Health Starts at Home

EVALUATION FINAL REPORT

HEALTH STARTS AT HOME
A BOSTON FOUNDATION INITIATIVE

ABOUT THE BOSTON FOUNDATION

The Boston Foundation, Greater Boston's community foundation, seeks to bring the collective power of our region's people and resources together to drive real change. Established in 1915, it is one of the largest community foundations in the nation—with net assets of $1.3 billion. In 2020, the Foundation received $169 million in contributions and the Foundation and its donors paid $215 million in grants to nonprofit organizations. The Foundation has many partners, including its donors, who have established more than 1,000 separate charitable funds for the general benefit of the community or for special purposes. With support from the Annual Campaign for Civic Leadership, the Foundation also facilitates public discourse and action, commissions research into the most critical issues of our time and advocates for public policy that advances opportunity for everyone. The Philanthropic Initiative (TPI), a consulting unit of the Foundation, designs and implements customized philanthropic strategies for families, foundations and corporations around the globe. To learn more about the Foundation and its work, visit TBF.org.

ABOUT HEALTH RESOURCES IN ACTION

Health Resources in Action (HRiA) is a public health organization serving government, nonprofits, hospitals/health care systems, philanthropy, and communities across the U.S. Our mission is to help people live healthier lives and create healthy communities through prevention, health promotion, policy, and research. With our commitment to racial and health equity and community-centered approaches, HRiA has earned a national reputation as a public health leader, working across sectors and upstream to pursue health equity for all. We envision a world where all people reach and experience optimal health and well-being. We pursue this by providing assessment, evaluation, training, capacity building, and grantmaking consultation services to our clients, partners, and communities.

ABOUT URBAN INSTITUTE

The nonprofit Urban Institute is a leading research organization dedicated to developing evidence-based insights that improve people's lives and strengthen communities. For 50 years, Urban has been the trusted source for rigorous analysis of complex social and economic issues; strategic advice to policymakers, philanthropists, and practitioners; and new, promising ideas that expand opportunities for all. Our work inspires effective decisions that advance fairness and enhance the well-being of people and places.

ACKNOWLEDGEMENTS

The **Health Starts at Home** initiative received funding support from the Annie E. Casey Foundation, Blue Cross Blue Shield of MA Foundation, The John D. and Catherine T. MacArthur Foundation, Kresge Foundation, Melville Charitable Trust, Partners HealthCare, and individual donors without whose partnership and contributions this work would not have been possible.

Cover photo: Ivan Samkov | Pexels

Health Starts at Home

EVALUATION FINAL REPORT

AUTHORS

Heather Nelson, Ph.D., MPH
Lisa Arsenault, Ph.D.
Josh Leopold, MS
Martha Galvez, Ph.D.
Yipeng Su, MPA

EDITORS

Soni Gupta, Sandy Kendall, Helen Murphy
The Boston Foundation

DESIGN

Kate Canfield
Canfield Design

JUNE 2021

CONTENTS

Foreword 3

Executive Summary 5

Introduction 7

Background 8

Methods 11

Health Starts At Home Families 14

Impact of Health Starts At Home Programming 18

Discussion 30

Appendix 33

Endnotes 37

FOREWORD

Too often, the impact of housing instability on children is shrouded in a cloak of invisibility–not seen, not heard, not acknowledged. So, it was with great appreciation that I read the Health Starts at Home (HSAH) Final Evaluation Report. While housing instability impacts all members of a family, children may be dually affected: They experience the direct consequences of living in an unstable housing situation as well as the indirect consequences of housing instability on their adult caregivers. These consequences can affect multiple aspects of the child's physical and emotional being—their emotions, behaviors, self-confidence, school performance, relationships, and health, among others—and have potential for devastating lifelong impacts.

The work presented here provides much needed focus on the relationship between child well-being and family housing instability and offers insight into the effectiveness of intervening on family housing instability as a strategy to improve health. While the evaluation has important limitations, several aspects of this work deserve highlighting and further exploration. The interventions, designed by different teams across several organizations, independently chose integrated, multi-service models to support families. The multi-service approach—which offers supports across a range of domains including employment, education, housing, food, and health care—acknowledges the reality that housing instability usually does not occur in isolation and that stability is unlikely to be achieved without addressing other (non-housing) needs. Although the grant structure partly drove the selection of integrated multi-services models, the implementation of similar models across diverse partnerships represents some broad agreement or consensus regarding the most promising approach to support housing unstable families. Interventions that provide a narrow range of services (e.g., providing families with a list of housing-related resources) may have limited benefit while multi-service interventions may be better positioned to foster sustained impacts on housing status.

Remaining Questions

Still, questions remain about the role of health-care systems in supporting families that are living in unstable housing situations. The HSAH funding structure required partnerships between health care and housing agencies to promote integration between social and medical services. This requirement obviated the need for the health-care entity to choose between addressing housing using internal, health care–based staff or through partnerships with external housing agencies. But this fundamental question remains unanswered: Should health-care systems build their own primary care–based housing support service programs or is it more appropriate and effective to partner with external community-based organizations that already deliver housing services? Programs delivered by health-care staff have certain advantages, including easier coordination with clinical teams; more efficient data exchange; and less complicated administrative, contractual, and payment structures. Such programs may also be better positioned to manage medically complex patients with multiple medical needs in addition to their housing needs. But can housing programs delivered by health-care staff provide the range and depth of services offered by housing agencies? Community-based housing agencies are connected to the pulse of local housing activities and policies. They have cultivated a focused expertise over time that could lead to efficient and effective service delivery. These agencies tend to have robust connections and relationships with other community-based programs, supports, and resources that might benefit families. While hospital-based staff often develop strong relationships with community partners across a range of domains relevant to families, it may be difficult to fully develop and maintain the deep networks available to community-based housing agencies.

Given these considerations, the preferred model for addressing family housing insecurity may well be the one used in HSAH: a true hybrid model where hospital staff and community-based housing staff co-manage families

to provide coordinated case management. It is my hope the HSAH grant recipients plan to share detailed learnings about the successes and challenges of these partnerships with a broad audience.

Metrics & Data

Another important aspect of integrating health care and housing services highlighted through this work is the need for a more uniform way to measure delivery of services and housing stability. I appreciate the framework for measurement of housing stability employed in this evaluation. A more detailed description of actual services delivered would benefit those who wish to design similar programs. Specifically, methods used to quantify the effort required by health-care institutions and social service partners to support housing unstable families and the true costs associated with such an effort would assist the design and implementation of other programs.

Additionally, further understanding of whether services can or should vary in intensity is needed to improve the expansion of delivery of these services. For instance, one family may need help accessing an application for housing while another family may need help with gathering required documents as well as accessing, completing, and submitting the application.

Understanding the resource needs for successfully addressing these two scenarios would offer practical accounting that could greatly inform the work under way by health insurance providers and others to fund activities to address housing and other health-related social needs.

The Path Ahead

The landscape of medical and social service delivery is changing. With a growing awareness that what happens outside the walls of a health-care organization can more consistently impact health than the provision of medical services, health-care leaders are trying to figure out how to support individuals and families who are facing social and economic barriers to good health. At the same time, community-based organizations are working to leverage their expertise and create sustainable partnerships with health-care organizations. Two previously siloed systems are evolving with pathways for integration. No single path will work for all families, for all health-care entities, and for all community-based agencies. Success will involve a network of pathways, linked in complex ways. Future work should focus on expanding our understanding of optimal intervention structures, meaningful cross-sector collaborations, and measurement of activities and impact.

As a society, we have not focused on ensuring that basic human needs—food, shelter, safety—are met. Our safety net systems are riddled with holes and, without access to these fundamentals, the health of individuals and populations suffers. Given their mission to promote good health, health-care systems are now having to address the absence of these basic needs. Is this the right approach? Should we be trying to eliminate the holes in the safety net instead, or must we do both? These are difficult questions that require continued debate. The work presented in this report has helped inform this debate by demonstrating that cross-sector collaborations between health care and community-based housing agencies can improve housing stability and health among children and families. While much still needs to be understood, the path forward is a bit clearer now.

—Snehal N. Shah, MD, MPH

Harvard Medical School: *Assistant Professor of Pediatrics*

Boston Children's Hospital: *Associate Medical Director for Community Integration, Boston Children's Accountable Care Organization, Department of Accountable Care and Clinical Integration; Senior Faculty Advisor, Office of Health Equity and Inclusion; and Staff Physician, Children's Hospital Primary Care Center*

EXECUTIVE SUMMARY

Health Starts at Home was a multi-partner collaboration to improve child and family health for low-income families experiencing housing instability. The Boston Foundation funded four entities, each a partnership of at least one health-care and one housing organization, to design and implement programs to improve service delivery and reduce housing instability for participating families. The evaluators—Health Resources in Action and Urban Institute—tracked changes in these families' housing status, economic well-being, health status and health-care use for the caregivers and enrolled children at baseline, six-month, and 12-month follow-up surveys. The goal of the evaluation was to determine whether improvements in housing stability (achieved through delivery of the four Health Starts at Home program interventions) were associated with improvements in health-related outcomes. Survey data was supplemented by administrative data from the Massachusetts Department of Housing and Community Development (DHCD) on the use of shelters and state rental assistance programs.

The four Health Starts at Home (HSAH) grantees served 261 families, of whom 137 were included in the final outcome evaluation sample. Families were primarily Hispanic or Latino (78%) or Black, non-Hispanic (18%) and most (66%) spoke Spanish at home. The majority (71%) of enrolled children were young—under four years of age. Most caregivers were single mothers and nearly half (47%) had less than a high school education at the time of enrollment.

Most HSAH families (87%) received some form of housing subsidy. Some received temporary rental assistance through programs like rental assistance for families in transition (RAFT), while almost half received permanent housing assistance through either a housing voucher or public housing unit. The evaluation results show significant improvements in families' housing stability at the 12-month follow-up, with sharp reductions in overcrowding, poor housing conditions, homelessness, and forced moves. The one area of housing instability without significant improvement was affordability, as more families moved out of shelter or shared housing to become the primary rent-payer in their household.

The reductions in housing instability were correlated with modest improvement in child health. The percentage of caregivers reporting their child's health as excellent, very good, or good increased from 77 percent at baseline to 89 percent at 12-month follow-up. The average number of emergency department visits in the prior six months decreased from 2.3 visits at baseline to 1.3 visits at 12-month follow-up.

