the Problem

The study team took two steps to address the multiple comparisons problem.

1. **Adjust the standard of evidence used to declare a subset of individual impact estimates statistically significant.** The study team divided the hypothesis tests into a small set of 7 "confirmatory" tests and a much larger set of 723 "exploratory" tests. The team then used a multiple comparisons procedure to adjust the results of the 7 confirmatory tests to maintain the integrity of the statistical inferences made at the confirmatory level.

2. **Prespecify impacts to present in the executive summary.** The study team prespecified the impacts on 18 key outcomes in the 6 pairwise comparisons (for 108 total impact estimates) to present in the executive summary before seeing the results. This step was taken to prevent the selective presentation of statistically significant results in the executive summary.

The first step hinges on the definition and implications of "confirmatory" hypothesis tests. Following Schochet (2009), we defined confirmatory hypothesis tests as those tests that "assess how strongly the study's prespecified central hypotheses are supported by the data," (Schochet, 2009: 549). Statistically significant findings from confirmatory hypothesis tests are considered definitive evidence of a nonzero intervention impact, effectively ending debate on whether the intervention achieved an impact in the study sites. All other hypothesis test results are deemed "exploratory." For these tests, statistically significant impacts constitute suggestive evidence of *possible* intervention effects.

Before beginning analysis, HUD determined that the housing stability domain is the most important outcome domain for the study. Therefore, the study team designated seven hypothesis tests related to housing stability as confirmatory. These hypothesis tests were conducted for—

The six pairwise policy comparisons and one pooled comparison (PBTH + SUB + CBRR versus UC).

A single composite outcome indicating a stay in emergency shelter or a place not meant for human habitation or an experience of doubling up. This outcome was constructed from two binary outcomes within the housing stability domain.

– At least 1 night spent in emergency shelter or a place not meant for human habitation or doubled up during the past 6 months at the time of the followup survey (from the adult survey).

– Any stay in emergency shelter in the past 12 months at the time of the followup survey (from Program Usage Data, largely based on Homeless Management Information System, or HMIS, records).

The six pairwise comparisons were included to assess the relative effectiveness of the interventions in contributing to housing stability (thereby addressing the study's first research question stated in Section 1.4). The study team also included the pooled comparison of PBTH + SUB + CBRR versus UC because it provided evidence on whether a

housing subsidy of any type improved housing stability. Using two sources of data to construct this outcome enabled the study team to measure housing stability as robustly as possible and made use of all available data on return to homelessness.

Implementing the Multiple Comparisons Procedure

The *p*-values on the seven impact coefficients were adjusted to account for the presence of seven confirmatory tests. The team chose the Westfall-Young resampling method as the procedure to control the FWER at a .10 level for the seven tests.[30] This procedure was chosen for the additional statistical power (relative to Bonferroni-type methods) it was expected to provide in tests of a binary outcome variable.

The Westfall-Young resampling method involves reassigning each study family to the interventions in its randomization set (using the original assignment probabilities in effect for the family at random assignment) many times to form many sample replicates. For each replicate, the seven impacts on the confirmatory outcome were recalculated, as follows.

In notation, let—

A, B, C, D, E, F, G = seven impact estimates on the confirmatory outcome.

$p_A^{raw}, p_B^{raw}, p_C^{raw}, p_D^{raw}, p_E^{raw}, p_F^{raw}, p_G^{raw}$ = *p*-values from *t*-tests of impact estimates. These values are the "raw," unadjusted *p*-values for each impact estimate.

The impact estimates were then placed in the order of their raw *p*-values.

IMPACT1, IMPACT2, IMPACT3, IMPACT4, IMPACT5, IMPACT6, IMPACT7 = the impact estimates in order of their raw *p*-values. IMPACT1 is the impact estimate with the smallest raw *p*-value and IMPACT7 is the impact estimate with the largest raw *p*-value.

$p_{IMPACT1}^{raw}, p_{IMPACT2}^{raw}, p_{IMPACT3}^{raw}, p_{IMPACT4}^{raw}, p_{IMPACT5}^{raw}, p_{IMPACT6}^{raw}, p_{IMPACT7}^{raw}$ = raw p-values in order from smallest to largest.

Then, some large number *R* (the study used 20,000) permutation replicates were formed. Within each replicate sample, study families were reassigned to the interventions in their randomization sets using the original probabilities. For each replicate, the seven impacts were estimated, producing seven *p*-values.

Next, the adjusted *p*-values were calculated as follows—

$$p_{IMPACT1C}^{adj} = \frac{\text{Number of replicates where } \min \{p_{IMPACT1}^{repr}, \dots, p_{IMPACT7}^{repr}\} < p_{IMPACT1}^{ra}}{R}$$

$$p_{IMPACT2C}^{adj} = \max \left\{ p_{IMPACT1C}^{adj} \frac{\text{Number of replicates where } \min \{p_{IMPACT2}^{epr}, \dots, p_{IMPACT7}^{epr}\} < p_{IMPACT2}^{ra}}{R} \right\}$$

$$p_{IMPACT3C}^{adj} = \max \left\{ p_{IMPACT2C}^{adj} \frac{\text{Number of replicates where } \min \{p_{IMPACT3}^{epr}, \dots, p_{IMPACT7}^{epr}\} < p_{IMPACT3}^{ra}}{R} \right\}$$

$$p_{IMPACT4C}^{adj} = \max \left\{ p_{IMPACT3C}^{adj} \frac{\text{Number of replicates where } \min \{p_{IMPACT4}^{epr}, \dots, p_{IMPACT7}^{epr}\} < p_{IMPACT4}^{ra}}{R} \right\}$$

$$p_{IMPACT5C}^{adj} = \max \left\{ p_{IMPACT4C}^{adj} \frac{\text{Number of replicates where } \min \{p_{IMPACT5}^{epr}, p_{IMPACT6}^{epr}, p_{IMPACT7}^{epr}\} < p_{IMPACT5}^{ra}}{R} \right\}$$

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[30] Westfall-Young methods are described in Westfall, Tobias, and Wolfinger (2011).

$$p_{IMPACT6C}^{adj} = \max \left\{ p_{IMPACT5C}^{adj} \frac{Number\ of\ replicates\ where\ \min\ \{p_{IMPACT6}^{repr}, p_{IMPACT7}^{repr}\} < p_{IMPACT6}^{ra}}{R} \right\}$$

$$p_{IMPACT7C}^{adj} = \max \left\{ p_{IMPACT6C}^{adj} \frac{Number\ of\ replicates\ where\ p_{IMPACT7}^{repr} < p_{IMPACT7}^{raw}}{R} \right\}$$

where p_{IMPACT}^{epr} is the p-value for an impact estimate in a particular replicate.

Exhibit C-1 shows the unadjusted and adjusted p-values for the study's seven confirmatory hypothesis tests.

Exhibit C-1.   Confirmatory Hypothesis Tests

Pairwise or Pooled Comparison	ITT Impact on "At Least 1 Night Homeless[a] or Doubled Up (past 6 months) or in Shelter (past 12 months) (%)		p Value (unadjusted)	p Value (adjusted for multiple comparisons)
	Impact	(SE)		
SUB vs. UC	– 28.0	(3.1)	< 0.0001	< 0.0001
CBRR vs. UC	– 3.5	(3.6)	0.3243	0.3420
PBTH vs. UC	– 7.7	(4.4)	0.0844	0.2631
SUB vs. CBRR	– 27.3	(3.8)	< 0.0001	< 0.0001
SUB vs. PBTH	– 31.2	(5.0)	< 0.0001	<0.0001
CBRR vs. PBTH	7.5	(5.7)	0.1857	0.3420
SUB + CBRR + PBTH vs. UC	– 13.6	(2.6)	< 0.0001	< 0.0001

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care. ITT = intention to treat. SE = standard error.

[a] The definition of "homeless" in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing.

Notes: Impact estimates are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definition.

Sources: Family Options Study 18-month followup survey; Program Usage Data

APPENDIX D.

ANALYSIS OF 18-MONTH SURVEY NONRESPONSE

D.1   Introduction

The impact estimates in the Family Options Study were based on outcome measures derived largely from the 18-month followup surveys. This appendix analyzes the extent to which survey nonresponse influenced these estimates. Not all participants completed the followup survey, which successfully gathered information for 1,857 of the 2,282 families who enrolled in the study. This appendix addresses whether, in light of this nonresponse, impact estimates are (1) internally valid in the sense that the families in the arms of each impact comparison remain comparable and (2) likely valid for the entire study sample after weighting to account for nonresponse.

Balance in Impact Comparison Arms After Nonresponse

The Family Options Study randomly assigned families to study interventions so that differences in outcomes among families who received different interventions would be attributable to assignment to the intervention. Gubits et al. (2013) presented evidence confirming that random assignment successfully produced equivalent samples when comparing the treatment arms within each of the six pairwise impact comparisons in the study. This equivalence testing was conducted on all families participating in the study, however. It is possible that whether a family responded to the followup survey was influenced by the treatment to which they were assigned in ways that could disrupt this balance. This possibility, in turn, is indicative of whether families in each arm of the impact comparisons are comparable—sometimes referred to as the study's "internal validity." We assess the extent to which nonresponse affected internal validity by addressing the following two questions.

1.   What were the response rates for the Family Options Study 18-month followup survey, and how did they vary between pairwise comparison samples?

2.   Did the analysis sample remain balanced for each impact comparison after nonresponse?

Respondents Versus Nonrespondents

Survey nonresponse may also be related to participant characteristics such that families who respond to the survey are not comparable with families who do not. If this difference was the case, and if the study findings differ on the same characteristics that relate to survey respondents, then the study findings may not be applicable to the entire sample including nonrespondents. To assess the extent to which findings are likely applicable to nonrespondents in addition to respondents, we address the two following questions.

1.   Do respondents and nonrespondents have systematic differences in observable baseline characteristics?

2.   How were the main results of this report affected by the use of nonresponse analysis weights?

Overview of Findings

In general, the analysis presented in this appendix (1) indicates that the impact results in the Family Options Study remain internally valid after survey nonresponse and (2) provides nondefinitive evidence that the impact results may be applicable to the entire study sample. We find that response rates do vary based on the treatment to which families were assigned. Response rates were slightly lower for families assigned to the usual care (UC) intervention,

ranging from 77.0 to 78.6 percent, depending on the impact comparison, as compared with families assigned to the three active interventions. Participants assigned to the permanent housing subsidy (SUB) intervention had the greatest frequency of survey response, with an overall response rate of 88.5 percent. These differences indicate the importance of our second analysis assessing internal validity—a comparison of baseline characteristics for each arm of each impact comparison. Here we find that, although nonresponse patterns somewhat degraded the baseline equivalence samples as reported in Gubits et al. (2013) for comparisons involving the community-based rapid re-housing (CBRR) intervention, omnibus test results including all our comparison characteristics suggest no systematic differences between sides of the impact comparisons, with the exception of the CBRR-versus-UC comparison.

Turning to our analysis relevant to the applicability of study findings to the entire baseline sample, we find some evidence that baseline characteristics do predict survey response, which suggests that respondents and nonrespondents may be systematically different. This finding in part motivates the use of survey nonresponse weights, as described in Section 4.2.1. In this appendix, we present estimates calculated *without* the nonresponse weights for the study's headline outcomes. Substantive differences between impact estimates calculated with and without the nonresponse weights would indicate that impacts for nonrespondents (which cannot be estimated) may differ from those estimated in the study for respondents. The estimates did not vary substantially from the weighted estimates. Although not definitive, this finding serves as evidence that the impact results may be applicable to the entire study sample.

D.2 Balance in Impact Comparison Arms After Nonresponse

This section presents two analyses that address the threat to the internal validity of the study's impact findings of survey nonresponse. To assess the extent to which the arms in each impact comparison remain comparable after nonresponse, this section first reports and compares response rates for each treatment arm of each impact comparison. Next, the section presents an analysis of the balance on baseline characteristics for each impact comparison within the analysis sample of survey respondents.

D.2.1 Survey Nonresponse

What were response rates for the Family Options Study 18-month followup survey, and how did the rates vary between pairwise comparison samples? Exhibit D-1 reports the number of respondents to the followup survey by impact comparison. Results based on raw response rates for each impact comparison suggest that assignment to CBRR, project-based transitional housing (PBTH), or SUB increased the propensity to respond to the followup survey, as UC participant response rates ranged from 77.0 to 78.6 percent. Participants assigned to SUB were most likely to respond to the followup survey, with an overall response rate of 88.5 percent. For each impact comparison, the study team tests for a statistically significant difference between the two comparison arms in the response rates. The team found a statistically significant difference in the response rates of the two arms in three of the six pairwise comparisons (those including SUB) and in three of the four pooled comparisons. In these cases, it is particularly relevant to test for differences in baseline characteristics across the treatment arms of the comparisons.

Exhibit D-1.   Survey Nonresponse Incidence by Impact Comparison—Adult Followup Survey

	Baseline Families	Adult Surveys Completed	Response Rate (%)	Chi sq
Total pairwise comparisons	**2,282**	**1,857**	**81.4**	
SUB versus	599	530	88.5	**
UC	540	415	76.9	
CBRR versus	569	455	80.0	
UC	575	451	78.4	
PBTH versus	368	294	79.9	
UC	339	262	77.3	
SUB versus	435	381	87.6	**
CBRR	382	308	80.6	
SUB versus	256	230	89.8	**
PBTH	240	187	77.9	
CBRR versus	232	179	77.2	
PBTH	239	197	82.4	
Pooled Comparisons				
SUB + CBRR + PBTH versus	1,536	1,279	83.3	**
UC	746	578	77.5	
SUB + PBTH versus	674	578	85.8	*
CBRR	494	399	80.8	
SUB + CBRR versus	488	409	83.8	
PBTH	363	291	80.2	
CBRR + PBTH versus	622	495	79.6	**
SUB	551	490	88.9	

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

Note: Significantly different response rates are indicated by for p-value **< .01 and * < .05.

Sources: Family Options Baseline Survey; 18-month followup survey

D.2.2 Equivalence at Baseline of Analysis Sample by Impact Comparison

Did the analysis sample remain balanced for each impact comparison after nonresponse? The second step in the analysis of the comparability of both arms of each impact comparison is a comparison of baseline characteristics. If the balance in observable characteristics between groups at baseline remained after nonresponse, survey nonresponse was not related to observable characteristics and therefore was unlikely to be related to unobservable characteristics. In that case, impact estimates remained a valid comparison of the effect of receiving different interventions on the particular outcome for the survey respondent population.

Exhibit D-2 lists the baseline characteristics that are compared within each impact comparison. These characteristics were the same baseline characteristics used to demonstrate baseline equivalence in Gubits et al. (2013), and were chosen because they were either major demographic characteristics or they were baseline measures in the study's five outcome domains.

This section reports results from statistical tests performed to determine both if groups being compared differed on the each of the baseline characteristics described previously and if the combined set of characteristics suggested the groups differed (an omnibus F-test). As a review of the baseline equivalence findings of the full baseline sample, Gubits et al. (2013) reported statistically significant differences in the SUB-versus-UC and CBRR-versus-UC comparisons in educational attainment and in the PBTH-versus-CBRR group in age of household head. Only the CBRR-versus-UC comparison had a *p*-value of the omnibus F-test that indicated statistically significant differences in the two groups at the .05 level. This result suggested an "unlucky" division of families into the CBRR and UC interventions. Differences in means and percentages for individual variables, however, were not substantively large.

Exhibit D-2.   Characteristics Examined in Baseline Equivalency Testing

Baseline Characteristic at the Time of Random Assignment	
Age of household head	Previously convicted of a felony
Gender	Family annual income
Marital status	Previously homeless (before current spell)
Race/ethnicity	Previously lived in doubled up housing
Educational attainment	Number of barriers in finding housing[a]
Number of adults in family	Household head has a child under 18 living elsewhere
Number of children in family	Number of major life challenges faced[b]
Worked for pay in last week	

[a] Barriers to finding housing were reported by adult respondent as "big problems" in finding housing. The maximum number of barriers was 19. The 19 possible barriers were (1) not having enough income to pay rent, (2) inability to pay a security deposit or first/last month's rent, (3) lack of transportation to look for housing, (4) poor credit history, (5) racial discrimination, (6) not being currently employed, (7) no rent history at all, (8) recently moved to community and no local rent history, (9) no reference from past landlords, (10) a past eviction, (11) problems with past landlords, (12) past lease violations, (13) having problems with police, (14) having a criminal record or background, (15) having a felony drug record, (16) having three or more children in the household, (17) having teenagers in the household, (18) having someone in the household under 21 years old, and (19) having someone in the household who has a disability.

[b] The seven major life challenges measured were (1) psychological distress, (2) post-traumatic stress disorder, (3) felony conviction, (4) experience of domestic violence, (5) childhood separation (foster care, group home, or institutionalization), (6) self-reported medical condition, and (7) substance abuse.

Source: Family Options baseline survey—reproduced from Exhibit 4-9 of Gubits et al. (2013)

As reported in Exhibit D-3, survey nonresponse altered these baseline equivalence results to some extent. Age and major barriers to finding housing were added to the characteristics, which differed at baseline in the CBRR-versus-UC comparison, and the omnibus F-test continued to indicate the responding samples differed on observable baseline characteristics. Four baseline characteristics were individually statistically different across groups for the PBTH-versus-CBRR comparison, although the omnibus F-test was not statistically significant. SUB versus CBRR and each of the pooled comparison also had either one or two characteristics that had a statistically significant difference across groups. Among the pooled comparison groups, however, only CBRR + SUB versus PBTH had a statistically significant omnibus F-test.

Taken together, these comparisons indicate that, although nonresponse patterns somewhat degraded the baseline equivalence samples as reported in Gubits et al. (2013) for comparisons involving CBRR, omnibus tests results including all our comparison characteristics suggests no systematic differences between sides of the impact comparisons, with the exception of the CBRR-versus-UC comparison. Recall that this comparison was found to have an "unlucky" draw with statistically significant but relatively small-in-magnitude difference in baseline characteristics for the entire study sample. Exhibits D-4 through D-13 report the summary statistics for baseline characteristics for each arm of each comparison—which, together, is the information summarized in Exhibit D-3.

Exhibit D-3.   Summary of Equivalence Testing in Impact Comparisons, Adult Survey

Pairwise Impact Comparison	Number of Characteristics With Significant Differences (out of 15; α 0.10)	Characteristic(s) With Significant Difference	p Value of Omnibus F test
SUB versus UC	1	Educational attainment	0.817
CBRR versus UC	3	Age, educational attainment, major barrier	0.026
PBTH versus UC	0	None	0.380
SUB versus CBRR	1	Child living elsewhere	0.682
SUB versus PBTH	0	None	0.173
CBRR versus PBTH	4	Marital status, educational attainment, number of adults, ever doubled up	0.267
SUB + CBRR + PBTH versus UC	2	Educational attainment, major barrier	0.291
SUB + PBTH versus CBRR	1	Ever doubled up	0.728
SUB + CBRR versus PBTH	1	Ever doubled up	0.055
CBRR + PBTH versus SUB	2	Gender, child living elsewhere	0.700

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-4. Equivalence at Baseline of Analysis Sample for SUB Versus UC Impact Comparison, Adult Survey

Characteristic	SUB	UC	Difference	Significance Level	Stars
Number of families	530	415			
Age of household head at RA (percent)					
Less than 21 years old	0.08	0.08	0.00	0.94	
21–24 years	0.23	0.21	0.02		
25–29 years	0.24	0.25	– 0.02		
30–34 years	0.18	0.17	0.01		
35–44 years	0.19	0.20	– 0.01		
45 years and older	0.08	0.09	– 0.01		
Mean age (years)	30.20	30.88	– 0.67	0.57	
Gender (percent)					
Female	0.94	0.93	0.01	0.62	
Male	0.06	0.07	– 0.01		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.73	0.71	0.03	0.39	
Married or marriage-like situation	0.27	0.29	– 0.03		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.37	0.38	– 0.01	0.92	
White, not Hispanic	0.21	0.20	0.02		
Hispanic	0.24	0.24	– 0.01		
Other	0.18	0.18	0.00		
Educational attainment (percent)					
Less than high school diploma	0.35	0.42	– 0.07	0.05	**
High school diploma/GED	0.39	0.33	0.07		
More than high school diploma	0.26	0.25	0.01		
Number of adults in family (percent)					
1 adult	0.72	0.69	0.03		
2 or more adults	0.28	0.31	– 0.03	0.34	
Number of children in family (percent)					
1 child	0.45	0.41	0.03	0.74	
2 children	0.31	0.34	– 0.02		
3 children	0.14	0.16	– 0.02		
4 children or more	0.09	0.09	0.00		
Missing data	0.01	0.00	0.00		
Worked for pay last week (percent)	0.13	0.16	– 0.03	0.17	
Ever convicted of a felony (percent)	0.12	0.10	0.02	0.46	
Family annual income (percent)					
Less than $5,000	0.33	0.35	– 0.02	0.78	
$5,000–9,999	0.32	0.29	0.02		
$10,000–14,999	0.15	0.18	– 0.02		
$15,000–19,999	0.07	0.07	– 0.01		
$20,000–24,999	0.05	0.04	0.01		
$25,000 or more	0.05	0.05	0.00		
Missing data	0.03	0.02	0.01		
Ever been homeless before (percent)	0.63	0.64	– 0.01	0.84	
Ever been doubled up before (percent)	0.85	0.87	– 0.03	0.26	
Major barrier to finding housing[a]	0.45	0.47	– 0.02	0.48	
Child under 18 living elsewhere (percent)	0.24	0.23	0.01	0.78	
Number of major life challenges[b]	1.64	1.58	0.06	0.56	
F-test on all characteristics except site	F value =	0.770	F-test p-value =	0.817	

SUB = permanent housing subsidy. UC = usual care.

GED = general educational development. RA = random assignment.

* .10 level. ** .05 level. *** .01 level.

[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.

[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.

Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.

Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-5. Equivalence at Baseline of Analysis Sample for CBRR Versus UC Impact Comparison, Adult Survey

Characteristic	CBRR	UC	Difference	Significance Level	Stars
Number of families	455	451			
Age of household head at RA (percent)					
Less than 21 years old	0.09	0.08	0.02	0.07	*
21–24 years	0.17	0.20	– 0.03		
25–29 years	0.25	0.23	0.02		
30–34 years	0.19	0.16	0.02		
35–44 years	0.24	0.22	0.02		
45 years and older	0.06	0.11	– 0.05		
Mean age (years)	30.58	31.45	– 0.88	0.74	
Gender (percent)					
Female	0.92	0.93	– 0.01	0.46	
Male	0.08	0.07	0.01		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.74	0.74	0.00	0.94	
Married or marriage-like situation	0.26	0.26	0.00		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.48	0.42	0.06	0.33	
White, not Hispanic	0.17	0.19	– 0.02		
Hispanic	0.18	0.22	– 0.03		
Other	0.16	0.17	– 0.01		
Educational attainment (percent)					
Less than high school diploma	0.31	0.38	– 0.07	0.04	**
High school diploma/GED	0.40	0.33	0.07		
More than high school diploma	0.29	0.29	0.00		
Number of adults in family (percent)					
1 adult	0.71	0.71	0.00		
2 or more adults	0.29	0.29	0.00	0.93	
Number of children in family (percent)					
1 child	0.41	0.42	– 0.01	0.34	
2 children	0.31	0.31	0.00		
3 children	0.14	0.17	– 0.03		
4 children or more	0.13	0.10	0.04		
Missing data	0.01	0.01	0.00		
Worked for pay last week (percent)	0.19	0.21	– 0.02	0.46	
Ever convicted of a felony (percent)	0.11	0.11	0.00	0.87	
Family annual income (percent)					
Less than $5,000	0.29	0.32	– 0.03	0.21	
$5,000–9,999	0.31	0.25	0.07		
$10,000–14,999	0.19	0.17	0.02		
$15,000–19,999	0.08	0.09	– 0.01		
$20,000–24,999	0.04	0.07	– 0.02		
$25,000 or more	0.06	0.08	– 0.01		
Missing data	0.02	0.02	0.00		
Ever been homeless before (percent)	0.64	0.62	0.02	0.47	
Ever been doubled up before (percent)	0.88	0.87	0.01	0.58	
Major barrier to finding housing[a]	0.42	0.49	– 0.07	0.03	**
Child under 18 living elsewhere (percent)	0.21	0.23	– 0.02	0.38	
Number of major life challenges[b]	1.50	1.61	– 0.11	0.85	
F-test on all characteristics except site	F value =	1.560	F-test p-value =	0.026	

CBRR = community-based rapid re-housing. UC = usual care.

