

A Quest to Improve Life in Southern Appalachia

Beginning with Safe and Healthy Homes



Written By
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Hinton Rural Life Center

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Hinton Rural Life Center (Hinton Center) is a Christian retreat, conference center, and mission outreach. Incorporated in 1961, Hinton Center serves individuals, congregations, and rural communities through retreat ministries, educational opportunities, and missional outreach. Our largest ministry focuses on improving the quality of housing in our region. Hinton Center leads teams of guests, construction interns, and local volunteers in assessing and repairing homes and making them safer and healthier. This continues to be quite a quest for us, and reminds us of a quote from Maya Angelou: "Do the best you can until you know better. Then, when you know better, do better."



Over the years, Hinton Center has completed thousands of home repairs and constructed more than 50 homes from the ground up. Yet, in 2014, we embarked on a journey of self-reflection and community exploration, challenging our long-standing mission outreach by asking a fundamental question: "Why, despite our decades of effort, are the houses in Southern Appalachia not in better condition?"

Our pursuit of answers led us to take a deep dive into our community, engage in comprehensive research, and explore innovative practices within the region. We scrutinized the Circles program, an initiative designed to surround neighbors in need with support; participated in poverty simulations (all were urban centered); delved into the insights offered by the book *When Helping Hurts* by Steve Corbett and Brian Fikkert; and initiated in-depth discussions with community members, including both professionals and neighbors in need. Above all, we listened and learned from those directly impacted.

Quality of Life Study

A pivotal step in our journey, funded by The Duke Endowment, was the engagement of Dr. Stephen Sills, then a professor at UNC Greensboro and director of the university's Center for Housing and Community Studies, and his father, Rev. Dr. Mark Sills, who had previously led a similar study in our region. The asset-based study we conducted with their help, titled "Enhancing Quality of Life in Southern Appalachia," was nothing short of an eye-opener. From this research, which can be downloaded from our website at www.HintonCenter.org/quality-of-life, we discovered that the multifaceted challenges faced in Southern Appalachia are deeply interwoven. Addressing one challenge in isolation simply cannot produce the desired outcomes. These challenges include issues related to housing, substance use and mental health, economic opportunities, children's needs, education, transportation, technology, and culture.

Recognizing the enormity of these interconnected challenges, we understood that we could not singlehandedly tackle every issue. However, our commitment to improving the quality of life in our region remained resolute. To bridge this gap, we formed task forces for each challenge area, with a core emphasis on listening to and engaging with the community. By doing so, we identified a shortage of strong leadership in addressing these challenges and significant gaps in services, education, and resources. We continue to learn more daily and, to date, have been awarded more than \$3,000,000 in grant funding directly connected to our path forward from the Quality of Life study.

Council for Collaborative Impact and Leadership Chatuge Community Builders

In response to our findings, we introduced the Council for Collaborative Impact, an initiative that is open to professionals and community members alike to help them learn, share progress in each task force area, and foster a collaborative atmosphere in which passionate individuals can come together to help improve the quality of life in our region. Serving as an incubator, Hinton helped the substance use task force revive the Clay County Drug Coalition, now called People of Clay CARE.

Due to the confidential nature of much of economic development, the economic opportunities task force decided that an educational program would be most effective in helping them meet their goals, and the group recommended a leadership development program. With input from economic developers and business professors, Hinton created and launched Leadership Chatuge Community Builders, a program designed to provide individuals with a holistic perspective of the region's challenges, equip them with leadership skills, and build a network of people committed to strengthening our communities in Southern Appalachia.

As we enter our seventh year of Leadership Chatuge in February 2024, we continue to host quarterly Council for Collaborative Impact meetings, and we remain unwavering in our commitment to making a positive impact in Southern Appalachia. Hinton Center is more than an organization; it is a catalyst for positive change, fostering unity and collaboration to address the interconnected challenges faced by our neighbors. Together, we are striving to create a brighter and more prosperous future for Southern Appalachia's residents.

Safe and Healthy Homes

With our main focus on housing, we transformed our half-century-old home repair program into a comprehensive approach focused on creating "Safe and Healthy Homes" and began referring neighbors to other resources for non-housing-related needs. This transformation came as a result of our profound realization of the intrinsic link between housing conditions and health and safety. As highlighted on page 14 of the Quality of Life study, "the quality of housing was linked to health problems." Through our research, we learned that asthma and lung cancer are just two of the health conditions that can be caused and/or exacerbated by housing-related issues such as mold and radon. We learned that falls are the leading cause of death for people over the age of 60,

that non-fatal falls are the basis of a \$50 billion-a-year industry, and that another \$754 million in medical expenses are related to fatal falls each year (Centers for Disease Control and the National Council on Aging). We also learned that a Harvard study revealed that “your ZIP code is a better predictor of your health than your genetics” (Harvard, 2014). These evidence-based revelations prompted us to explore and understand in depth the various ways in which the built environment directly impacts the health of our community members.

