

Iowa Watershed Approach Bee Branch Healthy Homes Resiliency Program Final Report

August 1, 2022

As submitted to:

Larry Weber, IWA Principal Investigator; the Iowa Economic Development Authority; and the U.S.
Department of Housing and Urban Development

Prepared by:

Valerie Decker, Assistant Director
Logan Drake, Graduate Research Assistant

Center for Evaluation and Assessment
The University of Iowa
Iowa City, IA 52242
coe-cea@uiowa.edu

COPYRIGHT: Center for Evaluation and Assessment, 2022

Introduction

The Iowa Watershed Approach (IWA) is one of 13 projects funded in January 2016 under the National Disaster Resilience Competition (NDRC)¹. The Iowa Watershed Approach (IWA) was “a collaborative project that brings together local, state, federal, and private organizations to work together to address factors that contribute to floods and nutrient flows.”² IWA worked in rural and urban communities to reduce flood risk; improve water quality; increase resilience and quality of life, especially for vulnerable populations; and build local and state-wide collaboration and outreach in order to create a replicable program for the Midwest and the United States.

The IWA was a complex project supported by many IWA partners whose goals were both discrete and collaborative. Despite the somewhat specific goals of each of the IWA partner groups, the IWA was also, to a great extent, a project that was developmental in nature. The course and progress of the IWA depended on factors both physical (hydrologic factors, weather, geology) and human (project coordinators, planning staff, consultants, and landowners) and the ways in which these physical and human factors combined to affect progress toward the project goals were different in each of the different program watersheds and communities.

The implementation of IWA ended on June 30, 2022. However, given the varied end dates for the different partner groups after the time-only extension, this report was written to include data collected through April 2022. Therefore, this report will not include the final efforts for IWA watersheds and partners. CEA team members' efforts on IWA ended on July 29, 2022.

Report format

This review, developed and informed by the work of the University of Iowa Center for Evaluation and Assessment (CEA), is intended to provide a summary of the accomplishments of the IWA Bee Branch Healthy Homes Resiliency Program over the course of the grant. CEA team members synthesized multiple data sources including interviews and surveys with stakeholders, meeting notes, and direct observations to produce a review that balances accuracy and brevity.

Additional information collected or compiled in Year 6 is included as appendices.

¹ <http://portal.hud.gov/hudportal/documents/huddoc?id=NDRCGrantProf.pdf>

² <http://iowawatershedapproach.iowa.gov/#>

Bee Branch Healthy Homes Executive Summary

The Bee Branch Healthy Homes (BBHH) resiliency program was intended to help low- or moderate-income home and property owners increase the flood resilience and safety of their homes through forgivable loans for structural improvements and home advocacy delivered through social workers. Metrics of success and evidence in support of those metrics from the perspectives of team members and participants in the program are in the table below.

Bee Branch Healthy Homes metrics and evidence

Metric	Evidence
At least one improvement in each home will increase the home's resilience to flooding	Through BBHH there was a reduction in water intrusion and water damage at properties. Participants most frequently mentioned the improvements to their homes as the best part of their experience in the program and often described a reduction in water intrusion, especially in basements.
Home improvements will result in reduced mental stress associated with the life disruptions common during flood events	Less water intrusion means less time cleaning up basements, fewer expenses related to cleaning and repair, and fewer damaged items. Participants frequently mentioned decreased stress related to water intrusions and a general increase in comfort and wellbeing.
Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents	Reduction in dampness and musty odors resulting from reduced water intrusion, exhaust fan, air conditioning, and improved windows and doors will all contribute to improved indoor air quality. On asthma rates, one home advocate described how they were surprised to find few participants had asthma at the beginning of the program, and therefore resulting health outcomes were difficult to measure.
Home improvements will result in increased opportunities for resilient, affordable housing for these populations	The improvements made to homes as part of the program contribute to existing homes being made more resilient, therefore increasing the number of resilient homes available in Dubuque. These homes benefited from the Bee Branch infrastructure improvements.
Improvements to housing structures will lead to measurable increases in property values	While the actual impacts of the improvements on property values will not be observable immediately due to the terms of the projects and the unusual housing market during the COVID-19 pandemic, aspects of the project will likely have an impact on property values. Upgrades to the homes represented money invested in the homes, make them more usable and enjoyable which should translate to increased property values.

Activities and Outcomes

This section of the report is a synthesis of progress in IWA documented across all six years of the project.

Bee Branch Healthy Homes Resiliency Program

The Bee Branch Healthy Homes (BBHH) resiliency program in Dubuque, IA was intended to help low- or moderate- income home and property owners increase the flood resilience and safety of their homes through forgivable loans. BBHH is implemented by team members with the City of Dubuque, East Central Intergovernmental Association, and the Visiting Nurses Association (VNA) and primarily supports individuals through two program components: structural improvements and home advocacy.

- *Structural improvements* were made to participants' homes to mitigate or prevent the damaging effects of water infiltration. As a result of the work done on Dubuque residents' homes, BBHH team members and participants alike observed a reduction in water inundating homes, as well as improvements in physical health and financial well-being.
- Alongside the home improvements, social workers from the VNA serve as *home advocates*, providing support to community members and matching them with community resources based on their family's needs. BBHH team members and participants agreed that the home advocates provided useful information about resources in their area.

In February 2019, the Dubuque Bee Branch Team released [a video](#) sharing the work of the BBHH program. As of April 2022, the final 25 housing units were under construction. Upon completion, the BBHH will have worked on 307 housing units and spent \$8.5 million on home improvements³.

A narrative of the activities of the BBHH program over the course of the program can be found in [Appendix I](#).

Metrics and Outcomes of IWA

The following sections of the report outline progress on the metrics defined in the NDRC proposal as well as progress on other outcomes defined by IWA partners over the course of IWA. The specific metrics described in this section are included as a list in [Appendix H](#).

Bee Branch Healthy Homes Resiliency Program

Bee Branch Healthy Homes NDRC Outcomes

During year six, as IWA and BBHH neared completion, BBHH team members were asked about the program's success in reaching the metrics laid out in the initial IWA proposal. This section summarizes their answers by metric. The discussion also draws on comments provided by BBHH participants when relevant. A full summary of the BBHH team's comments can be found in [Appendix J](#), while a summary of BBHH participants' comments from year six can be found in [Appendix K](#).

At least one improvement in each home will increase the home's resilience to flooding

Team members highlighted that through BBHH there was a reduction in water intrusion and water damage at properties. Improvements like sump pumps, gutters and downspouts, tuckpointing, and new roofs all contributed to reductions in water intrusion. This sentiment was echoed by the participants CEA spoke to throughout the program, who most frequently mentioned the improvements to their homes as the best part of their experience in the program, and who often described a reduction in water intrusion, especially in basements.