GED = general educational development. RA = random assignment.

* .10 level. ** .05 level. *** .01 level.

[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.

[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.

Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.

Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-6.   Equivalence at Baseline of Analysis Sample for PBTH Versus UC Impact Comparison, Adult Survey

Characteristic	PBTH	UC	Difference	Significance Level	Stars
Number of families	294	262			
Age of household head at RA (percent)					
Less than 21 years old	0.09	0.05	0.04	0.40	
21–24 years	0.14	0.17	– 0.03		
25–29 years	0.25	0.22	0.03		
30–34 years	0.21	0.23	– 0.01		
35–44 years	0.23	0.23	0.00		
45 years and older	0.08	0.11	– 0.03		
Mean age (years)	31.18	32.37	– 1.19	0.26	
Gender (percent)					
Female	0.90	0.92	– 0.02	0.37	
Male	0.10	0.08	0.02		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.68	0.66	0.01	0.75	
Married or marriage-like situation	0.32	0.34	– 0.01		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.42	0.39	0.03	0.82	
White, not Hispanic	0.17	0.16	0.01		
Hispanic	0.15	0.17	– 0.02		
Other	0.26	0.28	– 0.02		
Educational attainment (percent)					
Less than high school diploma	0.37	0.44	– 0.06	0.28	
High school diploma/GED	0.35	0.31	0.05		
More than high school diploma	0.27	0.26	0.02		
Number of adults in family (percent)					
1 adult	0.66	0.64	0.03		
2 or more adults	0.34	0.36	– 0.03	0.52	
Number of children in family (percent)					
1 child	0.39	0.40	– 0.01	0.64	
2 children	0.30	0.29	0.01		
3 children	0.19	0.19	0.00		
4 children or more	0.13	0.11	0.01		
Missing data	0.00	0.01	– 0.01		
Worked for pay last week (percent)	0.19	0.24	– 0.05	0.15	
Ever convicted of a felony (percent)	0.11	0.14	0.04	0.20	
Family annual income (percent)					
Less than $5,000	0.27	0.29	– 0.03	0.74	
$5,000–9,999	0.27	0.25	0.01		
$10,000–14,999	0.20	0.17	0.04		
$15,000–19,999	0.12	0.10	0.02		
$20,000–24,999	0.05	0.06	– 0.01		
$25,000 or more	0.05	0.07	– 0.02		
Missing data	0.04	0.05	– 0.01		
Ever been homeless before (percent)	0.62	0.61	0.01	0.78	
Ever been doubled up before (percent)	0.83	0.85	– 0.01	0.65	
Major barrier to finding housing[a]	0.43	0.47	– 0.04	0.33	
Child under 18 living elsewhere (percent)	0.25	0.26	0.00	0.91	
Number of major life challenges[b]	1.69	1.60	0.09	0.79	
F-test on all characteristics except site	F value =	1.062	F-test p-value =	0.380	

PBTH = project-based transitional housing. UC = usual care.

GED = general educational development. RA = random assignment.

*. 10 level. **. 05 level. ***. 01 level.

[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.

[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.

Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.

Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-7. Equivalence at Baseline of Analysis Sample for SUB Versus CBRR Impact Comparison, Adult Survey

Characteristic	SUB	CBRR	Difference	Significance Level	Stars
Number of families	381	308			
Age of household head at RA (percent)					
Less than 21 years old	0.08	0.11	– 0.03	0.28	
21–24 years	0.22	0.18	0.04		
25–29 years	0.25	0.24	0.01		
30–34 years	0.18	0.20	– 0.02		
35–44 years	0.18	0.21	– 0.03		
45 years and older	0.09	0.06	0.03		
Mean age (years)	30.32	29.99	0.33	0.31	
Gender (percent)					
Female	0.94	0.92	0.03	0.16	
Male	0.06	0.08	– 0.03		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.75	0.74	0.00	0.95	
Married or marriage-like situation	0.25	0.26	0.00		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.39	0.43	– 0.04	0.77	
White, not Hispanic	0.22	0.21	0.01		
Hispanic	0.23	0.20	0.02		
Other	0.16	0.16	0.00		
Educational attainment (percent)					
Less than high school diploma	0.36	0.35	0.01	0.90	
High school diploma/GED	0.40	0.41	– 0.02		
More than high school diploma	0.24	0.24	0.00		
Number of adults in family (percent)					
1 adult	0.73	0.72	0.01		
2 or more adults	0.27	0.28	– 0.01	0.78	
Number of children in family (percent)					
1 child	0.46	0.43	0.04	0.27	
2 children	0.31	0.32	0.00		
3 children	0.13	0.11	0.02		
4 children or more	0.09	0.14	– 0.05		
Missing data	0.00	0.01	0.00		
Worked for pay last week (percent)	0.13	0.16	– 0.03	0.21	
Ever convicted of a felony (percent)	0.12	0.12	0.00	0.98	
Family annual income (percent)					
Less than $5,000	0.34	0.31	0.03	0.31	
$5,000–9,999	0.31	0.34	– 0.02		
$10,000–14,999	0.16	0.19	– 0.02		
$15,000–19,999	0.06	0.08	– 0.01		
$20,000–24,999	0.06	0.03	0.03		
$25,000 or more	0.05	0.05	0.00		
Missing data	0.01	0.01	– 0.01		
Ever been homeless before (percent)	0.65	0.67	– 0.02	0.58	
Ever been doubled up before (percent)	0.85	0.88	– 0.04	0.14	
Major barrier to finding housing[a]	0.46	0.42	0.04	0.24	
Child under 18 living elsewhere (percent)	0.25	0.19	0.06	0.08	*
Number of major life challenges[b]	1.65	1.55	0.10	0.72	
F-test on all characteristics except site	F value =	0.866	F-test p-value =	0.682	

CBRR = community-based rapid re-housing. SUB = permanent housing subsidy.
GED = general educational development. RA = random assignment.
* .10 level. ** .05 level. *** .01 level.
[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.
[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.
Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.
Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-8. Equivalence at Baseline of Analysis Sample for SUB Versus PBTH Impact Comparison, Adult Survey

Characteristic	SUB	PBTH	Difference	Significance Level	Stars
Number of families	230	230			
Age of household head at RA (percent)					
Less than 21 years old	0.07	0.09	– 0.02	0.20	
21–24 years	0.25	0.16	0.09		
25–29 years	0.22	0.26	– 0.04		
30–34 years	0.17	0.21	– 0.04		
35–44 years	0.18	0.20	– 0.02		
45 years and older	0.11	0.08	0.03		
Mean age (years)	30.73	30.80	– 0.07	0.61	
Gender (percent)					
Female	0.93	0.89	0.04	0.13	
Male	0.07	0.11	– 0.04		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.71	0.68	0.03	0.52	
Married or marriage-like situation	0.29	0.32	– 0.03		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.35	0.38	– 0.03	0.58	
White, not Hispanic	0.21	0.20	0.01		
Hispanic	0.22	0.17	0.05		
Other	0.23	0.25	– 0.03		
Educational attainment (percent)					
Less than high school diploma	0.30	0.31	– 0.01	0.97	
High school diploma/GED	0.42	0.41	0.01		
More than high school diploma	0.28	0.28	0.00		
Number of adults in family (percent)					
1 adult	0.69	0.68	0.01		
2 or more adults	0.31	0.32	– 0.01	0.87	
Number of children in family (percent)					
1 child	0.43	0.40	0.04	0.21	
2 children	0.34	0.30	0.04		
3 children	0.15	0.20	– 0.05		
4 children or more	0.07	0.11	– 0.04		
Missing data	0.01	0.00	0.01		
Worked for pay last week (percent)	0.17	0.14	0.02	0.56	
Ever convicted of a felony (percent)	0.13	0.11	0.02	0.46	
Family annual income (percent)					
Less than $5,000	0.31	0.28	0.03	0.17	
$5,000–9,999	0.32	0.28	0.04		
$10,000–14,999	0.15	0.21	– 0.07		
$15,000–19,999	0.06	0.12	– 0.06		
$20,000–24,999	0.07	0.05	0.02		
$25,000 or more	0.05	0.04	0.01		
Missing data	0.04	0.03	0.02		
Ever been homeless before (percent)	0.65	0.62	0.03	0.56	
Ever been doubled up before (percent)	0.85	0.82	0.03	0.42	
Major barrier to finding housing[a]	0.46	0.44	0.01	0.80	
Child under 18 living elsewhere (percent)	0.27	0.22	0.05	0.28	
Number of major life challenges[b]	1.59	1.78	– 0.19	0.41	
F-test on all characteristics except site	F value =	1.249	F-test p-value =	0.173	

PBTH = project-based transitional housing. SUB = permanent housing subsidy.
GED = general educational development. RA = random assignment.
* .10 level. ** .05 level. *** .01 level.
[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.
[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.
Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.
Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-9. Equivalence at Baseline of Analysis Sample for CBRR Versus PBTH Impact Comparison, Adult Survey

Characteristic	CBRR	PBTH	Difference	Significance Level	Stars
Number of families	179	197			
Age of household head at RA (percent)					
Less than 21 years old	0.05	0.09	− 0.04	0.51	
21–24 years	0.15	0.12	0.02		
25–29 years	0.29	0.24	0.05		
30–34 years	0.21	0.23	− 0.02		
35–44 years	0.24	0.23	0.01		
45 years and older	0.06	0.08	− 0.02		
Mean age (years)	31.13	31.43	− 0.30	0.10	
Gender (percent)					
Female	0.05	0.09	− 0.04	0.51	
Male	0.15	0.12	0.02		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.64	0.72	− 0.08	0.08	*
Married or marriage-like situation	0.36	0.28	0.08		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.45	0.44	0.01	0.99	
White, not Hispanic	0.16	0.17	− 0.01		
Hispanic	0.12	0.13	− 0.01		
Other	0.27	0.26	0.01		
Educational attainment (percent)					
Less than high school diploma	0.30	0.40	− 0.10	0.04	**
High school diploma/GED	0.40	0.28	0.11		
More than high school diploma	0.30	0.31	− 0.01		
Number of adults in family (percent)					
1 adult	0.62	0.70	− 0.08		
2 or more adults	0.38	0.30	0.08	0.10	*
Number of children in family (percent)					
1 child	0.40	0.40	0.00	0.86	
2 children	0.31	0.29	0.01		
3 children	0.15	0.17	− 0.02		
4 children or more	0.14	0.14	0.00		
Missing data	0.01	0.00	0.01		
Worked for pay last week (percent)	0.24	0.22	0.02	0.61	
Ever convicted of a felony (percent)	0.12	0.11	0.01	0.74	
Family annual income (percent)					
Less than $5,000	0.31	0.28	0.03	0.17	
$5,000–9,999	0.32	0.28	0.04		
$10,000–14,999	0.15	0.21	− 0.07		
$15,000–19,999	0.06	0.12	− 0.06		
$20,000–24,999	0.07	0.05	0.02		
$25,000 or more	0.05	0.04	0.01		
Missing data	0.04	0.03	0.02		
Ever been homeless before (percent)	0.65	0.62	0.03	0.56	
Ever been doubled up before (percent)	0.85	0.82	0.03	0.42	
Major barrier to finding housing[a]	0.46	0.44	0.01	0.80	
Child under 18 living elsewhere (percent)	0.27	0.22	0.05	0.28	
Number of major life challenges[b]	1.59	1.78	− 0.19	0.41	
F-test on all characteristics except site	F value =	1.249	F-test p-value =	0.173	

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing.
GED = general educational development. RA = random assignment.
* .10 level. ** .05 level. *** .01 level.
[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.
[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.
Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.
Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-10. Equivalence at Baseline of Analysis Sample for SUB + CBRR + PBTH Versus UC Impact Comparison, Adult Survey

Characteristic	SUB, CBRR, PBTH	UC	Difference	Significance Level	Stars
Number of families	1,279	578			
Age of household head at RA (percent)					
Less than 21 years old	0.09	0.07	0.01	0.38	
21–24 years	0.19	0.20	– 0.01		
25–29 years	0.24	0.24	0.00		
30–34 years	0.19	0.17	0.02		
35–44 years	0.21	0.22	0.00		
45 years and older	0.08	0.10	– 0.03		
Mean age (years)	30.56	31.43	– 0.87	0.63	
Gender (percent)					
Female	0.92	0.93	– 0.01	0.59	
Male	0.08	0.07	0.01		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.72	0.72	0.00	1.00	
Married or marriage-like situation	0.28	0.28	0.00		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.42	0.42	0.00	0.73	
White, not Hispanic	0.19	0.18	0.01		
Hispanic	0.20	0.22	– 0.02		
Other	0.20	0.18	0.01		
Educational attainment (percent)					
Less than high school diploma	0.34	0.40	– 0.06	0.02	**
High school diploma/GED	0.39	0.33	0.06		
More than high school diploma	0.27	0.28	0.00		
Number of adults in family (percent)					
1 adult	0.71	0.70	0.01		
2 or more adults	0.29	0.30	– 0.01	0.82	
Number of children in family (percent)					
1 child	0.42	0.42	0.00	0.88	
2 children	0.31	0.31	– 0.01		
3 children	0.15	0.16	– 0.01		
4 children or more	0.11	0.10	0.02		
Missing data	0.01	0.01	0.00		
Worked for pay last week (percent)	0.16	0.19	– 0.03	0.12	
Ever convicted of a felony (percent)	0.11	0.11	0.00	0.82	
Family annual income (percent)					
Less than $5,000	0.30	0.33	– 0.02	0.77	
$5,000–9,999	0.30	0.27	0.04		
$10,000–14,999	0.18	0.17	0.01		
$15,000–19,999	0.09	0.09	0.00		
$20,000–24,999	0.05	0.06	– 0.01		
$25,000 or more	0.06	0.06	– 0.01		
Missing data	0.03	0.03	0.00		
Ever been homeless before (percent)	0.63	0.62	0.01	0.61	
Ever been doubled up before (percent)	0.86	0.86	– 0.01	0.76	
Major barrier to finding housing[a]	0.43	0.48	– 0.04	0.07	*
Child under 18 living elsewhere (percent)	0.23	0.24	0.00	0.88	
Number of major life challenges[b]	1.60	1.60	0.00	0.78	
F-test on all characteristics except site	F value =	1.123	F-test p-value =	0.291	

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care. GED = general educational development. RA = random assignment.

* .10 level. ** .05 level. *** .01 level.

[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.

[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.

Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.

Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-11. Equivalence at Baseline of Analysis Sample for SUB + PBTH Versus CBRR Impact Comparison, Adult Survey

Characteristic	SUB, PBTH	CBRR	Difference	Significance Level	Stars
Number of families	578	399			
Age of household head at RA (percent)					
Less than 21 years old	0.09	0.10	– 0.01	0.56	
21–24 years	0.19	0.17	0.01		
25–29 years	0.24	0.25	0.00		
30–34 years	0.20	0.20	0.00		
35–44 years	0.20	0.23	– 0.03		
45 years and older	0.09	0.06	0.03		
Mean age (years)	30.70	30.45	0.25	0.16	
Gender (percent)					
Female	0.93	0.92	0.02	0.36	
Male	0.07	0.08	– 0.02		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.74	0.72	0.01	0.65	
Married or marriage-like situation	0.26	0.28	– 0.01		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.41	0.44	– 0.04	0.70	
White, not Hispanic	0.20	0.19	0.02		
Hispanic	0.20	0.19	0.01		
Other	0.19	0.18	0.01		
Educational attainment (percent)					
Less than high school diploma	0.38	0.32	0.06	0.16	
High school diploma/GED	0.36	0.40	– 0.05		
More than high school diploma	0.27	0.28	– 0.01		
Number of adults in family (percent)					
1 adult	0.72	0.69	0.02		
2 or more adults	0.28	0.31	– 0.02	0.42	
Number of children in family (percent)					
1 child	0.44	0.40	0.04	0.34	
2 children	0.31	0.32	– 0.01		
3 children	0.14	0.13	0.01		
4 children or more	0.11	0.14	– 0.04		
Missing data	0.00	0.01	0.00		
Worked for pay last week (percent)	0.16	0.18	– 0.02	0.45	
Ever convicted of a felony (percent)	0.12	0.12	0.00	0.83	
Family annual income (percent)					
Less than $5,000	0.31	0.29	0.02	0.80	
$5,000–9,999	0.29	0.32	– 0.03		
$10,000–14,999	0.17	0.19	– 0.01		
$15,000–19,999	0.08	0.09	0.00		
$20,000–24,999	0.06	0.04	0.02		
$25,000 or more	0.06	0.06	0.00		
Missing data	0.02	0.02	0.00		
Ever been homeless before (percent)	0.63	0.65	– 0.02	0.51	
Ever been doubled up before (percent)	0.84	0.88	– 0.04	0.06	*
Major barrier to finding housing[a]	0.45	0.42	0.03	0.37	
Child under 18 living elsewhere (percent)	0.25	0.22	0.03	0.28	
Number of major life challenges[b]	1.65	1.50	0.15	0.57	
F-test on all characteristics except site	F value =	0.836	F-test p-value =	0.728	

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy.

GED = general educational development. RA = random assignment.

* .10 level. ** .05 level. *** .01 level.

[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.

[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.

Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.

Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-12.   Equivalence at Baseline of Analysis Sample for SUB + CBRR Versus PBTH Impact Comparison, Adult Survey

Characteristic	SUB, CBRR	PBTH	Difference	Significance Level	Stars
Number of families	409	291			
Age of household head at RA (percent)					
Less than 21 years old	0.06	0.09	– 0.02	0.27	
21–24 years	0.21	0.14	0.06		
25–29 years	0.25	0.25	0.00		
30–34 years	0.19	0.21	– 0.02		
35–44 years	0.21	0.23	– 0.02		
45 years and older	0.09	0.08	0.01		
Mean age (years)	30.90	31.22	– 0.31	0.12	
Gender (percent)					
Female	0.92	0.90	0.02	0.25	
Male	0.08	0.10	– 0.02		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.68	0.68	0.00	0.93	
Married or marriage-like situation	0.32	0.32	0.00		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.39	0.42	– 0.02	0.73	
White, not Hispanic	0.19	0.17	0.02		
Hispanic	0.18	0.15	0.02		
Other	0.24	0.26	– 0.02		
Educational attainment (percent)					
Less than high school diploma	0.30	0.37	– 0.07	0.10	
High school diploma/GED	0.41	0.35	0.06		
More than high school diploma	0.29	0.27	0.01		
Number of adults in family (percent)					
1 adult	0.66	0.66	– 0.01		
2 or more adults	0.34	0.34	0.01	0.88	
Number of children in family (percent)					
1 child	0.42	0.39	0.03	0.21	
2 children	0.33	0.29	0.03		
3 children	0.15	0.19	– 0.04		
4 children or more	0.10	0.13	– 0.03		
Missing data	0.01	0.00	0.01		
Worked for pay last week (percent)	0.20	0.19	0.01	0.77	
Ever convicted of a felony (percent)	0.12	0.11	0.02	0.46	
Family annual income (percent)					
Less than $5,000	0.29	0.27	0.02	0.57	
$5,000–9,999	0.30	0.27	0.03		
$10,000–14,999	0.17	0.20	– 0.03		
$15,000–19,999	0.08	0.12	– 0.04		
$20,000–24,999	0.06	0.05	0.01		
$25,000 or more	0.06	0.05	0.01		
Missing data	0.04	0.04	0.00		
Ever been homeless before (percent)	0.64	0.62	0.02	0.57	
Ever been doubled up before (percent)	0.88	0.83	0.05	0.07	*
Major barrier to finding housing[a]	0.45	0.43	0.02	0.55	
Child under 18 living elsewhere (percent)	0.27	0.25	0.01	0.66	
Number of major life challenges[b]	1.48	1.69	– 0.21	0.31	
F-test on all characteristics except site	F value =	1.453	F-test p-value =	0.055	

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy.
GED = general educational development. RA = random assignment.
* .10 level. ** .05 level. *** .01 level.
[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.
[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.
Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.
Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-13. **Equivalence at Baseline of Analysis Sample for CBRR + PBTH Versus SUB Impact Comparison, Adult Survey**

Characteristic	CBRR, PBTH	SUB	Difference	Significance Level	Stars
Number of families	495	490			
Age of household head at RA (percent)					
Less than 21 years old	0.10	0.08	0.02	0.13	
21–24 years	0.17	0.23	− 0.06		
25–29 years	0.25	0.23	0.01		
30–34 years	0.20	0.18	0.02		
35–44 years	0.21	0.19	0.02		
45 years and older	0.07	0.09	− 0.02		
Mean age (years)	30.30	30.20	0.10	0.48	
Gender (percent)					
Female	0.91	0.94	− 0.03	0.08	*
Male	0.09	0.06	0.03		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.72	0.73	− 0.02	0.58	
Married or marriage-like situation	0.28	0.27	0.02		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.41	0.37	0.04	0.30	
White, not Hispanic	0.21	0.22	− 0.01		
Hispanic	0.19	0.23	− 0.04		
Other	0.19	0.18	0.01		
Educational attainment (percent)					
Less than high school diploma	0.33	0.35	− 0.02	0.82	
High school diploma/GED	0.41	0.39	0.02		
More than high school diploma	0.25	0.26	0.00		
Number of adults in family (percent)					
1 adult	0.70	0.72	− 0.02		
2 or more adults	0.30	0.28	0.02	0.54	
Number of children in family (percent)					
1 child	0.41	0.45	− 0.04	0.47	
2 children	0.31	0.31	0.00		
3 children	0.15	0.13	0.01		
4 children or more	0.13	0.09	0.03		
Missing data	0.00	0.01	0.00		
Worked for pay last week (percent)	0.15	0.13	0.02	0.30	
Ever convicted of a felony (percent)	0.12	0.13	− 0.01	0.58	
Family annual income (percent)					
Less than $5,000	0.30	0.33	− 0.03	0.23	
$5,000–9,999	0.32	0.31	0.01		
$10,000–14,999	0.20	0.16	0.03		
$15,000–19,999	0.09	0.07	0.03		
$20,000–24,999	0.03	0.06	− 0.02		
$25,000 or more	0.05	0.05	− 0.01		
Missing data	0.02	0.03	− 0.01		
Ever been homeless before (percent)	0.65	0.65	0.00	0.96	
Ever been doubled up before (percent)	0.86	0.85	0.01	0.67	
Major barrier to finding housing[a]	0.43	0.46	− 0.03	0.36	
Child under 18 living elsewhere (percent)	0.20	0.25	− 0.05	0.08	*
Number of major life challenges[b]	1.64	1.65	− 0.01	0.60	
F-test on all characteristics except site	F value =	0.854	F-test p-value =	0.700	

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy.
GED = general educational development. RA = random assignment.
* .10 level. ** .05 level. *** .01 level.
[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.
[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.
Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.
Sources: Family Options Baseline Survey; 18-month followup survey

D.3   Respondents Versus Nonrespondents

This section provides evidence regarding whether the impacts estimated on the sample of survey respondents are applicable to the entire study population, including nonrespondents. We present results of two analyses. The first assesses whether respondents and nonrespondents have systematic differences in observable baseline characteristics. The second compares unweighted impact estimates with the weighted impact estimates presented in the body of the report.

D.3.1 Do Respondents Differ From Nonrespondents on Baseline Characteristics?

Do respondents and nonrespondents have systematic differences in observable baseline characteristics? Exhibit D-14 summarizes the results of tests comparing baseline characteristics for the analysis sample and the sample of nonrespondents for each intervention.