The most striking improvements were the reductions in anxiety and depression among the caregivers. Specifically, the percent of caregivers who scored positive for anxiety symptoms dropped from 63 percent at baseline to 42 percent at 12-month follow-up and the percent scoring positive for depression symptoms dropped from 60 percent at baseline to 37 percent at 12-month follow-up.

Improvements in child and caregiver health were most robust and statistically significant for the subset of families whose housing stability was substantially improved during the evaluation period (i.e., by 12-month follow-up); however, improvements and positive trends were observed in the subset of families who were still working toward improved housing stability at that timepoint. In this latter group, child emergency and urgent visits were trending downward by 12 months as were caregiver anxiety and depression symptoms, while Adult Hope Scale scores were increasing. While it is difficult to determine from the data what drove the improvements in health status; qualitative data collected from focus groups conducted with participants as part of the process evaluation suggest that caregivers benefited from the case management and other supportive services provided through the initiative. Many caregivers were not native English speakers, and some were undocumented. Prior to enrolling in HSAH they did not have anyone in their lives who could help them navigate the public benefits process, find an apartment, or help them communicate with their landlord, their children's teachers or school administrators, or creditors on their behalf. Having that advocate may have greatly reduced stress and depression for some caregivers.

While the evaluation results are not definitive, they do demonstrate the promise of housing and health-care collaborations for housing insecure families.

INTRODUCTION

Health Starts at Home (HSAH) has been a five-year initiative of the Boston Foundation that supports housing and health-care organization partnerships that examine the positive benefits of stable, affordable housing on children's health outcomes. The goals of the initiative were to highlight the importance of affordable housing in children's health outcomes and to identify promising new and existing partnership models that could be brought to scale to improve children's health outcomes.

Health Starts at Home partnerships worked with evaluation consultants Health Resources in Action (HRiA) and the Urban Institute (Urban) to evaluate the effectiveness of their programs through a set of shared measures related to housing stability and child and caregiver health. In addition, these partnerships received technical assistance and participated in a learning community to continually enhance their programs.

The purpose of this report is to document and describe the final Health Starts at Home outcome evaluation findings. This work represents the culmination of four years of active data collection, data exploration, and data analysis.

"We've housed families. That's incredible."

—Grantee

BACKGROUND

Literature Review

The lack of affordable housing creates widespread housing instability that can take many forms. Families might be severely rent-burdened—paying most of their income on rent—live in substandard or overcrowded housing, make frequent moves, or stay in temporary shelters.[1] The lack of affordable housing negatively affects parental and child health. Rent-burden, frequent moves, and homelessness have each been linked to increased child hospitalizations, developmental delays, poor maternal health, and maternal depression.[2]

"I feel... having so many agencies working together to offer services to these families is so valuable."

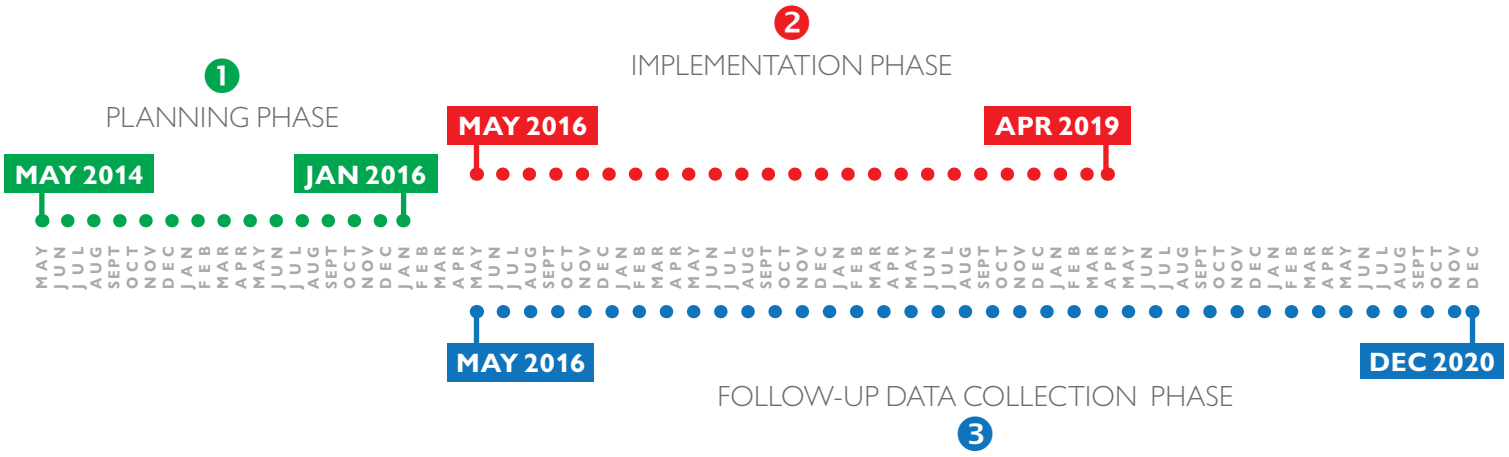
—Grantee

While Suffolk County, which includes Boston and Chelsea, is consistently ranked at or near the top of U.S. counties in making rental housing affordable for households with extremely low incomes (ELI),[3] it still only has enough affordable housing for 49 of every 100 ELI renter households.[4] This leaves many families suffering from stress and poor health outcomes related to housing instability.

Research has established a clear link between housing instability and poor health for caregivers and children, but there is less evidence demonstrating what types of housing-related interventions could improve health outcomes for families. During the development of the Health Starts at Home Initiative, a literature review of 32 peer-reviewed articles and organization and government agency reports was unable to identify any articles that examined the impact of multi-sectoral interventions focused on child and family health that included both housing and health-care organizations as partners. There is some evidence, however, that addressing housing instability can lead to health improvements. The U.S. Department of Housing and Urban Development (HUD) Family Options Study found that offering homeless families a housing subsidy did not significantly improve their self-reported health, relative to a control group that remained in shelter, but it did lead to reductions in psychological distress among caregivers and behavior problems among children.[5]

Health Starts at Home Initiative Timeline

HSAH was a three-phase initiative that included planning, implementation, and follow-up data collection phases. During **PHASE I**, four 9-month planning grants were awarded in May 2015 through a competitive grant process to promising partnerships of housing and health-care organizations. During this planning period, partnerships refined their collaborative models and developed collective evaluation strategies with HRiA and Urban to track the impact of their work. At the completion of the planning phase in February 2016, the Boston Foundation put out an open request for proposals for **PHASE II** implementation funding. In May 2016, the Foundation selected four partnerships to receive three years of support ($200,000 per year) for their partnership and to implement their program models and interventions, and to participate in an overarching evaluation of the initiative. During **PHASE III**, grantees collected follow-up data from participants beyond the implementation phase in order to capture long-term changes in housing and health outcomes.



The Partnerships

Health Starts at Home funded a cohort of four Boston-area health-care and housing partnerships to plan for and then provide services and supports to unstably housed families with children. Each of the four partnerships had a unique structure and service delivery model. B***uilding Bridges to Better Health*** was focused on an integrated healthcare model to support families exiting homeless shelters. ***Chelsea Homes for Health*** targeted young mothers with a focus on connecting them to eligible benefits, financial coaching, and employment services. Housing Prescriptions focused on children with frequent emergency department visits and partnered with Boston Housing Authority to offer families a subsidized apartment in public housing. ***Mortar Between the Bricks*** identified eligible families through a universal housing screen at the Martha Eliot Health Center and provided families with intensive social work and legal services as well as referrals to other social services.

Building Bridges to Better Health

Partners: Boston Health Care for the Homeless Program, Urban Edge, St. Mary's Center for Women & Children

Model: Boston Health Care for the Homeless Program, St. Mary's Center for Women & Children, and Urban Edge partnered to address the health disparities that homeless children experience. With their combined expertise, they have delivered a model of coordinated and integrated services designed to improve access to comprehensive health care, behavioral health services, social supports, benefits screening, and housing search services. This model has sought to ensure access to integrated services while families are in shelter, and to follow families as they transition into housing and support them during this tenuous time to prevent the financial, social and health crises that too often result in a return to homelessness.

Chelsea Homes for Health

Partners: Massachusetts General Hospital Chelsea Health Care Center, The Neighborhood Developers, Metropolitan Boston Housing Partnership, Roca

Model: This partnership includes major institutions in Chelsea, a mid-size city just north of Boston with a largely immigrant population, where 50 percent of residents cannot afford stable unsubsidized housing. MGH Chelsea, the health-care provider serving the majority of households in the community, and Roca's program for young mothers have screened families for housing instability as a part of their regular course of care. The screening has provided partners with the knowledge and capacity to refer families to existing, robust services at CONNECT, a collaboration housed at The Neighborhood Developers, from short-term rental assistance to long-term stabilization supports, including benefits screening, financial coaching and services, workforce development resources, housing counseling and peer supports.

Housing Prescriptions as Health Care

Partners: Children's HealthWatch, Project Hope, Boston Housing Authority, Medical-Legal Partnership, Boston Public Health Commission, Nuestra Comunidad Development Corporation, Boston Medical Center – Problem Solving Education, Boston Medical Center (BMC) HealthNet Plan

Model: This partnership strove to create a seamless system of services for children under age four whose families are high users of emergency health-care services. Medical staff members often do not ask about a family's housing situation because they cannot offer "treatment." This model has built on the existing Children's HealthWatch interview protocol, enabling trained interviewers to ask validated questions and link families to care coordination services at Project Hope. Intensive case management has helped families find, retain, and improve their housing by linking services of benefits maximization, legal services, problem solving education and priority access to public housing units.

Mortar Between the Bricks

Partners: Massachusetts Law Reform Institute, Boston Children's Primary Care at Martha Elliot Health Center at Longwood, Horizons for Homeless Children

Model: This partnership includes a nationally recognized medical provider and poverty law experts focused on policy reform and early childhood development specialists. They've joined forces to identify at-risk, housing insecure and homeless patients of Boston Children's Primary Care at Martha Eliot Health Center and Longwood, using a new universal housing screen. Dedicated social work staff at Martha Eliot coordinated interventions to stabilize families, including intensive legal services, housing workshops, parent trainings, early education and childhood development programs, and referrals to other social services. Through an integrated cross-referral system, this model intentionally focuses on services to both adults and their children, based on a two-generation framework informed by an advisory committee that includes patient parents.