It is no secret that health is a top priority in evaluating quality of life. Issues related to safety and health in the built environment—not exclusive to those living in poverty, but more prevalent, especially in the context of poor housing—are paramount concerns with far-reaching implications. Inadequate housing conditions—often characterized by overcrowding, substandard construction, and insufficient sanitation facilities—can pose serious risks to the well-being of individuals and communities. These subpar living conditions may result in increased exposure to health hazards such as radon, mold, lead paint, and inadequate heating, which can contribute to respiratory illnesses and other health problems. Furthermore, the absence of fire safety measures and structural integrity can elevate the risk of accidents and injuries. Addressing these issues involves not only improving the physical aspects of housing, but also addressing social determinants, as access to quality housing is inextricably linked to broader socioeconomic disparities. Prioritizing safety and health in the built environment, especially in disadvantaged communities, is not just a matter of infrastructure, but also a fundamental step toward ensuring equitable living conditions and overall well-being.

In response to this newfound understanding, we undertook a multifaceted approach to our work. We delved into the health conditions prevalent in our region, crafting a Safe and Healthy Homes Checklist (**Appendix A**) that serves as a foundational evaluation tool for each home, regardless of socioeconomic status. We also introduced a Star Rating System (**Appendix B**) to quantify the health and safety of each home, which we use to guide our interventions. Our goal is to ensure that, upon our initial engagement with a homeowner, their home reaches at least a three-star rating, signifying that it is deemed adequate in terms of safety and health.

Unfortunately, we occasionally assess a home in which the conditions are so bad that they are beyond repair. This has been particularly relevant in our work with the Healthy Opportunity Pilot, in which Medicaid dollars can be used to cover home repairs related to health and safety. The pilot program in western North Carolina is facilitated by Dogwood Health Trust – Impact Health. In circumstances such as these, we notify the case manager and work to connect families with other agencies that will provide appropriate assistance through NC Care 360. For those homes that can be improved, we work with the homeowner to improve the house to a three-star level, or adequate housing.

To achieve this goal, our dedicated construction ministry coordinator and team of enthusiastic volunteers work diligently to address the conditions that affect the star rating of the homes. Along the way, we prioritize cultivating a dignifying relationship with the homeowner and understand the importance of educating them about the repairs being undertaken and the reasons behind them. We also provide them with reminders on how to maintain and sustain the

improvements, creating a sense of ownership and empowerment for the long-term well-being of the homes and their occupants.

By transitioning to the Safe and Healthy Homes model, we aim not only to enhance housing quality, but also to directly improve the overall well-being and health of our community members. Through this transformation, we are not merely repairing homes; we are fostering environments that support the health and safety of those who call Southern Appalachia home. Furthermore, we are working diligently to demonstrate the impact of our work on the finances and health of our neighbors as well as the insurance and medical communities and have created a Health Advisory Council (**Appendix C**) to assist in this process. We continue to learn from other groups like the Chesapeake Housing Mission (**Appendix D**) and try to emulate similar research in our region including the WNC Bridge Project (**Appendix E**) with data collection being our most significant hurdle, unlike Maryland that has a unified health data system. In addition to educating our neighbors, we also educate our volunteers—both youth and adults from across the United States—on poverty and the health implications of poor housing.

Our commitment to homeowner support does not end upon achieving the initial goal of elevating a home to a three-star rating. Instead, we shift our focus to empowering homeowners to understand and take charge of further improving their homes to reach a four- or five-star level. Our aim is to transfer the responsibility for the ongoing maintenance and enhancement of their living environment while continuing to provide crucial “walk-alongside” support, including a range of resources such as education, coaching, incentives, tools, and supplies. We partner with them to help identify and implement further improvements that will contribute to their overall well-being and quality of life and decrease health care costs.

In addition to working with homeowners, our holistic approach extends to landlords and tenants when both parties are agreeable. We collaborate to establish guidelines and practices that safeguard tenants from arbitrary rent increases and the threat of eviction. By fostering constructive relationships and creating a fair and stable housing environment for all parties involved, we aim to enhance housing quality not only at the individual homeowner level, but also within the broader community.