Average values or incidences of four baseline characteristics differed between families who responded to the followup survey for both families assigned to SUB and families assigned to UC. The joint F-test on all characteristics in a regression indicated that the set of baseline characteristics were jointly significant predictors for families assigned to both CBRR and UC. Exhibit D-15 summarizes the results of tests comparing response and nonresponse populations. Among the pairwise comparison samples, all but PBTH versus UC had at least three baseline characteristic averages that differed for response as opposed to nonresponse, and at least four characteristics differed for each of the pooled comparisons samples. Meanwhile, omnibus F-tests indicated that baseline characteristics were generally predictive of nonresponse across the comparison samples, with all but two meeting a .10 p-value threshold. Taken together, these tests suggest that respondents seemed to systematically differ from nonrespondents.

The magnitude of these statistically significant differences is reported in Exhibits D-16 through D-29. When differences were statistically significant relative to nonrespondents, participants who responded to the followup survey were more often in younger age categories, more often female, less often White, more often worked for pay in the previous week, more often had been previously homeless or doubled up, and less often had children living elsewhere.

Exhibit D-14.   **Summary of Equivalence Testing of Respondents Versus Nonrespondents, by Assigned Intervention**

RA Result	Number of Baseline Characteristics With Significant Differences Between Response and Nonresponse Sample (out of 15; α 0.10)	Characteristic(s) With Significant Difference	p Value of Omnibus F test
SUB	4	Age, Gender, Prior Homeless, Child Elsewhere	0.17
CBRR	2	Doubled Up, Child Elsewhere	0.06
PBTH	2	Race/Ethnicity, Prior Homeless	0.40
UC	4	Race/Ethnicity, Work for Pay, Doubled Up, Major Barrier	0.03

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy.
UC = usual care.
Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-15. Summary of Equivalence Testing of Respondents Versus Nonrespondents, by Impact Comparison

Pairwise Impact Comparison Sample (response and nonresponse compared for both treatment arms)	Number of Characteristics With Significant Differences (out of 15; α 0.10)	Characteristic(s) With Significant difference	p Value of omnibus F test
SUB versus UC	4	Age, Race/Ethnicity, Prior Homeless, Major Barrier	0.11
CBRR versus UC	4	Race/Ethnicity, Doubled Up, Child Elsewhere, Major Barrier	0.00
PBTH versus UC	1	Race/Ethnicity	0.05
SUB versus CBRR	6	Age, Gender, Race/Ethnicity, Prior Homeless, Doubled Up, Child Elsewhere	0.06
SUB versus PBTH	3	Gender, Race/Ethnicity, Prior Homeless	0.03
CBRR versus PBTH	3	Gender, Doubled Up, Challenges	0.15
SUB + CBRR + PBTH versus UC	5	Gender, Race/Ethnicity, Prior Homeless, Doubled Up, Major Barrier	0.00
SUB + PBTH versus CBRR	5	Gender, Race/Ethnicity, Prior Homeless, Doubled Up, Child Elsewhere	0.07
SUB + CBRR versus PBTH	4	Gender, Race/Ethnicity, Prior Homeless, Doubled Up	0.02
PBTH + CBRR versus SUB	5	Gender, Race/Ethnicity, Prior Homeless, Doubled Up, Child Elsewhere	0.01

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.
Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-16.   Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents Assigned to SUB

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	530	69	88%		
Age of household head at RA (percent)					
Less than 21 years old	0.08	0.06	0.03	0.01	***
21–24 years	0.23	0.09	0.14		
25–29 years	0.24	0.19	0.05		
30–34 years	0.18	0.32	− 0.14		
35–44 years	0.19	0.28	− 0.09		
45 years and older	0.08	0.07	0.01		
Mean age (years)	30.20	32.41	− 2.20	0.47	
Gender (percent)					
Female	0.94	0.87	0.07	0.04	**
Male	0.06	0.13	− 0.07		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.73	0.74	− 0.01	0.93	
Married or marriage-like situation	0.27	0.26	0.01		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.37	0.25	0.12	0.18	
White, not Hispanic	0.21	0.29	− 0.08		
Hispanic	0.24	0.23	0.01		
Other	0.18	0.23	− 0.05		
Educational attainment (percent)					
Less than high school diploma	0.35	0.42	− 0.07	0.40	
High school diploma/GED	0.39	0.32	0.08		
More than high school diploma	0.26	0.26	0.00		
Number of adults in family (percent)					
1 adult	0.72	0.72	0.00		
2 or more adults	0.28	0.28	0.00	0.97	
Number of children in family (percent)					
1 child	0.45	0.42	0.03	0.49	
2 children	0.31	0.26	0.05		
3 children	0.14	0.22	− 0.08		
4 children or more	0.09	0.10	− 0.01		
Missing data	0.01	0.00	0.01		
Worked for pay last week (percent)	0.13	0.14	− 0.01	0.77	
Ever convicted of a felony (percent)	0.12	0.09	0.03	0.44	
Family annual income (percent)					
Less than $5,000	0.33	0.28	0.05	0.55	
$5,000–9,999	0.32	0.28	0.04		
$10,000–14,999	0.15	0.20	− 0.05		
$15,000–19,999	0.07	0.06	0.01		
$20,000–24,999	0.05	0.06	− 0.01		
$25,000 or more	0.05	0.10	− 0.05		
Missing data	0.03	0.03	0.00		
Ever been homeless before (percent)	0.63	0.51	0.12	0.04	**
Ever been doubled up before (percent)	0.85	0.80	0.05	0.27	
Major barrier to finding housing[a]	0.45	0.42	0.03	0.65	
Child under 18 living elsewhere (percent)	0.24	0.35	− 0.11	0.06	*
Number of major life challenges[b]	1.64	1.65	− 0.01	0.78	
F-test on all characteristics except site	F value =	1.250	F-test p-value =	0.166	

SUB = permanent housing subsidy.

GED = general educational development. RA = random assignment.

* .10 level. ** .05 level. *** .01 level.

[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.

[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.

Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.

Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-17. Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents for CBRR

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	455	114	80%		
Age of household head at RA (percent)					
Less than 21 years old	0.09	0.07	0.02	0.22	
21–24 years	0.17	0.25	– 0.07		
25–29 years	0.25	0.17	0.08		
30–34 years	0.19	0.21	– 0.02		
35–44 years	0.24	0.26	– 0.03		
45 years and older	0.06	0.04	0.02		
Mean age (years)	30.58	30.51	0.07	0.47	
Gender (percent)					
Female	0.92	0.88	0.04	0.14	
Male	0.08	0.12	– 0.04		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.74	0.72	0.02	0.64	
Married or marriage-like situation	0.26	0.28	– 0.02		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.48	0.40	0.08	0.15	
White, not Hispanic	0.17	0.26	– 0.09		
Hispanic	0.18	0.18	0.01		
Other	0.16	0.16	0.01		
Educational attainment (percent)					
Less than high school diploma	0.31	0.40	– 0.09	0.17	
High school diploma/GED	0.40	0.34	0.06		
More than high school diploma	0.29	0.25	0.03		
Number of adults in family (percent)					
1 adult	0.71	0.68	0.04		
2 or more adults	0.29	0.32	– 0.04	0.41	
Number of children in family (percent)					
1 child	0.41	0.47	– 0.06	0.73	
2 children	0.31	0.29	0.02		
3 children	0.14	0.10	0.04		
4 children or more	0.13	0.13	0.00		
Missing data	0.01	0.01	0.00		
Worked for pay last week (percent)	0.19	0.19	– 0.01	0.88	
Ever convicted of a felony (percent)	0.11	0.13	– 0.02	0.51	
Family annual income (percent)					
Less than $5,000	0.29	0.31	– 0.01	0.88	
$5,000–9,999	0.31	0.33	– 0.02		
$10,000–14,999	0.19	0.13	0.06		
$15,000–19,999	0.08	0.10	– 0.01		
$20,000–24,999	0.04	0.05	– 0.01		
$25,000 or more	0.06	0.06	0.00		
Missing data	0.02	0.02	0.00		
Ever been homeless before (percent)	0.64	0.57	0.07	0.15	
Ever been doubled up before (percent)	0.88	0.78	0.10	0.01	***
Major barrier to finding housing[a]	0.42	0.35	0.07	0.18	
Child under 18 living elsewhere (percent)	0.21	0.32	– 0.11	0.01	**
Number of major life challenges[b]	1.50	1.76	– 0.26	0.23	
F-test on all characteristics except site	F value =	1.427	F-test p-value =	0.063	

CBRR = community-based rapid re-housing.

GED = general educational development. RA = random assignment.

*.10 level. ** .05 level. *** .01 level.

[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.

[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.

Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.

Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-18. Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents for PBTH

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	294	74	80%		
Age of household head at RA (percent)					
Less than 21 years old	0.09	0.09	− 0.01	0.57	
21–24 years	0.14	0.22	− 0.08		
25–29 years	0.25	0.27	− 0.02		
30–34 years	0.21	0.19	0.03		
35–44 years	0.23	0.16	0.07		
45 years and older	0.08	0.07	0.01		
Mean age (years)	31.18	29.82	1.36	0.86	
Gender (percent)					
Female	0.90	0.85	0.05	0.26	
Male	0.10	0.15	− 0.05		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.68	0.65	0.03	0.65	
Married or marriage-like situation	0.32	0.35	− 0.03		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.42	0.31	0.11	0.01	***
White, not Hispanic	0.17	0.35	− 0.18		
Hispanic	0.15	0.15	0.00		
Other	0.26	0.19	0.07		
Educational attainment (percent)					
Less than high school diploma	0.37	0.32	0.05	0.72	
High school diploma/GED	0.35	0.39	− 0.04		
More than high school diploma	0.27	0.28	− 0.01		
Number of adults in family (percent)					
1 adult	0.66	0.66	0.00		
2 or more adults	0.34	0.34	0.00	0.99	
Number of children in family (percent)					
1 child	0.39	0.45	− 0.06	0.69	
2 children	0.30	0.26	0.04		
3 children	0.19	0.20	− 0.02		
4 children or more	0.13	0.09	0.03		
Missing data	0.00	0.00	0.00		
Worked for pay last week (percent)	0.19	0.22	− 0.03	0.57	
Ever convicted of a felony (percent)	0.11	0.15	− 0.04	0.30	
Family annual income (percent)					
Less than $5,000	0.27	0.35	− 0.08	0.34	
$5,000–9,999	0.27	0.22	0.05		
$10,000–14,999	0.20	0.11	0.10		
$15,000–19,999	0.12	0.15	− 0.03		
$20,000–24,999	0.05	0.08	− 0.03		
$25,000 or more	0.05	0.04	0.01		
Missing data	0.04	0.05	− 0.02		
Ever been homeless before (percent)	0.62	0.51	0.11	0.09	*
Ever been doubled up before (percent)	0.83	0.78	0.05	0.32	
Major barrier to finding housing[a]	0.43	0.45	− 0.01	0.83	
Child under 18 living elsewhere (percent)	0.25	0.22	0.04	0.53	
Number of major life challenges[b]	1.69	1.46	0.23	0.11	
F-test on all characteristics except site	F value =	1.052	F-test p-value =	0.397	

PBTH = project-based transitional housing.

GED = general educational development. RA = random assignment.

* .10 level. ** .05 level. *** .01 level.

[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.

[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.

Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.

Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-19. Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents for UC

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	578	168	77%		
Age of household head at RA (percent)					
Less than 21 years old	0.07	0.08	0.00	0.19	
21–24 years	0.20	0.20	– 0.01		
25–29 years	0.24	0.26	– 0.02		
30–34 years	0.17	0.13	0.04		
35–44 years	0.22	0.28	– 0.06		
45 years and older	0.10	0.05	0.05		
Mean age (years)	31.43	30.68	0.75	0.39	
Gender (percent)					
Female	0.93	0.92	0.01	0.78	
Male	0.07	0.08	– 0.01		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.72	0.69	0.03	0.40	
Married or marriage-like situation	0.28	0.31	– 0.03		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.42	0.42	– 0.01	0.00	***
White, not Hispanic	0.18	0.28	– 0.10		
Hispanic	0.22	0.20	0.02		
Other	0.18	0.10	0.09		
Educational attainment (percent)					
Less than high school diploma	0.40	0.40	– 0.01	0.88	
High school diploma/GED	0.33	0.34	– 0.01		
More than high school diploma	0.28	0.26	0.02		
Number of adults in family (percent)					
1 adult	0.70	0.71	– 0.01		
2 or more adults	0.30	0.29	0.01	0.85	
Number of children in family (percent)					
1 child	0.42	0.47	– 0.05	0.26	
2 children	0.31	0.24	0.07		
3 children	0.16	0.14	0.01		
4 children or more	0.10	0.13	– 0.03		
Missing data	0.01	0.01	– 0.01		
Worked for pay last week (percent)	0.19	0.13	0.07	0.04	**
Ever convicted of a felony (percent)	0.11	0.10	0.01	0.77	
Family annual income (percent)					
Less than $5,000	0.33	0.35	– 0.02	0.76	
$5,000–9,999	0.27	0.29	– 0.02		
$10,000–14,999	0.17	0.14	0.04		
$15,000–19,999	0.09	0.10	– 0.01		
$20,000–24,999	0.06	0.07	– 0.01		
$25,000 or more	0.06	0.05	0.01		
Missing data	0.03	0.01	0.02		
Ever been homeless before (percent)	0.62	0.62	0.00	0.96	
Ever been doubled up before (percent)	0.86	0.81	0.05	0.09	*
Major barrier to finding housing[a]	0.48	0.36	0.12	0.00	***
Child under 18 living elsewhere (percent)	0.24	0.22	0.02	0.68	
Number of major life challenges[b]	1.60	1.68	– 0.08	0.83	
F-test on all characteristics except site	F value =	1.558	F-test p-value =	0.028	

UC = usual care.

GED = general educational development. RA = random assignment.

* .10 level. ** .05 level. *** .01 level.

[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.

[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.

Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.

Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-20. Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents for SUB Versus UC Impact Comparison, Adult Survey

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	945	194	83%		
Age of household head at RA (percent)					
Less than 21 years old	0.08	0.07	0.01	0.09	*
21–24 years	0.22	0.18	0.04		
25–29 years	0.24	0.22	0.02		
30–34 years	0.17	0.21	− 0.03		
35–44 years	0.19	0.27	− 0.08		
45 years and older	0.09	0.06	0.03		
Mean age (years)	30.50	31.04	− 0.54	0.43	
Gender (percent)					
Female	0.93	0.90	0.03	0.14	
Male	0.07	0.10	− 0.03		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.72	0.68	0.04	0.23	
Married or marriage-like situation	0.28	0.32	− 0.04		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.37	0.32	0.05	0.01	***
White, not Hispanic	0.20	0.32	− 0.12		
Hispanic	0.24	0.21	0.03		
Other	0.18	0.15	0.03		
Educational attainment (percent)					
Less than high school diploma	0.38	0.41	− 0.03	0.67	
High school diploma/GED	0.37	0.35	0.01		
More than high school diploma	0.26	0.24	0.02		
Number of adults in family (percent)					
1 adult	0.71	0.68	0.03		
2 or more adults	0.29	0.32	− 0.03	0.33	
Number of children in family (percent)					
1 child	0.43	0.44	− 0.01	0.27	
2 children	0.32	0.26	0.07		
3 children	0.15	0.16	− 0.02		
4 children or more	0.09	0.13	− 0.04		
Missing data	0.00	0.01	0.00		
Worked for pay last week (percent)	0.15	0.13	0.02	0.53	
Ever convicted of a felony (percent)	0.11	0.10	0.01	0.71	
Family annual income (percent)					
Less than $5,000	0.34	0.32	0.02	0.95	
$5,000–9,999	0.31	0.30	0.00		
$10,000–14,999	0.16	0.16	0.00		
$15,000–19,999	0.07	0.08	− 0.01		
$20,000–24,999	0.05	0.06	− 0.01		
$25,000 or more	0.05	0.06	− 0.01		
Missing data	0.02	0.02	0.01		
Ever been homeless before (percent)	0.63	0.57	0.06	0.10	*
Ever been doubled up before (percent)	0.86	0.82	0.04	0.20	
Major barrier to finding housing[a]	0.46	0.37	0.09	0.02	**
Child under 18 living elsewhere (percent)	0.24	0.27	− 0.03	0.37	
Number of major life challenges[b]	1.61	1.64	− 0.03	0.79	
F-test on all characteristics except site	F value =	1.317	F-test p-value =	0.113	

SUB = permanent housing subsidy. UC = usual care.

GED = general educational development. RA = random assignment.

* .10 level. ** .05 level. *** .01 level.

[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.

[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.

Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.

Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-21. Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents for CBRR Versus UC Impact Comparison, Adult Survey

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	906	238	79%		
Age of household head at RA (percent)					
Less than 21 years old	0.08	0.08	0.00	0.30	
21–24 years	0.19	0.22	– 0.03		
25–29 years	0.24	0.22	0.02		
30–34 years	0.17	0.16	0.01		
35–44 years	0.23	0.26	– 0.04		
45 years and older	0.09	0.05	0.04		
Mean age (years)	31.01	30.39	0.63	0.75	
Gender (percent)					
Female	0.93	0.90	0.02	0.22	
Male	0.07	0.10	– 0.02		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.74	0.71	0.03	0.35	
Married or marriage-like situation	0.26	0.29	– 0.03		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.45	0.43	0.02	0.05	**
White, not Hispanic	0.18	0.26	– 0.08		
Hispanic	0.20	0.19	0.01		
Other	0.17	0.13	0.04		
Educational attainment (percent)					
Less than high school diploma	0.35	0.42	– 0.07	0.13	
High school diploma/GED	0.37	0.32	0.04		
More than high school diploma	0.29	0.26	0.03		
Number of adults in family (percent)					
1 adult	0.71	0.71	0.00		
2 or more adults	0.29	0.29	0.00	0.93	
Number of children in family (percent)					
1 child	0.42	0.48	– 0.06	0.15	
2 children	0.31	0.26	0.05		
3 children	0.15	0.11	0.04		
4 children or more	0.11	0.13	– 0.02		
Missing data	0.01	0.01	0.00		
Worked for pay last week (percent)	0.20	0.17	0.03	0.31	
Ever convicted of a felony (percent)	0.11	0.11	0.00	0.96	
Family annual income (percent)					
Less than $5,000	0.31	0.32	– 0.01	0.64	
$5,000–9,999	0.28	0.31	– 0.03		
$10,000–14,999	0.18	0.13	0.05		
$15,000–19,999	0.09	0.11	– 0.02		
$20,000–24,999	0.05	0.05	0.00		
$25,000 or more	0.07	0.06	0.01		
Missing data	0.02	0.02	0.00		
Ever been homeless before (percent)	0.63	0.59	0.04	0.28	
Ever been doubled up before (percent)	0.87	0.80	0.07	0.00	***
Major barrier to finding housing[a]	0.45	0.36	0.09	0.01	***
Child under 18 living elsewhere (percent)	0.22	0.28	– 0.06	0.05	**
Number of major life challenges[b]	1.56	1.68	– 0.13	0.16	
F-test on all characteristics except site	F value =	1.855	F-test p-value =	0.003	

CBRR = community-based rapid re-housing. UC = usual care.
GED = general educational development. RA = random assignment.
* .10 level. ** .05 level. *** .01 level.
[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.
[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.
Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.
Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-22. Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents for PBTH Versus UC Impact Comparison, Adult Survey

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	556	151	79%		
Age of household head at RA (percent)					
Less than 21 years old	0.07	0.09	− 0.02	0.18	
21–24 years	0.15	0.21	− 0.05		
25–29 years	0.24	0.26	− 0.03		
30–34 years	0.22	0.14	0.08		
35–44 years	0.23	0.24	− 0.01		
45 years and older	0.09	0.07	0.03		
Mean age (years)	31.74	30.48	1.26	0.64	
Gender (percent)					
Female	0.91	0.89	0.02	0.44	
Male	0.09	0.11	− 0.02		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.67	0.66	0.02	0.72	
Married or marriage-like situation	0.33	0.34	− 0.02		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.40	0.38	0.03	0.00	***
White, not Hispanic	0.16	0.32	− 0.16		
Hispanic	0.16	0.13	0.03		
Other	0.27	0.17	0.11		
Educational attainment (percent)					
Less than high school diploma	0.40	0.36	0.04	0.59	
High school diploma/GED	0.33	0.37	− 0.04		
More than high school diploma	0.26	0.26	0.00		
Number of adults in family (percent)					
1 adult	0.65	0.67	− 0.02		
2 or more adults	0.35	0.33	0.02	0.68	
Number of children in family (percent)					
1 child	0.39	0.46	− 0.06	0.66	
2 children	0.29	0.26	0.03		
3 children	0.19	0.17	0.02		
4 children or more	0.12	0.11	0.02		
Missing data	0.00	0.01	0.00		
Worked for pay last week (percent)	0.21	0.17	0.04	0.30	
Ever convicted of a felony (percent)	0.12	0.15	− 0.02	0.44	
Family annual income (percent)					
Less than $5,000	0.28	0.35	− 0.07	0.22	
$5,000–9,999	0.26	0.23	0.03		
$10,000–14,999	0.19	0.12	0.07		
$15,000–19,999	0.11	0.12	− 0.01		
$20,000–24,999	0.06	0.09	− 0.04		
$25,000 or more	0.06	0.05	0.01		
Missing data	0.04	0.04	0.00		
Ever been homeless before (percent)	0.62	0.58	0.03	0.45	
Ever been doubled up before (percent)	0.84	0.81	0.03	0.35	
Major barrier to finding housing[a]	0.45	0.44	0.01	0.87	
Child under 18 living elsewhere (percent)	0.25	0.20	0.05	0.16	
Number of major life challenges[b]	1.65	1.56	0.09	0.53	
F-test on all characteristics except site	F value =	1.489	F-test p-value =	0.049	

PBTH = project-based transitional housing. UC = usual care.

GED = general educational development. RA = random assignment.

* .10 level. ** .05 level. *** .01 level.

[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.

[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.

Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.

Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-23. Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents for SUB Versus CBRR Impact Comparison, Adult Survey

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	689	128	84%		
Age of household head at RA (percent)					
Less than 21 years old	0.10	0.09	0.01	0.05	*
21–24 years	0.20	0.14	0.06		
25–29 years	0.24	0.18	0.06		
30–34 years	0.19	0.27	− 0.09		
35–44 years	0.19	0.26	− 0.06		
45 years and older	0.08	0.06	0.01		
Mean age (years)	30.17	31.50	− 1.33	0.18	
Gender (percent)					
Female	0.93	0.88	0.05	0.06	*
Male	0.07	0.12	− 0.05		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.74	0.71	0.03	0.42	
Married or marriage-like situation	0.26	0.29	− 0.03		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.40	0.29	0.12	0.02	**
White, not Hispanic	0.22	0.33	− 0.11		
Hispanic	0.22	0.20	0.02		
Other	0.16	0.19	− 0.03		
Educational attainment (percent)					
Less than high school diploma	0.36	0.35	0.00	0.34	
High school diploma/GED	0.40	0.35	0.05		
More than high school diploma	0.24	0.30	− 0.06		
Number of adults in family (percent)					
1 adult	0.72	0.69	0.04		
2 or more adults	0.28	0.31	− 0.04	0.41	
Number of children in family (percent)					
1 child	0.45	0.50	− 0.05	0.78	
2 children	0.32	0.28	0.04		
3 children	0.12	0.12	0.01		
4 children or more	0.11	0.09	0.02		
Missing data	0.00	0.01	0.00		
Worked for pay last week (percent)	0.14	0.15	− 0.01	0.82	
Ever convicted of a felony (percent)	0.12	0.10	0.02	0.54	
Family annual income (percent)					
Less than $5,000	0.33	0.32	0.01	0.19	
$5,000–9,999	0.33	0.24	0.08		
$10,000–14,999	0.17	0.17	0.00		
$15,000–19,999	0.07	0.08	− 0.01		
$20,000–24,999	0.04	0.07	− 0.03		
$25,000 or more	0.05	0.09	− 0.04		
Missing data	0.01	0.02	− 0.01		
Ever been homeless before (percent)	0.65	0.52	0.14	0.00	***
Ever been doubled up before (percent)	0.86	0.77	0.09	0.01	***
Major barrier to finding housing[a]	0.44	0.38	0.06	0.23	
Child under 18 living elsewhere (percent)	0.22	0.37	− 0.15	0.00	***
Number of major life challenges[b]	1.61	1.73	− 0.13	0.77	
F-test on all characteristics except site	F value =	1.435	F-test p-value =	0.058	

CBRR = community-based rapid re-housing. SUB = permanent housing subsidy.
GED = general educational development. RA = random assignment.
* .10 level. ** .05 level. *** .01 level.
[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.
[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.
Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. t-test used for mean age.
Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-24. Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents for SUB Versus PBTH Impact Comparison, Adult Survey

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	417	79	84%		
Age of household head at RA (percent)					
Less than 21 years old	0.08	0.06	0.01	0.38	
21–24 years	0.21	0.20	0.01		
25–29 years	0.24	0.27	– 0.03		
30–34 years	0.19	0.27	– 0.08		
35–44 years	0.19	0.16	0.03		
45 years and older	0.10	0.04	0.06		
Mean age (years)	30.76	29.68	1.07	0.82	
Gender (percent)					
Female	0.92	0.85	0.07	0.06	*
Male	0.08	0.15	– 0.07		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.70	0.66	0.04	0.51	
Married or marriage-like situation	0.30	0.34	– 0.04		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.36	0.19	0.17	0.00	***
White, not Hispanic	0.21	0.41	– 0.20		
Hispanic	0.19	0.13	0.07		
Other	0.24	0.28	– 0.04		
Educational attainment (percent)					
Less than high school diploma	0.30	0.37	– 0.06	0.41	
High school diploma/GED	0.42	0.34	0.08		
More than high school diploma	0.28	0.29	– 0.01		
Number of adults in family (percent)					
1 adult	0.68	0.59	0.09		
2 or more adults	0.32	0.41	– 0.09	0.13	
Number of children in family (percent)					
1 child	0.42	0.39	0.02	0.56	
2 children	0.32	0.27	0.06		
3 children	0.17	0.24	– 0.07		
4 children or more	0.08	0.10	– 0.02		
Missing data	0.00	0.00	0.00		
Worked for pay last week (percent)	0.16	0.23	– 0.07	0.12	
Ever convicted of a felony (percent)	0.12	0.16	– 0.04	0.28	
Family annual income (percent)					
Less than $5,000	0.30	0.33	– 0.03	0.77	
$5,000–9,999	0.30	0.27	0.03		
$10,000–14,999	0.18	0.13	0.05		
$15,000–19,999	0.09	0.10	– 0.01		
$20,000–24,999	0.06	0.08	– 0.02		
$25,000 or more	0.05	0.04	0.01		
Missing data	0.04	0.06	– 0.03		
Ever been homeless before (percent)	0.64	0.48	0.15	0.01	***
Ever been doubled up before (percent)	0.83	0.82	0.01	0.80	
Major barrier to finding housing[a]	0.45	0.46	0.00	0.94	
Child under 18 living elsewhere (percent)	0.24	0.24	0.00	0.94	
Number of major life challenges[b]	1.67	1.53	0.14	0.59	
F-test on all characteristics except site	F value =	1.581	F-test p-value =	0.026	

PBTH = project-based transitional housing. SUB = permanent housing subsidy.
GED = general educational development. RA = random assignment.
* .10 level. ** .05 level. *** .01 level.
[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.
[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.
Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.
Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-25. Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents for CBRR Versus PBTH Impact Comparison, Adult Survey

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	376	95	80%		
Age of household head at RA (percent)					
Less than 21 years old	0.07	0.05	0.02	0.44	
21–24 years	0.13	0.22	– 0.09		
25–29 years	0.26	0.23	0.03		
30–34 years	0.22	0.21	0.01		
35–44 years	0.24	0.22	0.02		
45 years and older	0.07	0.06	0.01		
Mean age (years)	31.29	30.75	0.54	0.52	
Gender (percent)					
Female	0.91	0.83	0.08	0.03	**
Male	0.09	0.17	– 0.08		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.68	0.66	0.02	0.74	
Married or marriage-like situation	0.32	0.34	– 0.02		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.44	0.41	0.03	0.12	
White, not Hispanic	0.16	0.24	– 0.08		
Hispanic	0.13	0.17	– 0.04		
Other	0.26	0.18	0.08		
Educational attainment (percent)					
Less than high school diploma	0.35	0.36	0.00	0.77	
High school diploma/GED	0.34	0.37	– 0.03		
More than high school diploma	0.31	0.27	0.03		
Number of adults in family (percent)					
1 adult	0.66	0.65	0.01		
2 or more adults	0.34	0.35	– 0.01	0.86	
Number of children in family (percent)					
1 child	0.40	0.44	– 0.05	0.92	
2 children	0.30	0.27	0.03		
3 children	0.16	0.16	0.00		
4 children or more	0.14	0.13	0.01		
Missing data	0.00	0.00	0.00		
Worked for pay last week (percent)	0.23	0.26	– 0.03	0.48	
Ever convicted of a felony (percent)	0.11	0.13	– 0.01	0.69	
Family annual income (percent)					
Less than $5,000	0.26	0.26	0.00	0.56	
$5,000–9,999	0.27	0.32	– 0.05		
$10,000–14,999	0.20	0.13	0.08		
$15,000–19,999	0.12	0.13	– 0.01		
$20,000–24,999	0.05	0.08	– 0.03		
$25,000 or more	0.06	0.06	0.00		
Missing data	0.04	0.02	0.02		
Ever been homeless before (percent)	0.62	0.54	0.08	0.14	
Ever been doubled up before (percent)	0.88	0.74	0.14	0.00	***
Major barrier to finding housing[a]	0.44	0.37	0.07	0.21	
Child under 18 living elsewhere (percent)	0.26	0.28	– 0.02	0.64	
Number of major life challenges[b]	1.50	1.47	0.03	0.05	**
F-test on all characteristics except site	F value =	1.283	F-test p-value =	0.148	

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing.
GED = general educational development. RA = random assignment.
* .10 level. ** .05 level. *** .01 level.
[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.
[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.
Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.
Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-26. Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents for SUB + CBRR + PBTH Versus UC Impact Comparison, Adult Survey

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	1,857	425	81%		
Age of household head at RA (percent)					
Less than 21 years old	0.08	0.08	0.01	0.26	
21–24 years	0.19	0.20	– 0.01		
25–29 years	0.24	0.23	0.02		
30–34 years	0.18	0.19	– 0.01		
35–44 years	0.22	0.25	– 0.04		
45 years and older	0.08	0.06	0.03		
Mean age (years)	30.83	30.77	0.06	0.90	
Gender (percent)					
Female	0.92	0.89	0.03	0.02	**
Male	0.08	0.11	– 0.03		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.72	0.70	0.02	0.31	
Married or marriage-like situation	0.28	0.30	– 0.02		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.42	0.37	0.05	0.00	***
White, not Hispanic	0.18	0.29	– 0.10		
Hispanic	0.21	0.19	0.01		
Other	0.19	0.15	0.04		
Educational attainment (percent)					
Less than high school diploma	0.36	0.39	– 0.03	0.41	
High school diploma/GED	0.37	0.35	0.02		
More than high school diploma	0.27	0.26	0.01		
Number of adults in family (percent)					
1 adult	0.70	0.69	0.01		
2 or more adults	0.30	0.31	– 0.01	0.68	
Number of children in family (percent)					
1 child	0.42	0.46	– 0.04	0.37	
2 children	0.31	0.26	0.05		
3 children	0.15	0.15	0.00		
4 children or more	0.11	0.12	– 0.01		
Missing data	0.01	0.01	0.00		
Worked for pay last week (percent)	0.17	0.16	0.01	0.58	
Ever convicted of a felony (percent)	0.11	0.12	0.00	0.82	
Family annual income (percent)					
Less than $5,000	0.31	0.32	– 0.02	0.53	
$5,000–9,999	0.29	0.28	0.01		
$10,000–14,999	0.18	0.14	0.04		
$15,000–19,999	0.09	0.10	– 0.02		
$20,000–24,999	0.05	0.06	– 0.01		
$25,000 or more	0.06	0.06	0.00		
Missing data	0.03	0.02	0.00		
Ever been homeless before (percent)	0.63	0.57	0.06	0.02	**
Ever been doubled up before (percent)	0.86	0.80	0.06	0.00	***
Major barrier to finding housing[a]	0.45	0.38	0.07	0.01	**
Child under 18 living elsewhere (percent)	0.23	0.27	– 0.03	0.15	
Number of major life challenges[b]	1.60	1.66	– 0.06	0.66	
F-test on all characteristics except site	F value =	2.174	F-test p-value =	0.000	

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.
GED = general educational development. RA = random assignment.
* .10 level. ** .05 level. *** .01 level.
[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.
[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.
Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.
Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-27. Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents for SUB + PBTH Versus CBRR Impact Comparison, Adult Survey

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	977	191	84%		
Age of household head at RA (percent)					
Less than 21 years old	0.09	0.07	0.02	0.44	
21–24 years	0.18	0.18	0.00		
25–29 years	0.24	0.20	0.05		
30–34 years	0.20	0.25	− 0.05		
35–44 years	0.21	0.24	− 0.03		
45 years and older	0.08	0.07	0.01		
Mean age (years)	30.60	31.21	− 0.61	0.54	
Gender (percent)					
Female	0.93	0.85	0.07	0.00	***
Male	0.07	0.15	− 0.07		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.73	0.69	0.04	0.25	
Married or marriage-like situation	0.27	0.31	− 0.04		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.42	0.34	0.09	0.01	***
White, not Hispanic	0.20	0.31	− 0.11		
Hispanic	0.19	0.18	0.01		
Other	0.19	0.18	0.01		
Educational attainment (percent)					
Less than high school diploma	0.35	0.36	0.00	0.99	
High school diploma/GED	0.38	0.38	0.00		
More than high school diploma	0.27	0.27	0.00		
Number of adults in family (percent)					
1 adult	0.71	0.69	0.02		
2 or more adults	0.29	0.31	− 0.02	0.53	
Number of children in family (percent)					
1 child	0.42	0.47	− 0.04	0.83	
2 children	0.31	0.28	0.03		
3 children	0.14	0.14	0.00		
4 children or more	0.12	0.11	0.01		
Missing data	0.00	0.01	0.00		
Worked for pay last week (percent)	0.16	0.19	− 0.02	0.42	
Ever convicted of a felony (percent)	0.12	0.12	0.00	0.91	
Family annual income (percent)					
Less than $5,000	0.30	0.31	0.00	0.79	
$5,000–9,999	0.31	0.27	0.04		
$10,000–14,999	0.18	0.16	0.02		
$15,000–19,999	0.08	0.09	− 0.01		
$20,000–24,999	0.05	0.06	− 0.01		
$25,000 or more	0.06	0.08	− 0.02		
Missing data	0.02	0.03	− 0.01		
Ever been homeless before (percent)	0.64	0.52	0.12	0.00	***
Ever been doubled up before (percent)	0.86	0.79	0.07	0.01	***
Major barrier to finding housing[a]	0.44	0.39	0.05	0.24	
Child under 18 living elsewhere (percent)	0.24	0.32	− 0.08	0.01	**
Number of major life challenges[b]	1.59	1.62	− 0.03	0.57	
F-test on all characteristics except site	F value =	1.401	F-test p-value =	0.069	

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy.
GED = general educational development. RA = random assignment.
* .10 level. ** .05 level. *** .01 level.
[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.
[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.
Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.
Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-28. Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents for SUB + CBRR Versus PBTH Impact Comparison, Adult Survey

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	700	151	82%		
Age of household head at RA (percent)					
Less than 21 years old	0.07	0.07	0.01	0.59	
21–24 years	0.18	0.21	− 0.03		
25–29 years	0.25	0.24	0.01		
30–34 years	0.20	0.23	− 0.03		
35–44 years	0.22	0.21	0.01		
45 years and older	0.09	0.05	0.04		
Mean age (years)	31.03	30.26	0.77	0.46	
Gender (percent)					
Female	0.91	0.85	0.06	0.03	**
Male	0.09	0.15	− 0.06		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.68	0.66	0.02	0.59	
Married or marriage-like situation	0.32	0.34	− 0.02		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.40	0.32	0.08	0.01	**
White, not Hispanic	0.18	0.30	− 0.12		
Hispanic	0.17	0.16	0.01		
Other	0.25	0.23	0.03		
Educational attainment (percent)					
Less than high school diploma	0.33	0.36	− 0.03	0.81	
High school diploma/GED	0.39	0.36	0.02		
More than high school diploma	0.28	0.28	0.00		
Number of adults in family (percent)					
1 adult	0.66	0.62	0.04		
2 or more adults	0.34	0.38	− 0.04	0.38	
Number of children in family (percent)					
1 child	0.41	0.42	− 0.02	0.67	
2 children	0.31	0.26	0.05		
3 children	0.17	0.20	− 0.03		
4 children or more	0.11	0.11	0.00		
Missing data	0.00	0.00	0.00		
Worked for pay last week (percent)	0.19	0.25	− 0.05	0.16	
Ever convicted of a felony (percent)	0.12	0.13	− 0.02	0.60	
Family annual income (percent)					
Less than $5,000	0.28	0.30	− 0.02	0.70	
$5,000–9,999	0.29	0.27	0.02		
$10,000–14,999	0.19	0.13	0.05		
$15,000–19,999	0.10	0.11	− 0.02		
$20,000–24,999	0.06	0.08	− 0.02		
$25,000 or more	0.06	0.06	0.00		
Missing data	0.04	0.04	0.00		
Ever been homeless before (percent)	0.63	0.50	0.14	0.00	***
Ever been doubled up before (percent)	0.86	0.76	0.10	0.00	***
Major barrier to finding housing[a]	0.44	0.42	0.02	0.67	
Child under 18 living elsewhere (percent)	0.26	0.26	0.00	0.96	
Number of major life challenges[b]	1.57	1.49	0.08	0.51	
F-test on all characteristics except site	F value =	1.619	F-test p-value =	0.019	

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy.
GED = general educational development. RA = random assignment.
* .10 level. ** .05 level. *** .01 level.
[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.
[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.
Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. *t*-test used for mean age.
Sources: Family Options Baseline Survey; 18-month followup survey

Exhibit D-29. Equivalence at Baseline of Analysis Sample for Respondents Versus Nonrespondents for PBTH + CBRR Versus SUB Impact Comparison, Adult Survey

Characteristic	Response	Nonresponse	Difference	Significance Level	Stars
Number of families	985	188	84%		
Age of household head at RA (percent)					
Less than 21 years old	0.09	0.08	0.01	0.28	
21–24 years	0.20	0.16	0.04		
25–29 years	0.24	0.22	0.02		
30–34 years	0.19	0.25	− 0.06		
35–44 years	0.20	0.23	− 0.03		
45 years and older	0.08	0.06	0.02		
Mean age (years)	30.25	30.88	− 0.63	0.41	
Gender (percent)					
Female	0.92	0.86	0.06	0.01	***
Male	0.08	0.14	− 0.06		
Marital status (percent)					
Single (never married/widowed/ separated/divorced)	0.73	0.70	0.02	0.48	
Married or marriage-like situation	0.27	0.30	− 0.02		
Race/ethnicity (percent)					
Black/African American, not Hispanic	0.39	0.26	0.13	0.00	***
White, not Hispanic	0.21	0.35	− 0.14		
Hispanic	0.21	0.17	0.04		
Other	0.19	0.22	− 0.03		
Educational attainment (percent)					
Less than high school diploma	0.34	0.36	− 0.02	0.28	
High school diploma/GED	0.40	0.35	0.06		
More than high school diploma	0.26	0.30	− 0.04		
Number of adults in family (percent)					
1 adult	0.71	0.66	0.05		
2 or more adults	0.29	0.34	− 0.05	0.19	
Number of children in family (percent)					
1 child	0.43	0.46	− 0.03	0.80	
2 children	0.31	0.28	0.04		
3 children	0.14	0.16	− 0.02		
4 children or more	0.11	0.10	0.01		
Missing data	0.01	0.01	0.00		
Worked for pay last week (percent)	0.14	0.16	− 0.02	0.41	
Ever convicted of a felony (percent)	0.12	0.12	0.00	0.95	
Family annual income (percent)					
Less than $5,000	0.31	0.32	− 0.01	0.12	
$5,000–9,999	0.31	0.26	0.06		
$10,000–14,999	0.18	0.14	0.04		
$15,000–19,999	0.08	0.10	− 0.02		
$20,000–24,999	0.04	0.07	− 0.03		
$25,000 or more	0.05	0.07	− 0.02		
Missing data	0.02	0.04	− 0.01		
Ever been homeless before (percent)	0.65	0.51	0.14	0.00	***
Ever been doubled up before (percent)	0.85	0.79	0.07	0.02	**
Major barrier to finding housing[a]	0.44	0.40	0.04	0.35	
Child under 18 living elsewhere (percent)	0.23	0.31	− 0.08	0.01	**
Number of major life challenges[b]	1.64	1.67	− 0.03	0.79	
F-test on all characteristics except site	F value =	1.746	F-test p-value =	0.007	

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy.
GED = general educational development. RA = random assignment.
* .10 level. ** .05 level. *** .01 level.
[a] Barriers to finding housing were reported by family heads as "big problems" in finding housing. The maximum number of barriers is 19.
[b] The seven major life challenges measured are: psychological distress, Post Traumatic Stress Disorder, felony conviction, experience of domestic violence, childhood separation (foster care, group home, or institutionalization), medical condition, and substance abuse.
Notes: Chi-square tests used to test the difference between groups for all characteristics except mean age. t-test used for mean age.
Sources: Family Options Baseline Survey; 18-month followup survey

D.3.2 Unweighted Impact Estimates

How were the main results of this report affected by the use of nonresponse analysis weights? As discussed in Appendix C, the study team used nonresponse weights to produce all estimates in this report. This methodology is motivated in part by the finding in the previous section that for most impact comparisons, respondents and nonrespondents differed systematically on a number of baseline characteristics. Survey nonresponse weights adjust impact estimates such that the analysis sample reflects the observable characteristics of the baseline sample. This adjustment represents a "correction," however, only insofar as impacts vary with observable participant characteristics. The impact models also controlled for observable baseline characteristics. Together, these measures adjust the impact estimates to reflect potential differences between the groups in each comparison that could have been induced by nonresponse. In this section, we look for evidence of such variation by comparing the study's headline impact estimates to estimates that do not use survey nonresponse weights. The results are also presented for completeness for readers interested in the unadjusted estimates.

Exhibit D-30 presents these unadjusted estimates, which are comparable to Exhibit ES-5 in the executive summary. Changes to coefficient signs, magnitudes, and statistical significance are minimal. In every case, the 95-percent confidence intervals associated with impact coefficients estimated without nonresponse weights included the coefficient estimates in the main weighted specification, with intervals largely overlapping. Changes of sign (that is, from positive to negative) were limited to coefficients that were both close in magnitude to zero and estimated as statistically insignificant. Changes in statistical significance were minor, with the exception of the impact estimate for child reunification in SUB versus PBTH, which was statistically significant at the .05 level when nonresponse weights were used but was not significant at the .10 level without weights.

Exhibit D-30. Executive Summary Impact Estimates, Estimated Without Nonresponse Weights

Outcome	Mean	ITT Impact Estimates					
	All UC Group	SUB vs. UC	CBRR vs. UC	PBTH vs. UC	SUB vs. CBRR	SUB vs. PBTH	CBRR vs. PBTH
Housing stability (intervention goal: lower values)							
At least one night homeless or doubled up (past 6 months) or in shelter (past 12 months) (%) **[Confirmatory]**[a]	50.9	− 28.6 ***	− 2.8	− 7.3 *	− 27.9 ***	− 28.7 ***	7.4
At least one night homeless or doubled up in past 6 months (%)	40.3	− 24.7 ***	− 2.6	− 3.5	− 20.7 ***	− 25.3 ***	7.9
Number of places lived in past 6 months	1.7	− 0.35 ***	− 0.08	− 0.09	− 0.24 ***	− 0.38 ***	0.00
Any stay in emergency shelter in months 7 to 18 after RA (%)	28.5	− 14.1 ***	− 0.8	− 8.7 **	− 14.3 ***	− 12.1 ***	2.9
Family preservation (intervention goal: lower values)							
Any child separated in past 6 months[b] (%)	14.9	− 5.6 **	− 1.3	− 0.8	− 1.1	− 5.7 *	0.9
Spouse/partner separated in past 6 months[c] (%) [limited base]	36.6	− 0.7	8.1	2.2	− 15.5 **	− 4.1	8.7
No child reunified, of those with at least one child separated at baseline[d] (%) [limited base]	72.3	− 4.3	− 5.5	− 3.2	3.5	− 20.0	− 6.9
Adult well-being (intervention goal: lower values)							
Health in past 30 days was poor or fair (%)	31.8	− 0.2	− 4.1	1.8	− 0.1	− 4.6	− 10.0 **
K6 Psychological Distress Scale[e]	7.6	− 1.1 ***	− 0.4	0.1	− 0.5	− 1.7 ***	− 1.7 ***
Alcohol dependence or drug abuse[f] (%)	14.6	− 4.2 *	− 2.7	− 1.2	− 0.5	− 4.6	− 5.9
Experienced intimate partner violence in past 6 months (%)	12.0	− 6.6 ***	− 1.5	− 1.8	− 7.0 ***	− 3.4	− 0.2
Child well-being (intervention goal: lower values)							
School mobility (number of schools since RA)[g]	1.87	− 0.20 ***	− 0.03	− 0.07	− 0.26 ***	− 0.14	0.06
Childcare or school absences[h]	0.93	− 0.15 **	− 0.05	− 0.01	− 0.09	− 0.08	− 0.06
Child health in past 30 days was poor or fair (%)	4.9	0.1	0.4	1.1	0.0	− 0.5	− 1.8
Strengths and difficulties: total problem score (z-score)[i]	0.56	− 0.16 **	− 0.10	− 0.14	0.03	0.07	0.03
Self– sufficiency (intervention goal: higher values)							
Work for pay in week before survey (%)	32.4	− 4.7	− 0.3	4.2	− 3.9	− 11.9 ***	− 8.4
Total family income ($)	9,003	− 560	1,101 **	853	− 996 *	− 1,632 **	140
Household is food secure (%)	64.5	10.5 ***	5.3	3.5	5.3	7.0	7.1
Number of families	**578**	**944**	**870**	**709**	**795**	**644**	**594**

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test (not adjusted for multiple comparisons).

[a] After adjustment for multiple comparisons, the impact on the confirmatory outcome is not statistically significant for the PBTH versus UC comparison and is statistically significant at the .01 level for the SUB versus UC, SUB versus CBRR, and SUB versus PBTH comparisons.

[b] Measures the percentage of families in which a child who was with the family at baseline became separated from the family in the six months prior to the 18-month survey.

[c] Measures the percentage of families in which a spouse or partner who was with the family at baseline became separated from the family in the 6 months prior to the 18-month survey.

[d] Measures the percentage of families in which at least one child was separated from the family at baseline and no child was reunited with the family at the time of the 18-month survey.

[e] Measures psychological distress using the Kessler-6 scale. Higher scores indicate greater distress. Impacts shown as standardized effect sizes. Effect sizes were standardized by dividing impacts by standard deviation for the UC group.

[f] Measures evidence of alcohol dependence or drug abuse using responses to the Rapid Alcohol Problems Screen (RAPS-4) and 6 items from the Drug Abuse Screening Test (DAST-10).

[g] Measures are 1 = 1 school; 2 = 2 schools; 3 = 3 schools; 4 = 4 schools attended since random assignment.

[h] Measures are 0 = no absences; 1 = 1-2 absences; 2 = 3-5 absences; 3 = 6 or more absences in the month prior to the 18-month survey.

[i] This measure is the score on the Strengths and Difficulties behavioral and personality assessment. The total problem score measures emotional symptoms, conduct problems, hyperactivity, and peer problems. The score ranges from 0 to 40 with higher scores indicating more negative behavior.

Notes: Impact estimates are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-Month followup survey; and program usage data

APPENDIX E.

