

Impact of Housing Assistance on Outcomes for Homeless Families

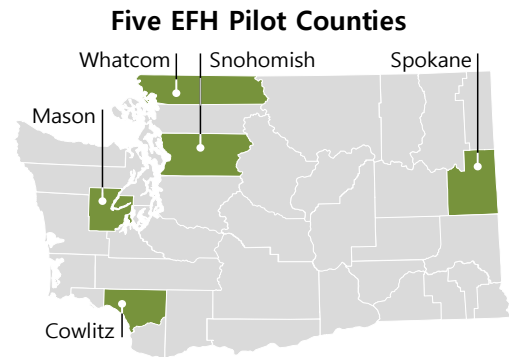
An Evaluation of the Ending Family Homelessness Pilot

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Report prepared for the Washington State Department of Commerce, Community Services and Housing Division, Tedd Kelleher, MPA, Kathy Kinard, MPA and Mary Schwartz, MA

THE ENDING FAMILY HOMELESSNESS (EFH) pilot program in Washington State, which began in April 2013, provides rapid re-housing and other services to homeless families with children who are receiving cash assistance through the Temporary Assistance for Needy Families (TANF) program. By coordinating across public assistance, employment, and housing systems, the pilot aims to move homeless TANF families into housing immediately and for families to be in a financial position to support that housing within six months.

Each of the five EFH pilot sites was given a great deal of latitude to develop and implement the program that was right for their particular county. In part, this decision reflects the absence of clearly defined interventions and established evidence-based practices in the housing field.¹ What all five sites did have in common was the provision of rent and move-in assistance combined with case management and employment services.



Key Findings

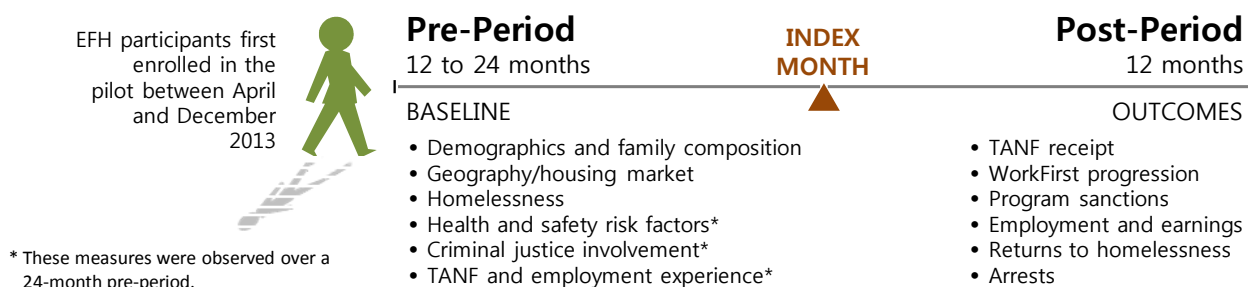
We examined outcomes over a 12-month follow-up period for EFH participants relative to three separate statistically matched comparison groups: those in non-EFH rapid re-housing, those in transitional housing, and those who remained homeless (including in emergency shelter).

- Compared to TANF parents who remain homeless, EFH participants are significantly *more* likely to remain on TANF, progress along the WorkFirst program continuum from barrier removal to employment, be employed, and have higher average annual earnings. They are significantly *less* likely to be sanctioned while on TANF, experience a return to homelessness, or be arrested.
- Other than a greater likelihood of TANF receipt among EFH participants compared to non-EFH rapid re-housing clients, we did not find significant differences in 12-month outcomes between EFH participants and those who received either rapid re-housing or transitional housing.

¹ For a further discussion of this issue, see: Bassuk, Ellen, et al. (2014). "The Effectiveness of Housing Interventions and Housing and Service Interventions on Ending Family Homelessness: A Systematic Review," *American Journal of Orthopsychiatry*, Vol. 84 (5): 457-474.

Study Design

To evaluate the impact of the Ending Family Homelessness (EFH) pilot program on client outcomes, we identified TANF parents who were similar to EFH participants at baseline but who did not participate in the program. We selected three separate comparison groups from the following sampling pools of TANF parents who did not participate in EFH between April and December 2013: 1) those who received other rapid re-housing assistance, 2) those who received transitional housing, and 3) those who were homeless according to the DSHS Automated Client Eligibility System (ACES) or were in emergency shelter according to the Homeless Management Information System (HMIS) but received no other housing assistance. Each client was then assigned an “index month” within the April to December 2013 period, with baseline characteristics measured over a 12 to 24 month period prior to that month and outcomes measured over a 12-month follow-up period.

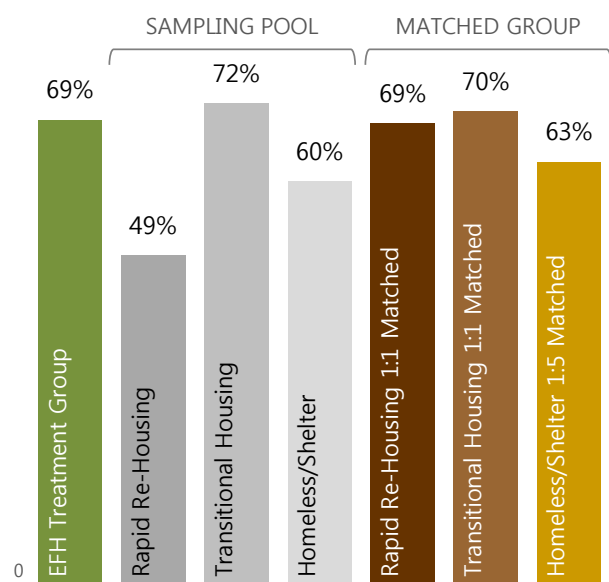


We then used propensity score matching to select three statistically matched comparison groups of parents who were similar to EFH participants in terms of demographics, family composition, prior employment and WorkFirst experiences, local housing market characteristics, and baseline risk factors. Figure 1 below and Table 1 in the appendix demonstrate the importance of this matching process for identifying comparison group members who were similar to EFH participants at baseline. *(Please see the Technical Notes on pages 11-13 for more details on the study design.)*

FIGURE 1.