The transition from merely providing repairs to empowering homeowners and building collaborative relationships with tenants and landlords represents a significant shift in our approach. We believe that this approach aligns with our vision of enhancing the quality of life in Southern Appalachia in a holistic and empowering manner. It underscores our commitment to creating a lasting and self-sustaining impact, where homeowners and the community at large become active participants in the improvement process.

Recognizing that a significant portion of our homeowners are elderly, we understand that to bring about lasting change in the housing conditions of our region, we must raise awareness and instill a sense of responsibility throughout the entire community and across all age groups. In pursuit of this goal, we have partnered with the local education system and created a mobile teaching unit known as the House on Wheels (HOW). This innovative platform allows us to take our

message and educational resources directly into the community, reaching people at health fairs, parades, and various other community events.

House on Wheels (Mobile Teaching Unit)

Our House on Wheels (HOW), funded by The Duke Endowment, has been a dynamic tool in our efforts to educate and engage with the community. We have utilized it in creative ways, such as decorating it for the local Christmas parade with holiday-themed safety information, focusing particularly on electrical and fire safety. During the parade, we distributed fire blankets and encouraged homeowners to sign up for a Safe and Healthy Home Assessment, further promoting the safety and well-being of our community members. We also coordinate social media posts around these themes, further emphasizing the importance of safe and healthy homes.

In the spirit of community engagement and outreach, we also plan to be present at our community Halloween festival. Our HOW will be adorned with themed decorations—including rats, spiders, and even cockroaches—as we aim to capture the attention of young and old alike. The information displayed will highlight the types of damage and health risks associated with these creatures, emphasizing the importance of maintaining a pest-free home environment.

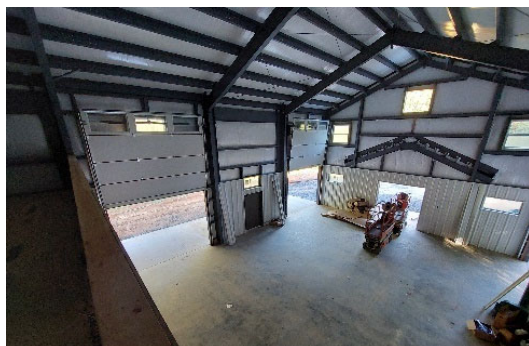
At community events like these, we provide opportunities to register for free home assessments, inviting community members to take a proactive step toward improving their living conditions. The assessments are available to any member of the community, regardless of socioeconomic level, because we want to emphasize that a safe home environment is important for all and that unsafe conditions are not just a by-product of poverty. By combining education, engagement, and community outreach through innovative methods like the House on Wheels, we hope to empower our community members to improve the health and safety of their homes for themselves and their neighbors in sustainable and transformative ways.



Medicine Lock Box & Magnet

Educational Tool Barn

In our continued commitment to community education and engagement, we are excited to share that, with the generous funding of The Duke Endowment, we are currently constructing an Educational Tool Barn on our campus, with the official ribbon-cutting ceremony scheduled for April 15, 2024. This innovative facility is designed to serve as a hub for community education and hands-on learning, reinforcing the vital connection between the built environment and its impact on health and well-being. We are tremendously grateful to The Duke Endowment for funding this project even through the interruption of the COVID pandemic.



Within the Educational Tool Barn, we will feature a wealth of engaging educational materials and exhibits, each focused on key aspects of the built environment. Topics will include water and air quality; the hazards of radon, asbestos, and lead; fall prevention; and much more. Through interactive displays, informative resources, and speakers, visitors will gain a deeper understanding of how these factors directly influence the health and the safety of their homes.

The Educational Tool Barn will serve as a versatile space for learning events, school field trips, and community workshops, fostering a culture of education and awareness among people of all ages. It is our belief that by providing accessible, hands-on educational experiences for our guests, our volunteers, and our neighbors, we can empower individuals to make informed decisions about their living conditions and proactively improve their homes.



One feature of the Educational Tool Barn is the inclusion of bay doors on each side, enabling our volunteer mission teams to pull up and efficiently load their work trucks with tools and supplies so that they are ready to venture out into the community to help repair homes. This strategic design ensures that our teams are well prepared to respond to the needs of homeowners promptly and effectively, further enhancing our capacity to improve the quality of housing. As we look ahead to the official opening of the Educational Tool Barn, we are

eager to see this facility become a cornerstone of community education and action, starting with our newest endeavor to mentor local youth in carpentry, business, and leadership. This project was just funded through the generosity of Dogwood Health Trust.