IMPACTS ON USE OF TRANSITIONAL HOUSING

After the research team submitted the draft report of the Family Options Study, HUD requested that the team estimate impacts on seven additional outcomes related to use of transitional housing and emergency shelter during the followup period. These outcomes more closely measure the impact of random assignment to contrasting interventions on homelessness as measured in the McKinney-Vento Homeless Assistance Act and *Opening Doors: Federal Strategic Plan To Prevent and End Homelessness*. The additional outcomes are—

1. Any use of transitional housing in months 0 to 18 after random assignment.

2. Number of months using emergency shelter or transitional housing in months 0 to 18 after random assignment.

3. Number of months using emergency shelter in months 0 to 18 after random assignment.

4. Number of months using transitional housing in months 0 to 18 after random assignment.

5. Any use of emergency shelter or transitional housing in months 7 to 18 after random assignment.

6. Any use of emergency shelter in months 7 to 18 after random assignment (this outcome is also included in the housing stability analyses in Chapters 6 through 9 of the report).

7. Any use of transitional housing in months 7 to 18 after random assignment.

The new outcomes are measured with Program Usage Data. They differ from outcomes in the analyses of housing stability provided in Chapters 6 through 9, which did not consider use of transitional housing, either separately or in conjunction with the use of emergency shelter.

This appendix includes six exhibits, one for each pairwise comparison: (1) permanent housing subsidy (SUB) versus usual care (UC), (2) community-based rapid re-housing (CBRR) versus UC, (3) project-based transitional housing (PBTH) versus UC, (4) SUB versus CBRR, (5) SUB versus PBTH, and (6) CBRR versus PBTH. For comparisons involving PBTH (Exhibits E-3, E-5, and E-6), note that impacts on the use of transitional housing in part reflect takeup of the assigned intervention encouraged and facilitated for the PBTH group—but not the other group included in the comparison—by the study design.

Exhibit E-1. SUB Versus UC: Impacts on Use of ES and TH

Outcome	SUB			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Any use of TH during months 0–18									
Any use of transitional housing during months 0–18 after RA (%)	530	5.9	(24.9)	415	20.8	(40.4)	– 14.9 ***	(2.4)	– 0.31
Number of months of ES and TH use during months 0–18									
Number of months of emergency shelter and transitional housing use during months 0–18 after RA	530	3.1	(3.7)	415	5.2	(5.7)	– 2.1 ***	(0.3)	– 0.31
Number of months of emergency shelter use during months 0–18 after RA	530	2.7	(3.1)	415	3.6	(4.7)	– 0.9 ***	(0.2)	– 0.18
Number of months of transitional housing use during months 0–18 after RA	530	0.3	(2.0)	415	1.6	(3.8)	– 1.2 ***	(0.2)	– 0.24
Any use of ES or TH during months 7–18									
Any use of emergency shelter or transitional housing during months 7–18 after RA (%)	530	17.0	(37.4)	415	39.7	(49.4)	– 22.6 ***	(3.0)	– 0.40
Any use of emergency shelter during months 7–18 after RA (%)	530	14.8	(34.9)	415	27.8	(45.9)	– 12.9 ***	(2.6)	– 0.25
Any use of transitional housing during months 7–18 after RA (%)	530	3.0	(18.6)	415	16.4	(36.6)	– 13.4 ***	(2.1)	– 0.30

SUB = permanent housing subsidy. UC = usual care.

ES = emergency shelter. ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error. TH = transitional housing.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Appendix B for outcome definitions.

Source: Family Options Study Program Usage data

Exhibit E-2. CBRR Versus UC: Impacts on Use of ES and TH

Outcome	CBRR			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Any use of TH during months 0–18									
Any use of transitional housing during months 0–18 after RA (%)	455	18.3	(37.7)	451	23.9	(43.1)	– 5.6 **	(2.7)	– 0.11
Number of months of ES and TH use during months 0–18									
Number of months of emergency shelter and transitional housing use during months 0–18 after RA	455	4.6	(5.5)	451	5.5	(5.9)	– 0.9 **	(0.4)	– 0.14
Number of months of emergency shelter use during months 0–18 after RA	455	3.2	(4.3)	451	3.6	(4.6)	– 0.4	(0.3)	– 0.08
Number of months of transitional housing use during months 0–18 after RA	455	1.4	(3.6)	451	1.9	(4.4)	– 0.5 **	(0.3)	– 0.10
Any use of ES or TH during months 7–18									
Any use of emergency shelter or transitional housing during months 7–18 after RA (%)	455	35.7	(47.9)	451	41.8	(49.6)	– 6.1 *	(3.4)	– 0.11
Any use of emergency shelter during months 7–18 after RA (%)	455	26.4	(44.3)	451	28.4	(45.7)	– 2.1	(3.1)	– 0.04
Any use of transitional housing during months 7–18 after RA (%)	455	13.8	(33.4)	451	18.1	(39.0)	– 4.2 *	(2.5)	– 0.10

CBRR = community-based rapid re-housing. UC = usual care.

ES = emergency shelter. ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error. TH = transitional housing.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Appendix B for outcome definitions.

Source: Family Options Study Program Usage data

Exhibit E-3. PBTH Versus UC: Impacts on Use of ES and TH

Outcome	PBTH			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Any use of TH during months 0–18									
Any use of transitional housing during months 0–18 after RA (%)	294	53.2	(49.9)	262	29.0	(45.8)	24.2 ***	(4.3)	0.50
Number of months of ES and TH use during months 0–18									
Number of months of emergency shelter and transitional housing use during months 0–18 after RA	294	8.5	(6.8)	262	5.5	(5.9)	3.1 ***	(0.5)	0.46
Number of months of emergency shelter use during months 0–18 after RA	294	2.7	(3.5)	262	3.4	(4.1)	– 0.7 **	(0.3)	– 0.14
Number of months of transitional housing use during months 0–18 after RA	294	5.9	(6.6)	262	2.1	(4.7)	3.8 ***	(0.5)	0.75
Any use of ES or TH during months 7–18									
Any use of emergency shelter or transitional housing during months 7–18 after RA (%)	294	57.3	(49.7)	262	43.2	(49.8)	14.1 ***	(4.5)	0.25
Any use of emergency shelter during months 7–18 after RA (%)	294	18.9	(38.8)	262	27.1	(44.9)	– 8.2 **	(3.6)	– 0.16
Any use of transitional housing during months 7–18 after RA (%)	294	45.5	(49.9)	262	20.1	(41.3)	25.4 ***	(4.1)	0.57

PBTH = project-based transitional housing. UC = usual care.

ES = emergency shelter. ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error. TH = transitional housing.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Appendix B for outcome definitions.

Source: Family Options Study Program Usage data

Exhibit E-4. SUB Versus CBRR: Impacts on Use of ES and TH

Outcome	SUB			CBRR			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Any use of TH during months 0–18									
Any use of transitional housing during months 0–18 after RA (%)	381	5.9	(23.4)	308	15.3	(35.4)	– 9.5 ***	(2.4)	– 0.19
Number of months of ES and TH use during months 0–18									
Number of months of emergency shelter and transitional housing use during months 0–18 after RA	381	3.1	(3.7)	308	4.5	(5.5)	– 1.4 ***	(0.3)	– 0.21
Number of months of emergency shelter use during months 0–18 after RA	381	2.8	(3.3)	308	3.4	(4.7)	– 0.6 **	(0.3)	– 0.13
Number of months of transitional housing use during months 0–18 after RA	381	0.3	(1.7)	308	1.1	(3.3)	– 0.7 ***	(0.2)	– 0.15
Any use of ES or TH during months 7–18									
Any use of emergency shelter or transitional housing during months 7–18 after RA (%)	381	17.0	(37.7)	308	36.5	(48.5)	– 19.5 ***	(3.4)	– 0.35
Any use of emergency shelter during months 7–18 after RA (%)	381	14.6	(35.5)	308	27.8	(45.8)	– 13.2 ***	(3.1)	– 0.26
Any use of transitional housing during months 7–18 after RA (%)	381	3.2	(17.5)	308	12.4	(32.2)	– 9.2 ***	(2.1)	– 0.21

CBRR = community-based rapid re-housing. SUB = permanent housing subsidy.

ES = emergency shelter. ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error. TH = transitional housing.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Appendix B for outcome definitions.

Source: Family Options Study Program Usage data

Exhibit E-5. SUB Versus PBTH: Impacts on Use of ES and TH

Outcome	SUB			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Any use of TH during months 0–18									
Any use of transitional housing during months 0–18 after RA (%)	230	7.9	(28.2)	187	52.2	(50.1)	– 44.3 ***	(4.1)	– 0.91
Number of months of ES and TH use during months 0–18									
Number of months of emergency shelter and transitional housing use during months 0–18 after RA	230	2.5	(3.3)	187	8.4	(6.8)	– 5.9 ***	(0.5)	– 0.89
Number of months of emergency shelter use during months 0–18 after RA	230	2.0	(2.0)	187	2.8	(3.5)	– 0.7 **	(0.3)	– 0.15
Number of months of transitional housing use during months 0–18 after RA	230	0.5	(2.5)	187	5.6	(6.7)	– 5.1 ***	(0.5)	– 1.02
Any use of ES or TH during months 7–18									
Any use of emergency shelter or transitional housing during months 7–18 after RA (%)	230	10.2	(31.2)	187	55.6	(50.0)	– 45.4 ***	(4.3)	– 0.81
Any use of emergency shelter during months 7–18 after RA (%)	230	6.7	(25.5)	187	20.6	(39.1)	– 13.9 ***	(3.6)	– 0.27
Any use of transitional housing during months 7–18 after RA (%)	230	4.3	(21.4)	187	41.7	(49.5)	– 37.4 ***	(3.9)	– 0.84

PBTH = project-based transitional housing. SUB = permanent housing subsidy.

ES = emergency shelter. ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error. TH = transitional housing.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Appendix B for outcome definitions.

Source: Family Options Study Program Usage data

Exhibit E-6. CBRR Versus PBTH: Impacts on Use of ES and TH

Outcome	CBRR			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Any use of TH during months 0–18									
Any use of transitional housing during months 0–18 after RA (%)	179	24.6	(43.8)	197	53.5	(50.0)	– 28.9 ***	(5.5)	– 0.59
Number of months of ES and TH use during months 0–18									
Number of months of emergency shelter and transitional housing use during months 0–18 after RA	179	4.6	(5.8)	197	8.1	(6.8)	– 3.6 ***	(0.7)	– 0.54
Number of months of emergency shelter use during months 0–18 after RA	179	2.6	(3.9)	197	2.7	(3.7)	– 0.1	(0.4)	– 0.01
Number of months of transitional housing use during months 0–18 after RA	179	1.9	(4.3)	197	5.4	(6.5)	– 3.5 ***	(0.7)	– 0.70
Any use of ES or TH during months 7–18									
Any use of emergency shelter or transitional housing during months 7–18 after RA (%)	179	31.2	(47.1)	197	54.2	(49.9)	– 23.1 ***	(5.3)	– 0.41
Any use of emergency shelter during months 7–18 after RA (%)	179	19.9	(41.8)	197	18.5	(38.7)	1.4	(4.4)	0.03
Any use of transitional housing during months 7–18 after RA (%)	179	17.4	(38.4)	197	44.9	(49.9)	– 27.6 ***	(5.2)	– 0.62

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing.

ES = emergency shelter. ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error. TH = transitional housing.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Appendix B for outcome definitions.

Source: Family Options Study Program Usage data

APPENDIX F.

IMPACT ESTIMATES FOR POOLED COMPARISONS

Exhibit F-1. SUB + CBRR + PBTH Versus UC: Impacts on Housing Stability

Outcome	SUB + CBRR + PBTH			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Homelessness or doubled up during the followup period									
At least 1 night homeless[b] or doubled up (past 6 months) or in shelter (past 12 months) (%) **[Confirmatory]**[c]	1,278	36.6	(48.2)	578	50.2	(50.0)	− 13.6 ***	(2.6)	− 0.24
At least 1 night homeless[b] or doubled up in past 6 months (%)	1,278	29.1	(45.6)	578	40.7	(49.1)	− 11.6 ***	(2.5)	− 0.21
At least 1 night homeless[b] in past 6 months (%)	1,278	16.6	(37.7)	577	24.8	(42.9)	− 8.2 ***	(2.2)	− 0.17
At least 1 night doubled up in past 6 months (%)	1,279	23.1	(42.2)	578	31.5	(46.1)	− 8.5 ***	(2.3)	− 0.16
Any stay in emergency shelter in months 7 to 18 after random assignment (%)	1,279	19.6	(39.7)	578	27.2	(45.2)	− 7.6 ***	(2.2)	− 0.15
Number of days homeless[b] or doubled up in past 6 months	1,276	37.0	(66.5)	575	52.9	(74.8)	− 16.0 ***	(3.8)	− 0.19
Number of days homeless[b] in past 6 months	1,272	15.5	(44.4)	572	22.1	(49.9)	− 6.5 **	(2.6)	− 0.11
Number of days doubled up in past 6 months	1,278	25.5	(55.7)	578	37.1	(65.1)	− 11.5 ***	(3.2)	− 0.16
Housing independence									
Living in own house or apartment at followup (%)	1,237	65.9	(47.6)	578	58.5	(49.5)	7.3 ***	(2.5)	0.13
Living in own house or apartment with no housing assistance (%)	1,237	28.4	(45.0)	578	34.7	(47.1)	− 6.3 ***	(2.4)	− 0.12
Living in own house or apartment with housing assistance (%)	1,237	37.4	(48.3)	578	23.8	(42.9)	13.6 ***	(2.3)	0.28
Number of places lived									
Number of places lived in past 6 months	1,276	1.6	(1.0)	576	1.8	(1.2)	− 0.2 ***	(0.1)	− 0.13
Housing quality									
Persons per room	1,263	1.5	(1.1)	559	1.7	(1.2)	− 0.2 ***	(0.1)	− 0.15
Any use of transitional housing during months 7–18 after RA (%)	230	4.3	(21.4)	187	41.7	(49.5)	− 37.4 ***	(3.9)	− 0.84

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] The definition of *homeless* in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing.

[c] After adjustment for multiple comparisons, the impact on the confirmatory outcome is statistically significant at the .01 level for the SUB + CBRR + PBTH versus UC comparison.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey; Program Usage data

Exhibit F-2. SUB + CBRR + PBTH Versus UC: Impacts on Family Preservation

Outcome	SUB + CBRR + PBTH			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Current or recent separations of family members present at baseline									
Family has at least one child separated in past 6 months (%)	1,258	12.6	(33.2)	572	15.6	(35.6)	−3.0	(1.9)	−0.07
Family has at least one foster care placement in past 6 months (%)	1,261	2.4	(15.0)	573	4.4	(19.2)	−2.0*	(1.0)	−0.09
Spouse/partner separated in past 6 months, of those with spouse/ partner present at RA (%)	343	37.0	(48.0)	161	34.4	(48.3)	2.6	(4.8)	0.05
Reunification of family members reported as separated at baseline									
Family has at least one child reunified, of those families with at least one child absent at RA (%)	246	33.5	(47.5)	119	28.3	(45.0)	5.3	(5.9)	0.11
Spouse/partner reunified, of those with spouse/partner absent at RA (%)	127	34.3	(47.2)	54	37.4	(48.7)	−3.2	(9.6)	−0.06

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey

Exhibit F-3. SUB + CBRR + PBTH Versus UC: Impacts on Adult Well-Being

Outcome	SUB + CBRR + PBTH			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Adult physical health									
Health in past 30 days was poor or fair (%)	1,277	31.3	(46.2)	578	30.9	(46.6)	0.3	(2.2)	0.01
Adult mental health									
Goal-oriented thinking[b]	1,270	4.48	(1.02)	575	4.39	(1.03)	0.08	(0.05)	0.07
Psychological distress[c]	1,274	7.07	(5.46)	577	7.56	(5.69)	−0.49*	(0.28)	−0.07
Adult trauma symptoms									
Post-traumatic stress disorder (PTSD) symptoms in past 30 days (%)	1,273	22.8	(41.7)	570	25.0	(43.5)	−2.3	(2.2)	−0.05
Adult substance use									
Alcohol dependence or drug abuse[d] (%)	1,274	12.4	(33.2)	576	15.0	(35.3)	−2.6	(1.8)	−0.06
Alcohol dependence[d] (%)	1,276	9.5	(29.5)	576	12.0	(32.1)	−2.4	(1.7)	−0.07
Drug abuse[d] (%)	1,274	4.0	(19.8)	576	6.1	(23.6)	−2.1*	(1.1)	−0.08
Experience of intimate partner violence									
Experienced intimate partner violence in past 6 months (%)	1,275	8.5	(27.7)	577	11.7	(32.5)	−3.2**	(1.6)	−0.09

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Goal-oriented thinking is measured with a modified version of the State Hope Scale and ranges from 1 to 6, with higher scores indicating higher levels of positive, goal-oriented thinking.

[c] Psychological distress is measured with the Kessler-6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress.

[d] Alcohol dependence is measured with the Rapid Alcohol Problems Screen-4 (RAPS4) and drug abuse is measured with 6 items from the Drug Abuse Screening Test-10 (DAST-10).

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey

Exhibit F-4. SUB + CBRR + PBTH Versus UC: Impacts on Child Well-Being Across Age Groups

Outcome	SUB + CBRR + PBTH			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Child education									
Preschool or Head Start enrollment (%)[b]	644	37.6	(48.7)	275	32.8	(48.3)	4.8	(4.0)	0.08
School enrollment (%)[c]	1,175	90.6	(29.6)	522	92.4	(26.6)	− 1.8	(1.5)	− 0.05
Child care or school absences in past month[d]	1,291	0.85	(0.93)	584	0.94	(0.99)	− 0.10	(0.06)	− 0.07
Number of schools attended since random assignment[e]	1,351	1.85	(0.82)	597	1.96	(0.88)	− 0.11 **	(0.05)	− 0.10
Grade completion (not held back) (%)	1,101	92.4	(25.8)	494	90.8	(29.1)	1.6	(1.6)	0.04
Positive childcare or school experiences[f]	1,488	0.62	(0.54)	651	0.57	(0.56)	0.05 *	(0.03)	0.07
Positive childcare or school attitudes[g]	1,481	4.34	(1.00)	649	4.29	(1.00)	0.05	(0.05)	0.04
School grades[h]	978	3.01	(0.92)	441	2.92	(0.96)	0.10	(0.06)	0.08
Child care or school conduct problems[i]	1,339	0.22	(0.42)	601	0.24	(0.43)	− 0.02	(0.02)	− 0.04
Child physical health									
Poor or fair health (%)	1,872	5.1	(21.8)	816	4.6	(21.6)	0.5	(1.0)	0.02
Well-child check-up in past year (%)	1,874	89.9	(29.8)	815	90.3	(28.6)	− 0.4	(1.7)	− 0.01
Child has regular source of health care (%)	1,879	94.3	(23.6)	814	93.0	(24.9)	1.3	(1.5)	0.04
Sleep problems[j]	1,876	2.07	(1.10)	814	2.09	(1.12)	− 0.02	(0.06)	− 0.01
Child behavioral strengths and challenges									
Behavior problems[k]	1,551	0.47	(1.22)	688	0.59	(1.24)	− 0.12	(0.07)	− 0.07
Prosocial behavior[l]	1,552	− 0.11	(1.10)	691	− 0.15	(1.08)	0.04	(0.06)	0.03

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Base for preschool or Head Start enrollment is children age 1.5 to 5 years.

[c] Base for school enrollment is children age 6 to 17.

[d] Absences outcome is defined as 0 = No absences in past month, 1 = 1 to 2 absences, 2 = 3 to 5 absences, 3 = 6 or more absences.

[e] Number of schools outcome is topcoded at 4 or more schools.

[f] Positive childcare or school experiences outcome is defined as -1 = mostly negative experiences, 0 = Both positive and negative experiences, 1 = mostly positive experiences.

[g] Positive childcare or school attitudes outcome is parent report of how much child likes school and ranges from 1 to 5, with higher values indicating greater like of school.

[h] School grades outcome is defined as 1 = mostly Ds or Fs, 2 = mostly Cs, 3 = mostly Bs, 4 = mostly As.

[i] Childcare or school conduct problems outcome is defined as 0 = No conduct problems reported to parent, 1 = Parent contacted about conduct problems or suspension or expulsion from school or childcare center.

[j] Sleep problems outcome ranges from 1 to 5, with higher values indicating more frequent tiredness upon waking and during the day.

[k] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire (SDQ).

[l] Prosocial behavior is measured as the standardized Prosocial domain score from the Strengths and Difficulties Questionnaire (SDQ).

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

Exhibit F-5. SUB + CBRR + PBTH Versus UC: Impacts on Child Well-Being Developmental Outcomes by Age Group

Outcome	SUB + CBRR + PBTH			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Ages 1 year to 3 years, 6 months									
Met developmental milestones (%)[b]	382	75.9	(43.3)	165	78.2	(40.6)	− 2.3	(4.9)	− 0.04
Low birth weight (%)[c]	83	12.0	(31.3)	32	11.0	(24.6)	1.0	(9.7)	0.03
Ages 3 years, 6 months to 7 years									
Verbal ability[d]	624	− 0.28	(0.95)	243	− 0.23	(1.01)	− 0.05	(0.09)	− 0.03
Math ability[e]	601	− 0.26	(0.90)	237	− 0.21	(0.88)	− 0.05	(0.08)	− 0.04
Executive functioning (self-regulation)[f]	553	15.76	(16.04)	219	16.21	(16.07)	− 0.45	(1.03)	− 0.02
Ages 8 to 17 years									
Anxiety[g]	624	35.61	(7.70)	294	34.44	(7.58)	1.17 *	(0.63)	0.11
Fears[h]	632	65.10	(14.28)	294	64.35	(14.48)	0.75	(1.18)	0.03
Substance use (%)[i]	617	9.26	(29.21)	289	8.60	(28.16)	0.67	(2.02)	0.02
Goal-oriented thinking[j]	608	22.66	(4.70)	277	22.59	(5.08)	0.07	(0.37)	0.01
School effort in past month[k]	622	2.69	(0.81)	289	2.78	(0.77)	− 0.09	(0.06)	− 0.09
Arrests or police involvement in past 6 months (%)[l]	353	11.20	(31.04)	170	12.87	(31.60)	− 1.67	(3.67)	− 0.04

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed t-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Met developmental milestones outcome is defined as scoring above the typical development cutoffs in all domains of the ASQ-3.

[c] Base for low birthweight outcome (parent report) is children born since random assignment who are at least 1 year old at followup.

[d] Verbal ability outcome is the nationally standardized score from the WJIII Letter-Word Identification test.

[e] Math ability outcome is the nationally standardized score from the WJIII Applied Problems test.

[f] Executive functioning outcome is the HTKS score and ranges from 0 to 40, with higher scores indicating greater executive functioning.

[g] Anxiety (child report) is measured using the A-Trait scale from the State-Trait Anxiety Inventory for Children (STAIC). Scores range from 20 to 60, with higher scores indicating greater anxiety.

[h] Fears outcome (child report) is the score from the Fears Scale and ranges from 33 to 99, with higher scores indicating more fear.

[i] Substance use (child report) is measured with 23 items from the Centers for Disease Control and Prevention 2011 Youth Risk Behavior Survey.

[j] Goal-oriented thinking (child report) is measured with a modified version of the Children's Hope Scale and ranges from 6 to 30, with higher scores indicating higher levels of positive, goal-oriented thinking.

[k] School effort outcome (child report) ranges from 1 to 4, with higher scores indicating greater effort during school day and on homework.