METHODS

Outcome Evaluation

During the HSAH planning phase (May 2015 – January 2016), the evaluators, Health Resources in Action and the Urban Institute, led the four grantee partnerships through a collaborative process to develop a comprehensive set of shared quantitative core outcome measures. The final instrument consisted of seven initial screening questions and 57 questions covering a range of topics, including household composition, demographic characteristics of both caregiver and enrolled child, household income, caregiver education and employment status, housing affordability, residential stability and mobility, homelessness, current housing conditions, crowding, general health status of the caregiver and enrolled child, behavioral health indicators of the caregiver and enrolled child, and health-care utilization by the enrolled child. Whenever possible, indicators based on reliable and validated instruments were selected for inclusion in the final core outcome measures.

The instrument was designed by the evaluators to be interviewer administered and each partnership collected these core measures from all participating families at baseline and at six-month intervals for up to 24 months. During the active implementation phase, May 2016 – April 2019, each partnership transferred core measures data to HRiA for interim data cleaning and analyses on a quarterly basis. In addition, each grantee collected a range of case-level administrative data (e.g., services received by each participant, status of referrals, etc.) that were unique to their own model, partnership processes, and workflows. Partnerships were also asked to provide the final known housing status for each participating family at the end of the follow-up period, including whether the family received specific types of financial housing assistance (e.g., tenant-based voucher, public housing unit, RAFT assistance, etc.) as part of its participation in HSAH.

For the purposes of the outcome evaluation of HSAH, only families with complete core measure data for baseline, six-month, and 12-month follow-up as of April 30, 2019, and for whom the grantee partnership was able to provide programmatic housing status data were included in the outcome evaluation analyses. Enrollment timelines and follow-up rates varied by grantee, so some families were not included in the evaluation because their 12-month follow-up had not yet been reached while others were not included because the grantee was unable to obtain both six-month and the 12-month follow-up data. Exclusion from the evaluation analyses does not mean the enrolled family did not receive services or benefit from the HSAH intervention; rather it indicates that evaluation data were not sufficiently available for the family to be included in the evaluation.

THE ENROLLED CHILD

Over time, data were collected about only one child from each family participating in Health Starts Home. This child was referred to as the enrolled child.

As with all evaluation efforts, there are several limitations that should be acknowledged. Most core measures data were based on participants' self-report. Self-reported data should be interpreted with caution. In some instances, respondents may over- or under-report behaviors and illnesses based on fear, social stigma, or simply misunderstanding the question being asked. In addition, respondents may be prone to recall bias—that is, they may attempt to answer accurately but remember incorrectly. Because the majority of administrative data collected by partnerships was unique to that intervention model, only the final known housing status of families was able to be aggregated across partnerships for inclusion in the final analyses. While this limits the ability to attribute observed change to specific aspects or types of program components, the evaluation sought to determine whether improvements in housing stability (achieved through delivery of the four HSAH program interventions) were associated with improvements in health-related outcomes.

All analyses of core measure outcomes and case-level administrative data were conducted using IBM SPSS Statistics for Windows, version 25 (IBM Corp., Armonk, N.Y., USA). Significance testing was conducted (McNemar's test for categorical variables and paired samples t-test for continuous variables) to determine whether observed changes in outcomes between baseline and six-month follow-up or between baseline and 12-month follow-up were statistically significant (based on p-values <0.05).

Administrative Data on Homeless Assistance

In addition to analyzing self-report core measures data, the Urban Institute negotiated a data sharing agreement with the Massachusetts Department of Housing and Community Development (DHCD) to assess HSAH families' use of homeless shelters and Emergency Assistance (EA). Program staff at each of the HSAH lead partner organizations were responsible for asking families for their consent to participate in the data match and for sending personal identifiers (name, date of birth, and Social Security Number if available) and the unique research ID to DHCD for linking in its Homeless Management Information System (HMIS). DHCD then conducted the match and sent Urban a deidentified dataset—adding the records on use of shelter and EA and removing the personal identifiers.

Eighty-seven percent of HSAH families consented to share their information for the DHCD data match. Program staff indicated that lack of a valid SSN was a primary reason some families declined to participate in this aspect of the evaluation. The DHCD dataset captured shelter and EA use between October 2016 and October 2020, capturing an average of two years prior to HSAH enrollment and two years post-enrollment for each family.

Process Evaluation

Although this report focuses on the findings relative to participant outcomes, it is important to note that the evaluators conducted a process evaluation throughout the planning phase and the three years of implementation. In order to inform initiative improvement efforts and to provide a historical record of HSAH, the process evaluation documented partnership changes, processes, successes, areas for improvement, and sustainability efforts. The process evaluation methods included qualitative data collection and social network analysis. Focus groups and in-depth interviews with grantee partnerships, Boston Foundation staff, and participants explored accomplishments, challenges and lessons learned, areas for program improvement, thoughts about program sustainability and dissemination of findings, as well as participant experiences. Quotes included throughout the narrative of this report are from the process evaluation and further illustrate findings from the outcome evaluation.

The grantees collaborated with the Boston Foundation and the evaluators to define the eligibility criteria for Health Starts at Home. The criteria were developed based on a review of the literature on housing insecurity and health as well as input from the grantees about the types of families they considered at greatest need and who would get the most benefit from the intervention.

Families were eligible to participate in Health Starts at Home if they met the following criteria:

- Have at least one child aged 1 day to 11 years 364 days
- Meet MassHealth income guidelines or having incomes at or below 150 percent of the federal poverty level for their household size
- Are currently experiencing housing instability, defined by at least one of the following:
    1. Currently spending more than 50 percent of income on rent or mortgage, including utilities
    2. Homeless in the past year, as defined by having no steady place to sleep
    3. Unable to pay rent or mortgage on time at least once in the past year
    4. Moved two or more times in the past year due to economic reasons

It is important to note that these criteria served as the minimum requirements as partnerships were allowed to apply more restrictive criteria for participation if they desired (e.g., focus only on families with children younger than four years old).

Demographic and Economic Characteristics at Baseline

Across the four grantee partnerships, a total of 261 families were enrolled in HSAH and 52 percent (n=137) had sufficient follow-up and housing status data for inclusion in the outcome evaluation sample. In this section we provide information on the baseline characteristics of HSAH families focusing on the 137 included in the final outcome evaluation. However, this group was determined to be demographically similar to those who were ultimately excluded from the outcome evaluation, and thus this sample is descriptively representative of the overall population reached.

The baseline data show that the families served by Health Starts at Home generally had extremely low incomes and were experiencing multiple forms of housing instability at the time of enrollment. **Table 1** provides a summary of these families based on which eligibility criteria were met and how many were eligible based on more than one criterion. Eligibility information for all

TABLE 1

Families Meeting HSAH Eligibility Criteria, by Baseline Shelter Residence

	Families Included in Outcome Evaluation Sample (n=137)	
	Count	%
Experienced homelessness in prior year	83	60.6%
Was unable to pay rent in prior year	67	48.9%
More than half of income towards housing	57	41.6%
Moved 2+ times for economic reasons in prior year	35	25.4%
Family met two or more of the above[i]	79	57.7%

i. Criteria were check all that apply, families could be eligible based on more than one criterion

TABLE 2

Demographic Characteristics of Caregiver and Enrolled Child, Evaluation Sample (n=137)

	Count	%		Count	%
Age of Child at Baseline			**Caregiver Relationship to Child**		
Under 4 years old	97	70.8%	Mother	134	97.8%
4 or 5 years old	17	12.4%	Father	2	1.5%
6 years or older	23	16.8%	Grandmother	1	0.7%
Sex of Child			**Language Spoken at Home**		
Male	75	54.7%	English	37	27.0%
Female	62	45.3%	Spanish	91	66.4%
			Other	9	6.6%
Ethnicity/Race of Child			**Caregiver Educational Attainment**		
Hispanic or Latino	107	78.1%			
Black, non-Hispanic	25	18.2%	Less Than High School	65	47.4%
White, non-Hispanic	3	2.2%	High School Graduate or Equivalent	40	29.2%
Other or multiple races	2	1.5%	Some College or Beyond	32	23.4%
Ethnicity/Race of Caregiver					
Hispanic or Latino	107	78.7%			
Black, non-Hispanic	24	17.6%			
White, non-Hispanic	4	2.9%			
Other or multiple races	1	0.7%			
Not reported	1	–			

enrolled families and those excluded from the outcome evaluation can be found in the Appendix.

The majority (71%) of enrolled children were young—under four years of age (**Table 2**). Families were primarily Hispanic or Latino (78%) or Black, non-Hispanic (18%) and most (66%) spoke Spanish at home. All but three caregivers (98%) were mothers to the enrolled child and nearly half of caregivers (47%) had less than a high school education at the time of enrollment.

About half (55%) of caregivers were not employed at baseline (**Table 3**) while the remaining half were split between being employed for less than 35 hours per week (24%) and being employed for 35 hours per week or more (21%). Total household incomes, as reported by the caregivers, were low at baseline. The median monthly household income was $850 per month, however over one third (37%) of families were identified as having monthly household incomes of $500 or less per month. Food security was a concern for many at baseline. Over half (53%) of caregivers reported either some degree of food insecurity or were concerned about their family's food security.

Families varied greatly in their housing costs and living situations at baseline. Over half (57%) of families reported that they were responsible for paying some money toward rent at baseline. Among this group, the median rent paid was $600 per month, but this ranged greatly from $11 to $2,100 per month. At the time of enrollment, one third (35%) of families were residing in shelter or other transitional housing while nearly one quarter (24%) were doubled up and living with friends or family members. The remaining 40% were living in their own apartment.