³ Final update provided via email 4/19/22 from John Tharp, Grant Administrator

Home improvements will result in reduced mental stress associated with the life disruptions common during flood events

Team members again highlighted the benefits that come along with reduced water intrusion into homes. Team members described how less water intrusion meant less time cleaning up basements, fewer expenses related to cleaning and repair, and fewer damaged items. They also described how in some homes, basements were unusable prior to the improvements because of frequent water intrusion. When asked about the impact of the program on their lives, participants most frequently mentioned decreased stress related to water intrusions and a general increase in comfort and wellbeing.

Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents

Team members highlighted how reduction in dampness and musty odors resulting from reduced water intrusion, exhaust fan, air conditioning, and improved windows and doors will all contribute to improved indoor air quality. On asthma rates, one home advocate described how they were surprised to find few participants had asthma at the beginning of the program, and therefore resulting health outcomes were difficult to measure.

Home improvements will result in increased opportunities for resilient, affordable housing for these populations

Team members described how the improvements made to homes as part of the program contribute to existing homes being made more resilient, therefore increasing the number of resilient homes available in Dubuque. They also highlighted how these homes would benefit by the Bee Branch infrastructure improvements made as part of the IWA project and said that neighbors might be inspired to make similar improvements after observing BBHH projects.

Improvements to housing structures will lead to measurable increases in property values

While the actual impacts of the improvements on property values will not be observable immediately due to the terms of the projects and the unusual housing market during the COVID-19 pandemic, team members described the aspects of the project that will likely have an impact on property values. They described how the upgrades to the homes represented money invested in the homes, making them more usable and enjoyable, and expected these to translate to increased property values. Team members also mentioned that some upgrades (landscaping and new roofs, as an example) could improve the curb appeal of the homes. While participants were not asked directly about home values, six interviewed participants specifically mentioned increased home value as a positive impact from the program.

Appendices

Appendix H – IWA required metrics from the proposal

Type of Metric	Metric	Purpose	CE A	Project Partners (IIHR, DNR, etc)	Watershed
Dubuque Bee Branch Project #1 (Healthy Homes)					
Resiliency Value	At least one improvement in each home will increase the home's resilience to flooding (e.g., stronger foundation, relocation of furnace).	Process			X
Social Value	This neighborhood is inhabited by the most at-risk residents, who often cannot afford to miss work or find new housing after flooding.				
	A) Home improvements will result in increased opportunities for resilient, affordable housing for these populations	Process and Outcomes			X
	B) Home improvements will result in reduced mental stress associated with the life disruptions common during flood events.	Process and Outcomes	X		X
Economic Value	Improvements to housing structures will lead to measurable increases in property values.	Outcomes			X
Environmental Value	Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents.	Outcomes			X
Dubuque Bee Branch Project #2 (Infrastructure)					
Resiliency Value	Infrastructure improvements will hold water onsite for slow release, as opposed to quickly flushing it downstream. This will lead to a measurable reduction in peak storm water flow. A reduction of expected property damages from future flash flooding events is also expected.	Outcomes		X	X
Social Value	As a STAR certified community, Dubuque aims to ensure that at least 85% of residents live within a half-mile walk of a park or other green infrastructure. Completion of these infrastructure projects will help meet this goal.	Process			X
Economic Value	Measurable increases in property values are expected in the Bee Branch neighborhood to rates that are more in line with the rest of Dubuque.	Outcomes			X

Environmental Value	Detention of water onsite will lead to a measurable improvement in water quality downstream as the water is captured and cleaned via permeable surfaces.	Outcomes		X	X
Upper Iowa Projects					
Social Value	This project will result in improved resilience to flooding, especially in the L/M income area, through programs to promote awareness and develop a community-wide flood resilience action plan.		X		X
Economic Revitalization	This project will have an (unquantifiable) benefit to the local economy through preservation of coldwater fishing streams.				X
Upper Wapsipinicon Projects					
Resiliency Value	This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes) at the outlet of the selected HUC 12s.	Outcomes		X	X
Environmental Value	Project water-quality goals include reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of the HUC 12s.	Outcomes		X	X
Social Value	This project will result in improved resilience to flooding, especially in the MID-URN areas, through programs to promote awareness and a community-wide flood resilience action plan.	Process and Outcomes	X		X
Economic Revitalization	Expected economic revitalization includes increased use (and associated tourism income) of the river as a source of recreation (See BCA, unquantifiable benefits). Further, implemented projects will help to retain soil on the land, preserving Iowa's agricultural economy.	Outcomes		X	X
Middle Cedar Projects					
Resiliency Value	This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes), at the outlet of each HUC 12	Outcomes		X	X
Environmental Value	Water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.	Outcomes		X	X
Social Value	This project will result in improved resilience to flooding, especially in the Vinton L/M income area, through programs to promote awareness and a community-wide flood resilience action plan.	Process and Outcomes	X		

Economic Revitalization	IWA projects will help reduce future soil loss and erosion, helping to preserve agricultural productivity.	Outcomes		X	X
Clear Creek Projects					
Resiliency Value	The watershed projects will reduce flood flows at the outlet of Middle Clear Creek by 25%, thereby reducing damage to repetitive loss sites (agricultural lands, roads, infrastructure, homes). The Coralville infrastructure project will protect at least 116 properties.	Outcomes		X	X
Environmental Value	Project water-quality goals call for reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of Middle Clear Creek.	Outcomes		X	X
Social Value	This project will result in improved resilience to flooding, especially in the Coralville LMA, through programs to promote awareness and a community flood resiliency action plan.	Process and Outcomes	X		X
Economic Revitalization	IWA projects will reduce future soil loss and erosion, preserving agricultural productivity. Infrastructure mitigation will also create an estimated 16 jobs in Coralville in year one (see BCA).	Outcomes		X	X
English River Projects					
Resiliency Value	This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes) at the outlet of each HUC 12.	Outcomes		X	X
Environmental Value	Project water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.	Outcomes		X	X
Social Value	This project will result in improved resilience to flooding, including the English River LMI area, through programs to promote awareness and a community-wide flood resilience action plan.	Process and Outcomes	X		X
North Raccoon Projects					
Resiliency Value	The IWA in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes) at the outlet of each HUC 12. Infrastructure updates in Storm Lake will increase local property values.	Outcomes		X	X
Environmental Value	Water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.	Outcomes		X	X