[l] Arrest or police involvement in past 6 months is from parent report.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey (parent report); Ages and Stages Questionnaire (ASQ-3); Woodcock-Johnson III Assessment (WJIII); Head, Toes, Knees, and Shoulders (HTKS) Assessment; Family Options Study 18-Month Child Survey (child report)

Exhibit F-6. SUB + CBRR + PBTH Versus UC: Impacts on Self-Sufficiency

Outcome	SUB + CBRR + PBTH			UC			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Employment status									
Work for pay in week before survey (%)	1,278	31.0	(46.5)	578	32.1	(46.8)	− 1.1	(2.3)	− 0.02
Any work for pay since RA (%)	1,278	58.1	(49.2)	577	61.8	(48.6)	− 3.7	(2.3)	− 0.07
Months worked for pay since RA[b]	1,268	6.3	(7.5)	567	6.7	(7.6)	− 0.4	(0.3)	− 0.05
Hours of work per week at current main job[c]	1,276	9.8	(15.9)	576	9.9	(15.6)	− 0.1	(0.8)	− 0.01
Income sources/amounts									
Annualized current earnings ($)	1,253	4,922	(9,066)	565	4,935	(9,317)	− 13	(448)	0.00
Total family income ($)	1,235	9,636	(7,892)	562	9,080	(7,592)	556	(390)	0.06
Anyone in family had earnings in past month (%)	1,278	41.1	(49.4)	577	43.8	(49.5)	− 2.7	(2.5)	− 0.05
Anyone in family received TANF in past month (%)	1,276	34.4	(47.7)	578	30.1	(46.6)	4.3*	(2.3)	0.08
Anyone in family received SSDI in past month (%)	1,277	7.1	(25.5)	578	7.6	(25.7)	− 0.6	(1.2)	− 0.02
Anyone in family received SSI in past month (%)	1,277	13.6	(33.7)	577	12.4	(33.5)	1.2	(1.4)	0.03
Anyone in family received SNAP/Food Stamps in past month (%)	1,277	87.6	(32.9)	578	82.8	(37.1)	4.8**	(1.9)	0.11
Anyone in family received WIC in past month (%)	1,277	31.3	(46.8)	578	30.7	(45.8)	0.5	(2.2)	0.01
Education and training									
Participated in 2+ weeks of any school or training since RA (%)	1,276	25.9	(43.9)	577	25.6	(43.6)	0.3	(2.3)	0.01
Number of weeks in school/training programs since RA	1,269	3.8	(10.0)	572	3.7	(9.6)	0.1	(0.5)	0.01
Participated in 2+ weeks of school since RA (%)	1,276	6.4	(24.4)	577	7.5	(25.4)	− 1.1	(1.4)	− 0.04
Participated in 2+ weeks of basic education since RA (%)	1,276	1.4	(12.1)	577	1.6	(13.7)	− 0.2	(0.6)	− 0.02
Participated in 2+ weeks of vocational education since RA (%)	1,276	6.5	(25.1)	577	7.3	(25.7)	− 0.8	(1.3)	− 0.03
Food security/hunger									
Household is food insecure (%)	1,279	29.2	(45.2)	578	34.9	(47.9)	− 5.7**	(2.4)	− 0.10
Food insecurity scale[d]	1,275	1.50	(1.98)	575	1.71	(2.03)	− 0.21**	(0.10)	− 0.09
Economic stressors									
Economic stress scale[e]	1,275	− 0.15	(0.48)	572	− 0.05	(0.51)	− 0.10***	(0.03)	− 0.17

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Number of months worked for pay includes partial calendar months.

[c] Hours of work per week includes those not currently working (i.e., those with 0 hours of work per week).

[d] Food insecurity scale ranges from 0 to 6, with higher values indicating higher food insecurity.

[e] Economic stress scale ranges from -1 to 1, with higher values indicating higher economic stress.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

Exhibit F-7. SUB + CBRR Versus PBTH: Impacts on Housing Stability

Outcome	SUB + CBRR			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Homelessness or doubled up during the followup period									
At least 1 night homeless[b] or doubled up (past 6 months) or in shelter (past 12 months) (%) **[Confirmatory][c]**	408	31.7	(47.0)	291	45.4	(49.9)	– 13.7 ***	(4.1)	– 0.24
At least 1 night homeless[b] or doubled up in past 6 months (%)	408	26.6	(44.8)	291	38.8	(48.9)	– 12.2 ***	(3.9)	– 0.22
At least 1 night homeless[b] in past 6 months (%)	408	15.2	(37.3)	291	20.9	(39.2)	– 5.7 *	(3.3)	– 0.12
At least 1 night doubled up in past 6 months (%)	409	20.8	(41.1)	291	32.9	(47.6)	– 12.1 ***	(3.7)	– 0.23
Any stay in emergency shelter in months 7 to 18 after random assignment (%)	409	12.6	(34.4)	291	18.7	(38.7)	– 6.0 **	(3.0)	– 0.12
Number of days homeless[b] or doubled up in past 6 months	408	35.0	(66.9)	290	46.4	(71.2)	– 11.4 *	(5.9)	– 0.13
Number of days homeless[b] in past 6 months	407	14.9	(44.5)	288	16.0	(42.0)	– 1.2	(3.7)	– 0.02
Number of days doubled up in past 6 months	409	24.2	(57.0)	291	37.5	(65.8)	– 13.3 **	(5.3)	– 0.18
Housing independence									
Living in own house or apartment at followup (%)	409	73.1	(45.4)	250	57.9	(49.6)	15.3 ***	(4.3)	0.27
Living in own house or apartment with no housing assistance (%)	409	27.7	(43.2)	250	41.2	(49.3)	– 13.6 ***	(4.0)	– 0.25
Living in own house or apartment with housing assistance (%)	409	45.5	(49.9)	250	16.6	(36.7)	28.8 ***	(3.7)	0.59
Number of places lived									
Number of places lived in past 6 months	408	1.5	(0.9)	290	1.8	(1.1)	– 0.3 ***	(0.1)	– 0.20
Housing quality									
Persons per room	403	1.5	(1.1)	287	1.7	(1.2)	– 0.2 **	(0.1)	– 0.13
Any use of transitional housing during months 7–18 after RA (%)	408	23.4	(42.8)	289	37.1	(48.6)	– 13.7 ***	(3.8)	– 0.25

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] The definition of *homeless* in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing.

[c] The seven confirmatory statistical tests for the study do not include the impact on this outcome in the SUB + CBRR versus PBTH comparison.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey; Program Usage data

Exhibit F-8. SUB + CBRR Versus PBTH: Impacts on Family Preservation

Outcome	SUB + CBRR			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Current or recent separations of family members present at baseline									
Family has at least one child separated in past 6 months (%)	402	11.1	(31.3)	287	14.1	(35.8)	− 3.0	(2.7)	− 0.07
Family has at least one foster care placement in past 6 months (%)	402	2.4	(14.8)	288	2.5	(16.5)	− 0.1	(1.2)	0.00
Spouse/partner separated in past 6 months, of those with spouse/partner present at RA (%)	130	31.7	(47.8)	88	28.7	(44.8)	2.9	(6.9)	0.05
Reunification of family members reported as separated at baseline									
Family has at least one child reunified, of those families with at least one child absent at RA (%)	92	39.9	(48.5)	61	27.0	(47.3)	12.9	(9.1)	0.26
Spouse/partner reunified, of those with spouse/partner absent at RA (%)	39	29.2	(46.8)	28	54.5	(50.8)	− 25.3	(16.5)	− 0.44

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey

Exhibit F-9. SUB + CBRR Versus PBTH: Impacts on Adult Well-Being

Outcome	SUB + CBRR			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Adult physical health									
Health in past 30 days was poor or fair (%)	408	28.8	(45.4)	291	33.9	(47.6)	− 5.1	(3.6)	− 0.10
Adult mental health									
Goal-oriented thinking[b]	407	4.54	(1.00)	291	4.34	(1.02)	0.20 **	(0.09)	0.17
Psychological distress[c]	406	6.51	(5.10)	291	7.86	(5.82)	− 1.35 ***	(0.41)	− 0.21
Adult trauma symptoms									
Post-traumatic stress disorder (PTSD) symptoms in past 30 days (%)	408	21.9	(41.3)	291	23.8	(42.6)	− 1.9	(3.3)	− 0.04
Adult substance use									
Alcohol dependence or drug abuse[d] (%)	409	11.9	(32.5)	291	15.6	(36.5)	− 3.7	(3.0)	− 0.09
Alcohol dependence[d] (%)	409	8.7	(28.0)	291	12.2	(32.6)	− 3.5	(2.8)	− 0.10
Drug abuse[d] (%)	409	5.2	(22.6)	291	3.9	(20.7)	1.3	(1.6)	0.05
Experience of intimate partner violence									
Experienced intimate partner violence in past 6 months (%)	409	7.3	(26.9)	291	9.3	(28.6)	− 1.9	(2.4)	− 0.05

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Goal-oriented thinking is measured with a modified version of the State Hope Scale and ranges from 1 to 6, with higher scores indicating higher levels of positive, goal-oriented thinking.

[c] Psychological distress is measured with the Kessler-6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress.

[d] Alcohol dependence is measured with the Rapid Alcohol Problems Screen-4 (RAPS4) and drug abuse is measured with 6 items from the Drug Abuse Screening Test-10 (DAST-10).

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey

Exhibit F-10. SUB + CBRR Versus PBTH: Impacts on Child Well-Being Across Age Groups

Outcome	SUB + CBRR			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Child education									
Preschool or Head Start enrollment (%)[b]	209	39.4	(49.1)	136	34.6	(48.8)	4.9	(6.4)	0.08
School enrollment (%)[c]	362	87.3	(32.4)	286	92.4	(27.2)	− 5.1**	(2.5)	− 0.15
Child care or school absences in past month[d]	400	0.77	(0.91)	310	0.90	(0.92)	− 0.13	(0.09)	− 0.10
Number of schools attended since random assignment[e]	418	1.83	(0.84)	324	1.91	(0.84)	− 0.08	(0.08)	− 0.07
Grade completion (not held back) (%)	333	93.7	(23.8)	271	91.2	(27.4)	2.5	(2.6)	0.07
Positive childcare or school experiences[f]	462	0.61	(0.54)	348	0.63	(0.56)	− 0.02	(0.04)	− 0.03
Positive childcare or school attitudes[g]	461	4.29	(1.02)	346	4.31	(0.99)	− 0.02	(0.08)	− 0.02
School grades[h]	292	2.98	(0.96)	241	2.95	(0.88)	0.03	(0.09)	0.02
Child care or school conduct problems[i]	412	0.26	(0.44)	319	0.20	(0.41)	0.05	(0.04)	0.09
Child physical health									
Poor or fair health (%)	598	4.9	(21.1)	435	6.2	(22.4)	− 1.4	(2.2)	− 0.05
Well-child check-up in past year (%)	598	89.6	(30.9)	433	90.9	(28.0)	− 1.3	(2.6)	− 0.03
Child has regular source of health care (%)	599	94.4	(22.8)	435	95.7	(21.9)	− 1.2	(1.7)	− 0.04
Sleep problems[j]	598	2.18	(1.08)	437	2.08	(1.09)	0.10	(0.08)	0.07
Child behavioral strengths and challenges									
Behavior problems[k]	488	0.53	(1.22)	358	0.47	(1.14)	0.06	(0.10)	0.04
Prosocial behavior[l]	488	− 0.16	(1.08)	359	− 0.06	(1.11)	− 0.10	(0.09)	− 0.07

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Base for preschool or Head Start enrollment is children age 1.5 to 5 years.

[c] Base for school enrollment is children age 6 to 17.

[d] Absences outcome is defined as 0 = No absences in past month, 1 = 1 to 2 absences, 2 = 3 to 5 absences, 3 = 6 or more absences.

[e] Number of schools outcome is topcoded at 4 or more schools.

[f] Positive childcare or school experiences outcome is defined as -1 = mostly negative experiences, 0 = Both positive and negative experiences, 1 = mostly positive experiences.

[g] Positive childcare or school attitudes outcome is parent report of how much child likes school and ranges from 1 to 5, with higher values indicating greater like of school.

[h] School grades outcome is defined as 1 = mostly Ds or Fs, 2 = mostly Cs, 3 = mostly Bs, 4 = mostly As.

[i] Childcare or school conduct problems outcome is defined as 0 = No conduct problems reported to parent, 1 = Parent contacted about conduct problems or suspension or expulsion from school or childcare center.

[j] Sleep problems outcome ranges from 1 to 5, with higher values indicating more frequent tiredness upon waking and during the day.

[k] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire (SDQ).

[l] Prosocial behavior is measured as the standardized Prosocial domain score from the Strengths and Difficulties Questionnaire (SDQ).

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey (parent report)

Exhibit F-11. SUB + CBRR Versus PBTH: Impacts on Child Well-Being Developmental Outcomes by Age Group

Outcome	SUB + CBRR			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Ages 1 year to 3 years, 6 months									
Met developmental milestones (%)[b]	131	76.7	(44.4)	83	71.0	(45.6)	5.7	(7.3)	0.10
Low birth weight (%)[c]	32	9.0	(29.6)	20	15.3	(30.8)	− 6.3	(13.3)	− 0.17
Ages 3 years, 6 months to 7 years									
Verbal ability[d]	215	− 0.24	(1.02)	140	− 0.29	(0.85)	0.05	(0.12)	0.04
Math ability[e]	207	− 0.27	(0.94)	135	− 0.25	(0.91)	− 0.02	(0.11)	− 0.02
Executive functioning (self-regulation)[f]	194	16.80	(16.18)	124	16.82	(16.14)	− 0.02	(1.27)	0.00
Ages 8 to 17 years									
Anxiety[g]	176	35.50	(6.85)	147	35.68	(7.85)	− 0.18	(1.07)	− 0.02
Fears[h]	177	64.83	(13.70)	150	64.92	(14.94)	− 0.09	(1.62)	0.00
Substance use (%)[i]	175	12.97	(32.59)	146	9.19	(32.19)	3.78	(3.88)	0.10
Goal-oriented thinking[j]	170	22.17	(4.48)	146	22.88	(5.20)	− 0.70	(0.58)	− 0.10
School effort in past month[k]	172	2.61	(0.82)	150	2.74	(0.81)	− 0.13	(0.10)	− 0.12
Arrests or police involvement in past 6 months (%)[l]	102	5.48	(25.41)	80	12.47	(31.80)	− 6.99	(4.65)	− 0.17

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Met developmental milestones outcome is defined as scoring above the typical development cutoffs in all domains of the ASQ-3.

[c] Base for low birthweight outcome (parent report) is children born since random assignment who are at least 1 year old at followup.

[d] Verbal ability outcome is the nationally standardized score from the WJIII Letter-Word Identification test.

[e] Math ability outcome is the nationally standardized score from the WJIII Applied Problems test.

[f] Executive functioning outcome is the HTKS score and ranges from 0 to 40, with higher scores indicating greater executive functioning.

[g] Anxiety (child report) is measured using the A-Trait scale from the State-Trait Anxiety Inventory for Children (STAIC). Scores range from 20 to 60, with higher scores indicating greater anxiety.

[h] Fears outcome (child report) is the score from the Fears Scale and ranges from 33 to 99, with higher scores indicating more fear.

[i] Substance use (child report) is measured with 23 items from the Centers for Disease Control and Prevention 2011 Youth Risk Behavior Survey.

[j] Goal-oriented thinking (child report) is measured with a modified version of the Children's Hope Scale and ranges from 6 to 30, with higher scores indicating higher levels of positive, goal-oriented thinking.

[k] School effort outcome (child report) ranges from 1 to 4, with higher scores indicating greater effort during school day and on homework.

[l] Arrest or police involvement in past 6 months is from parent report.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey (parent report); Ages and Stages Questionnaire (ASQ-3); Woodcock-Johnson III Assessment (WJIII); Head, Toes, Knees, and Shoulders (HTKS) Assessment; Family Options Study 18-Month Child Survey (child report)

Exhibit F-12. SUB + CBRR Versus PBTH: Impacts on Self-Sufficiency

Outcome	SUB + CBRR			PBTH			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Employment status									
Work for pay in week before survey (%)	409	27.8	(44.5)	291	36.6	(48.6)	− 8.8 **	(3.7)	− 0.17
Any work for pay since RA (%)	409	55.5	(49.8)	291	62.0	(48.7)	− 6.5 *	(3.6)	− 0.12
Months worked for pay since RA[b]	407	6.5	(7.7)	288	6.5	(7.6)	0.0	(0.5)	0.00
Hours of work per week at current main job[c]	409	9.4	(15.6)	290	11.7	(17.3)	− 2.3 *	(1.3)	− 0.13
Income sources/amounts									
Annualized current earnings ($)	400	4,491	(8,774)	281	6,109	(9,744)	− 1,618 **	(722)	− 0.16
Total family income ($)	394	10,142	(7,731)	283	10,749	(9,394)	− 607	(685)	− 0.07
Anyone in family had earnings in past month (%)	409	43.0	(49.4)	291	47.4	(50.1)	− 4.3	(3.8)	− 0.08
Anyone in family received TANF in past month (%)	409	32.8	(47.3)	290	29.6	(45.6)	3.3	(3.5)	0.06
Anyone in family received SSDI in past month (%)	409	6.6	(24.4)	291	8.4	(27.6)	− 1.7	(1.9)	− 0.06
Anyone in family received SSI in past month (%)	409	14.1	(33.6)	291	12.6	(33.0)	1.5	(2.2)	0.04
Anyone in family received SNAP/Food Stamps in past month (%)	409	88.1	(32.2)	291	84.6	(35.2)	3.5	(2.7)	0.08
Anyone in family received WIC in past month (%)	409	35.2	(47.7)	291	31.4	(46.3)	3.9	(3.5)	0.07
Education and training									
Participated in 2+ weeks of any school or training since RA (%)	407	29.1	(45.7)	291	21.0	(41.7)	8.1 **	(3.6)	0.16
Number of weeks in school/training programs since RA	403	4.5	(11.0)	291	2.7	(8.0)	1.8 **	(0.7)	0.16
Participated in 2+ weeks of school since RA (%)	407	6.7	(25.3)	291	5.5	(24.1)	1.2	(1.9)	0.04
Participated in 2+ weeks of basic education since RA (%)	407	0.5	(8.6)	291	2.4	(14.2)	− 2.0 *	(1.1)	− 0.14
Participated in 2+ weeks of vocational education since RA (%)	407	5.2	(23.1)	291	5.0	(22.1)	0.2	(1.9)	0.01
Food security/hunger									
Household is food insecure (%)	409	25.1	(44.0)	291	32.9	(46.8)	− 7.8 **	(3.7)	− 0.14
Food insecurity scale[d]	408	1.31	(1.90)	291	1.68	(2.01)	− 0.37 **	(0.16)	− 0.16
Economic stressors									
Economic stress scale[e]	409	− 0.16	(0.47)	291	− 0.10	(0.48)	− 0.07 *	(0.04)	− 0.11

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Number of months worked for pay includes partial calendar months.

[c] Hours of work per week includes those not currently working (i.e., those with 0 hours of work per week).

[d] Food insecurity scale ranges from 0 to 6, with higher values indicating higher food insecurity.

[e] Economic stress scale ranges from -1 to 1, with higher values indicating higher economic stress.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

Exhibit F-13. SUB + PBTH Versus CBRR: Impacts on Housing Stability

Outcome	SUB + PBTH			CBRR			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Homelessness or doubled up during the followup period									
At least 1 night homeless[b] or doubled up (past 6 months) or in shelter (past 12 months) (%) **[Confirmatory]**[c]	577	29.3	(45.7)	399	49.0	(50.1)	− 19.6 ***	(3.4)	− 0.35
At least 1 night homeless[b] or doubled up in past 6 months (%)	577	23.9	(42.9)	399	38.6	(48.7)	− 14.7 ***	(3.2)	− 0.26
At least 1 night homeless[b] in past 6 months (%)	577	13.8	(34.6)	399	23.0	(42.5)	− 9.1 ***	(2.8)	− 0.19
At least 1 night doubled up in past 6 months (%)	578	19.9	(40.3)	399	28.6	(45.0)	− 8.7 ***	(3.0)	− 0.17
Any stay in emergency shelter in months 7 to 18 after random assignment (%)	578	16.3	(36.6)	399	26.0	(44.9)	− 9.7 ***	(2.8)	− 0.19
Number of days homeless[b] or doubled up in past 6 months	576	28.6	(59.8)	399	52.2	(74.4)	− 23.6 ***	(4.9)	− 0.28
Number of days homeless[b] in past 6 months	574	12.3	(38.8)	399	23.2	(53.6)	− 10.9 ***	(3.5)	− 0.19
Number of days doubled up in past 6 months	577	19.6	(49.5)	399	34.4	(62.2)	− 14.7 ***	(4.1)	− 0.20
Housing independence									
Living in own house or apartment at followup (%)	551	67.2	(47.0)	399	63.5	(48.7)	3.7	(3.2)	0.07
Living in own house or apartment with no housing assistance (%)	551	20.7	(40.1)	399	43.9	(49.4)	− 23.2 ***	(3.1)	− 0.43
Living in own house or apartment with housing assistance (%)	551	46.5	(50.0)	399	19.4	(39.9)	27.1 ***	(3.0)	0.56
Number of places lived									
Number of places lived in past 6 months	576	1.6	(1.1)	399	1.7	(1.0)	− 0.1	(0.1)	− 0.07
Housing quality									
Persons per room	575	1.4	(1.0)	391	1.6	(1.3)	− 0.2 ***	(0.1)	− 0.16
Any use of transitional housing during months 7–18 after RA (%)	574	29.8	(45.9)	396	30.4	(46.0)	− 0.6	(3.2)	− 0.01

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] The definition of *homeless* in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing.

[c] The seven confirmatory statistical tests for the study do not include the impact on this outcome in the SUB + PBTH versus CBRR comparison.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey; Program Usage data

Exhibit F-14. SUB + PBTH Versus CBRR: Impacts on Family Preservation

Outcome	SUB + PBTH			CBRR			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Current or recent separations of family members present at baseline									
Family has at least one child separated in past 6 months (%)	569	12.8	(33.5)	395	13.1	(33.9)	− 0.3	(2.4)	− 0.01
Family has at least one foster care placement in past 6 months (%)	570	2.4	(14.9)	395	2.7	(15.7)	− 0.3	(1.2)	− 0.01
Spouse/partner separated in past 6 months, of those with spouse/partner present at RA (%)	150	30.8	(46.8)	113	44.6	(49.7)	− 13.8 **	(6.6)	− 0.25
Reunification of family members reported as separated at baseline									
Family has at least one child reunified, of those families with at least one child absent at RA (%)	119	30.3	(47.1)	75	34.4	(47.0)	− 4.1	(8.0)	− 0.08
Spouse/partner reunified, of those with spouse/partner absent at RA (%)	58	38.0	(48.5)	40	28.4	(45.2)	9.6	(13.6)	0.17

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey

Exhibit F-15. SUB + PBTH Versus CBRR: Impacts on Adult Well-Being

Outcome	SUB + PBTH			CBRR			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Adult physical health									
Health in past 30 days was poor or fair (%)	578	30.3	(46.1)	398	27.8	(44.5)	2.6	(2.9)	0.05
Adult mental health									
Goal-oriented thinking[b]	574	4.50	(1.06)	397	4.50	(0.95)	0.00	(0.07)	0.00
Psychological distress[c]	575	7.07	(5.69)	398	6.86	(5.17)	0.20	(0.34)	0.03
Adult trauma symptoms									
Post-traumatic stress disorder (PTSD) symptoms in past 30 days (%)	574	20.9	(41.2)	398	24.3	(42.0)	− 3.4	(2.8)	− 0.07
Adult substance use									
Alcohol dependence or drug abuse[d] (%)	575	13.0	(33.5)	398	12.9	(33.5)	0.0	(2.2)	0.00
Alcohol dependence[d] (%)	577	9.5	(29.6)	398	10.1	(29.8)	− 0.6	(1.9)	− 0.02
Drug abuse[d] (%)	574	4.7	(20.8)	399	4.2	(20.2)	0.4	(1.4)	0.02
Experience of intimate partner violence									
Experienced intimate partner violence in past 6 months (%)	577	6.7	(25.4)	397	12.5	(31.7)	− 5.8 ***	(2.1)	− 0.16

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Goal-oriented thinking is measured with a modified version of the State Hope Scale and ranges from 1 to 6, with higher scores indicating higher levels of positive, goal-oriented thinking.

[c] Psychological distress is measured with the Kessler-6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress.

[d] Alcohol dependence is measured with the Rapid Alcohol Problems Screen-4 (RAPS4) and drug abuse is measured with 6 items from the Drug Abuse Screening Test-10 (DAST-10).