TABLE 3

Baseline Economic Characteristics of Households, Evaluation Sample (n=137)

	Count	%		Count	%
Caregiver Employment Status			**Monthly Household Income $500 or Less**		
Not employed	75	54.7%	Yes	51	37.5%
Employed, < than 35 hours per week	33	24.1%	No or not reported	86	62.8%
Employed, 35+ hours per week	29	21.2%			
Number of People in Household[i]			**Food Insecurity**		
Mean (SD)	3.4 (1.5)	54.7%	Family was food insecure	53	39.0%
Median (Min, Max)	3.0 (2, 10)	45.3%	Family was concerned	19	14.0%
			No insecurity or concern	63	46.3%
Monthly Household Income[ii]			**Rent Paid, if Paying Rent**[iii]		
Median (Min, Max)	$850 ($0, $3,948)		Median (Min, Max)	$600 ($11, $2,100)	

i Household membership was defined as the caregiver, the caregiver's spouse (if living with him/her), the caregiver's natural, adopted, and stepchildren younger than age 19, and the number of expected children

ii Household income was defined as income before taxes and deductions, except for pre-tax deductions such as health insurance premiums or contributions to a dependent care account, for all household members

iii Rent paid data were based on the 78 families (57%) who reported paying at least $1 of rent; an additional 51 families (37%) reported paying $0 in rent and eight families (6%) did not respond to the question.

The HMIS data provide another picture of the types of housing instability HSAH families experienced prior to program enrollment. Thirty percent of families included in the final evaluation sample had at least one shelter stay or application for Emergency Assistance prior to enrolling in HSAH (**Table 4**). On average HSAH families had spent 156 nights in emergency shelter from May 2013 to the date of their enrollment.

TABLE 4

Use of Homeless Shelters and Emergency Assistance at Baseline

(n=137)

	Count	%
Families with a shelter stay or emergency assistance application	42	30.7
Average number of nights spent in shelter[i]	156	N/A

i Criteria were check all that apply; families could be eligible based on more than one criterion.

Data Source: Homeless Management Information Systems Data on statewide use of homeless shelters and emergency assistance from May 2013 to October 2020 from the Massachusetts Department of Housing and Community Development

There are several reasons why the percent of families with a shelter stay prior to enrollment in the HMIS data is lower than the 61% of families that reported experiencing homelessness in the baseline survey (*see* **Table 1**). First, 13% of families did not consent to sharing their personal identifiers for the MHIS data match. Second, the HMIS data do not include all homeless shelters throughout the state and may exclude those that are exclusively privately funded as well as victim service providers that do not report to HMIS for privacy reasons. Finally, many households may have experienced homelessness as it was defined by HSAH but had not stayed in a homeless shelter.

IMPACT OF HEALTH STARTS AT HOME PROGRAMMING

The baseline characteristics of the Health Starts at Home families show the broad extent of economic vulnerability and housing instability facing the populations that were targeted by the Health Starts at Home initiative. While housing instability was to be expected given the aim of the initiative, grantee partnerships understood and designed their programs to identify and address needs of families that extended far beyond financial housing assistance. Each funded HSAH partnership undertook an individualized and tailored approach to its work with enrolled caregivers and their families. Housing advocacy, benefits review and maximization, provision of needed legal services, referral and connection to social services, care coordination and/or care management, and access to health and behavioral health services were all addressed to varying degrees by each model.

With the exception of Housing Prescriptions' connections to public housing through the Boston Housing Authority, the partnerships did not start out with the ability to provide long-term rental assistance to HSAH families. However, the state ultimately allocated 50 Housing Choice Vouchers to the initiative. Vouchers were allocated to each partnership based on need and the number of families they had enrolled. Interested and eligible families were then randomly drawn to receive a voucher. The drawings took place in December 2017 and April 2018.

Table 5 shows the type of rental assistance HSAH families received based on administrative data documented as of their last known housing status. At this timepoint, which generally reflected the final housing outcome achieved for the family, most had received some kind of financial housing assistance. Roughly one third (34%) received a housing voucher, while 15 percent received public housing and 37 percent received some other type of assistance such as RAFT, HomeBASE, or some other financial housing support. Only 13 percent were receiving no financial assistance with housing costs at the time administrative data tracking had concluded.

TABLE 5

HSAH Administrative Data as of Last Known Housing Status
All Families (n=137)

	Count	%
Family received public housing unit	21	15.3
Family used a tenant or project-based voucher	47	34.3
Family received other type of assistance (e.g., RAFT, HomeBASE, other)	51	37.2
Family received no financial housing assistance	18	13.1

Changes in Housing Instability from Baseline to 12-Month Follow-Up

Because HSAH was undertaken with housing stability as the foundation upon which health could be improved, the core outcome measures included an extensive range of indicators related to housing insecurity and instability. These included the four main enrollment criteria, detailed in **Table 1**, as well as a number of indicators that were selected to align with the four major constructs commonly attributed to housing instability—affordability, quality, crowding, and homelessness.[6] Examining this broader set of 13 instability indicators (**Table 6**) provides a more complete picture of the extent of housing instability experienced by the families at baseline, but also suggests the positive impact on families' housing instability the HSAH partnerships were able to achieve by 12 months.

TABLE 6

Indicators of Housing Instability at Baseline and Follow-Up, Evaluation Sample (n=137)

	Baseline		12-Month Follow-up	
	Count	%	Count	%
Homelessness or Unstable Housing				
Concerned about being evicted or landlord foreclosure	50	36.5%	25	18.2% ***
Multiple moves for economic reasons in prior year/6 mos[i]	35	25.5%	2	1.5% ***
Doesn't expect to be living in the same place in 6 months	86	62.8%	59	43.1% **
Experienced homelessness in prior year/6 mos[i]	83	60.6%	52	38.0% ***
Currently residing in shelter or transitional housing	48	35.0%	28	20.4% **
Any homeless or unstable	**126**	**92.0%**	**90**	**65.7%** ***
Unaffordable Housing				
Pays more than 50% of HH income towards rent[i]	57	41.6%	51	37.2%
Unable to pay rent in the prior year/6 mos[i]	67	48.9%	30	21.9% ***
Caregiver is concerned about paying rent	56	40.9%	39	28.5% *
Any unaffordable	**90**	**65.7%**	**71**	**51.8%** *
Poor Quality Housing				
Caregiver rates current housing as poor or very poor	48	35.0%	15	10.9% ***
A moderate quality issue identified in current home[ii]	58	42.3%	37	27.0% **
A severe quality issue identified in current home [iii]	39	28.5%	10	7.3% ***
Any poor quality	**79**	**57.7%**	**41**	**29.9%** ***
Poor Quality Housing				
Family currently resides with other family or friends	33	24.1%	20	14.6% *
More than 2 persons per bedroom	43	31.4%	24	17.5% **
Any crowded	**60**	**43.8%**	**34**	**24.8%** ***

i Select indicator was one of four eligibility criteria—each family had to meet at least one to be enrolled in HSAH

ii Moderate condition included self-reported concern about infestations or mold/mildew in current housing

iii Severe condition included self-reported concern about utilities shut off/not working, water/plumbing, property being condemned, or no access to a functioning kitchen in current housing

* p<0.05 ** p<0.01 ***p<0.001 change from baseline to 12-month follow-up was statistically significant

Over the 12 months of follow-up, the percentages of families with indicators of housing instability declined significantly for each of the housing instability constructs examined. Any homelessness or unstable housing declined significantly from nearly all families (92%) at baseline to 66 percent of families at 12-month follow-up. Any unaffordable housing declined significantly from 66 percent of families at baseline to 52 percent at follow-up. Any poor-quality housing declined significantly, 58 percent to 30 percent, as did any crowded housing from 44 percent to 25 percent of families. Despite these clear improvements in families' housing stability overall, many individual indicators of instability remained prevalent even after 12 months of program participation.

The analysis of HMIS data showed steep reductions in use of homeless programs and nights spent in shelter following HSAH enrollment (**Table 7**). The percentage of families with a shelter stay or Emergency Assistance application dropped from 31% prior to enrolling in Health Starts at Home to 12% after enrollment. Similarly, the average number of nights spent in shelter decreased from 156 to 70.

TABLE 7

Change in Use of Homeless Shelters and Emergency Assistance from Baseline to Follow-Up (n=137)

	Pre-Enrollment	Post-Enrollment
Families with a shelter stay or emergency assistance application	30.7%	12.4%
Average number of nights spent in shelter[i]	156	70

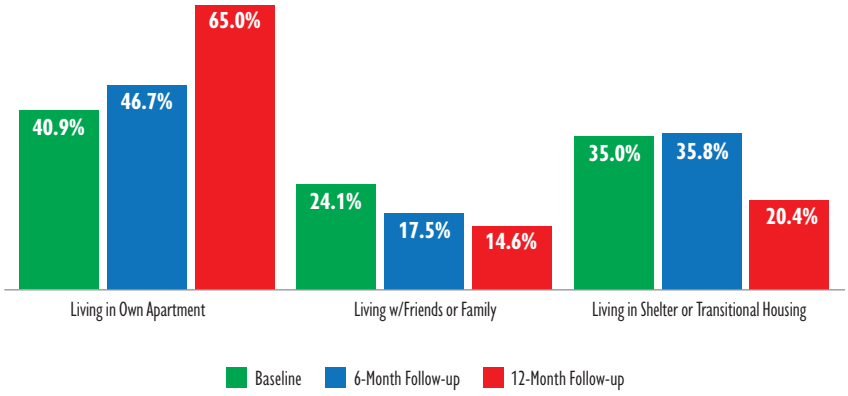
i Families with no shelter stays were included as having spent zero nights in shelter.

Data Source: Homeless Management Information Systems Data on statewide use of homeless shelters and emergency assistance from May 2013 to October 2020 from the Massachusetts Department of Housing and Community Development

Rent burden was one area where we did not see significant improvement at the 12-month follow-up. While the percentage of caregivers who reported an inability to pay rent or a concern about paying rent each declined significantly by 12 months, the percentage of families who were paying more than 50 percent of household income towards rent did not decline at follow-up. At 12 months, over one third (37%) of families were still experiencing this level of cost burden. As illustrated in **Figure 1**, HSAH families experienced a large shift toward living in their own apartment by 12 months. Many families were moving from shelter/transitional housing or doubled-up living situations to their own apartments and were therefore taking on new responsibility for housing costs, while household incomes and/or rental subsidies received may not have been sufficient to offset the new rental burden.