Social Value	This project will result in improved flood resilience, especially in Storm Lake, by promoting awareness and a community-wide flood resilience action plan.	Process and Outcomes	X		X
Economic Revitalization	IWA projects will reduce future soil loss and erosion, preserving agricultural productivity. In Storm Lake, this project will help prevent flooding of homes and businesses.	Outcomes		X	X
East Nishnabotna Projects					
Resiliency Value	This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past at the outlet of each HUC 12.	Outcomes		X	X
Environmental Value	Project water-quality goals are reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.	Outcomes		X	X
Social Value	This project will result in improved resilience to flooding, especially in the MID-URN areas, through programs to promote awareness and develop a community-wide flood resilience action plan.	Process and Outcomes	X		X
Economic Revitalization	IWA projects will help reduce future soil loss and erosion, helping to preserve agricultural productivity.	Outcomes		X	X
West Nishnabotna Projects					
Resiliency Value	This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes) at the outlet of each HUC 12.	Outcomes		X	X
Environmental Value	Project water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12	Outcomes		X	X
Social Value	This project will result in improved resilience to flooding, especially in the LMI area, through programs to promote awareness and a community-wide flood resilience action plan (See Soundness of Approach, Program 2).	Process and Outcomes	X		X
Economic Revitalization	Soil erosion is a significant problem in the WNRW and a threat to agricultural productivity. IWA projects will help reduce soil loss and erosion, maintaining Iowa's important agricultural economy.	Outcomes		X	X

Appendix I – Bee Branch Healthy Homes History

The mission and goals of the BBHH remained consistent throughout the six years of the program, with team members describing little overall change in their role in the program. During year one, the City of Dubuque BBHH accepted and reviewed applications for participants and conducted home inspections, as well as Home Advocate-conducted intake assessments. Though team members noted that administrative setbacks had delayed the onset of construction, they had already witnessed benefits related to participants' relationships with home advocates. During year one, the home advocates described doing extensive outreach to make community members aware of the BBHH program.

During year two, BBHH team members described that they were getting both busier and more comfortable with their work in serving the needs of eligible residents. Team members described how their approach to working with participants and their homes needed to be adapted on a case-by-case basis to best meet the needs of the participants. Home advocates continued to meet with participants, to listen to their needs, and to share information about available resources to meet their needs, including help with seeking employment and addressing food insecurity.

During year three, some complaints about participants' experiences with contractors emerged (though overall reports remained positive). Some expressed varying levels of frustration with the overall quality of the contractors' workmanship and effectiveness of their communication, as well as the time of the project from start to finish. Issues with contractors ranged from simple lack of attention to detail and miscommunications, to perceived safety violations. Some clients were able to have their problems remedied through intervention from the BBHH home advocates; however, others felt reluctant to reach out to their advocate or were unaware of the scope of the advocate's role in the program. Despite setbacks, BBHH clients were grateful for the work that was done on their homes.

During year four, work continued, and team members and participants continued to report largely positive experiences, with some complaints of issues with contractors. Work slowed somewhat as the COVID-19 pandemic emerged, but home advocates reported continuing to meet with participants, wearing PPE, as possible. Home advocates also reported sharing additional information and resources with participants about COVID-19 and the process for filing for unemployment (Iowa's unemployment system was expanded during the COVID-19 pandemic in 2020-21), in addition to the information they had shared with participants in the past.

In year five, the City of Dubuque reported that work had been completed on 263 units. At that time, a representative from Dubuque reported having spent 99% of their administrative budget (\$470,000 spent) and 86% of their delivery budget (\$7,245,000 spent). Despite the COVID-19 pandemic and some difficulties attracting qualified contractors, a city representative described limited delays to progress during year five. One team member described the shortage of contractors, saying "we are down to three contractors bidding on our work, and two of the three contractors have very small crews and can only handle a couple of projects at a time."

As of April 2022 (year six), the final 25 housing units were under construction. Upon completion, the BBHH will have worked on 307 housing units and spent \$8.5 million on home improvements.

Appendix J – Bee Branch Healthy Homes Team Interview Summary

Dubuque Bee Branch Healthy Homes Resiliency Team Interviews Summary
Year 5

Draft for review submitted April 6, 2022

Prepared by Valerie Decker

University of Iowa Center for Evaluation and Assessment

Executive Summary

In July 2021, CEA team members interviewed five Bee Branch Healthy Homes Resiliency Program (BBHH) team members. Team members with the City of Dubuque, Visiting Nurses Association, and the East Central Intergovernmental Association described complementary roles in the program. The purpose of the interviews was to document the processes and outcomes of the BBHH⁴. This executive summary provides an overview of the interview responses with respect to four overarching themes: benefits to participants in the last year, reflections on BBHH metrics, BBHH successes and overall impacts, and BBHH recommendations and potential next steps.

Benefits to participants in the last year

Team members were asked to describe the most common structural improvements and community resources that benefitted program participants in the last year. Responses included:

Structural improvements:

- *Sump pumps*
- *Gutters, downspouts, and downspout extensions*
- *Landscaping or concrete work to move water away from the structure*
- *Tuckpointing or repair of mortar in foundations*
- *Ventilation fans in basements*
- *New roofs*

Team members also described flood prevention measures collectively and efforts to address other outstanding issues in a home as the grant budget or parameters allowed.

Community resources:

- *COVID-19 utility and rental assistance, food resources, and information about vaccines*
- *Weatherization or energy saving kits through Green Iowa*

Team members were asked to identify additional resources needed by participants. These included *repairs or upgrades that did not qualify for the program because they were not directly related to water inundation and ongoing limitations with accessing weatherization services.*

Reflections on BBHH metrics

When the original proposal was written, the team identified a set of metrics for each component of IWA. In each interview, team members were asked to reflect on two key terms used in the metrics as well as the metrics themselves. A summary is provided based on the responses for each term.

Resilience: Team members described resilience as including work to keep as much water out of

⁴ Please note that there were two complementary projects happening in the City of Dubuque for IWA. While this report focuses on the BBHH program, there are references by team members to the City of Dubuque infrastructure projects. Those are described in greater detail in the IWA annual reports.

homes as possible, and to get any water out as quickly as possible. Additionally, team members described resilience as limiting damage to property in basements, providing families with resources and connections in the community and support to access those resources, allowing people to stay in their homes safely, and making their homes more comfortable so that they want to stay.

At risk resident and neighborhoods: At risk resident and neighborhood could have any of the following attributions: areas with risk for water intrusion, areas with low-income residents, and homes where residents are living in unhealthy conditions that may impact their health.

Team members were invited to explore progress on the metrics identified for BBHH (See Table 1).