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey

Exhibit F-16. SUB + PBTH Versus CBRR: Impacts on Child Well-Being Across Age Groups

Outcome	SUB + PBTH			CBRR			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Child education									
Preschool or Head Start enrollment (%)[b]	298	34.1	(48.5)	202	39.4	(48.8)	− 5.3	(4.9)	− 0.09
School enrollment (%)[c]	525	92.0	(28.6)	366	89.0	(30.5)	3.0	(2.2)	0.09
Child care or school absences in past month[d]	582	0.89	(0.94)	403	0.80	(0.92)	0.09	(0.08)	0.07
Number of schools attended since random assignment[e]	605	1.82	(0.80)	418	1.95	(0.88)	− 0.13*	(0.07)	− 0.11
Grade completion (not held back) (%)	493	92.8	(25.7)	339	93.4	(24.1)	− 0.6	(2.1)	− 0.02
Positive childcare or school experiences[f]	662	0.61	(0.54)	476	0.65	(0.55)	− 0.04	(0.04)	− 0.05
Positive childcare or school attitudes[g]	660	4.30	(1.01)	474	4.36	(0.98)	− 0.06	(0.07)	− 0.05
School grades[h]	442	3.04	(0.89)	305	2.90	(0.97)	0.14*	(0.08)	0.11
Child care or school conduct problems[i]	602	0.21	(0.42)	416	0.22	(0.42)	0.00	(0.03)	− 0.01
Child physical health									
Poor or fair health (%)	847	4.9	(21.7)	584	4.2	(20.3)	0.7	(1.3)	0.03
Well-child check-up in past year (%)	852	90.0	(30.0)	582	90.0	(28.8)	0.0	(2.3)	0.00
Child has regular source of health care (%)	853	94.0	(24.4)	584	93.8	(24.4)	0.1	(1.7)	0.00
Sleep problems[j]	850	2.05	(1.11)	582	2.03	(1.06)	0.02	(0.07)	0.01
Child behavioral strengths and challenges									
Behavior problems[k]	699	0.47	(1.19)	487	0.43	(1.29)	0.05	(0.09)	0.03
Prosocial behavior[l]	700	− 0.10	(1.11)	487	− 0.07	(1.08)	− 0.02	(0.08)	− 0.01

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed t-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Base for preschool or Head Start enrollment is children age 1.5 to 5 years.

[c] Base for school enrollment is children age 6 to 17.

[d] Absences outcome is defined as 0 = No absences in past month, 1 = 1 to 2 absences, 2 = 3 to 5 absences, 3 = 6 or more absences.

[e] Number of schools outcome is topcoded at 4 or more schools.

[f] Positive childcare or school experiences outcome is defined as -1 = mostly negative experiences, 0 = Both positive and negative experiences, 1 = mostly positive experiences.

[g] Positive childcare or school attitudes outcome is parent report of how much child likes school and ranges from 1 to 5, with higher values indicating greater like of school.

[h] School grades outcome is defined as 1 = mostly Ds or Fs, 2 = mostly Cs, 3 = mostly Bs, 4 = mostly As.

[i] Childcare or school conduct problems outcome is defined as 0 = No conduct problems reported to parent, 1 = Parent contacted about conduct problems or suspension or expulsion from school or childcare center.

[j] Sleep problems outcome ranges from 1 to 5, with higher values indicating more frequent tiredness upon waking and during the day.

[k] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire (SDQ).

[l] Prosocial behavior is measured as the standardized Prosocial domain score from the Strengths and Difficulties Questionnaire (SDQ).

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey (parent report)

Exhibit F-17. SUB + PBTH Versus CBRR: Impacts on Child Well-Being Developmental Outcomes by Age Group

Outcome	SUB + PBTH			CBRR			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Ages 1 year to 3 years, 6 months									
Met developmental milestones (%)[b]	180	74.2	(43.7)	113	85.6	(40.4)	– 11.4 **	(5.0)	– 0.21
Low birth weight (%)[c]	43	16.8	(35.1)	20	4.1	(22.4)	12.6	(9.5)	0.35
Ages 3 years, 6 months to 7 years									
Verbal ability[d]	273	– 0.35	(0.91)	190	– 0.24	(1.00)	– 0.11	(0.12)	– 0.08
Math ability[e]	263	– 0.25	(0.93)	184	– 0.28	(0.84)	0.03	(0.10)	0.03
Executive functioning (self-regulation)[f]	248	13.78	(15.88)	160	14.27	(15.97)	– 0.48	(1.22)	– 0.02
Ages 8 to 17 years									
Anxiety[g]	292	35.60	(7.81)	198	34.50	(7.57)	1.10	(0.96)	0.10
Fears[h]	295	64.59	(14.43)	202	65.04	(14.01)	– 0.45	(1.60)	– 0.02
Substance use (%)[i]	288	7.17	(26.05)	199	12.54	(32.05)	– 5.37 *	(2.86)	– 0.14
Goal-oriented thinking[j]	281	23.49	(4.81)	198	22.11	(4.25)	1.38 ***	(0.47)	0.20
School effort in past month[k]	292	2.77	(0.81)	199	2.57	(0.82)	0.20 **	(0.08)	0.19
Arrests or police involvement in past 6 months (%)[l]	162	15.47	(33.00)	125	9.42	(31.66)	6.05	(4.74)	0.15

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Met developmental milestones outcome is defined as scoring above the typical development cutoffs in all domains of the ASQ-3.

[c] Base for low birthweight outcome (parent report) is children born since random assignment who are at least 1 year old at followup.

[d] Verbal ability outcome is the nationally standardized score from the WJIII Letter-Word Identification test.

[e] Math ability outcome is the nationally standardized score from the WJIII Applied Problems test.

[f] Executive functioning outcome is the HTKS score and ranges from 0 to 40, with higher scores indicating greater executive functioning.

[g] Anxiety (child report) is measured using the A-Trait scale from the State-Trait Anxiety Inventory for Children (STAIC). Scores range from 20 to 60, with higher scores indicating greater anxiety.

[h] Fears outcome (child report) is the score from the Fears Scale and ranges from 33 to 99, with higher scores indicating more fear.

[i] Substance use (child report) is measured with 23 items from the Centers for Disease Control and Prevention 2011 Youth Risk Behavior Survey.

[j] Goal-oriented thinking (child report) is measured with a modified version of the Children's Hope Scale and ranges from 6 to 30, with higher scores indicating higher levels of positive, goal-oriented thinking.

[k] School effort outcome (child report) ranges from 1 to 4, with higher scores indicating greater effort during school day and on homework.

[l] Arrest or police involvement in past 6 months is from parent report.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey (parent report); Ages and Stages Questionnaire (ASQ-3); Woodcock-Johnson III Assessment (WJIII); Head, Toes, Knees, and Shoulders (HTKS) Assessment; Family Options Study 18-Month Child Survey (child report)

Exhibit F-18. SUB + PBTH Versus CBRR: Impacts on Self-Sufficiency

Outcome	SUB + PBTH			CBRR			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Employment status									
Work for pay in week before survey (%)	578	31.4	(46.0)	399	33.0	(47.4)	− 1.5	(3.1)	− 0.03
Any work for pay since RA (%)	578	57.2	(49.7)	399	63.2	(48.0)	− 6.0 **	(3.1)	− 0.11
Months worked for pay since RA[b]	572	6.0	(7.3)	397	7.8	(8.0)	− 1.8 ***	(0.5)	− 0.21
Hours of work per week at current main job[c]	577	9.8	(15.7)	399	11.0	(16.5)	− 1.1	(1.1)	− 0.06
Income sources/amounts									
Annualized current earnings ($)	568	4,946	(8,872)	393	5,487	(9,479)	− 541	(605)	− 0.05
Total family income ($)	560	9,213	(7,734)	379	9,918	(7,664)	− 705	(525)	− 0.08
Anyone in family had earnings in past month (%)	578	40.8	(49.1)	399	44.9	(49.9)	− 4.1	(3.2)	− 0.07
Anyone in family received TANF in past month (%)	576	33.5	(47.7)	399	31.5	(46.5)	2.0	(3.0)	0.04
Anyone in family received SSDI in past month (%)	577	8.5	(27.6)	399	8.0	(26.0)	0.5	(1.7)	0.02
Anyone in family received SSI in past month (%)	577	12.7	(33.8)	399	14.1	(33.7)	− 1.4	(2.1)	− 0.04
Anyone in family received SNAP/Food Stamps in past month (%)	577	86.7	(33.5)	399	86.1	(34.3)	0.6	(2.3)	0.01
Anyone in family received WIC in past month (%)	577	31.9	(46.6)	399	32.3	(47.1)	− 0.4	(3.0)	− 0.01
Education and training									
Participated in 2+ weeks of any school or training since RA (%)	577	25.7	(43.4)	398	26.8	(44.7)	− 1.1	(3.0)	− 0.02
Number of weeks in school/training programs since RA	574	3.5	(9.4)	394	4.2	(10.6)	− 0.6	(0.7)	− 0.06
Participated in 2+ weeks of school since RA (%)	577	7.0	(25.1)	398	5.0	(21.9)	2.0	(1.7)	0.07
Participated in 2+ weeks of basic education since RA (%)	577	1.8	(12.4)	398	1.6	(14.1)	0.2	(0.9)	0.01
Participated in 2+ weeks of vocational education since RA (%)	577	6.6	(24.5)	398	7.3	(26.0)	− 0.7	(1.7)	− 0.02
Food security/hunger									
Household is food insecure (%)	578	28.9	(45.4)	399	27.4	(44.6)	1.5	(3.2)	0.03
Food insecurity scale[d]	577	1.48	(2.00)	397	1.44	(1.93)	0.05	(0.14)	0.02
Economic stressors									
Economic stress scale[e]	577	− 0.18	(0.49)	398	− 0.12	(0.49)	− 0.06 *	(0.03)	− 0.10

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Number of months worked for pay includes partial calendar months.

[c] Hours of work per week includes those not currently working (i.e., those with 0 hours of work per week).

[d] Food insecurity scale ranges from 0 to 6, with higher values indicating higher food insecurity.

[e] Economic stress scale ranges from -1 to 1, with higher values indicating higher economic stress.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

Exhibit F-19. CBRR + PBTH Versus SUB: Impacts on Housing Stability

Outcome	CBRR + PBTH			SUB			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Homelessness or doubled up during the followup period									
At least 1 night homeless[b] or doubled up (past 6 months) or in shelter (past 12 months) (%) **[Confirmatory]**[c]	495	48.2	(50.0)	489	21.1	(41.2)	27.1***	(3.1)	0.48
At least 1 night homeless[b] or doubled up in past 6 months (%)	495	38.1	(48.6)	489	16.5	(37.4)	21.6***	(2.9)	0.39
At least 1 night homeless[b] in past 6 months (%)	495	22.7	(42.1)	489	11.3	(31.6)	11.4***	(2.5)	0.23
At least 1 night doubled up in past 6 months (%)	495	29.3	(45.3)	490	12.3	(33.5)	17.0***	(2.7)	0.32
Any stay in emergency shelter in months 7 to 18 after random assignment (%)	495	24.5	(43.7)	490	12.8	(34.2)	11.7***	(2.4)	0.23
Number of days homeless[b] or doubled up in past 6 months	494	49.4	(73.4)	488	20.3	(51.6)	29.1***	(4.3)	0.34
Number of days homeless[b] in past 6 months	492	21.1	(51.1)	487	11.3	(36.7)	9.8***	(3.0)	0.17
Number of days doubled up in past 6 months	495	34.2	(62.7)	489	11.4	(38.1)	22.8***	(3.7)	0.31
Housing independence									
Living in own house or apartment at followup (%)	468	61.8	(48.8)	490	74.1	(44.1)	– 12.4***	(3.0)	– 0.22
Living in own house or apartment with no housing assistance (%)	468	42.2	(49.2)	490	10.7	(29.8)	31.5***	(2.8)	0.58
Living in own house or apartment with housing assistance (%)	468	19.4	(40.3)	490	63.4	(48.1)	– 44.1***	(2.9)	– 0.91
Number of places lived									
Number of places lived in past 6 months	494	1.7	(1.0)	488	1.4	(1.0)	0.3***	(0.1)	0.20
Housing quality									
Persons per room	485	1.6	(1.2)	487	1.2	(0.8)	0.3***	(0.1)	0.24
Any use of transitional housing during months 7–18 after RA (%)	491	36.3	(47.9)	488	25.3	(43.3)	11.0***	(3.1)	0.20

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care. ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] The definition of *homeless* in this report includes stays in emergency shelters and places not meant for human habitation. It excludes transitional housing.

[c] The seven confirmatory statistical tests for the study do not include the impact on this outcome in the CBRR + PBTH versus SUB comparison.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey; Program Usage data

Exhibit F-20. CBRR + PBTH Versus SUB: Impacts on Family Preservation

Outcome	CBRR + PBTH			SUB			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Current or recent separations of family members present at baseline									
Family has at least one child separated in past 6 months (%)	489	13.4	(34.2)	481	10.8	(31.1)	2.6	(2.2)	0.06
Family has at least one foster care placement in past 6 months (%)	490	2.6	(16.1)	481	2.2	(14.3)	0.4	(1.0)	0.02
Spouse/partner separated in past 6 months, of those with spouse/partner present at RA (%)	137	42.5	(49.0)	126	30.4	(47.3)	12.1 *	(6.2)	0.22
Reunification of family members reported as separated at baseline									
Family has at least one child reunified, of those families with at least one child absent at RA (%)	86	28.7	(45.1)	98	35.3	(47.8)	− 6.5	(8.5)	− 0.13
Spouse/partner reunified, of those with spouse/partner absent at RA (%)	47	33.5	(48.6)	52	32.4	(46.6)	1.2	(13.4)	0.02

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey

Exhibit F-21. CBRR + PBTH Versus SUB: Impacts on Adult Well-Being

Outcome	CBRR + PBTH			SUB			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Adult physical health									
Health in past 30 days was poor or fair (%)	495	31.3	(45.8)	490	30.3	(46.4)	1.1	(2.9)	0.02
Adult mental health									
Goal-oriented thinking[b]	494	4.44	(0.98)	486	4.57	(1.07)	− 0.12 *	(0.07)	− 0.10
Psychological distress[c]	495	7.46	(5.57)	487	6.59	(5.42)	0.87 ***	(0.32)	0.13
Adult trauma symptoms									
Post-traumatic stress disorder (PTSD) symptoms in past 30 days (%)	494	25.7	(42.8)	486	20.5	(41.1)	5.1 *	(2.7)	0.10
Adult substance use									
Alcohol dependence or drug abuse[d] (%)	494	14.4	(35.1)	487	12.3	(32.2)	2.1	(2.2)	0.05
Alcohol dependence[d] (%)	494	11.5	(31.7)	489	8.9	(28.3)	2.6	(2.0)	0.07
Drug abuse[d] (%)	495	3.8	(19.2)	486	5.1	(20.8)	− 1.3	(1.4)	− 0.05
Experience of intimate partner violence									
Experienced intimate partner violence in past 6 months (%)	493	11.2	(30.7)	489	5.7	(23.6)	5.5 ***	(1.9)	0.15

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Goal-oriented thinking is measured with a modified version of the State Hope Scale and ranges from 1 to 6, with higher scores indicating higher levels of positive, goal-oriented thinking.

[c] Psychological distress is measured with the Kessler-6 (K6) scale and ranges from 0 to 24, with higher scores indicating greater distress.

[d] Alcohol dependence is measured with the Rapid Alcohol Problems Screen-4 (RAPS4) and drug abuse is measured with 6 items from the Drug Abuse Screening Test-10 (DAST-10).

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey

Exhibit F-22. CBRR + PBTH Versus SUB: Impacts on Child Well-Being Across Age Groups

Outcome	CBRR + PBTH			SUB			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Child education									
Preschool or Head Start enrollment (%)[b]	256	34.9	(48.3)	260	36.1	(48.7)	− 1.2	(4.9)	− 0.02
School enrollment (%)[c]	446	89.5	(30.2)	421	89.3	(30.9)	0.2	(2.1)	0.01
Child care or school absences in past month[d]	492	0.85	(0.92)	473	0.84	(0.95)	0.01	(0.08)	0.00
Number of schools attended since random assignment[e]	510	1.90	(0.85)	494	1.73	(0.74)	0.17 ***	(0.06)	0.15
Grade completion (not held back) (%)	415	93.8	(21.4)	394	94.7	(24.4)	− 0.9	(1.9)	− 0.02
Positive childcare or school experiences[f]	578	0.65	(0.53)	543	0.60	(0.53)	0.04	(0.04)	0.06
Positive childcare or school attitudes[g]	572	4.32	(0.98)	540	4.27	(1.02)	0.05	(0.07)	0.04
School grades[h]	371	2.90	(0.93)	346	3.07	(0.91)	− 0.16 **	(0.07)	− 0.13
Child care or school conduct problems[i]	505	0.19	(0.40)	489	0.23	(0.42)	− 0.04	(0.03)	− 0.07
Child physical health									
Poor or fair health (%)	726	5.6	(22.8)	706	5.2	(21.4)	0.3	(1.6)	0.01
Well-child check-up in past year (%)	722	90.8	(28.0)	711	89.2	(31.4)	1.6	(2.2)	0.04
Child has regular source of health care (%)	726	94.7	(23.6)	712	93.8	(24.8)	0.9	(1.7)	0.03
Sleep problems[j]	725	2.00	(1.09)	708	2.08	(1.12)	− 0.08	(0.07)	− 0.06
Child behavioral strengths and challenges									
Behavior problems[k]	591	0.45	(1.22)	579	0.53	(1.20)	− 0.09	(0.09)	− 0.05
Prosocial behavior[l]	591	− 0.05	(1.10)	579	− 0.16	(1.09)	0.11	(0.08)	0.08

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Base for preschool or Head Start enrollment is children age 1.5 to 5 years.

[c] Base for school enrollment is children age 6 to 17.

[d] Absences outcome is defined as 0 = No absences in past month, 1 = 1 to 2 absences, 2 = 3 to 5 absences, 3 = 6 or more absences.

[e] Number of schools outcome is topcoded at 4 or more schools.

[f] Positive childcare or school experiences outcome is defined as -1 = mostly negative experiences, 0 = Both positive and negative experiences, 1 = mostly positive experiences.

[g] Positive childcare or school attitudes outcome is parent report of how much child likes school and ranges from 1 to 5, with higher values indicating greater like of school.

[h] School grades outcome is defined as 1 = mostly Ds or Fs, 2 = mostly Cs, 3 = mostly Bs, 4 = mostly As.

[i] Childcare or school conduct problems outcome is defined as 0 = No conduct problems reported to parent, 1 = Parent contacted about conduct problems or suspension or expulsion from school or childcare center.

[j] Sleep problems outcome ranges from 1 to 5, with higher values indicating more frequent tiredness upon waking and during the day.

[k] Behavior problems outcome is measured as the standardized Total Difficulties score from the Strengths and Difficulties Questionnaire (SDQ).

[l] Prosocial behavior is measured as the standardized Prosocial domain score from the Strengths and Difficulties Questionnaire (SDQ).

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey (parent report)

Exhibit F-23. CBRR + PBTH Versus SUB: Impacts on Child Well-Being Developmental Outcomes by Age Group

Outcome	CBRR + PBTH			SUB			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Ages 1 year to 3 years, 6 months									
Met developmental milestones (%)[b]	148	79.6	(41.3)	160	75.3	(44.1)	4.3	(5.4)	0.08
Low birth weight (%)[c]	32	8.2	(29.6)	38	17.6	(37.0)	− 9.5	(9.0)	− 0.26
Ages 3 years, 6 months to 7 years									
Verbal ability[d]	250	− 0.37	(0.90)	247	− 0.32	(0.97)	− 0.05	(0.09)	− 0.04
Math ability[e]	241	− 0.29	(0.87)	237	− 0.25	(0.94)	− 0.04	(0.09)	− 0.03
Executive functioning (self-regulation)[f]	213	15.63	(16.09)	227	15.63	(16.13)	0.00	(1.08)	0.00
Ages 8 to 17 years									
Anxiety[g]	229	34.77	(7.57)	228	35.76	(7.50)	− 0.99	(0.84)	− 0.09
Fears[h]	234	64.60	(14.27)	229	63.90	(14.09)	0.70	(1.50)	0.03
Substance use (%)[i]	231	13.30	(32.71)	225	7.11	(25.76)	6.20 **	(2.79)	0.16
Goal-oriented thinking[j]	228	22.18	(4.77)	217	23.08	(4.69)	− 0.90 *	(0.50)	− 0.13
School effort in past month[k]	232	2.58	(0.79)	224	2.71	(0.80)	− 0.12	(0.09)	− 0.11
Arrests or police involvement in past 6 months (%)[l]	133	9.63	(29.81)	124	13.79	(31.78)	− 4.15	(5.02)	− 0.10

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Met developmental milestones outcome is defined as scoring above the typical development cutoffs in all domains of the ASQ-3.

[c] Base for low birthweight outcome (parent report) is children born since random assignment who are at least 1 year old at followup.

[d] Verbal ability outcome is the nationally standardized score from the WJIII Letter-Word Identification test.

[e] Math ability outcome is the nationally standardized score from the WJIII Applied Problems test.

[f] Executive functioning outcome is the HTKS score and ranges from 0 to 40, with higher scores indicating greater executive functioning.

[g] Anxiety (child report) is measured using the A-Trait scale from the State-Trait Anxiety Inventory for Children (STAIC). Scores range from 20 to 60, with higher scores indicating greater anxiety.

[h] Fears outcome (child report) is the score from the Fears Scale and ranges from 33 to 99, with higher scores indicating more fear.

[i] Substance use (child report) is measured with 23 items from the Centers for Disease Control and Prevention 2011 Youth Risk Behavior Survey.

[j] Goal-oriented thinking (child report) is measured with a modified version of the Children's Hope Scale and ranges from 6 to 30, with higher scores indicating higher levels of positive, goal-oriented thinking.

[k] School effort outcome (child report) ranges from 1 to 4, with higher scores indicating greater effort during school day and on homework.

[l] Arrest or police involvement in past 6 months is from parent report.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Sources: Family Options Study 18-month followup survey (parent report); Ages and Stages Questionnaire (ASQ-3); Woodcock-Johnson III Assessment (WJIII); Head, Toes, Knees, and Shoulders (HTKS) Assessment; Family Options Study 18-Month Child Survey (child report)

Exhibit F-24. CBRR + PBTH Versus SUB: Impacts on Self-Sufficiency

Outcome	CBRR + PBTH			SUB			ITT Impact		Effect Size[a]
	N	Mean	(SD)	N	Mean	(SD)	Impact	(SE)	
Employment status									
Work for pay in week before survey (%)	495	33.3	(47.4)	490	25.9	(43.3)	7.4 **	(2.9)	0.14
Any work for pay since RA (%)	495	61.3	(48.5)	490	52.4	(50.0)	8.9 ***	(3.0)	0.16
Months worked for pay since RA[b]	492	6.8	(7.6)	486	5.2	(6.8)	1.6 ***	(0.4)	0.19
Hours of work per week at current main job[c]	495	10.6	(16.3)	490	7.9	(14.1)	2.7 ***	(1.0)	0.15
Income sources/amounts									
Annualized current earnings ($)	489	5,580	(9,622)	485	3,933	(8,053)	1,647 ***	(575)	0.16
Total family income ($)	478	10,051	(7,893)	477	8,644	(7,002)	1,407 ***	(510)	0.16
Anyone in family had earnings in past month (%)	495	44.2	(49.7)	490	35.9	(47.9)	8.3 ***	(3.0)	0.15
Anyone in family received TANF in past month (%)	495	33.7	(47.5)	489	38.2	(48.8)	− 4.5	(3.0)	− 0.09
Anyone in family received SSDI in past month (%)	495	7.5	(25.7)	489	7.3	(24.8)	0.1	(1.7)	0.00
Anyone in family received SSI in past month (%)	495	14.2	(33.6)	489	13.0	(33.5)	1.2	(1.8)	0.03
Anyone in family received SNAP/Food Stamps in past month (%)	495	84.9	(34.9)	489	88.9	(31.9)	− 4.0 *	(2.3)	− 0.09
Anyone in family received WIC in past month (%)	495	31.7	(47.0)	489	34.2	(47.5)	− 2.5	(2.8)	− 0.05
Education and training									
Participated in 2+ weeks of any school or training since RA (%)	495	23.7	(42.5)	489	26.7	(44.5)	− 3.0	(2.9)	− 0.06
Number of weeks in school/training programs since RA	491	3.5	(9.6)	486	4.1	(10.7)	− 0.6	(0.6)	− 0.05
Participated in 2+ weeks of school since RA (%)	495	4.8	(22.3)	489	7.6	(26.1)	− 2.7 *	(1.6)	− 0.09
Participated in 2+ weeks of basic education since RA (%)	495	2.0	(13.4)	489	0.8	(9.0)	1.2	(0.8)	0.09
Participated in 2+ weeks of vocational education since RA (%)	495	7.8	(26.0)	489	6.8	(26.1)	1.0	(1.7)	0.04
Food security/hunger									
Household is food insecure (%)	495	30.6	(45.5)	490	25.9	(44.4)	4.7	(2.9)	0.09
Food insecurity scale[d]	493	1.59	(1.99)	489	1.35	(1.97)	0.24 *	(0.13)	0.10
Economic stressors									
Economic stress scale[e]	494	− 0.10	(0.48)	489	− 0.20	(0.47)	0.11 ***	(0.03)	0.19

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. UC = usual care.