FIGURE 1

Families' Living Situation at Baseline and Follow-Up, Evaluation Sample (n=137)



A deeper exploration of change in household incomes and amount of rent paid highlights the challenge of affordability for this group. As detailed in **Table 8**, median household incomes increased significantly by 12 months and the percentage of families with monthly household income below $500 declined significantly. However, at 12 months over a quarter of families remained in this low-income category (27%) or had experienced a decrease of at least $100 in household income (29%). At the same time, it appeared that rental amounts were increasing slightly as families were assuming increased responsibility for rent as they shifted their living situations. Although significance testing was necessarily limited to only those families who reported a rental amount at each timepoint (n=52), these data suggest the median rent paid increased significantly (from

TABLE 8

Income and Rent Paid at Baseline and Follow-Up, Evaluation Sample (n=137)

	Baseline		12-Month Follow-up	
	Count	%	Count	%
Monthly Household Income				
Mean in dollars (SD)	$1,016 ($789)		$1,204 ($817) *	
Median in dollars (range)	$850 ($0, $3,948)		$1,100 ($0, $4,080) **	
Monthly Income of $500 or less	**51**	**37.5%**	**36**	**27.1%** *
Change in Income from Baseline				
Decreased by more than $100	–	–	39	29.5%
Stable within $100	–	–	27	20.5%
Increased by more than $100	–	–	66	50.0%
Rental Amount Paid	N=129		N=110	
Rent paid = $0	51	39.5%	27	24.5%
Rent paid > $0	78	60.5%	83	75.5%
Median in dollars (range), all	$300 ($0, $2,100)		$35 8 ($0, $2,200) *	
Median in dollars (range), if >$0	$600 ($11, $2,100)		$550 ($13, $2,200)	

* p<0.05 ** p<0.01 ***p<0.001 change from baseline to 12-month follow-up was statistically significant

$300 at baseline to $358 at 12-months) while the percentage paying $0 towards rent declined from 39 percent at baseline to 24 percent at 12 months.

While overall results suggest moderate improvement in most indicators of housing instability for the target population, they do obscure some of the program impact on housing instability at the family level. To facilitate the identification of families who experienced greater or lesser improvements in housing instability during follow-up, a single continuous variable was constructed to capture the total number of indicators present for a family at each timepoint. **Table 9** details the frequencies for this continuous variable at baseline, six-month, and 12-month follow-up. Across all participants, the number of instability indicators present declined significantly from an average of 5.1 at baseline to 2.9 at 12 months, an average change of approximately 2 indicators. Furthermore, there were 38 families (28%) who by 12 months had only one or no indicators of housing instability present.

TABLE 9

Number of Instability Indicators at Baseline and Follow-Up, Evaluation Sample (n=137)

	Baseline		Six-Month Follow-up		12-Month Follow-up	
	Count	%	Count	%	Count	%
Number of Instability Indicators						
0	0	0.0%	9	6.6%	12	8.8%
1	0	0.0%	13	9.5%	26	19.0%
2	10	7.3%	15	10.9%	26	19.0%
3	25	18.2%	39	28.5%	29	21.2%
4	26	19.0%	15	10.9%	16	11.7%
5	21	15.3%	15	10.9%	13	9.5%
6	18	13.1%	16	11.7%	8	5.8%
7	15	10.9%	6	4.4%	6	4.4%
8	13	9.5%	8	5.8%	1	0.7%
9	9	6.6%	1	0.7%	0	0.0%
Mean count (SD)	5.1 (2.0)		3.7 (2.2)		2.9 (1.9) ***	
Median count (min, max)	5.0 (2, 9)		3.0 (0, 9)		3.0 (0, 8) ***	

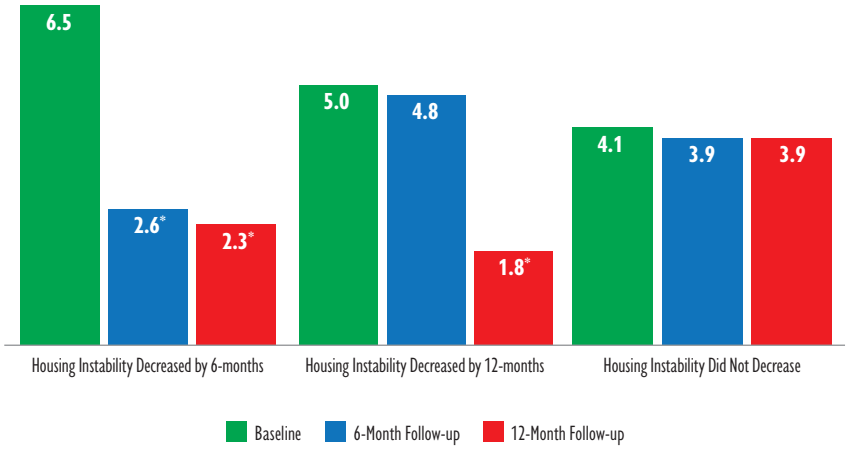
* p<0.05 ** p<0.01 ***p<0.001 change from baseline to 12-month follow-up was statistically significant

Using each family's calculated change in number of instability indicators between baseline, six-month, and 12-month follow-up, families were categorized into the following three outcome groups: 1) families who had a decrease of 2 or more instability indicators by six-month follow-up and sustained that decrease through 12 months; 2) families who had a decrease of 2 or more instability indicators by 12-month follow-up; and 3) families who did not have a decrease of 2 or more indicators by 12 months.

Figure 2 illustrates how the average number of housing instability indicators changed across the three timepoints for each of these outcome groups. The average decrease for group 1 was -3.9 indicators between baseline and six months and -4.2 indicators between baseline and 12 months; group 2 had an average decrease of -3.2 indicators between baseline and 12 months, and group 3 did not experience any significant decrease in their average count of indicators.

FIGURE 2

Average Number of Housing Instability Indicators, by Timepoint and Outcome Groups (n=137)



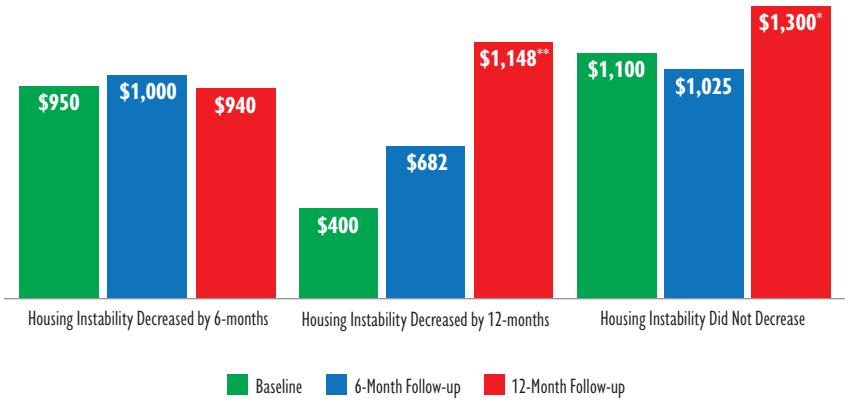
*p<0.001 change from baseline to 12-month follow-up was statistically significant

Given the differences in the average number of instability indicators between the three groups at baseline (6.5, 5.0, and 4.1 respectively), it is possible that the group that experienced a decrease in instability indicators by six months reflected families who may have had needs that were more immediately met by the HSAH partnerships.

When the characteristics of the families in these groups were compared, it became clear that caregivers in the group that experienced improvement at six months were more likely to be employed at baseline (52 percent compared to approximately 40 percent of caregivers in the other groups) and incomes were more stable (**Figure 3**). This group also had the highest percentage of families that were identified as rent burdened (58.7%) or unable to pay rent in prior year (71.7%) at baseline (see **Appendix** for detailed data). The rates of each of these

FIGURE 3

Median Monthly Household Income, by Timepoint and Outcome Group



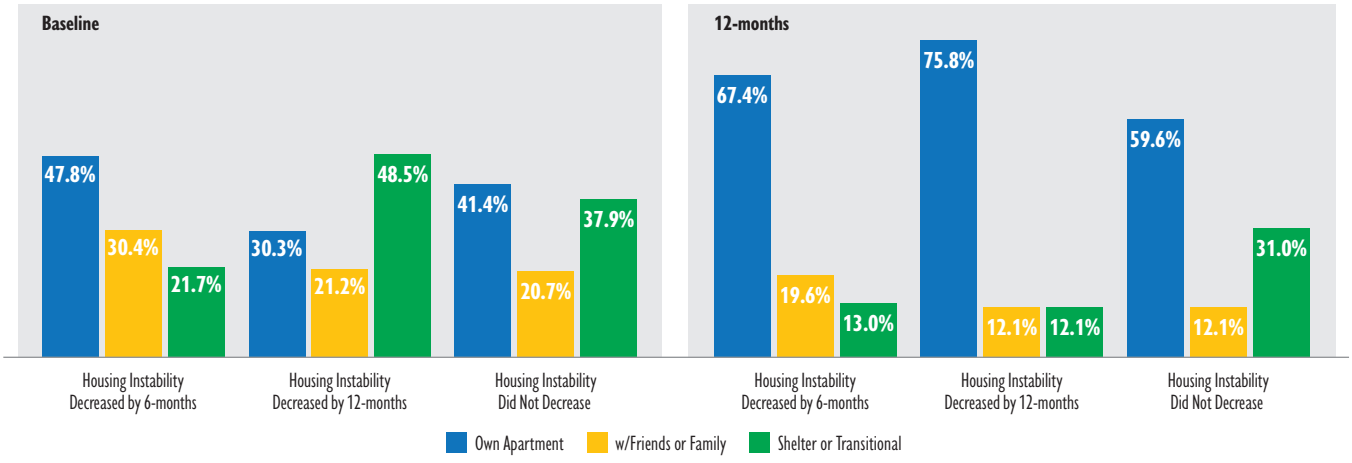
* p<0.05 ** p<0.01

indicators were cut in half by six months for this group (to 28.3% and 32.6%, respectively).

In contrast, the group that had not experienced a substantial decrease in instability by 12 months had the lowest average count of instability indicators at baseline. Nearly all (96%) of enrolled children in this group were under four years of age, and about a third of families in this group (37.9%) were residing in shelter or transitional housing at baseline (**Figure 4**). There was also evidence that families within this group did experience shifts in their living situations that tended to swap one indicator of instability for another. For example, living in a crowded situation decreased significantly for this group, from 43 percent at baseline to 29 percent at 12 months, yet the percentage paying more than 50 percent of income toward rent trended upward (though not significantly so) from

FIGURE 4

Living Situation at Baseline and 12 Months, by Outcome Group



36 percent at baseline to 45 percent at 12 months, and the percentage of families reporting any indicator of poor-quality housing was unchanged (see **Appendix** for detailed data).