Homeless in Month Prior to Index Month

Homeless in the DSHS Automated Client Eligibility System (ACES) or Homeless Management Information System (HMIS)



We constructed several measures of prior homelessness and ultimately matched EFH clients to transitional housing and other rapid re-housing clients on the presence of homelessness as identified by ACES or HMIS in the month prior to the index month, two months prior, three months prior, and at any point in the prior 12 months. Homeless rates in the month prior to the index month are shown in Figure 1.

A very small number of homeless/shelter clients had HMIS-recorded assistance in the year prior to the index month, so they were matched with EFH clients solely on the presence of homelessness identified in ACES. As a result, they are closer to EFH clients on that measure than the one shown in Figure 1. Specifically, 64 percent of EFH clients and 62 percent of matched homeless/shelter clients were homeless in ACES one month prior to the index month (not shown).

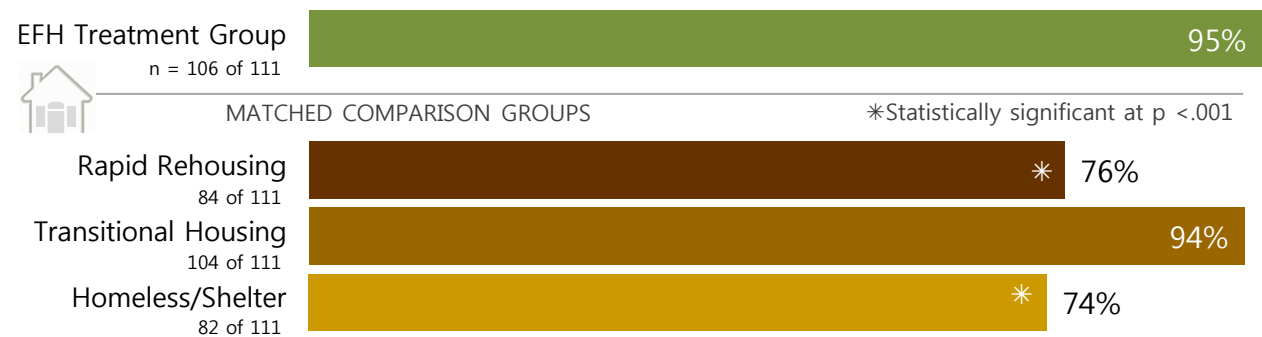
EFH clients are more likely to remain on TANF and experience more favorable WorkFirst outcomes than homeless clients

Nearly all EFH pilot clients (95 percent) received TANF for at least one month in the 12-month follow-up period. This was not significantly different from the proportion of transitional housing clients who received TANF over that same period (94 percent). By contrast, clients who received other rapid rehousing and those who were homeless or in shelter were significantly less likely to receive TANF in the follow-up period (76 percent and 74 percent, respectively). Given that EFH participants are eligible for the program by virtue of receiving TANF, they may be more likely to remain on TANF to continue receiving housing through the EFH program.

FIGURE 2.

On TANF in Follow-up Period

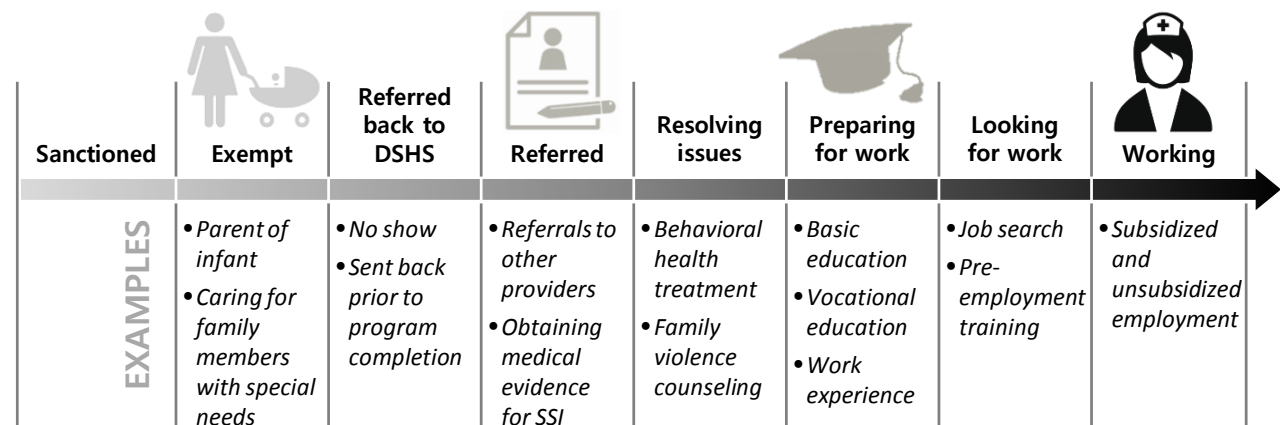
Unadjusted rates from matched samples



Ideally, EFH participants would begin paying their own rent within six months of becoming re-housed.² This suggests that progression along the continuum from barrier removal to paid employment must happen quickly despite the multiple challenges many of these families face. We measure that progression by assigning WorkFirst to a hierarchy in which sanctions are the least desirable and employment the most desirable state.³ A client progressed if the last assigned activity in the 12-month follow-up period was higher on the continuum than any of the previous activities.