ITT = intention-to-treat. RA = random assignment. SD = standard deviation. SE = standard error.

*/**/*** Impact estimate is significantly different from 0 at the .10, .05, and .01 levels, respectively, using a two-tailed *t*-test.

[a] Effect size column shows standardized effect sizes, which were calculated by dividing impact by standard deviation for the entire UC group.

[b] Number of months worked for pay includes partial calendar months.

[c] Hours of work per week includes those not currently working (i.e., those with 0 hours of work per week).

[d] Food insecurity scale ranges from 0 to 6, with higher values indicating higher food insecurity.

[e] Economic stress scale ranges from -1 to 1, with higher values indicating higher economic stress.

Notes: Impact estimates and outcome means are regression-adjusted for baseline characteristics and are weighted to adjust for survey nonresponse. See Chapter 5 and Appendix B for outcome definitions.

Source: Family Options Study 18-month followup survey

APPENDIX G.

INTERVENTION COSTS— METHODOLOGY, SITES, AND PROGRAMS

This appendix of the Family Options Study provides greater detail on the cost analysis methodology and the sites and programs in the cost analysis. The approach to collecting and analyzing cost data was guided by the intended use of the cost estimates as context for interpreting the study's impact estimates. The study team calculated the per-family monthly program cost for a subset of programs that served the vast majority of study families who used each intervention. Costs are calculated using primary data collected by the study for transitional housing, rapid re-housing, and emergency shelter programs. Costs for vouchers and public housing provided by the permanent housing subsidy (SUB) intervention are calculated from administrative data. The study team sought to capture costs of all program inputs consistently across each program type.

The first four sections of this appendix detail the process of determining the per-family monthly program cost for each program in the cost study, which this appendix calls the *program-level per-family monthly program cost*. Section G.1 reviews the programs in the cost study. Section G.2 describes the elements of the per-family monthly program cost relevant to the project-based transitional housing (PBTH), community-based rapid re-housing (CBRR), and emergency shelter programs. Section G.3 reviews our approach to calculating the per-family monthly program cost for the SUB intervention. Section G.4 reviews the actual calculation of the per-family monthly program cost. Section G.5 reviews how we average these program-level per-family monthly program costs to arrive at the study's first cost concept of average per-family monthly program cost for each program type for the entire study and for study sites. This section also reviews how per-family monthly program costs are combined with study families' observed program usage to calculate the other three cost concepts: (1) program cost per stay during the followup period, (2) cost of all program use during the followup period, and (3) monthly cost of all program use at the 18-month followup survey.

G.1   Programs in the Cost Study

The study focuses on a distinct set of housing and shelter programs, selected first to participate in the Family Options Study and then again for the cost analysis based largely on the extent of participants' use of the intervention at individual programs. The study team collected cost data at a large subset of CBRR, PBTH, and emergency shelter programs participating in the study across the 12 study sites. The study team purposefully selected programs from each study site that had a high number of referrals and enrollments by study families or, in the case of emergency shelter, that had a high number of families recruited for the study. We attempted to include all study programs in which at least one study family enrolled and received the intervention and either (1) at least five study families were referred to the program or (2) the number of families was among the top three for the program type in the site. As such, the estimates were more likely to include larger programs that were able to make spaces available to study families and that study families were willing to accept. The programs selected for the cost analysis represented more than 85 percent of study families who accepted a study referral to CBRR and PBTH, and more than 90 percent of families assigned to usual care (UC) from shelter programs.

Reported cost estimates are based on detailed reviews of 81 CBRR, PBTH, and emergency shelter programs providing housing or services to homeless families across the 12 Family Options Study sites, plus administrative data (both at the household and public housing agency [PHA] level) covering the 10 sites providing the SUB intervention. The data collected from these programs represent a valuable contribution to the understanding of the cost of providing services to homeless families using each of the intervention types and emergency shelter. Exhibit G-1 reports the number of programs by site where we collected cost data along with indicating which of the sites included the SUB intervention, for which comprehensive administrative data were used to estimate costs.

As described in Gubits et al. (2013), families were enrolled in the study from September 2010 through January 2012. Then, depending on which intervention a family was assigned to, families received housing and services from the program associated with their intervention for either days or weeks (shelter), months (CBRR and PBTH), or years (PBTH or SUB). We designed the cost analysis to be representative of the approximate timeframe when families were most likely to be enrolled in the programs. The study team collected cost data for the full-year period that best aligned with the time period in which most families were randomly assigned to the program and overlapped with the program's financial recordkeeping. Most often (48 programs) this period was fiscal year 2011. We adjusted all costs using local consumer price index measures of inflation so that all estimates are reported in 2013 dollars.

Exhibit G-1. Number of Programs From Which Cost Data Was Collected and Presence of SUB Intervention by Study Site

Site	Number of CBRR Programs	Number of PBTH Programs	Number of ES Programs	SUB Site
Alameda County	1	3	7	Yes
Atlanta	1*	1	2	No
Baltimore	1	2	3	No
Boston	1	—	5	Yes
Connecticut*	1	2	7	Yes
Denver	1	2	5	Yes
Honolulu	1	5	5	Yes
Kansas City	1*	3	3	Yes
Louisville	1	1	2	Yes
Minneapolis	1	—	1	Yes
Phoenix	1	4	4	Yes
Salt Lake City	1	1	1	Yes
Total	**12**	**24**	**45**	**10**

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. SUB = permanent housing subsidy. ES = emergency shelter. RA = random assignment.

* This study site comprises four CoCs in the New Haven/Bridgeport, Connecticut area.

Pooled data from multiple rapid re-housing programs were reported for Atlanta and Kansas City. PBTH was not offered in Boston, and enrollment in PBTH in Minneapolis did not support cost-data collection. SUB was not offered in Atlanta and Baltimore.

Source: Family Options Study cost data

G.2 Elements of Program-Level per-Family Monthly Program Cost

The methodology was designed to collect comprehensive program costs. Both to ensure that the study team collected all costs associated with proving program services and to allow for analysis comparing program structure, the study team collected costs in five high-level cost categories: (1) overhead, (2) rental assistance, (3) facility operations, (4) supportive services, and (5) capital costs. Exhibit G-2 shows the cost categories and how typical line items were sorted within categories.

Exhibit G-2. Cost Data Collection Categories and Associated Item Prompts

| Agency Overhead | Supportive Services | | Housing or Shelter | |
	Program/Assistance Expenses	Rental Assistance for Client Housing	Facility Operating Costs (project based programs)	Property Value or Lease Expenses
Administrative staff • Salaries • Fringe • Other staff-related costs Advertising Audit Accounting Legal Management fee Leasing & utilities (prorated agency) Miscellaneous office expenses Payroll taxes Indirect or allocated costs	Supportive services staff • Salaries • Fringe • Other staff-related costs Staff transportation Program supplies Activities Housing placement Employment search Direct support • Food • Clothing • Furniture • Transportation • Education • Cash • Other	Lease of client housing Electric Gas Water/sewer Other Family contributions	Housing operations staff • Salaries • Fringe • Other Trash removal Landscaping Exterminating Painting and decorating Property Insurance Real estate taxes Repairs Supplies Furnishing equipment Other	Market rate lease of client, program, and administrative property Estimate of rental rate of owned or donated property Facility rent (or capital cost) for space used for supportive services

The study team collected cost data for CBRR, PBTH, and emergency shelter programs from the programs directly. The study team reviewed these categories and all program activities with key program operations and agency accounting staff using a standardized protocol and data collection tools that were adapted from previous studies, including HUD's Cost of Homelessness Study (Spellman et al., 2010). Our primary source of cost information for all inputs except capital costs and in-kind and partner costs was audited expense statements. These statements were supplemented by program budgets, staffing lists, partner commitment letters, and program staff estimates of labor and material costs of any services not reflected in expense statements. To further ensure all program services were recognized as costs, interviews also reviewed program calendars and case management approaches for each age group of program residents.

To clarify and simplify comparisons across intervention programs for reporting our findings in Chapter 12, we collapsed the five cost-data collection categories into two broad designations: (1) housing or shelter and (2) supportive services.

1. *Housing or shelter* refers to the rental cost—either observed or estimated—of the space used to provide housing or shelter and program services and also any maintenance or other facility operation costs (including durable items such as furnishings). This rental cost is net of any rent payments made by the family.

2. *Supportive services costs* refer to any services other than shelter or housing provided as an integral part of the program, including case management, and any cash or in-kind assistance (for example, meals provided in emergency shelters).

Additional detail is reported in Chapter 12 for two other categories—(1) administrative and overhead costs and (2) in-kind and partner costs—because they provide information on typical program structures.

1. *Administrative and overhead costs* include management salaries; legal, accounting, and other professional services; and program support costs, such as insurance premiums and agency and association fees. Administrative and overhead costs are divided among supportive services and housing and shelter costs according to the cost types' relative share of total costs so that they are included in the two broad categories.

2. ***In-kind and partner costs*** include any costs of housing or shelter or supportive services provided to families because they participate in a program. These costs are not provided by the program, and, as a result, are not included in program financial statements. Common examples include onsite health or mental health providers funded by an outside agency, community volunteers providing a variety of services, and consumer goods donated to program clients. The importance of these costs varies widely from program to program. When present, they typically are part of the cost of supportive services provided by a program. In some cases, however, housing or shelter costs include the costs of labor, such as handyman services, or of facilities used regularly for program activities that were provided in kind. In other cases, accounting, legal, or administrative services were provided in kind or by partners. In each case, the study team apportioned the cost to the appropriate category.

The next section provides additional detail regarding the assessment of in-kind and partner costs and capital costs and detail about our treatment of participant contributions.

G.2.1 In-Kind and Partner Costs

We carefully reviewed all services that were provided to families because they were program clients to ensure that we were capturing all inputs consistently across programs and across interventions, whether the assistance was provided directly by the program or in kind by a partner or volunteer.

The analysis, however, does not include the costs of every social service accessible to or encountered by program participants. The study team did not gather costs for services provided or made available by virtue of a families' housing or socioeconomic status alone, regardless of their enrollment in a particular program. Rather, costs were included for housing or shelter, goods, and services provided to families explicitly because they were clients of the study program. The analysis included only the partner services and in-kind assistance that resulted from a dedicated relationship with the program and were accessed by at least 20 percent of eligible families (as determined by interviews with program staff). In addition, the analysis included any services that programs cited as critical to the mission or core approach, regardless of participation rates. Exhibit G-3 provides examples of services that our approach did and did not include when identifying partner and in-kind costs.

When inputs were provided by an external partner or through in kind donations, the study team estimated the value of the program input using the following resources, as available—

–   Program documentation (such as an audit estimate of in-kind services value).

–   Costs of a similar service or item paid for by the program or by another program at the site.

–   External documentation, such as Bureau of Labor Statistics data on local wages or publicly listed costs for the goods or services.

Examples of partner and in-kind services and resources used to determine an associated cost are listed in Exhibit G-4.

Exhibit G-3. Determining Inclusion of External Services

Included On Site	Not Included On Site
A health clinic sends a doctor and a nurse practitioner to the program site to conduct weekly screenings and checkups.	A volunteer organization holds parenting classes in a common area, but less than 20 percent of parents attend.

Included Off Site	Not Included Off Site
A Head Start school reserves and guarantees priority slots for all appropriately aged children from the program.	If a client expresses interest, case managers refer her to an external job training program run by the local workforce board.

Exhibit G-4. Valuing In-Kind Services

Example	Estimation Approach
Partnering organization sends substance-abuse counselor to program to hold weekly meetings with residents.	Program has an equivalent social worker with a substance-abuse specialization on staff. This hourly wage rate is applied to level of effort by partner staff.
Health clinic sends team of nurse practitioners monthly to offer basic preventative health care and checkups.	Clinic sends leverage letter detailing the estimated costs of the nurses' time and medical supplies.
Local church contributes a move-in packet for each family, including furniture and kitchenware.	Program estimates the value of each packet at $500 per client.
YMCA nearby holds five slots in its summer camp for children staying in program's shelter.	YMCA website lists costs for summer camp activities.
Area nonprofit organization sends a dentist to conduct exams for all parents and children once per year.	Bureau of Labor Statistics' median wage for a dentist in that state is applied to the level of effort by the dentist.

YMCA = Young Men's Christian Association.

The approach used to valuing partner and in-kind staff is conservative in that it applies estimated labor rates to partner and in-kind level of effort, but it does not apply an overhead cost multiplier to that rate. The logic of this approach is an assumption that the program's existing overhead infrastructure could absorb any additional administrative cost associated with directly funding this partner or in-kind service were the service to be provided by the program.

G.2.2 Capital Costs

Accounting for capital costs associated with the physical space used to provide client housing and program services is critical to establishing comparable costs within and across programs. For some programs this accounting was fairly straightforward. A few programs rent client housing units, program services, space, or administrative office space at market rates, providing direct market-rate estimates of the cost of facilities used by the program. At other programs, where client client-housing facilities are unique and different from typical housing stock, estimating a cost of ongoing occupancy of the space used for the program was more nuanced. For example, a congregate shelter in an otherwise industrial neighborhood or in the basement of a downtown historic religious sanctuary is not comparable with any space that would be rented at a market rate. Other space is provided at an in-kind discount; for example, office space owned by a municipality is leased at effectively no cost to the program.

For cases in which market rates were not paid by the organization directly, the study team took an opportunity-cost approach to valuing space used to provide housing and services. We specifically relied on the following resources to derive annual capital cost estimates, as available:[31]

– Program's or donor's stated annual value of the occupied space.

– A 5-percent annual cost of capital applied to a total property value estimate; for example, a property value estimate from a recent appraisal or sales price-based insurance estimate.

– HUD's published Fair Market Rent (FMR) for a comparable number of units as the space used by the program, adjusted for maintenance costs.

– Readily available estimates of market rent for similar nearby properties, adjusted for maintenance costs; for example, similar units or properties listed publicly for rent next door or reasonable rental estimates from similar neighboring properties provided by Zillow.

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[31] In developing this approach, we used multiple methods for facilities where data were available. Estimates for the same property resulting from different methods were remarkably similar (typically within 5 to 10 percent), which gives us confidence that a particular choice of property valuation method does not introduce material variation into our cost estimates.

When rental value was imputed, either using comparable properties or local FMR, an estimate of net rent—the opportunity cost of interest—was imputed as 55 percent of the gross rent. This deflation was based on an analysis of data from the Residential Housing Finance Survey (RHFS; HUD, 2014b). Our analysis of the RHFS indicated an average 45-percent expense ratio for market-rate rental properties with between 5 and 49 units—the relevant size properties for the size of buildings used by programs in our analysis.

G.2.3 Participant Contributions

Of the 45 shelters in the cost analysis, 8 required clients to pay some set amount or percent of income as rent. Of the 24 transitional housing programs, 21 required client rental payments.[32] This analysis reports program costs net of these contributions. Annual program costs were reduced specifically by the amount of any client contributions before determining per-family averages, which conceptually is consistent with reporting the net costs to society of providing assistance. From a practical standpoint, this procedure allows for a closer comparison across program types. The actual family rental payments for families receiving rapid re-housing or subsidy assistance were unknown (For SUB, we know households' expected rent contribution, but we do not observe actual payment to landlords.) Reducing costs by tenant rent for PBTH and emergency shelter programs makes the resulting estimates more comparable with CBRR and SUB costs. As such, costs reported in Chapter 12 were net of any client contributions.

The pattern of client contributions is similar across sites, with the exception of Hawaii PBTH, where family contributions averaged slightly less than $480 per family per month across the five PBTH programs. Among the 8 remaining sites (16 programs) in which PBTH families pay some rent, the average monthly per-family rent is $144. For the 8 emergency shelters at which clients pay some rent or program fee, the average per-family per-month contribution is $105.

All costs were reported net of any family contributions.

G.3   Costs of SUB Intervention

The approach to collecting cost data for the SUB intervention differed from that outlined previously for programs providing CBRR, PBTH, and emergency shelter. Because the SUB intervention consisted of permanent housing assistance provided by PHAs, mostly in the form of a housing choice voucher, administrative data sources available to HUD were an efficient source of cost information.

The cost of housing assistance was calculated directly from household-level administrative data for each study family assigned to SUB who received SUB assistance. These HUD Public and Indian Housing Information Center (PIC) data contain move-in dates and housing assistance payments (HAPs) made on behalf of the family. To determine site-level and overall average HAP, we averaged these household HAPs, weighting households by the number of days of assistance received. These site-level HAPs were then inflated to account for administrative costs. Annual PHA financial reports provided information on the total administrative costs for the voucher program in each of the 18 PHAs that participated in the Family Options Study.[33]

G.4   Calculating Costs

For CBRR, PBTH, and emergency shelter programs, the study team collected or calculated costs for the entire program, typically for a fiscal year. Translating this total program cost into a per-family unit cost required determining the number of families assisted at a time for PBTH and emergency shelter programs, and, for CBRR programs, the average number of months of assistance provided to each family. For PBTH and emergency shelter programs,

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[32] A few programs return mandatory client savings to clients as cash on their exit. Because funds dispersed are exactly offset by previous client contributions, we do not include these transactions as program costs.

[33] For families receiving public housing in Honolulu from the SUB intervention, we imputed the cost of providing the public housing unit using the Honolulu FMR discounted to reflect typical maintenance costs together with average observed maintenance and actual administrative costs.

$$Program\text{-}level\ per\ family\ monthly\ program\ costs = \frac{Total\ annual\ program\ costs / 12}{Number\ of\ families\ served\ at\ a\ time}.$$

The number of families served at a time is determined from program reports of the number of units and occupancy rate for unit-based facilities and the number of beds—typical family size—and occupancy rate for congregate facilities.

For rapid re-housing programs, the study team divided total program costs by the total number of months of rent supported by the program for all families in the program during the period for which costs were collected. In some cases, we received program administrative data from which we calculated the number of months of assistance directly. For other providers, programs provided us total program expenditures, total number of households assisted, and average number of months of housing provided by the assistance. Exhibit G-5 reviews the cost calculation for each program type.

This per-family monthly program cost for each program in the cost study is used to calculate each of our four cost concepts; (1) average per-family monthly program cost, (2) program cost per stay during the followup period, (3) cost of all program use during the followup period, and (4) monthly program cost of all program use at the 18-month followup survey.

Exhibit G-5. Program Level Average per Family Cost Calculations

Program Type	Program Level Average per Family Monthly Cost Calculation
ES	(Total annual program cost)/12/typical number of families assisted at a time
CBRR	(Total annual program costs)/total family-months[a] of rent subsidized with funds
PBTH	(Total annual program cost)/12/typical number of families served at a time
SUB Voucher	Average observed per family per month rental subsidy for sample families scaled by PHA administrative cost rate
SUB Public Housing	Average per family per month costs with imputed rental value for sample families scaled by PHA administrative cost rate

CBRR = community-based rapid re-housing. PBTH = project-based transitional housing. ES = emergency shelter. PHA = public housing authority.

[a] By family-month, we mean a rent is a subsidy for one family for 1 month.

G.4.1 Per-Family Monthly Program Cost

Chapter 12 reports per-family monthly program cost averaged across all programs included in the cost analysis. As noted previously, this group of programs is a subset of all programs in the Family Options Study. One aim in selecting programs was to produce cost estimates that reflected the assistance that study families actually received. To be consistent with this aim—to calculate average per-family monthly program costs—we weighted program-level per-family monthly program costs by the number of study families who actually enrolled in the program after being referred to the program by the study for PBTH and CBRR programs. To be consistent with this approach for emergency shelter programs, we weighted program-level costs by the number of families assigned to the UC group at each shelter in the cost study. SUB costs were averaged directly from family-level data, weighted by the number of days a family received assistance.

G.4.2 Program Cost per Stay During the Followup Period

Program costs per stay during the followup period are per-family monthly program costs scaled up by the duration of assistance provided. The study uses 18-month followup survey data to assess the duration of assistance the families receive. Study data do not connect this information on duration of assistance to particular programs, however, including those for which the study team collected cost data. To calculate program cost per stay during the followup, therefore, we first calculated average duration in each program type by families assigned to the intervention associated with the program type for each site. This averaging used the same survey nonresponse weights used to calculate the study impacts. These site-level average durations were multiplied by program-level costs to arrive at an estimated program-level program cost per stay during the followup period. These program-level estimates are then averaged across all programs to arrive at average program cost per stay during the followup

period. Again, the average was calculated weighting by the number of families who enrolled in each program (or were referred to UC for emergency shelter programs). For SUB programs, the average duration for all families assigned to SUB across the study or at individual sites (for site-level program cost-per-stay estimates) was multiplied by the relevant calculated average per-family monthly program cost.

G.4.3 Cost of all Program Use During the Followup Period

The per-family monthly program cost is calculated from program-level data points, and program cost per stay during the followup period is calculated from program-level data points multiplied by site-level average duration of assistance. By contrast, we estimate the cost of all program use during the followup period from family-level data points multiplied by site-level per-family monthly program cost estimates. This estimation is because average costs of all program use during the followup period are calculated for each arm of the six pairwise comparisons in the study—a concept that is based on families assigned to intervention arms as opposed to families referred to particular programs.

This approach requires two additional assumptions. First, site-level per-family monthly program costs for each of our four program types are used as cost estimates for a month of assistance at any program of that type. For example, all transitional housing programs in a site have the same per-family monthly program cost as the site-level average PBTH cost we estimate using program-level costs reported in Chapter 12. Second, the study data track families' use of permanent supportive housing (PSH), public housing, and project-based housing assistance that was not associated with the study or included in the cost analysis. Under the assumption that they have similar program and cost structures, the estimates reported in this section use site-level PBTH costs as a proxy for the cost of PSH and SUB costs as a proxy for the costs of public housing and project-based housing assistance.

To calculate the average cost of all program use during the followup period for the families in each arm of each pairwise comparison, we first multiplied each family's observed duration in each program type with the site-level average per-family monthly program cost of providing that type of assistance. After summing all program types a family uses during the followup period, we averaged this family-level cost of all program use during the followup period over all families in each treatment arm, using the same nonresponse weights used in the impact analysis.

G.4.4 Cost of all Program Use at the Time of the Followup Survey

To calculate the cost of all program use at the time of the followup survey, we average the site-level average per-family monthly program cost for the program type in the site in which a family is receiving assistance (if any) at the time of the followup survey. As with our per-family monthly cost measure, site-level average per-family monthly program costs are calculated with weights for the number of study families who accepted an assignment to the programs. Associating site-level program type costs with assistance study families are receiving at the time of the followup survey requires the same two assumptions described previously for cost of all program use during the followup period. First, site-level per-family monthly program costs for each of our four program types are used as cost estimates for a month of assistance at any program of that type. Second, the study data track families' use of PSH, public housing, and project-based housing assistance that was not associated with the study or included in the cost analysis.

We calculate the cost of all program use at the time of the followup survey by averaging these site-level cost estimates that we associate with the assistance families are receiving. These averages are calculated over families in each arm of each impact comparison using the same survey nonresponse used in the impact analysis.