BBHH successes and overall impacts

When asked what had gone well in the BBHH program, team members discussed the water-related improvements made to participants' homes, the number or types of people in the program, community resources recommended to participants, and generating neighbor interest in projects. When asked about the overall impact of the BBHH project in the community, team members largely emphasized the home improvements. Individual team members also listed the following impacts: the resources provided as part of the home advocacy aspect of the program (especially for tenants), training for community service providers to increase awareness of the "importance of healthy homes and how it relates to someone's overall health", the City of Dubuque infrastructure projects, and the impact on low-income or fixed-income individuals that "would never have been able to make these repairs themselves."

BBHH recommendations and potential next steps

When asked about challenges faced or recommendations for similar programs in the future, team members mentioned challenges and recommendations related to construction contractors. In addition, team members mentioned aligning expectations between the team and the participants, the COVID-19 pandemic, and team communication.

With respect to next steps or future work, team members noted that additional funding would be needed to continue work similar to BBHH and that additional funding would help existing programs, too. Team members also noted that complementary with some aspects of BBHH, the City of Dubuque has a Lead and Healthy Homes program and a "rehab program" or CDBG-funded Housing Rehab program. Lastly, a team member suggested continuing to follow up with community members about resources available in the community.

Table 1. Overview of BBHH metrics, team reflections, and connections to home advocacy

Metric	Reflections	Connection with home advocacy
At least one improvement in each home will increase the home's resilience to flooding (e.g., stronger foundation, relocation of furnace)	<ul style="list-style-type: none"> • Less water intrusion or a reduction in water damage on the properties 	<ul style="list-style-type: none"> • Providing information about how to properly store items, how to clean up mold, and supporting their process to declutter
Home improvements will result in increased opportunities for resilient, affordable housing for these populations	<ul style="list-style-type: none"> • Home improvements will provide these opportunities because they've made existing housing more resilient • Benefits of the City of Dubuque infrastructure projects • Neighbors wanting to make improvements based on the BBHH projects • A general improvement in the strength of the area 	<ul style="list-style-type: none"> • Providing information about: <ul style="list-style-type: none"> ○ Housing programs through the City of Dubuque ○ Affordable housing opportunities to tenants who were planning to move ○ Resources for additional home improvements
Home improvements will result in reduced mental stress associated with the life disruptions common during flood events	<ul style="list-style-type: none"> • Less stress related to <ul style="list-style-type: none"> ○ Water intrusion ○ Clean up ○ Damaged belongings ○ Paying for repairs ○ Not having access to areas of the home • Tenants and homeowners likely experienced this differently 	<ul style="list-style-type: none"> • Making referrals for mental health counseling resources as needed • Discussing the cleanup steps of water intrusion recovery
Improvements to housing structures will lead to measurable increases in property values	<p><i>While the actual impacts of the improvements on property values will not be observable immediately due to the terms of the projects and the unusual housing market, team members described the aspects of the project that will likely have an impact on property values.</i></p> <ul style="list-style-type: none"> • Upgrades to the homes • Money spent on projects • Improvements in curb appeal • Additional usable space in the home 	<p><i>Both home advocates noted that this aspect of the program is more linked to the construction aspect of the program.</i></p>
Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents	<ul style="list-style-type: none"> • Reduced the amount of dampness and musty odors in home using exhaust fans, air conditioning, windows, and doors 	<p><i>A home advocate noted that it's difficult to tell who had improved health outcomes – especially because few participants had asthma</i></p>

Introduction and Methods

The following is a summary of five interviews with Bee Branch Heathy Homes Resiliency Program (BBHH) team members. The purpose of the interviews was to document the processes and outcomes of the BBHH. The interview protocol was updated in Year 5 to reflect metrics described in the IWA proposal and consider the entire program holistically. All five interviews were conducted via Zoom videoconferencing by Center for Evaluation and Assessment (CEA) team members during July 2021. Interviews were audio recorded, transcribed, and then coded and analyzed by members of the CEA team.

The same general interview protocol was used for all interviews. As in previous evaluation reports, when possible, responses are aggregated to provide anonymity for the respondents. All interviewees were advised, however, that their anonymity could not be guaranteed because of the small number of respondents and potentially unique responses based on their varied roles in the program. The two home advocates are the only two people who serve the same role in the program, and, where they may have a unique perspective, their comments include their role. A few questions were asked only of sub-groups, as indicated in the interview protocol (see Appendix A).

Please note that there were two complementary projects happening in the City of Dubuque for IWA. While this report focuses on the BBHH program, there are references by team members to the City of Dubuque infrastructure projects. Those are described in greater detail in the IWA annual reports⁵.

Interviewees were invited to review this summary and make corrections or additions before the summary was considered final and submitted to the United States Department of Housing and Urban Development.

Role with the BBHH

The BBHH team members interviewed span three organizations and four roles. Each section below includes a description of the role in the program and how each role has changed over time based on the participant's interview responses.

Intake Specialist with East Central Intergovernmental Association (ECIA)

The intake specialist described that her role is to verify participants and confirm their required documents are turned in and reviewed by the committee. When asked how her role has changed during her time in the program, she said that it has been largely the same with the addition of a couple responsibilities such as delivering radon kits and "little things."

Rehab Specialist with ECIA

The rehab specialist described that she is the team members who evaluates the property, plans for repairs, and oversees the bidding and construction processes through completion and closeout. When asked how her role has changed during her time in the program, she said her role has largely stayed the same but that sometimes tasks and roles shift due to changes in staffing.

Grant Administrator/Program Manager with the City of Dubuque

The grant administrator/program manager described that he oversees the BBHH and serves as the grant administrator for the City of Dubuque infrastructure projects. The grant administrator/program manager described that his role has evolved over time, especially in response to the departure of the previous program manager.

⁵ <https://iowawatershedapproach.org/resources/iwa-program-evaluation/>

Home Advocates with the Visiting Nurses Association

Both home advocates described their role as meeting with participants and their families and “[providing] education on healthy homes topics” while also serving as a point of connection between the participants and the other program staff. One advocate described navigating between talking about home safety, conducting an assessment to see what resource needs the family may have, assisting them with connecting to those resources, and following up periodically to check in on progress in the program or any resources they might need. When asked how their roles have changed during their time in the program, both advocates described that they’ve learned more about community resources that are available and developed partnerships with different community groups. One advocate described that they formed the Green and Healthy Homes Coalition for service providers to learn about each other’s services.

Improvements and Resources in Year 5

Team members were asked to describe the most common structural improvements that were made in project homes within the last year. Additionally, the home advocates were asked to describe what resources participants have been most interested in or need the most in the same time period. Finally, team members were asked to identify additional resources needed by participants. Structural improvements were consistently described as strategies inside and outside of the home to prevent the accumulation of moisture. In home advocacy, there was a breadth of ways that home advocates (HAs) described as supporting community members based on their family’s needs.

Structural Improvements

The rehabilitation specialist listed the following construction practices as most common in BBHH homes. Items with an asterisk were also mentioned by at least one other team member.