FIGURE 3.

Measuring Progression along the WorkFirst Continuum



² [Ending Family Homelessness Initiative: Providing Rapid Re-housing to Families in Washington](#), Washington D.C.: National Alliance to End Homelessness.

³ See [E-JAS Component Codes](#) for more detail.

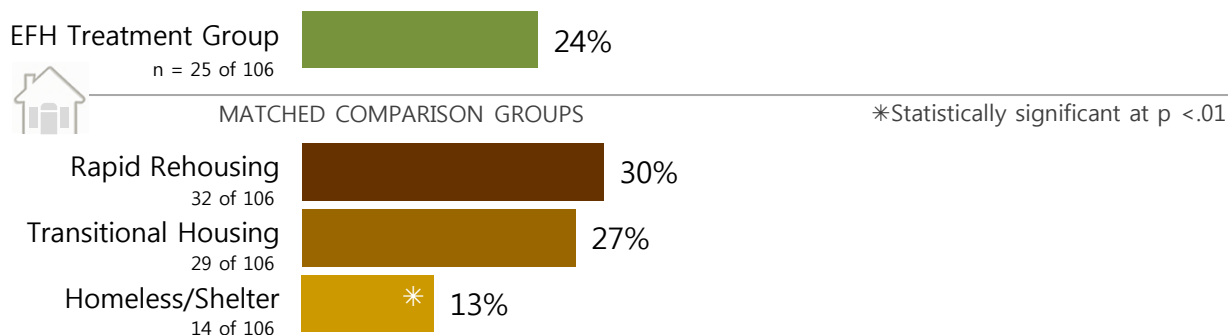
WorkFirst Activity Progression

Approximately one-quarter of EFH clients who received TANF in the 12-month follow-up period progressed along the WorkFirst activity continuum in that time period, compared to just 13 percent of homeless clients.⁴ However, EFH participants were not more likely to progress than similar TANF clients who received non-EFH rapid re-housing or transitional housing.

FIGURE 4.

WorkFirst Activity Progression

Unadjusted rates from matched samples with at least one month post-period TANF receipt



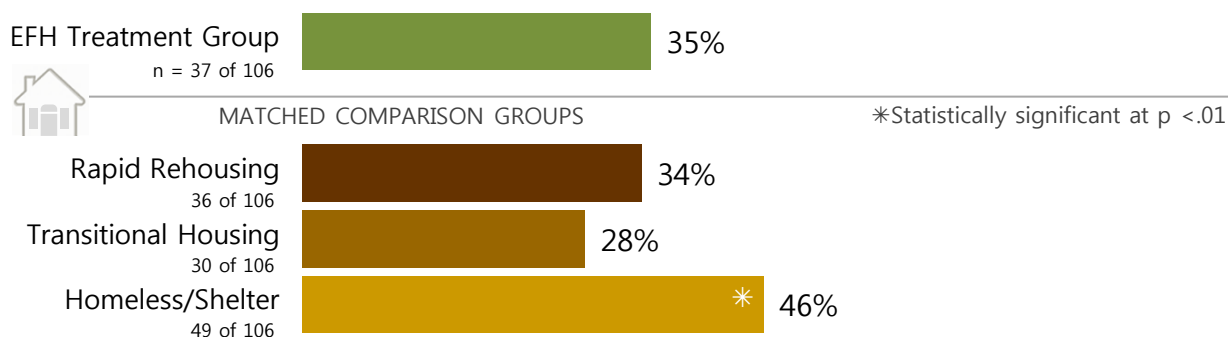
TANF Sanction Status

Parents who do not present a good reason for failing to comply with WorkFirst requirements are placed into non-compliance sanction status (see [WAC 388-310-1600](#)). Sanctioned clients who attend non-compliance meetings will receive grant reductions, while those who fail to attend these meetings will have their cases closed. We found that parents participating in EFH were significantly less likely to be sanctioned in the 12-month follow-up period relative to homeless TANF parents (35 percent compared to 46 percent). However, EFH clients did not have better sanction outcomes than the other rapid re-housing or transitional housing clients.

FIGURE 5.

Sanctioned in Follow-up Period

Unadjusted rates from matched samples with at least one month post-period TANF receipt



⁴ TANF parents in the rapid re-housing and homeless/shelter comparison groups were significantly less likely to receive TANF during the follow-up period. Therefore, to analyze the impact of EFH on WorkFirst progression and sanction status, we created three new statistically matched comparison groups, restricting both the EFH group and the comparison groups to parents who were on TANF for at least one month in the follow-up period.

Relative to their homeless peers, EFH clients are significantly more likely to be employed and have higher annual earnings