Living Learning Lodge

We are also excited to share that we are in the planning stages of a transformative project—the Living Learning Lodge. This innovative initiative will provide guests with a unique opportunity to stay in our remodeled Hinton Lodge and immerse themselves in an educational experience that explores the intricate relationship between the built environment and its effects on health and safety.

The Living Learning Lodge will incorporate technology to create an interactive and immersive learning environment. Guests will have access to educational resources and experiences that shed light on how housing, water, and air quality; cost impacts; carbon footprint; and other elements of the built environment can directly impact their health, finances, and overall well-being. We have already been in consultation with game designers and museum designers, and are in the process of learning about artificial intelligence (AI). This experiential approach will empower individuals to make informed decisions about their living conditions and inspire them to take action to improve their own homes, the homes of others, and other facilities in their communities.

Rural Poverty Simulation

Furthermore, our commitment to addressing the multifaceted challenges in our region extends to helping everyone understand the impacts of poverty. To this end, we are planning to include our rural poverty simulation in the learning concepts of the Living Learning Lodge. Our rural poverty simulation was created in conjunction with Western Carolina University and provides a tremendous understanding of the impact of poverty—specifically in rural communities. To date, we have provided the simulation for more than 1,500 participants. Many participants described their experience as eye opening and said that it gave them a better understanding of rural poverty than they had before the simulation. In addition to gaining new perspective, several commented that they recognized privilege they did not know they had. “It made me aware of how hard people in poverty work to be on budget and support their families, and it opened my eyes to how much they can struggle with things other people are privileged with,” said one participant. In addition to the poverty simulation, we will include information about the Social Determinants of Health, as well as Adverse Childhood Experiences and resilience. By fostering awareness, empathy, and understanding, we aim to inspire action and collaboration to address poverty-related issues—particularly those prevalent in rural communities.

The Living Learning Lodge represents a significant step forward in our mission to empower individuals with knowledge and resources to create safer, healthier, more economical homes and communities. As we move into the planning and development phases of this project, we invite potential funders to join us in bringing this visionary initiative to life. Your support will help us create an immersive educational experience that has the potential to drive lasting change by equipping individuals with the knowledge and awareness to make positive choices for their homes and communities. Together, we can continue our journey to enhance the quality of life in the Southern Appalachia region and create a brighter, healthier future for all.

Funding Partners

We wish to express our deepest gratitude for the generous and steadfast support provided by an array of esteemed organizations and individuals who have been instrumental in propelling our mission forward (**Appendix F**). The Duke Endowment, Dogwood Health Trust, Nantahala Health Foundation, Highlands Cashiers Health Foundation, WNC Bridge Foundation, Blue Cross Blue Shield of North Carolina, and the Community Foundation of Western North Carolina have been invaluable partners, offering both financial backing and unwavering commitment to our cause. Additional support from The Cannon Foundation, NOMADS, Wesley Memorial United Methodist Church, Alliance for Green Heat, Dub and Murray Martin Trust, Evergreen Foundation, Franklin United Methodist Church, Good Shepherd Episcopal Church, Coalition for Home Repairs – Housing Assistance Council, Solomon Cramer, United Methodist Appalachian Ministry Network, Home Depot, North Carolina Housing Opportunities, United Methodists Camp and Retreat Ministries, Granny's Attic, Southeastern Jurisdiction of the United Methodist Church, and Walmart, along with the involvement of organizations like AARP and the Fortune Family Foundation, has been a source of inspiration and encouragement that has driven us to reach even greater heights. We are humbled by the collective dedication and wisdom of these remarkable allies and deeply appreciative of their role in helping us make a positive impact in our community.

In conclusion, we reflect upon our participation in the inaugural gathering of the Dogwood Health Trust, during which we were moved by a quote from Desmond Tutu: "There comes a point where we need to stop just pulling people out of the river. We need to go upstream and find out why they're falling in." This statement encapsulates the essence of our journey and underscores the importance of addressing root causes to bring about lasting change.

Appendix

Appendix A Safe and Healthy Homes Checklist

Appendix B Star Rating System

Appendix C Health Advisory Council

Appendix D Chesapeake Housing Mission Report

Appendix E WNC Bridge Pilot

Appendix F Funding Partners

SAFE & HEALTHY HOMES CHECKLIST



DIRECTIONS: Hinton has a goal of making homes safer and healthier. If it's okay with you, we'd be happy to conduct a safe and healthy evaluation to see if we can help make your home healthier and safer. In order to do this, we'll need to ask you a few questions and walk throughout your house and outside. You can come with us if you want. We'll review with you before taking any actions.