- *Sump pumps**
- *Gutters, downspouts, and downspout extensions**
- *Landscaping or concrete work to move water away from the structure**
- *Tuckpointing or repair of mortar in foundations**
- *Ventilation fans in basements*

Additionally, one team member also mentioned some properties getting *new roofs* as part of BBHH. Two respondents described flood prevention measures collectively. These team members stated that construction was an opportunity for homeowners to “get the much-needed repairs that their house needs” and “they’ve really been able to benefit a lot from what’s being done to their homes, structurally.”

Additionally, two team members described that, as the grant budget and parameters allowed, the team would help to address other outstanding issues⁶. The team members described situations where repairs largely depend on the specific condition of the roof or mechanicals or the potential impact of a big landscaping project. One described that if roofs are leaking, they could be replaced or if an appliance like a heater or air conditioning were damaged from flooding, they could be replaced, but if they were just old and likely to fail in the near future, they did not qualify to be replaced in the program. Similarly, the other described that the team’s ability to include big landscaping projects would depend on the specific situation and its impact on the other BBHH rehab work in the home.

⁶ This will be discussed further in the Additional Resources Needed section.

Home Advocacy

The home advocates were asked to describe what resources participants have been most interested in or need the most during the last year. Both of the HAs mentioned the following list of resources:

- *COVID-19 utility and rental assistance, food resources, and information about vaccines*
- *Weatherization or energy saving kits through Green Iowa²*

Additional Needed Resources

When reflecting on resources that clients seemed to need which were not currently available in Dubuque, four team members described repairs or upgrades that did not qualify for the program because they were not directly related to water inundation. All four mentioned that there are certain projects that are not always covered through BBHH (i.e., roofs, heater or air conditioning replacements, landscaping projects, pest control), and two of those described that certain projects may or may not be eligible depending on the cause of the issue or potential impact⁷. One team member provided additional context for this need. She said, “There’s always more things that the property owners can use. These are low-to-moderate income property owners, so the properties have had more deferred maintenance over the last 50-75 years – these are primarily old homes. So, yes, there’s always thing that could benefit the property that are outside the scope of work.” Both HAs described ongoing limitations with accessing weatherization services. Specifically, one HA described that at the time of the interview the Community Action Agency and AmeriCorp Green Iowa programs are both providing this service, but there is a wait list so long that “it’s kind of difficult getting them on that list or getting those services.” She described the need for this type of service in the area because many of the homes are older and could benefit from more energy efficiency.

Impact on Participants’ Lives

The BBHH program is designed to help make participants’ structures and community connections more resilient. When the original proposal was written, the team identified a set of metrics for each component of IWA (See callout box below). Team members were asked a set of questions meant to explore progress on the metrics identified for BBHH. First, team members were asked to reflect on key terms used in the metrics to get a sense of how the group was defining each term. Next, participants were invited to consider progress on individual and community metrics.

Key terms

In order to define the accomplishments or progress of the program, team members were asked to reflect on key terms used in the metrics defined in the IWA proposal with respect to the goals of

⁷ See Structural Improvements above.

BBHH. For each team, the components of team members' definitions are included. Frequencies are included in parentheses if mentioned by more than one team member.

Resilience

Resilience includes:

- Working to try to keep as much water out as possible, and, if it gets in, get it out as quickly as possible and protect what's in your basement. (3)
- Providing families with resources and connections in the community and support to access those resources. This will allow families the ability to improve their health and financial situation (2)
- Allowing people to stay in their homes safely and making their homes more comfortable so that they want to stay (2)

At risk resident and neighborhoods

At risk resident and neighborhoods were described as:

- Areas with risks for water intrusion, even with a small amount of rainfall (4)
- Areas with low-income residents who may not be able to make repairs on their own (3)
- Homes where residents are living in unhealthy conditions, likely due to water intrusion, which may impact their health

Progress on Metrics for BBHH from the proposal

Each description will include a narrative of responses from all team members and a perspective of how home advocates contributed to this metric (directly or indirectly).

At least one improvement in each home will increase the home's resilience to flooding (e.g., stronger foundation, relocation of furnace)

The four respondents that answered this item made comments related to having less water intrusion or a reduction in water damage on the properties. To provide context, two team members described that some properties could not be guaranteed to be completely dry but that there were improvements. One team member said, "We tell them we can't guarantee we'll keep 100% of the water out. We're dealing with 1890s houses in some cases, limestone foundations. We can't guarantee that they will be bone dry, but ...the majority of people have less water intrusion, are staying dryer, and can deal with what they're getting."

Additionally, team members also said that the program was effective at improving the homes' resilience, improving the appearance of the home, and "a lot of the residents are very happy with the work."

Complementary with the construction aspects of BBHH, home advocates described providing information resources to participants about how to properly store items (i.e., plastic bins instead of cardboard boxes) and how to clean up mold. In addition, one advocate described supporting participants to "start going through their stuff and figuring out what they can get rid of."

Metrics identified in the IWA proposal

At least one improvement in each home will increase the home's resilience to flooding (e.g., stronger foundation, relocation of furnace). This neighborhood is inhabited by the most at-risk residents, who often cannot afford to miss work or find new housing after flooding.

- *Home improvements will result in increased opportunities for resilient, affordable housing for these populations*
- *Home improvements will result in reduced mental stress associated with the life disruptions common during flood events.*

Improvements to housing structures will lead to measurable increases in property values. Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents.

Home improvements will result in increased opportunities for resilient, affordable housing for these populations

The four respondents that answered this item described ways that the home improvements will provide these opportunities because they've made existing housing more resilient. Two team members specifically described improvements to homes and the other two described improvements to apartment units or rental properties. Quotations are provided below for each category:

- Home improvements: "We have made improvements to houses that would be considered affordable for low-to-moderate incomes families" and "In this specific Bee Branch area... if [the residents] are not having water coming in, that would be a big improvement."
- Apartment unit or rental improvements: "There's a lot more options with healthier units in them... [tenants] would have access to healthier apartments because [the BBHH program] did the healthy homes part of it. It wasn't just the water intrusion, there's a lot of other issues that they helped with ... If there's electrical issues or safety issues of the home, those were fixed" and "... But even the housing pieces, some of the rental properties, I'll be honest, were in rough shape. In the last five years, we've come in and we've turned around and made those repairs."

Additionally, team members also described the benefits of the City of Dubuque infrastructure projects, neighbors wanting to make improvements based on the BBHH projects, referrals for other housing programs through the City of Dubuque, and a general improvement in the strength of the area ("I'm not sure there's more affordable housing, but I think, certainly, [the program] has kept people in their houses and ...it's a stronger area now than it was five years ago. I would definitely say that").