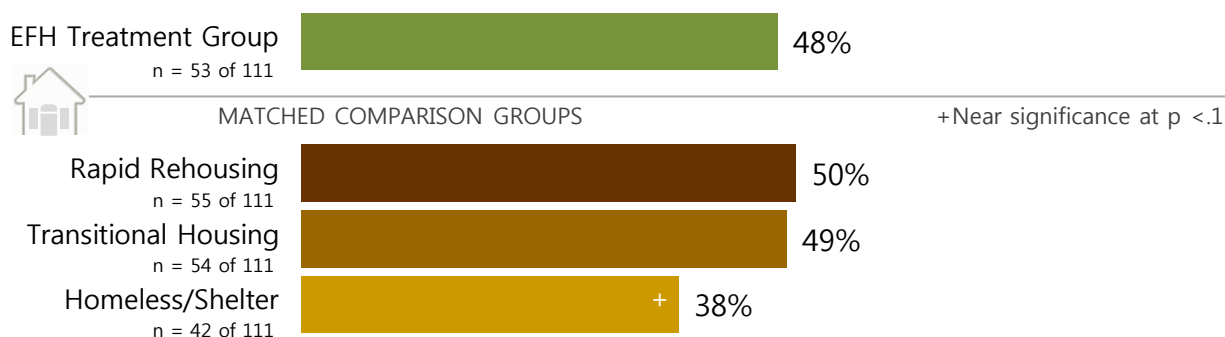
Self-Reported Employment

Over the 12-month follow-up period, close to half of EFH clients had at least some self-reported employment recorded in the DSHS Automated Client Eligibility System (ACES). Employment rates among EFH clients were higher than those observed for homeless/shelter clients (48 percent compared to 38 percent), with marginal statistical significance. However, the employment rate among EFH clients was statistically indistinguishable from the rate for individuals in the rapid re-housing and transitional housing comparison groups, with rates of 50 percent and 49 percent respectively.⁵

FIGURE 6.

Self-Reported Employment Recorded in ACES

Unadjusted rates from matched samples



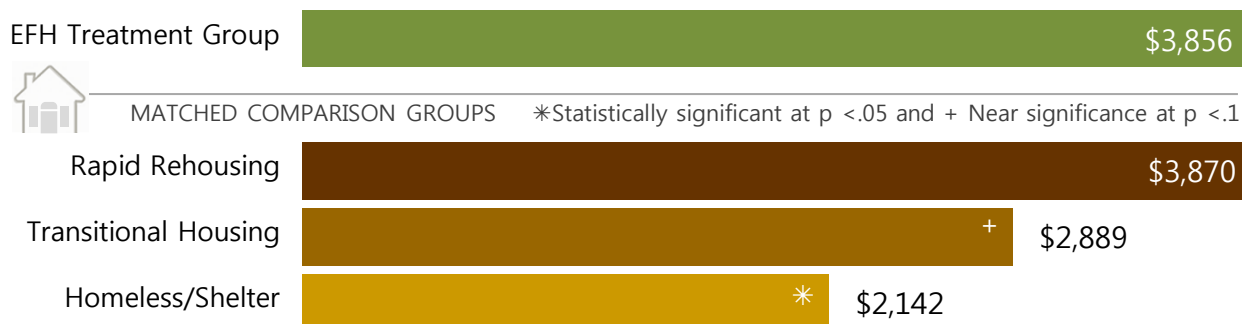
Self-Reported Annual Earnings

EFH clients earned, on average, \$3,856 over the 12-month follow-up period. This was significantly greater than the average earnings of homeless/shelter clients (\$2,142). There was a marginally significant (p=.08) difference between the average earnings of EFH clients when compared to transitional housing clients and no difference when compared to other rapid re-housing clients.⁶

FIGURE 7.

Average Annual Earnings Recorded in ACES

Unadjusted earnings from matched samples, including individuals with \$0 reported earnings



⁵ Employment rates were also observed with employer-reported data from the state Employment Security Department (ESD), and the findings did not change. However, we report the ACES-derived employment rates due to an ESD data lag of up to nine months.

⁶ Earnings were also observed with ESD data. While EFH clients earned more than homeless/shelter clients, the difference became less statistically significant (p=.005 with ACES data and p=.1 with ESD data). We report ACES-derived earnings due to the ESD data lag.

EFH clients are significantly less likely to experience a new spell of homelessness or be arrested compared to their unhoused peers

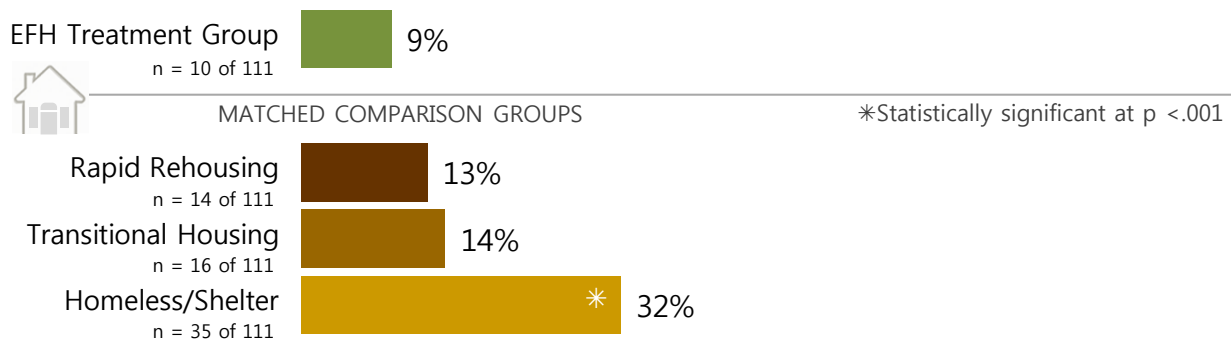
Return to Homelessness

We measured returns to homelessness as a month in the 12-month follow-up period in which a parent was not identified as homeless in ACES followed by a month in which they were. Over the follow-up period, we found that 10 out of 111 EFH parents experienced a new episode of homelessness recorded in ACES. The occurrence of a new homeless spell was about three times higher among those in the homeless/shelter group (32 percent compared to 9 percent of EFH parents). The rate of return to homelessness among EFH parents was statistically indistinguishable from the rates for the rapid re-housing and transitional housing comparison groups (9 percent compared to 13 percent and 14 percent, respectively).

FIGURE 8.