Child and Caregiver Health Status

Despite the young age of the children enrolled in HSAH, several indicators of health status suggested their overall health at baseline was less than optimal (**Table 10**). Nearly a quarter (23%) of caregivers rated the overall health of their child as Fair or Poor and over half (53%) reported their child had had at least one emergency department visit in the prior six months and nearly half (48%) reported at least one urgent care visit in the prior six months. Together, at baseline the average number of emergency and urgent care visits in the prior six months was 2.3 visits per child. Significant improvements were observed in each of these health indicators over the course of follow-up. By 12 months, the percentage of caregivers who rated the health of their enrolled child as Poor or Very Poor had declined significantly to 11 percent, any use of the emergency department had declined to 31 percent in the prior six months, and the average number of emergency and urgent care visits had declined to 1.3 visits per child in the prior six months.

TABLE 10

Indicators of Housing Instability at Baseline and Follow-Up, Evaluation Sample (n=137)

	Baseline		12-Month Follow-up	
	Count	%	Count	%
Caregiver-Reported Health Status of Child				
Excellent, Very Good, or Good	104	76.5%	122	89.1% **
Fair or Poor	32	23.5%	15	10.9%
Not reported	1	–	0	–
Any ED visits, prior 6 months	**72**	**52.9%**	42	30.9% ***
Count ED visits, mean (SD)	2.3 (3.0)		1.3 (1.8) ***	
Any Urgent Care visits, prior 6 months	**66**	**48.2%**	58	42.3%
Count urgent care visits, mean (SD)	1.1 (1.7)		0.8 (1.1) *	
Any ED or Urgent Care visits, prior 6 months	**92**	**67.2%**	68	49.6% **
Count ED or urgent care visits, mean (SD)	2.3 (3.0)		1.3 (1.8) ***	
Developmental Screening Results (n=118) [i]				
PEDS or PSC indicated a problem	43	36.4%	40	33.9%
PEDS or PSC did not indicate a problem	75	63.6%	78	66.1%

i Results of the PEDS (under 4 years) and PSC (age 4 years and older) screenings have been aggregated to examine change over time, analyses limited to those who were screened by either at each timepoint

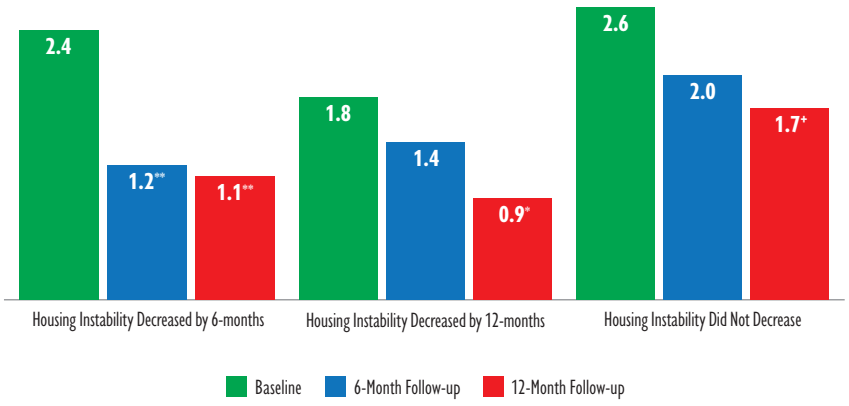
* p<0.05 ** p<0.01 ***p<0.001 change from baseline to 12-month follow-up was statistically significant

To capture change in developmental and psychosocial health of enrolled children, one of two validated scales was administered to caregivers depending upon the age of their child. If the enrolled child was under four years, the Parent's Evaluation of Developmental Status (PEDS) scale was used to identify those at risk of developmental disabilities. The PEDS yields a score-based risk category (High, Moderate, Low, or None). If the enrolled child was four years or older, the Pediatric Symptom Checklist (PSC) questionnaire was used to identify children who may have psychosocial impairments. The PSC yields a score that is Positive (impairment likely) or Negative. Because many enrolled children aged out of the PEDS screening and into the PSC screening over the course of the follow-up period, results were categorized for analyses as either indicating a problem (i.e., PEDS risk category was High or Moderate or PSC score was Positive) or not indicating a problem (i.e., PEDS risk category was Low or None or PSC score was Negative). Overall, more than one third (36%) of enrolled children had screening that indicated a developmental or psychosocial problem at baseline. However, no change was observed at 12-month follow-up.

To better understand the associations between changes in health status and changes in housing instability over the course of follow-up, the child heath indicator data were further examined by outcome group. When stratified by instability outcome group, the decline in number of emergency department and urgent care visits in the prior six months was statistically significant for families who had improved stability by six months or 12 months; however, significance was slightly attenuated among families whose instability did not change by 12 months despite a clear downward trend in visits for the group (**Figure 5**).

FIGURE 5

Average Number of Emergency and Urgent Care Visits by Enrolled Child, by Timepoint and Outcome Group



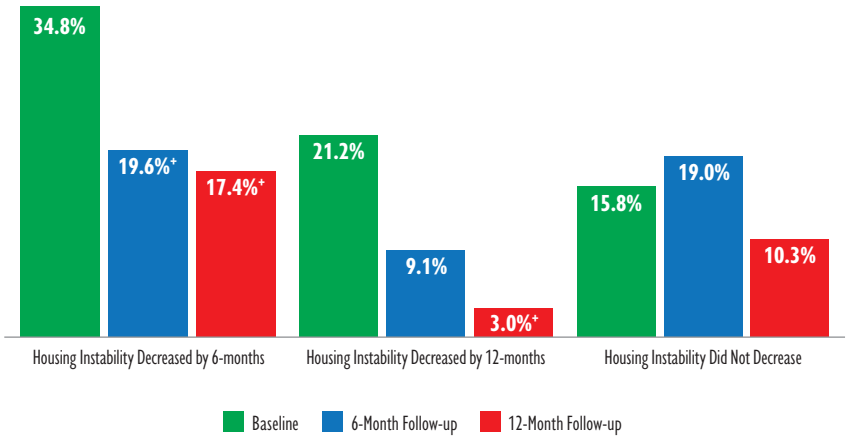
+ p<0.10

* p<0.05 ** p<0.01 ***p<0.001 change from baseline to 12-month follow-up was statistically significant

Similarly, the percentage of caregivers who reported the health of their child to be Fair or Poor was lower in each outcome group between baseline and 12-month follow-up, although the changes approached statistical significance ($p<0.10$) only among the two groups who had improved housing instability by 12 months. The group that did not experience a change in instability by 12 months had a notably lower percentage of Fair or Poor child health at baseline, which may reflect the younger age of enrolled children within that outcome group, as mentioned previously (**Figure 6**).

FIGURE 6

Enrolled Child's Health Reported as Fair or Poor, by Timepoint and Outcome Groups



+ $p<0.10$

* $p<0.05$ ** $p<0.01$ ***$p<0.001$ change from baseline to 12-month follow-up was statistically significant

Several indicators of the caregiver's health status were also collected (**Table 11**). These included self-reported overall health as well as a number of validated scales that focused on behavioral or emotional health of the caregiver. The Generalized Anxiety Disorder-2 (GAD-2) screening tool was used to identify caregivers experiencing clinically relevant symptoms of anxiety or panic disorder,[7] the Patient Health Questionnaire-2 (PHQ-2) screening tool was used to identify caregivers experiencing clinically relevant symptoms of depression,[8] and the Adult Hope Scale (AHS) is a continuous score that was used to quantify caregivers' current sense of optimism, self-efficacy, and hope for the future[9].

Screening data suggested that the caregivers were experiencing very high levels of distress at baseline. Over half screened positive for anxiety symptoms (63%) and/or depressive symptoms (60%) while over one third (41%) had rated their own health as Fair or Poor.

Importantly, it was determined that several indicators of poor caregiver health status at baseline were significantly associated with the indicators of poor health of the enrolled child. Most notably, the percentage of children with Fair or Poor health status was higher among caregivers with positive GAD-2 scores (29.4%)

TABLE 11

Indicators of Caregiver's Health Status at Baseline and Follow-Up, Evaluation Sample (n=137)

	Baseline		12-Month Follow-up	
	Count	%	Count	%
Caregiver Self-reported Health				
Excellent, Very Good, or Good	80	58.8%	95	69.3% *
Fair or Poor	56	41.2%	42	30.7%
Not Reported				
Anxiety (GAD-2) Screening[i]				
Positive	86	62.8%	58	42.3% ***
Negative	51	37.2%	79	57.7%
Not Reported	0	–	0	–
Depression (PHQ-2) Screening[ii]				
Positive	82	59.9%	51	37.2% ***
Negative	55	40.1%	86	62.8%
Not Reported	0	–	0	–
Total PHQ-2 Score - Mean (SD)	3.2 (2.0)		2.3 (1.7) ***	
Adult Hope Scale (AHS)				
Total AHS Score - Mean (SD)	34.4 (9.2)		38.0 (9.4) ***	

i A score of 3 points is the preferred GAD-2 cut-off for identifying possible (i.e., positive) cases and in which further diagnostic evaluation for generalized anxiety disorder is warranted.

ii A score of 3 points is the preferred PHQ-2 cut-off for identifying possible (i.e., positive) cases ad in which further diagnostic evaluation for major depressive disorder is warranted.

iii The AHS is a 6-item instrument with an 8-point Likert-type response scale yielding 48 total points possible, higher scores represent higher levels of efficacy and hope

* $p<0.05$ ** $p<0.01$ ***$p<0.001$ change from baseline to 12-month follow-up was statistically significant

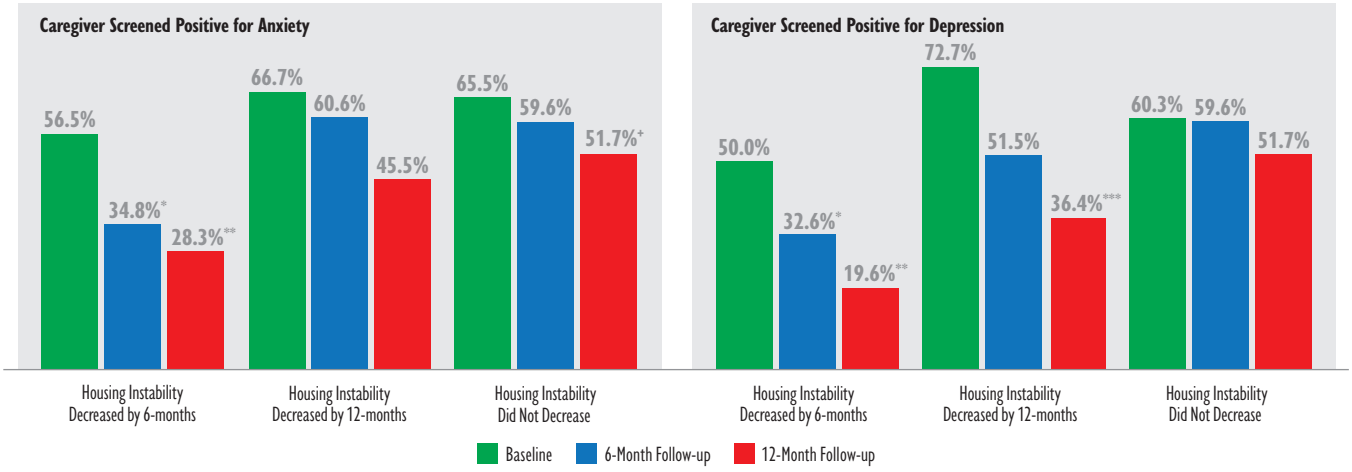
compared to among caregivers with negative GAD-2 scores (29.4% vs. 13.7%; $p<0.05$) and the percentage of children with a PEDS or PSC score that indicated a problem was significantly higher among caregivers with a positive GAD-2 score compared to those who had a negative GAD score (43.0% vs. 24.4%, $p<0.05$).