Home advocates described providing information about housing programs through the City of Dubuque, affordable housing opportunities to tenants who were planning to move, and resources for additional home improvements.

Home improvements will result in reduced mental stress associated with the life disruptions common during flood events

Team members described several ways that participants' mental stress may be reduced from the combination of the BBHH program and the City of Dubuque infrastructure projects:

- Even though the impacts of water intrusion will vary based on the volume of water, team members described residents having less stress related to that intrusion – whether that is bailing water out of the basement to protect belongings, observing water puddling up, or calling the city to report water in the basement.
- "Less stress of having to deal with the cleanup [and] having things ruined" (i.e., wedding photos, furniture)
- "Not having to come up with the money...to get the repairs done."
- Being able to use the basement as a living space or for storage

One team member mentioned that tenants likely did not have the same impacts as homeowners. She noted that many tenants do not use their building's basement. She reflected, "It sounds like the effect on people's lives was maybe more prominent for the homeowners. And then the tenants, maybe the social [home advocate] side was what was more impactful for them."

Home advocates described making referrals to participants for mental health counseling resources as needed and discussing the cleanup steps of water intrusion recovery with participants.

Improvements to housing structures will lead to measurable increases in property values

While the actual impacts of the improvements on property values will not be observable immediately due to the terms of the projects (5-year lien on the mortgage) and the unusual housing market following the COVID-19 pandemic, team members described the aspects of the project that will likely have an impact on property values.

All five team members described upgrades to the homes that would likely increase their values (i.e., windows, furnace, roof, sump pump, tuckpointing, sidewalks, water heaters). In addition, two or three team members each described the amount of money spent on individual projects, improvements on curb appeal, and the additional usable space in the house and the impact that each would likely have on property values.

Two team members made more general comments about these investments: “We have not increased the value of the house dollar for dollar what we put in, but I think it’s going to help them, definitely” and “We want people to stay, we didn’t want [the property] to be abandoned or to be an eyesore or even torn down when it didn’t have to be. So, to come in and help and do that has been really, really good for everybody in the City of Dubuque.”

Both home advocates noted that this aspect of the program is more linked to the construction aspect of the program.

Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents

The impacts of mold and mildew, and their mitigation, varied based on the layout of each home and the severity of the issue. For example, one team member described that improvements in basement spaces wouldn’t have as much impact for homes with exterior basement access. However, three team members described that the BBHH projects improved the air quality in basement spaces or the whole house. They described that the projects reduced the amount of dampness and musty odors in the homes. When describing the projects that would impact air quality, team members mentioned exhaust fans, air conditioning, windows, and doors.

While one team member described that the program was able to help residents who were getting sick, one home advocate noted that it’s difficult to tell who had improved health outcomes – especially because “I really, surprisingly, didn’t have a whole lot of people that had asthma...I thought there would be more of that.”

Overall BBHH Reflections

CEA asked team members to reflect on BBHH’s successes and overall impacts, as well as recommendations and next steps for the program from their perspective. They were also given an opportunity to provide any final comments at the end of the interview.

BBHH successes

When asked what had gone well in the BBHH program, most frequently, team members discussed the water-related improvements made to participants’ homes or the number or types of people in the program. In addition, two team members each mentioned community resources recommended to participants and generating neighbor interest in projects.

All five team members described either the improvements for participants or the number of participants in the program as successes. Four team members specifically mentioned reductions in water in the homes. One team member described that “I think residents were very happy that they no longer had issues. That seems to be the reason they applied for the program.” Complementary with that, another team member said that for most of the participants in the program “the water

intrusion has been corrected or they don't get near as much in." While two team members discussed specific numbers (i.e., "over 700 applications," "We were able to help so many low-income people to get their homes fixed with water issues...It wasn't just a handful. It was a lot, over 180"), one team member emphasized the program's growing momentum. She said, "[We] got off to a very slow start, but once we got some momentum going, we've been able to really work on a lot of homes and make improvements for a lot of households. I think that's the biggest success."

Both home advocates described recommending resources to participants. One home advocate explained that because these were low- to moderate-income families, they may never have used community resources and, as a result of participation in the program, were able to get connected with things they needed but hadn't know about. Recommendations described by one advocate included the Career Pathways Program, employment support, and resources or grants to make their homes more accessible. The advocates described sharing available resources with the participating families and walking them through the process if they were interested.

Two team members described the success of neighbors seeing what is happening in their community and getting interested. One said, "It takes a few to get started and working for people to go, 'Oh, that's what they 're doing' or 'that's what it's all about.' Then people get interested and apply." The other said, "It started out a little slow, and within a year, it just blossomed, just for the fact that when people saw a neighbor getting work done, they went and asked them about it... It caught on very, very well."

Individual team members also described generating community interest through community meetings and getting more comfortable with the program as they got going ("learning curve").

BBHH recommendations

When asked about challenges faced or recommendations for similar programs in the future, all five team members mentioned challenges or recommendations related to construction contractors. In addition, team members mentioned aligning expectations between the team and the participant, the COVID-19 pandemic, and team communication.

Specifically related to recommendations, two team members suggested that others consider the BBHH model if they are interested in doing this type of project.

Related to challenges with construction contractors, all five team members had perspectives that largely centered on a limited number of contractors bidding on projects. Three team members described that the reason was that contractors, especially the best-known contractors, had demand for new construction projects and preferred those over rehab work. Regardless of the reason, individual team members described that this lack of contractors impacted the quality of the work and project timelines. One team member noted that the program would accept the lowest bid which could also have contributed to lower quality construction in some cases.

Related to aligning expectations for construction work between the team and the participant, three team members had different perspectives on this. Two team members mentioned speaking to participants who were unhappy with the work on their homes. For example, one team member said, "There were some issues with some of the families not [being] happy with the contractors. There were some issues where they weren't happy with the quality of the work or they felt like the communication wasn't the best." A third team member admitted that some of the highest-quality contractors were not the ones bidding on the projects, but also noted that "it's hard to get A/B (quality) work when you're dealing with a property that's maybe in C/D condition." She continued, "That's probably the thing, to be more realistic about when you start, you're not going to end up with a brand new rehabbed shiny project. You might not even be able to tell where we were unless you really know the work that we did."

Related to the COVID-19 pandemic, two team members described the ways that the program was impacted. One team member described how COVID slowed down the work for about six months at

the beginning and then continued to delay construction projects when members of the crew got sick. The other team member described impacts on team members interacting with participants in the field. He described that before the pandemic, many of the project interactions happened face-to-face but that most of those direct interactions stopped until a vaccine was available. He mentioned that as of spring 2021, the team was starting to interact more while following safety guidelines (i.e., distancing, masks). He described an intentional process to get back to meeting face-to-face. This team member also described the benefit of the one-year extension for the IWA project. He said that the extension has allowed them to use all of their budgeted funds toward completing projects and “just help more people.”