New Episode of Homelessness in ACES

Unadjusted rates from matched samples



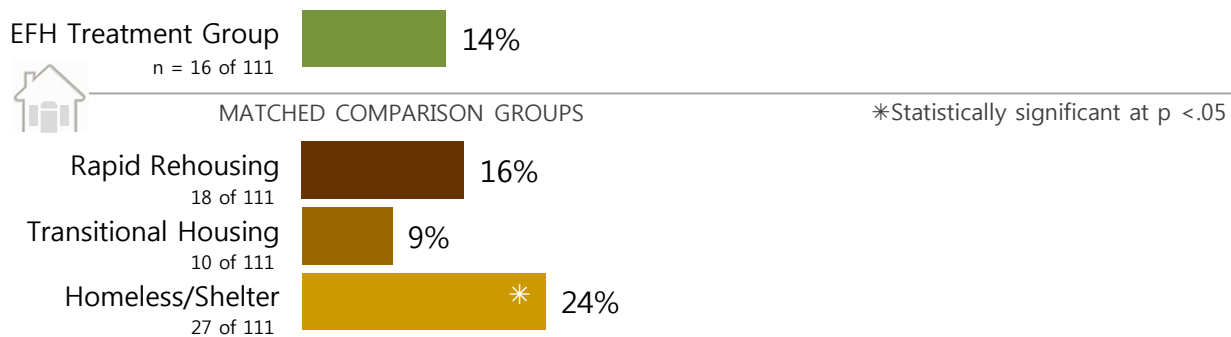
Arrests

We observed arrests in the Washington State Patrol database and found that EFH clients were significantly less likely than homeless/shelter clients to be arrested in the 12-month follow-up period (14 percent compared to 24 percent). Transitional housing clients appeared to have the lowest arrest rates at 9 percent, though the difference between that group and EFH clients did not reach statistical significance. Arrest rates for EFH clients compared to other rapid re-housing clients were also statistically indistinguishable.

FIGURE 9.

Washington State Patrol Arrest

Unadjusted rates from matched samples



Discussion

This evaluation has investigated the impact of providing rapid re-housing and other services to homeless TANF families. The following are some key findings:

Housing assistance for homeless TANF families has positive impacts.

- Relative to a group of matched peers who remained homeless or in emergency shelter, EFH participants experienced better outcomes in terms of employment, housing stability, experience with the TANF program, and criminal justice involvement. EFH appears to have improved outcomes for individuals who might not otherwise have received housing assistance beyond temporary shelter. That said, offering housing solutions to homeless TANF clients appears to improve their lives regardless of whether the housing assistance is delivered through EFH, transitional housing, or another rapid re-housing program.
- Notably, a recent report on the HUD-funded Family Options Study found relatively little difference between receipt of rapid re-housing and “usual care” (emergency shelter) for homeless families in terms of housing stability and other key outcomes.⁷ One important difference between the studies is our ability to identify homeless families who were not receiving any services through the homeless service system. In the Family Options Study, families receiving usual care had spent at least 7 days in shelter to qualify for random assignment and spent, on average, four months in shelter over the follow-up period. In addition, approximately three-quarters of these families received another type of housing assistance (transitional housing, rapid re-housing, or permanent subsidies) over the course of the follow-up period. By contrast, only 8 percent (n = 47 of 554) of the parents in the homeless/shelter comparison group for this evaluation of the EFH pilot had received HMIS-recorded emergency shelter in the index month or follow-up period. What is more, only about 5 percent had received HMIS-recorded housing assistance other than emergency shelter over the 12-month follow-up period (this included transitional housing, rapid re-housing, and permanent supportive housing).⁸

Cross-system service coordination does not appear to significantly improve outcomes for homeless TANF families who receive housing assistance.

- Compared to statistically matched peers receiving other rapid re-housing or transitional housing, EFH participants did not fare significantly better on outcomes observable through administrative data. One exception to this is that EFH participants *were* significantly more likely than other rapid re-housing clients to be receiving TANF in the 12-month follow-up period. This, however, is likely a function of the fact that EFH program participation was contingent upon TANF receipt.

Housing and employment are not the only challenges EFH participants face.

- In the two-year period prior to entering the program, one-third had substance abuse issues, half had an indication of mental illness, and over one quarter had experienced an arrest or family violence. It is possible that the concept of cross-system service coordination should be expanded beyond the three main systems engaged in the EFH pilot to also include the behavioral health, criminal justice, and domestic violence service systems.

⁷ Gubits, et al. (2015). “Family Options Study: Short-Term Impacts of Housing and Services Interventions for Homeless Families,” Washington, D.C.: U.S. Department of Housing and Urban Development, Office of Policy Development and Research, http://www.huduser.org/portal/sites/default/files/pdf/FamilyOptionsStudy_final.pdf, pp. xxiii-xiv.

⁸ HMIS data was only available through September 2014, so this is an estimate based on the experience of individuals with index months between April and September 2013. It is also possible more than 47 of the 554 homeless/shelter clients received emergency shelter if their stay(s) occurred only in October, November, or December 2014 (months for which we do not have HMIS data).

Further research is needed to understand what interventions work best for homeless TANF families.