Similar to the overall findings among enrolled children, after 12 months of participation in HSAH, caregivers were significantly less likely to rate their own health as Fair or Poor and each of the behavioral health scales showed significant improvements in anxiety, depression, and dimensions of hope including self-efficacy. Specifically, the percentage scoring positive on the GAD-2 had declined to 42 percent, the percentage scoring positive on the PHQ-2 Scale had declined to 37 percent, and scores on the AHS had increased significantly by an average of 4 points.

When the caregiver health indicators were stratified by instability outcome group, the percentage of caregivers who screened positive for anxiety (GAD-2) or depressive symptoms (PHQ-2) declined in each (**Figure 7**), although statistical significance was most robust among families who had improved housing stability, particular by six months. Baseline rates of both anxiety and

FIGURE 7

Caregiver Screened Positive for Anxiety or Depression, by Timepoint and Outcome Group



+ p<0.10

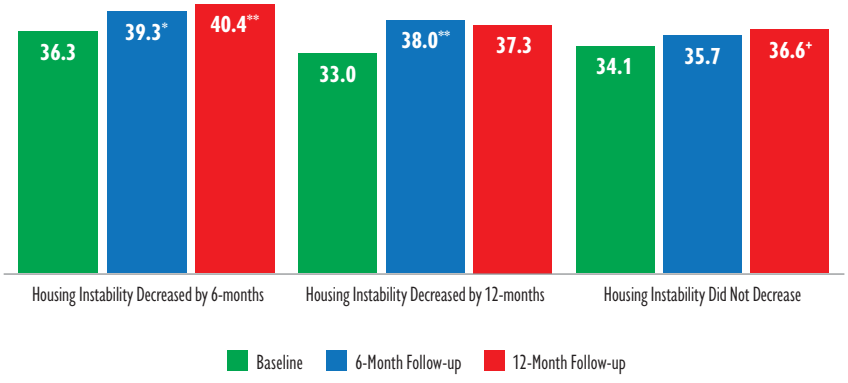
* p<0.05 ** p<0.01 ***p<0.001 change from baseline to 12-month follow-up was statistically significant

depression were particularly high among caregivers in groups 2 and 3, who were more likely to be living in shelter or transitional housing at the time of enrollment, which suggests a high need for supportive services around mental health in this population.

Improvements in Adult Hope Scale scores showed a similar pattern of change among caregivers in each outcome group (**Figure 8**), again with most robust findings among those who experienced improvements in their housing instability by six months, although a significant improvement was observed at six months among caregivers who had improved housing instability by 12 months.

FIGURE 8

Caregiver average Adult Hope Scale Score, by Timepoint and Outcome Group



+ p<0.10

* p<0.05 ** p<0.01 ***p<0.001 change from baseline to 12-month follow-up was statistically significant

DISCUSSION

"Program staff helped me find an apartment and to pay for the apartment. It is very hard to secure an apartment without documents. We don't have legal documentation, and I don't speak English well yet. But all the calls, all the places that could accept me, [program staff] were calling to try to help, to get us a place to live."

—Focus group participant

The findings from this evaluation generally validate the assumptions motivating the Health Starts at Home initiative. The partner organizations were able to identify and engage families with young children experiencing multiple forms of housing instability. By recruiting families through community health-care settings, they may have assisted families who were disconnected from public services and benefits and would not have known how to apply for rental assistance or otherwise advocate for themselves. It is also clear that these partnerships were successful in identifying families with a number of health and behavioral health vulnerabilities, which may have gone unaddressed in more standard housing interventions. The evaluation findings suggest several ways that housing and health-care organizations can partner to reduce housing instability and improve health—as well as a few remaining challenges.

Culturally and linguistically competent resources are needed to support vulnerable families.

The HSAH partnerships served primarily Latino families, the majority of whom spoke Spanish at home. Anecdotal data from the partnerships suggest that many participant households were led by an undocumented person and were extended or multi-generational families. Some may have been mixed-status families with a combination of citizen or non-citizen members. Undocumented and mixed-status families may be ineligible for some types of housing, health, or financial assistance, or may be reluctant to pursue assistance they are eligible for. Importantly, Health Starts at Home occurred during the Trump Administration's expansive Public Charge rule, which made it more difficult for immigrants to gain citizenship if they used public benefits. Results from the nationally-representative Well-Being and Basic Needs Survey found that 20 percent of adults in immigrant families with children avoided a public benefit in 2019—including housing subsidies, as well as SNAP, Medicaid, or the Children's Health Insurance Program—for fear of risking future green card status (Haley et al. 2020).

HSAH families had access to bilingual counselors who worked with them to provide individualized services and connect them to a range of resources for themselves or their children. For some families, having access to a supportive advocate available to listen to their concerns and help address their needs—even when housing subsidies were not available, or stability was not necessarily attainable—was a clear benefit of the program. Focus group participants described living with extreme stress and depression and viewed program staff as trusted resources to help them navigate complex housing, health-care, and school systems.

Improvements in housing situations appeared to improve health outcomes even when housing affordability remained a problem.

The persistence of severe rent burden among HSAH families was surprising given that 88 percent of families who improved their instability by 12 months were identified as having received some form of rental assistance through HSAH. There are several explanations for this. First, some types of rental assistance may have been insufficient to have a long-term effect on affordability. For example, one partnership planned to rely on Residential Assistance for Families in Transition (RAFT) funds as a key component of their intervention but found that the population they were serving had very low incomes and that RAFT was a temporary fix but not a long-term solution. Second, families with a permanent rent subsidy like a housing voucher or public housing can still be severely rent-burdened. Even though these programs charge rent on a sliding scale calculated at 30 percent of household income, housing authorities can charge a minimum monthly rent of $50 or more. Additionally, families may need to pay for utilities or other housing costs not fully covered by a voucher. Receiving a voucher or public housing unit may have increased families' housing costs if they had been previously living in shelter, or sharing housing and splitting costs with other people. Finally, federal housing assistance is only available to U.S. citizens. Families with mixed-immigration status only receive subsidies for household members with U.S. citizenship, so a household of four with two citizens and two non-citizens would only be subsidized as a two-person household.

The affordability challenges may have mitigated some of the ways that housing has been shown to improve health: For example, reducing housing costs can allow families to increase expenditures on food or medicine. However, the improvements in other forms of housing instability, such as homelessness, overcrowding, and frequent moves, were sufficient to improve children's health, reduce ED visits, and decrease anxiety and depression among caregivers.

"Every single member of a family was undocumented and living apart and this family has now moved into housing and one parent is employed…They are actually living. Before I could see them physically hurting and broken. You can see the difference in them."

—Grantee

Supportive services, paired with housing assistance, are critical to achieving improvements in health.

During the development of the Health Starts at Home Initiative, there were concerns that housing stability would not be possible to achieve given the shortage of affordable housing. However, there was cautious confidence that housing support services and high-touch coordination and case management could potentially improve some short-term indicators of health. While it is difficult to disentangle the effects of the financial housing assistance from the other services HSAH families received, it appears that both the subsidies and the supportive services contributed to the improvements in caregiver anxiety and depression.

Significant health improvements that occurred simultaneous to improvement in housing instability suggest the improvement in housing stability may have

"We [health care, housing, and social service partners] come together to learn each other's language and processes."

—Grantee

been a contributing factor in the observed health improvement. And in contrast, given the broad focus of the HSAH partnerships on families' needs beyond housing, any significant health improvements that occurred before or in the absence of an improvement in housing instability would suggest that other aspects of the HSAH intervention model were the likely contributing factors in the improvement in health outcomes.

Although more information is needed to understand the mechanisms driving the observed improvement in mental health and hope among mothers, even those who had not yet improved their housing stability, it appears possible that having someone to provide support during the housing stabilization process may yield health benefits. This may be particularly important for caregivers and their families for whom the process of stabilizing housing is particularly long, the challenges of affordability are particularly steep, or the health and social service needs are particularly broad.

Cross-sector partnerships are valuable.

Findings from this evaluation suggest that collaborations between health care, housing, and social service partners have positive effects on housing stability and family health outcomes. Grantee feedback attributes their success to the building of strong relationships across sectors that allowed them to gain a deeper understanding of the other sectors' work. Despite employing four distinctly different models for their interventions, all HSAH grantees employed an extensive amount of case management, service coordination, or cross-sectoral collaboration that centered the family and their unique situations and needs. In addition to the improvements for families, grantees credited the partners' ongoing ability to collaborate to larger cross-sector systems changes.

Although MassHealth's most recent delivery system reform created a flexible services fund that MassHealth Accountable Care Organizations (ACOs) can use to address the social needs, including housing, of adults meeting specific criteria, no consistent mechanisms to support cross-sector partnerships in order to address family health and housing seem to exist. These initiatives tend to rely heavily on philanthropic funds and the creative blending and braiding of dollars. Until the housing affordability crisis is solved, consistent funding for cross-sector partnerships provides an approach to supporting vulnerable families.