Related to team communication, both Home Advocates mentioned the importance of good communication among the groups working on the project. One team member recommended meetings (even over the phone) periodically “so we’re on the same page.” She described that it would be helpful to know if a participant was not happy to help facilitate that communication or check in with them.

When reflecting on recommendations team members would make to someone interested in doing similar work, two team members said that the BBHH had a good model. One said, “I think anybody that’s looking at future grants and wants to do something will be able to model what we’ve done.” He described that they would see it as “successful,” “worthwhile,” and will garner appreciation from the people helped.

One team member said that they wished that the program could assist with other healthy homes issues (i.e., weatherization) that were not eligible through the grant.

Overall impact of BBHH

When asked about the overall impact of the BBHH project in the community, team members largely emphasized the home improvements. Individual team members also offered additional impacts or reflections on impacts to consider.

The four team members that highlighted home improvements described reductions in water intrusion and the gratitude of the participants. One team member described his experience connecting with a participant after the fact and the participant’s gratitude for being able to use his basement again. Summing up his remarks, the team member said, “I always go back to the fact that five, six years ago, when the forecast said rain, people didn’t get to sleep. Right now, when the forecast says it’s gonna rain, people sleep fine, saying ‘I’m glad it’s gonna rain.’ The biggest joy of the whole program is knowing that the comfort is there, and people are very, very, very appreciative of what we’ve been able to do.”

Individual team members listed the following impacts: the resources provided as part of the home advocacy aspect of the program, especially for tenants, training for community service providers to increase awareness of the “importance of healthy homes and how it relates to someone’s overall health”, the City of Dubuque infrastructure projects, and the impact on low-income or fixed-income individuals that “would never have been able to make these repairs themselves.”

Additionally, two team members reflected on limitations to the program’s impact on the community. One home advocate commented that they had an impact on their “the clients, especially the tenants, but I feel overall that’s going to be lost because we’re going to hear more of the work that done on [the homes], which, rightfully so, that’s why they’re in the program.” Another team member said that the community likely does not recognize that the program benefits them.

Next steps with BBHH or similar work in Dubuque

Team members offered several different thoughts related to next steps or future work.

Two team members noted that additional funding would be needed to continue work similar to BBHH and that additional funding would help the existing programs, too. A team member said, “We know there’s so many homes here that still need repairs.”

Three team members noted that complementary with some aspects of BBHH, the City of Dubuque has a Lead and Healthy Homes program and a “rehab program” or CDBG-funded Housing Rehab program. The Lead and Healthy Homes program has home advocacy like BBHH (“I’m the healthy home advocate for that as well),” and Housing Rehab could offer opportunities for construction components (i.e., sump pumps, tuckpointing, foundation work) in addition to “remodeling type things” (i.e., siding, windows, painting, carpet).

A team member suggested continuing to follow up with community members about resources available in the community. She said, “I feel like there’s so many lost resources. People don’t know, obviously, because they constantly change and it’s hard to keep up on them. If families aren’t involved in any services, they don’t hear about them.” She mentioned resources like loan programs, securing insurance, and finding a medical home or getting to appointments.

Other comments

When asked if they had any other comments about the program, three team members made general positive comments about the program. In addition, one team member said, “I hope we can get more funding and we could help more people.”

Other comments that were directly related to comments elsewhere in the interview were described there.

Appendix

Appendix A – Bee Brach Healthy Homes Team Member Interview Protocol

As part of the evaluation of the Iowa Watershed Approach Project, the Center for Evaluation and Assessment is conducting interviews with key personnel from Bee Branch and Healthy Homes Resilience Program. The purpose of the interviews is to document the processes of the Healthy Homes Program.

Your responses will not be reported by name. However, because there are only a small number of team members, complete anonymity cannot be guaranteed.

Your participation in this interview is voluntary. You may decline to be interviewed, you may decline to answer particular questions, and you may ask that the interview not be used even after we have completed the interview.

The interview will take approximately 30 minutes. You may end the interview at any time. Please let me know if you need to leave or if you'd like to take a break and finish the interview later. Findings from all interviews will be combined into one summary, and you will be given the opportunity to review the summary and make comments, corrections, or additions before the summary is considered final. When it is finalized, it will be given to the Healthy Homes Program staff for their use in planning and to the project funding institution, HUD, at which point it becomes part of the public record for the project.

Role

1. Would you describe your role in the BBHH program at a high level?
2. At this point we've talked to you several times over the course of the program. As we are wrapping up our evaluation of BBHH, is there anything that you'd like to share about your role either as it is now or as it's evolved through the program?

Recommended Resources in the Last Year

3. In the last year, between summer 2020 and summer 2021, what have been the most common things that the program has done for participants?
4. [*Home Advocate*] During home visits in the last year, as you've made referrals for participants to address their needs, which resources have participants been most interested in?
5. What resources or home improvements (if any) do you think participants need or could benefit from that are not currently available in Dubuque?

Improvement of Life for Participants/Program Metrics

When the original proposal was written, the team identified a set of metrics for each component of IWA. The next set of questions is meant to explore progress on the metrics identified for this program. In the following items we will explore terms used in those metrics and perceptions of progress from your point of view. For the items about progress, if you answer yes or no, I will follow up about how you would support that choice, and if you don't know, I'll ask who you think we could follow up with to better understand a given metric.

Terms

6. Many of the metrics in the original BBHH proposal refer to "resilience." How would you define resilience in terms of the BBHH's goals?
7. Some of the original metrics also referred to "at risk" residents and neighborhoods. How would you define "at risk" residents and neighborhoods with respect to the BBHH program?

Individuals

8. Over the BBHH's entire existence since 2016, how effective do you think the property improvements aspect of the program has been at increasing homes' resilience to flooding and water damage?
9. How (if at all) do you think that property improvements reduced the mental stress associated with the life disruptions common during flood events?
10. How (if at all) do you think that property improvements have improved air quality in the homes?