- The number of TANF parents participating in the EFH program and identified through HMIS was small (n = 111). It is possible this prevented us from uncovering true treatment effects due to low statistical power.
- Families who have experienced domestic violence are underrepresented in our study, because state and federal laws prohibit the collection of personal identifiers in HMIS for these individuals.⁹ We know that 16 percent (n = 21) of the 133 heads of household who participated in the EFH program between April and December 2013 did not have identifiable data in HMIS that could be linked to DSHS records. We assume many—if not all—of these individuals were domestic violence survivors.
- EFH target populations and intervention approaches varied across the five pilot counties, which made it difficult to determine what exactly was being evaluated. For example, there was an early state-level focus on serving TANF parents who were ready to work but for the fact that they were homeless. This may be reflected in some of the baseline (pre-match) differences observed between the EFH group and the homeless/shelter group, such as a higher rate of high school completion and participation in work preparation activities among EFH participants.
- The three comparison groups were matched to the EFH group and not to each other, so one cannot use this study to draw inferences about the impact of non-EFH rapid re-housing relative to transitional housing as was possible in the Family Options Study.
- A degree of “selection bias” may still be present after matching on observable baseline characteristics such that EFH participants may be different from members of the comparison groups in unmeasured ways that are associated with the outcomes observed here. While we leveraged extensive baseline information on clients for matching, there is a possibility that unmeasurable factors (such as motivation, likeability, and appearance), may be related to both selection into a housing assistance program and outcomes such as employment, and may attenuate program effects found here.
- Residual differences remained between the intervention and comparison groups post-matching on some of the observed baseline measures (especially for the homeless/shelter comparison group). As discussed in the Technical Notes, we did perform additional analyses to check whether controlling for those residual differences changed any of the findings and it did not.
- Finally, outcomes were observed over a relatively short follow-up period (12 months) and measured only with available administrative data. This means that more nuanced measures of housing stability observed in other studies were not available, such as housing satisfaction, ability to pay rent, and anxiety over housing time limits.¹⁰

⁹ See Revised Code of Washington 43.185C.180 and sections 3 and 605 of the federal Violence Against Women Act of 2005.

¹⁰ For a qualitative analysis of housing outcomes that matter to families exiting shelter, see Fisher, Benjamin, et al. (2014). “Leaving Homelessness Behind: Housing Decisions among Families Exiting Shelter,” *Housing Policy Debate*, Vol. 24 (2): 364-386.

APPENDIX | Baseline Differences Prior to Matching

EFH clients are distinct demographically from the other housing groups. Prior to matching, EFH clients are less likely than clients in the three comparison group sampling pools to be female, under 25 years-old, or from a minority racial/ethnic background, and they are more likely to have at least a high school education. Transitional housing clients and homeless/shelter clients are more likely to be female, young, minority, and high school dropouts. Other rapid re-housing clients fall somewhere between: they are older and more educated, similar to EFH, but also more likely to be minority and female, similar to other rapid re-housing and homeless/shelter clients.

Prior to matching, EFH and transitional housing clients are most likely to live in counties with few vacant housing units and with medium/high population density. Homeless/shelter clients also live in counties with medium/high population density but not where there are few vacant units. Clients receiving non-EFH rapid re-housing are less likely to live where there are few vacant units and also less likely to live in medium/high density counties.

EFH clients are least likely of all the groups to have a child under the age of 6, to be a single parent household, or to be pregnant in the index month. Other rapid re-housing clients have low rates of pregnancy like EFH clients, but are more likely than EFH clients to have a young child and be single parents. Transitional housing and homeless/shelter clients are most likely of all four groups to have young children and be single parents, while the homeless/shelter group is distinct from all other groups for their higher rates of pregnancy in the index month.

Rates of substance use disorders are similar across the unmatched groups, though the EFH and transitional housing groups have the highest rates. Mental health treatment need and family violence are highest among the other rapid re-housing group, while EFH, transitional housing, and homeless/shelter clients look fairly similar on these measures.

EFH, other rapid re-housing clients, and transitional housing clients have similar rates of arrest and TANF sanction, while homeless/shelter clients have the highest baseline rates of both.

Other rapid re-housing clients have, on average, more months on the TANF clock, the highest rates of WorkFirst activities related to preparing or looking for work, and the highest rates of resolving barriers or being exempt from participation, as well as the highest baseline employment rates. EFH and transitional housing clients look quite similar on these measures, while homeless/shelter clients have the fewest months on TANF and lowest rates of participation in WorkFirst activities and employment.

While there are large differences when comparing EFH participants to the total pool of comparators from each group, we use propensity score matching to select a subset of each comparison group that is most similar to EFH. The matching process brought the rapid re-housing, transitional housing, and homeless/shelter comparison groups closer to the EFH group in terms of demographics and experiences, as seen in the final three columns of Table 1 below.¹¹

¹¹ Where there were residual differences, we used regression adjustment models assessing the impact of EFH relative to the comparison groups to check the robustness of the unadjusted differences presented above.

TABLE 1.

Key Baseline Measures for EFH Clients and Comparison Groups

	Homeless/Shelter 1:5 Matched Comparison Group							
	Transitional Housing 1:1 Matched Comparison Group							
	Rapid Re-housing 1:1 Matched Comparison Group							
	Homeless/Shelter Comparison Group Sampling Pool							
	Transitional Housing Comparison Group Sampling Pool							
	Rapid Re-housing Comparison Group Sampling Pool							
	Ending Family Homelessness Study Group							
	Number	111	380	501	1,471	111	111	554
Demographics and English Proficiency		UNMATCHED COMPARISON			MATCHED GROUPS			
Female	76%	81%	85%	80%	76%	76%	76%	
Age 24 or younger	21%	24%	41%	42%	21%	21%	21%	
Minority race/ethnicity	32%	43%	51%	42%	39%	36%	32%	
Less than high school education	22%	27%	34%	36%	24%	27%	20%	
English as a Second Language, prior 24 months	5%	2%	8%	1%	4%	10%	1%	
Geography and Local Housing Market								
Lives in a county with few vacant units	67%	54%	67%	54%	68%	67%	65%	
Lives in a county with medium or high density	67%	61%	69%	71%	68%	70%	67%	
Family Characteristics								
Youngest child under age 6 or not yet born	65%	74%	83%	79%	68%	66%	66%	
Single parent	69%	74%	77%	78%	67%	68%	73%	
Pregnant in the index month	11%	10%	12%	19%	12%	11%	10%	
Health and Safety Risk Factors								
Substance use disorder, prior 24 months	35%	32%	34%	32%	35%	38%	34%	
Mental health treatment need, prior 24 months	50%	59%	55%	50%	50%	49%	52%	
Chronic illness risk score	.62	.62	.55	.54	.59	.60	.60	
Evidence of family violence, past 24 months	28%	36%	26%	27%	32%	32%	30%	
Criminal Justice Involvement								
Arrested in prior 24 months	28%	29%	27%	33%	30%	28%	31%	
Ever incarcerated in a correctional facility	6%	4%	2%	5%	8%	5%	7%	
WorkFirst and Employment Experience								
Average months on TANF "clock" (out of 60)	24	26	24	22	25	24	25	
TANF sanction in prior 12 months	19%	23%	22%	30%	18%	20%	22%	
Community Jobs participant, past 24 months	22%	24%	22%	19%	30%	27%	18%	
Preparing or looking for work, past 24 months	57%	63%	59%	49%	59%	60%	52%	
Resolving barriers or exempt, past 24 months	89%	90%	90%	87%	87%	87%	88%	
ACES-recorded employment, prior 24 months	46%	50%	44%	43%	47%	51%	45%	