APPENDIX

TABLE A-1

Eligibility Criteria for Enrollment in Health Starts at Home

	All Enrolled Families (n=261)		Included in Outcome Evaluation Sample (n=137)		Excluded from Outcome Evaluation Sample (n=124)	
	Count	%	Count	%	Count	%
Experienced homelessness in prior year	164	62.8%	83	60.6%	81	65.3%
Was unable to pay rent in prior year	122	46.7%	67	48.9%	55	44.4%
More than half of income towards housing	105	40.2%	57	41.6%	48	38.7%
Moved 2+ times for economic reasons in prior year	71	27.2%	35	25.4%	36	29.0%
Family met two or more of the above[i]	**147**	**56.3%**	**79**	**57.7%**	**68**	**55.3%**

i Select indicator was one of four eligibility criteria—each family had to meet at least one to be enrolled in HSAH

TABLE A-2

HSAH Administrative Data as of Last Known Housing Status, Outcome Groups That Had Improved Instability by 12 Months

	Count	%
Instability decreased by six-months (n=46)		
Family received public housing unit	12	26.1%
Family used a tenant or project-based voucher	12	26.1%
Family received other type of assistance (e.g., RAFT, HomeBASE, other)	17	37.0%
Family received no financial housing assistance	5	10.9%
Instability decreased by 12 months (n=33)		
Family received public housing unit	7	21.2%
Family used a tenant or project-based voucher	13	39.4%
Family received other type of assistance (e.g., RAFT, HomeBASE, other)	9	27.3%
Family received no financial housing assistance	4	12.1%
Family received no financial housing assistance	18	13.1

TABLE A-3

Indicators of Housing Instability at Baseline and Follow-Up, Instability Decreased by Six Months (n=46)

	Baseline		Six-months		12 months	
Instability decreased by six-months (n=46)	**Count**	**%**	**Count**	**%**	**Count**	**%**
Unaffordable						
Pays more than 50% of HH income towards rent[i]	27	58.7%	13	28.3%**	14	30.4%*
Unable to pay rent in the prior year/6 mos[i]	33	71.7%	15	32.6%***	11	23.9%***
Caregiver is concerned about paying rent	27	58.7%	13	28.3%**	10	21.7%***
Any	**39**	**84.8%**	**21**	**45.7%*****	**23**	**50.0%*****
Poor Quality						
Caregiver rates current housing as poor or very poor	24	52.2%	2	4.3%***	3	6.5%***
A moderate quality issue identified in current home[ii]	31	67.4%	9	19.6%***	11	23.9%***
A severe quality issue identified in current home[iii]	20	43.5%	7	15.2%**	4	8.7%***
Any	**41**	**89.1%**	**11**	**23.9%*****	**13**	**28.3%*****
Crowded						
Family currently resides with other family or friends	14	30.4%	9	19.6%	9	19.6%
More than 2 persons per bedroom	18	39.1%	7	15.2%**	5	10.9%**
Any	**24**	**52.2%**	**14**	**24.6%****	**11**	**23.9%****
Unstable or Homeless						
Concerned about being evicted or landlord going into foreclosure	25	54.3%	5	10.9%***	7	15.2%***
Multiple moves for economic reasons in prior year/6 mos[i]	13	28.3%	2	4.3%**	1	2.2%**
Doesn't expect to be living in the same place 6 months from now	32	69.6%	14	30.4%***	12	26.1%***
Experienced homelessness in prior year/6 mos[i]	24	52.2%	14	30.4%*	11	23.9%**
Currently residing in shelter or transitional housing	10	21.7%	9	19.6%	6	13.0%
Any	**40**	**87.0%**	**23**	**50.0%*****	**22**	**47.8%*****

i Select indicator was one of four eligibility criteria—each family had to meet at least one to be enrolled in HSAH

ii Moderate condition included self-reported concern about infestations or mold/mildew in current housing

iii Severe condition included self-reported concern about utilities shut off/not working, water/plumbing, property being condemned, or no access to a functioning kitchen in current housing

* p<0.05 ** p<0.01 ***p<0.001 change from baseline to 12-month follow-up was statistically significant

TABLE A-4

Indicators of Housing Instability at Baseline and Follow-Up, Instability Decreased by 12 Months (n=33)

	Baseline		Six-months		12 months	
Instability decreased by 12 months (n=33)	**Count**	**%**	**Count**	**%**	**Count**	**%**
Unaffordable						
Pays more than 50% of HH income towards rent[i]	9	27.3%	14	42.4%	11	33.3%
Unable to pay rent in the prior year/6 mos[i]	13	39.4%	11	33.3%	2	6.1%**
Caregiver is concerned about paying rent	11	33.3%	12	36.4%	6	18.2%
Any	**19**	**57.6%**	**18**	**54.5%**	**15**	**45.5%**
Poor Quality						
Caregiver rates current housing as poor or very poor	12	36.4%	15	45.5%	2	6.1%**
A moderate quality issue identified in current home[ii]	12	36.4%	14	42.4%	4	12.1%*
A severe quality issue identified in current home[iii]	9	27.3%	7	21.2%	1	3.0%**
Any	**18**	**54.5%**	**21**	**63.6%**	**4**	**12.1%****
Crowded						
Family currently resides with other family or friends	7	21.2%	4	12.1%	6	18.2%
More than 2 persons per bedroom	6	18.2%	6	18.2%	4	12.1%
Any	**11**	**33.3%**	**11**	**19.3%**	**6**	**18.2%**
Unstable or Homeless						
Concerned about being evicted or landlord going into foreclosure	11	33.3%	8	24.2%	1	3.0%**
Multiple moves for economic reasons in prior year/6 mos[i]	10	30.3%	2	6.1%**	0	0.0%**
Doesn't expect to be living in the same place 6 months from now	24	72.7%	28	84.8%	8	24.2%***
Experienced homelessness in prior year/6 mos[i]	24	72.7%	18	54.5%*	12	36.4%***
Currently residing in shelter or transitional housing	16	48.5%	15	45.5%	4	12.1%**
Any	**33**	**100.0%**	**29**	**87.9%**	**18**	**54.5%*****

i Select indicator was one of four eligibility criteria—each family had to meet at least one to be enrolled in HSAH

ii Moderate condition included self-reported concern about infestations or mold/mildew in current housing

iii Severe condition included self-reported concern about utilities shut off/not working, water/plumbing, property being condemned, or no access to a functioning kitchen in current housing

* p<0.05 ** p<0.01 ***p<0.001 change from baseline to 12-month follow-up was statistically significant

TABLE A-5

Indicators of Housing Instability at Baseline and Follow-Up, Instability Did Not Decrease by 12 Months (n=58)

	Baseline		Six-months		12 months	
Instability did not decrease by 12-months (n=58)	**Count**	**%**	**Count**	**%**	**Count**	**%**
Unaffordable						
Pays more than 50% of HH income towards rent[i]	21	36.2%	24	41.4%	26	44.8%
Unable to pay rent in the prior year/6 mos[i]	21	36.2%	15	25.9%	17	29.3%
Caregiver is concerned about paying rent	18	31.0%	20	34.5%	23	39.7%
Any	**32**	**55.2%**	**30**	**51.7%**	**33**	**56.9%**
Poor Quality						
Caregiver rates current housing as poor or very poor	12	20.7%	13	22.4%	10	17.2%
A moderate quality issue identified in current home[ii]	15	25.9%	12	20.7%	22	37.9%
A severe quality issue identified in current home[iii]	9	15.5%	8	13.8%	5	8.6%
Any	**20**	**34.5%**	**20**	**34.5%**	**24**	**41.4%**
Crowded						
Family currently resides with other family or friends	12	20.7%	8	13.8%	7	12.1% +
More than 2 persons per bedroom	19	32.8%	14	24.1%	15	25.9%
Any	**25**	**43.1%**	**17**	**29.8%** +	**17**	**29.3%***
Unstable or Homeless						
Concerned about being evicted or landlord going into foreclosure	14	24.1%	18	31.0%	17	29.3%
Multiple moves for economic reasons in prior year/6 mos[i]	12	20.7%	6	10.3%	1	1.7%**
Doesn't expect to be living in the same place 6 months from now	30	51.7%	34	58.6%	39	67.2%
Experienced homelessness in prior year/6 mos[i]	35	60.3%	33	56.9%	29	50.0%
Currently residing in shelter or transitional housing	22	37.9%	25	43.1%	18	31.0%
Any	**53**	**91.4%**	**52**	**89.7%**	**51**	**87.9%**

i Select indicator was one of four eligibility criteria—each family had to meet at least one to be enrolled in HSAH

ii Moderate condition included self-reported concern about infestations or mold/mildew in current housing

iii Severe condition included self-reported concern about utilities shut off/not working, water/plumbing, property being condemned, or no access to a functioning kitchen in current housing

* p<0.05 ** p<0.01 ***p<0.001 change from baseline to 12-month follow-up was statistically significant

ENDNOTES

1. Cox, Robynn, et al. "Road map to a unified measure of housing insecurity." *Cityscape* 21.2 (2019): 93-128.
2. Sandel, Megan, et al. "Unstable housing and caregiver and child health in renter families." *Pediatrics* 141.2 (2018).
3. The U.S. Department of Housing and Urban Development defines extremely low income as a household income at or below 30 percent of the area median income (AMI).
4. National Low Income Housing Coalition (NLIHC). *The Gap: A Shortage of Affordable Homes*. 2021. https://reports.nlihc.org/sites/default/files/gap/Gap-Report_2021.pdf
5. Gubits, Daniel, et al. "Family options study: 3-year impacts of housing and services interventions for homeless families." Available at SSRN 3055295 (2016).
6. Routhier, Giselle. Beyond Worst Case Needs: Measuring the Breadth and Severity of Housing Insecurity among Urban Renters." *Housing Policy Debate* 29:2, 235-249 (2019).
7. Kroenke K, Spitzer RL, Williams JB, Monahan PO, Löwe B. Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. *Ann Intern Med*. 2007; 146:317-25.
8. Kroenke K, Spitzer RL, Williams JB. The Patient Health Questionnaire-2: Validity of a Two-Item Depression Screener. *Medical Care*. 2003; 41:1284-92.
9. The Adult State Hope Scale (AHS), American Psychological Association, 1996.

www.tbf.org › Nonprofits › Grant-Making Initiatives › Health Starts at Home