Community

11. Because of the home improvements completed as part of the BBHH, do low- and moderate-income residents in Dubuque have greater access to affordable, resilient housing?
12. How (if at all) do you think that property improvements lead to measurable increases in property values?
13. [*Home advocates*] Looking back at each of these metrics, how have the home advocacy aspects of the program supported participants in any of these domains?
 - Increasing homes' resilience to flooding or water damage
 - Reduction in mental stress related to life disruptions common during flood events
 - Reduction in asthma rates among residents
 - Increased access to affordable, resilient housing
 - Increases in community property values

BBHH Overview

14. Again thinking about the BBHH since its beginning, what aspects of the program, if any, do you feel have gone particularly well?
15. What recommendations, if any, would you give to someone wanting to implement a similar program in the future?
16. What do you see as the overall impact of the BBHH in the community?
17. What do you see at the next steps with BBHH or similar work in Dubuque?
 - a. Are any aspects of the program continuing?
 - b. Do you know of any other programs doing similar work?
 - c. Are there aspects of the program you wish would continue but may not?
18. Last question! Do you have other comments about the program, the process – anything else at all?

Appendix K – Bee Branch Healthy Homes program participant interviews, year 6

Introduction

This is a summary of interviews with participants in the Bee Branch Healthy Homes (BBHH) program carried out by the Center for Evaluation and Assessment (CEA) during the spring of 2022. This was the eighth and final set of interviews conducted with BBHH participants whose home improvement projects were completed at least six months prior to the interview.

Methods

Table 1. Program Participants 2020-21

	Program Participants Eligible for Interviews	Interested Participants	Interviewed Participants
March 2022	16	4	3

The BBHH home advocates contacted the 16 program participants in February 2022 for whom construction had been completed in the previous six to 12 months to provide them with information about the opportunity to participate in an interview.

This list of participants who could be contacted and said they would be interested in participating in an interview was then shared with the CEA, including their contact information and availability. The CEA was able to connect with and interview three of the four interested participants. Among these three participants, two were homeowners and one was a tenant.

The CEA team member conducting the interviews took notes throughout each interview, as participants asked not to be recorded, and these notes were used to construct this report. “They” has been used as a singular pronoun in the summary below to improve readability and ensure the anonymity of the participants. Findings are summarized by interview question.

Findings

Similar to past reports summarizing the feedback from BBHH program participants, the three interviewed participants were generally satisfied with the work that was done on their homes. Unlike in previous years, none of the participants described any negative experiences with contractors. Indeed, one participant spoke glowingly of the contractors and their work, though the other two participants had relatively minor complaints about the way work on their home was implemented. None of the participants reported memorable interactions with the project’s home advocates, instead they emphasized the positive impacts the construction work has had on their home and life. Two participants also emphasized that the application process for the project was complicated, and that this made it more difficult to recommend the program to others. When asked to reflect on the overall impact of the project on their lives, the three participants emphasized the impact of the work done on their homes, and highlighted how their lives were made more comfortable and less stressful.

What work was done on your home?

One homeowner participant described several improvements done on their property, including grading the exterior landscaping to keep water away from the basement, the installation of new windows and window wells that didn’t leak, and the installation of drains in their basement. The other homeowner also mentioned grading, as well as the installation of a carbon monoxide detector and venting to help with dampness and airflow. The tenant participant described that some walls in their home had been painted as a result of the work but reported that most of the work that had been done took place in the basement crawl space.

What was the best part of working with the Bee Branch Healthy Homes Resiliency Program?

Overall, participants described the impacts of the work done on their homes as the best part of the BBHH. The tenant participant described the painting work done in their home as the best part of

participating in the project, noting that they saw this paint each day. One homeowner also described the daily experience of seeing the finished work, noting especially that the new windows did not leak and were very visible. The other homeowner described the best parts of the program as the lack of water coming into their kitchen and the improvement in air quality due to the installed ventilation.

What problems if any have you encountered working with the BBHH project?

None of the participants reported serious problems, but two had some complaints about the way the work had been done. One homeowner described some of the gravel work involved in the grading work done on their property as “overkill” but did not have any significant issues with the work done as part of the project. This homeowner described a concern that some of the work done might lead downspouts on the property to freeze in the winter but reported that this had not happened yet and if it did, they knew how to fix the issue themselves. The other homeowner reported having faced no problems with the program but noted that the program was “a little confusing” at first. However, they said those involved in running the program were able to help them understand the process over time. The tenant participant said that, despite work done to seal up the home, they still had issues with mice.

In what ways were your interactions with the home advocate helpful?

None of the three interviewed participants reported memorable interactions with home advocates. The tenant participant and one homeowner did not remember interacting with a home advocate or anyone meeting the job description. The homeowner did share, however, that everyone they worked with on the project were patient and thoughtful. The other homeowner said they did not interact with home advocates themselves but reported that the home advocates did work with some of their tenants. They described the work the home advocate did with tenants as “helpful,” and noted specifically that the home advocate helped their tenants with searching for jobs.

Ratings of Program Components

The participants were asked to use a five-point scale (where five was the most positive and one was the most negative) to indicate how they felt about four different aspects of the program. As seen in Table 2, participants rated most aspects of the program positively, but noted that the application process was difficult to complete. The tenant and one homeowner participant also said they could not enthusiastically recommend the program to friends and neighbors. The tenant said this was because not all of the contractors and team members they encountered were helpful. The homeowner noted that they had recommended the program to friends and neighbors, but found they were unwilling to apply due to the complexity of the application process. Specifically, they noted that the people he spoke with were concerned about sharing their banking information.

Table 2. Ratings of program components

Item	1	2	3	4	5	N/A
How helpful was it to work with Home Advocates?	-	-	-	-	2	1
How easy was it to complete the application?	-	1	-	1	-	1
How likely would you be to recommend this program to friends or neighbors?	-	-	2	-	1	-
How easy was it to work with contractors on construction work?	-	-	-	-	3	-

In what ways do you think participating in the BBHH project will have an impact on your life?

All three participants described how the work done on their home had improved their life in some

way, emphasizing improved comfort or piece of mind. The tenant participant again emphasized that they liked the painting work that was done in their home but said they had not been into the basement crawl space to see if the work there had reduced or removed water. One homeowner simply said that their life had been improved because there was no longer water collecting in their basement. The other homeowner listed several positive impacts the program had on their life. They described how they no longer worried about mold or carbon monoxide and constantly needing to clean up water in their house, saying this made their life more comfortable. They concluded that they were now able to focus more of their attention on other areas of their home and of their life, and that it was easier to take pride in their property when it is well maintained.

Do you have any other thoughts about the BBHH you would like to share?

The two homeowners offered some concluding thoughts. One homeowner emphasized repeatedly throughout their interview that their experience was “wonderful” and expressed that they were “very grateful” for the work done. They specifically highlighted that everyone involved in running the program, including contractors, were patient and thoughtful, and mentioned that everyone was particularly kind and generous to their daughter with autism (who they also reported made friendship bracelets for some of the contractors, who graciously accepted). The other homeowner concluded that they liked the program overall and were eager to sign up as soon as they heard about it. This participant commented that the work done added value to their property for little cost, and concluded “what’s not to like?”