NOTE: Five homeless/shelter comparison group members were matched to each EFH participant, yielding a sample size of 554 for this comparison group because only a 1:4 match was achieved for one EFH client. In order to use a consistent denominator across groups, the charts on pages 4 to 7 apply the observed rate to 111 for the homeless/shelter group to arrive at an estimated numerator.

TECHNICAL NOTES

This report summarizes an evaluation of the Ending Family Homelessness (EFH) pilot program implemented in Cowlitz, Mason, Snohomish, Spokane, and Whatcom counties in Washington between April and December 2013. We used three separate comparison groups to examine outcomes for EFH parents compared to matched peers of Temporary Assistance for Needy Families (TANF) parents who were also homeless or receiving homeless housing assistance.

TIME PERIOD

We examined outcomes for EFH participants and their comparison group counterparts over a 12-month period following an “index month”. For EFH participants, non-EFH rapid re-housing recipients, and transitional housing recipients, a client’s assigned index month was the first month in the April to December 2013 period in which the client received the respective housing service according to the Homeless Management Information System (HMIS). For clients who were homeless according to the DSHS Automated Client Eligibility System (ACES) or were staying in an emergency shelter according to HMIS, index months were randomly assigned to individuals to mirror the distribution of index months observed for EFH participants over the April to December period.

STUDY POPULATION

In general, the study population was comprised of TANF parents who were homeless or receiving homeless housing assistance. We used specific selection criteria to ensure that 1) sufficient baseline data was available and 2) the sampling frames from which the comparison groups were selected were not different from EFH participants in critical ways (such as receiving Public Housing Authority assistance or experiencing chronic homelessness).

Overall selection criteria for study population

- TANF parents who received TANF for at least one month between April and December 2013 and at least one month in the 12 months prior to their index month,
- Were homeless or receiving homeless housing assistance between April and December 2013 and did *not* receive housing assistance through a Public Housing Authority during that time period, and
- Did not meet the federal definition of chronic homelessness in the index month; that is, they had neither been homeless for 12 consecutive months nor been homeless for four or more spells over the past three years.

Treatment group and comparison group sampling frames

Individuals could receive more than one service and were thus assigned to a group using the following hierarchy:

- **EFH “treatment” group** (n = 111): Received HMIS-recorded rapid re-housing through the EFH program in one of the five pilot counties between April and December 2013
- **Rapid Re-housing comparison group sampling frame** (n = 380): Received non-EFH HMIS-recorded rapid re-housing between April and December 2013.
- **Transitional Housing comparison group sampling frame** (n = 501): Received HMIS-recorded transitional housing between April and December 2013.
- **Homeless/shelter comparison group sampling frame** (n = 1,471): were identified as homeless without housing, in emergency shelter, or in a domestic violence shelter according to ACES and/or in emergency shelter according to HMIS between April and December 2013.

PROPENSITY SCORE MATCHING

A statistical technique known as propensity score matching was used to estimate the probability of receiving EFH using logistic regression models. Then propensity scores obtained from these models were used to create matched comparison groups. There are a few things to note:

- **Baseline measures.** The propensity score regression models included all of the measures listed in Table 1 on page 10, as well as additional measures not shown in the table. These measures included the following: all available race/ethnicity, age, and educational attainment categories, number of children in the household, employer-reported employment recorded in the state Employment Security Department’s wage data, and prior homelessness recorded either in ACES or HMIS. Demographics, geographic location, and family composition were measured in the index month or (for certain measures) the most recent month a client had been on TANF in the pre-period. Recent experience with homelessness and TANF sanctions were measured over the 12-month period prior to the index month. Health and safety risk factors, criminal justice involvement, and employment were measured over a 24-month pre-period.

- **Exact matching.** The matching process required an exact match on gender and age group in order to identify comparison group members who were similar to EFH participants on these key demographic characteristics.
- **Prior homelessness.** In earlier versions of the propensity score models we found that individuals in the homeless/shelter comparison group sampling frame had very low rates of HMIS-recorded housing assistance in the 12 months prior to the index month. As a result, the final propensity score models estimated for that group relied solely on measures of prior homelessness recorded in ACES, whereas the models estimated for non-EFH rapid re-housing and transitional housing included prior homelessness in ACES or HMIS.
- **1:1 and 1:5 matching.** For the non-EFH rapid re-housing and transitional housing comparison groups, we identified a single individual who could be matched to a single EFH participant. Given the larger size of the homeless/shelter comparison group sampling pool, we were able to identify five individuals who matched to each individual in the EFH treatment group (a 1:5 matching approach).
- **Balance between treatment and comparison groups.** To assess whether each of the three comparison groups were well-balanced with the EFH treatment group on key characteristics in the pre-period, we calculated the standardized mean difference for each baseline measure included in the propensity score models. Achieving a standardized mean difference of 0.2 or less is generally considered acceptable, and all of our baseline measures were below this threshold. That said, as a check on the robustness of our findings, after matching we estimated regression models on each of the outcome variables, controlling for any measure that had a standardized mean difference greater than 0.1. We found that all statistically significant results remained significant and between-group differences that did not achieve statistical significance in unadjusted comparisons did not achieve significance in these second-stage regression analyses.

DATA AND MEASURES

Demographics and Family Composition

- The RDA Client Services Database (CSDB) provided information on county of residence, age, race, Hispanic origin, and gender.
- Family composition was measured in the following ways: age of the youngest child in the household (under 6, 6-11, or 12+ years-old), number of children in the household (pregnant or 1 child, 2 to 3 children, or 4 or more children), pregnancy status, and single-parent status. Each of these measures was obtained from the DSHS Automated Client Eligibility System (ACES) as of the client's most recent month on TANF in the 12-month period prior to the index month.

English Proficiency and Educational Attainment

- English as a Second Language (ESL) was identified through eJAS, the information system used for WorkFirst case management. A parent was flagged as ESL if they had a WorkFirst activity code in the 24 months prior to the index month indicating that they were participating in English as a Second Language classes (ES) or were in the Limited English Proficiency pathway (LP).
- A measure of educational attainment was constructed from the education field collected by Economic Services Administration caseworkers in the DSHS Automated Client Eligibility System (ACES). Clients were placed into one of four categories: 1) less than high school, 2) high school diploma or GED, 3) Associate's, Bachelor's, or graduate degree, and 4) other credentials.

Geography and Local Housing Market

- Using U.S. Census data, a measure of "urbanicity" was constructed based on the percent of each county's population residing in an urbanized area. Clients were assigned to one of the following categories based on their county of residence in the index month: 1) rural, 2) urban – low density, or 3) urban – medium or high density.
- A housing vacancy rate was assigned to each of the 39 counties in Washington State using the U.S. Census Bureau's American Community Survey (ACS) 2012 five-year estimates. The ACS samples nearly 3 million addresses a year and housing units that are unoccupied at the time of the interview are considered vacant.¹² We grouped each county into one of three possible categories: 1) low (under 8 percent vacancy rate), 2) medium (8 to 22 percent vacancy rate), and 3) high (greater than 22 percent vacancy rate).

¹²Units occupied entirely by persons staying fewer than three months and who have a more permanent residence elsewhere are classified as "vacant." as are new units not yet occupied if construction has reached a point where all exterior windows and doors are installed and final usable floors are in place. Units are *not* considered vacant if the interior is not protected from the elements or they are condemned or slated to be demolished.

Health and Safety Risk Factors

- Data from three information systems—ProviderOne (medical), the Consumer Information System (mental health), and the Treatment and Assessment Report Generation Tool (chemical dependency)—were used to identify the presence of substance abuse and mental illness over a 24-month period based on health and behavioral health diagnoses, prescriptions, and treatment records. In addition, drug and alcohol-related arrest data maintained by the Washington State Patrol was used to identify probable substance abuse issues.
- Chronic illness risk scores were calculated from health service diagnoses and pharmacy claim information, with scoring weights based on a predictive model associating chronic health conditions with future medical costs.
- Domestic violence was identified if any of the following were present in the 24 months prior to the index month: 1) the client was exempt from cooperating with the Division of Child Support in identifying the non-custodial parent, 2) the client was participating in the Address Confidentiality Program, or 3) family violence was identified in the Comprehensive Evaluation conducted as part of the WorkFirst program.

Homelessness and Housing Assistance

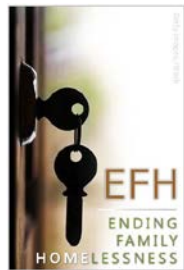
- Homelessness was identified through living arrangement status reported to DSHS caseworkers and recorded in ACES, as well as through records indicating receipt of homeless housing assistance in HMIS. In particular, clients who were homeless with housing (HH), homeless without housing (HO), in emergency shelter (EH), or in a domestic violence shelter (BT) in ACES and those who were receiving emergency shelter, transitional housing, or rapid re-housing in HMIS were identified as homeless.
- Data from the U.S. Department of Housing and Urban Development (HUD) was used to identify individuals who received housing assistance through any Public Housing Authority (PHA) in the state. PHA assistance includes low income public housing, project-based housing vouchers, and tenant-based housing vouchers.

Employment and TANF Experience

- Data on employment and earnings came from two sources: 1) the Washington State Employment Security Department (ESD) Unemployment Insurance wage file provided information on employer-reported quarterly employment over a 24-month pre-period and 2) self-reported employment and average annual earnings recorded in ACES were measured over a 24-month pre-period as well as over a 12-month outcome period.
- WorkFirst activities recorded in eJAS, TANF receipt, sanction status, and months on the TANF “clock” were all obtained from the ACES data warehouse.
- WorkFirst progression was identified when the last assigned activity in the 12-month outcome period was higher on the progression continuum than any of the previous activities in that period, including the index month. If there were multiple activity codes assigned in the last month observed, the one that placed the parent highest on the progression continuum was used.

Criminal Justice Involvement

- Washington State Department of Corrections (DOC) data provided information on whether an individual had ever been incarcerated in a DOC facility, with release dates available from 1984 forward.
- Arrest data from the Washington State Patrol (WSP) identified clients who had been arrested, though the full volume of arrests is likely understated in this report given that some misdemeanor offenses are not required to be reported in the WSP database.



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