Questions for resident:

1. **Name:** First _____ Last _____
2. **Do you rent or own this home?** ☐ Own ☐ Rent
3. **Owner name (if renting):** _____
4. **Address:** _____
5. **Town:** _____ **State:** _____
6. **Year house was built:** _____
7. **Type of Home:** ☐ Mobile Home ☐ Stick-Built/Wood/Brick Construction
☐ Camper ☐ Other (specify) _____
8. **Primary source of heat:** ☐ Electric ☐ Gas ☐ Fire/Wood Stove
☐ None ☐ Other (specify) _____
9. **Supplemental/secondary source of heat:** _____

Details about heating source (ex: heat pump, baseboard, radiant or space heaters, etc.):

If fireplace/woodstove, interested in a load of wood? ☐ Yes ☐ No

If fireplace/woodstove, date of last cleaning? _____ (year)

10. **Water Source:** ☐ Well ☐ City ☐ Spring ☐ None
If well or spring, when was the last time it was tested? _____ (year)

11. **Sewer Type:** ☐ City ☐ Septic

12. **Has the house been tested for lead-based paint?** ☐ Yes ☐ No ☐ N/A (built 1970+)

13. **Has the house been tested for radon?** ☐ Yes ☐ No

If yes, has radon remediation been done? ☐ Yes ☐ No

Optional Questions:

14. Currently or in the past, has any member of the household been diagnosed with

- Asthma : ☐ Yes ☐ No ☐ Prefer not to answer
- COPD: ☐ Yes ☐ No ☐ Prefer not to answer
- Lung Cancer: ☐ Yes ☐ No ☐ Prefer not to answer

15. Unintentional injury because of unsafe housing conditions (example: fall down rotted steps):

☐ Yes ☐ No ☐ Prefer not to answer

If yes, did injury cause visit to ☐ Primary Doctor ☐ Urgent Care ☐ ER

☐ Hospitalization? ☐ Prefer not to answer

16. Are you aware that if you have guns in the home, the sheriff's department has free gun locks?

☐ Yes ☐ No – Can refer them to call 828-389-6354.

17. Do you have internet access? ☐ Yes ☐ No, not available

☐ No, available but choose not to have

Additional Home Modification Questions, if needed:

1. Are there grab bars in the tub/shower/other places if needed? ☐ Yes ☐ No ☐ N/A

Comments: _____

2. Is there an accessibility ramp if needed? ☐ Yes ☐ No ☐ N/A

Comments: _____

If a ramp is present, is it properly installed (1 inch slope per foot)? ☐ Yes ☐ No

3. Any additional home modification needs? ☐ Yes ☐ No

Comments: _____

Interior Inspection:

Interior Inspection Questions		CONCERN	NOTES/ACTIONS TAKEN
HEALTH	4. Floors, walls, windowsills, are dry and free of decay or rot? Free from mold?	<input type="checkbox"/>	
	5. Floors are clean and in good repair?	<input type="checkbox"/>	
	6. Floors do not have “weak” or springy spots?	<input type="checkbox"/>	
	7. Paint on windowsills and doorways is not chipped or peeling?	<input type="checkbox"/>	
	8. Ceiling does not show evidence of active leaks?	<input type="checkbox"/>	
	9. Ceiling does not show evidence of past leaks or staining?	<input type="checkbox"/>	
	10. Walls/ ceilings are in good condition without holes or major cracks?	<input type="checkbox"/>	
	11. Paint on walls/ ceilings is in good condition?	<input type="checkbox"/>	
	12. Heating/ cooling system filters are clean?	<input type="checkbox"/>	
	13. Refrigerator coils are clean?	<input type="checkbox"/>	
	14. House does not show evidence of pests or rodents?	<input type="checkbox"/>	
	15. Kitchen has running hot and cold water?	<input type="checkbox"/>	
	16. Bathroom has running hot and cold water?	<input type="checkbox"/>	
	17. Toilet seals are secure and no evidence of leaks?	<input type="checkbox"/>	
	18. No evidence of additional active leaks in the home?	<input type="checkbox"/>	
SAFETY	19. No tripping hazards, such as uneven areas in the floors, buckled flooring, holes in floors or changes in the level of the floors?	<input type="checkbox"/>	
	20. Do windows open?	<input type="checkbox"/>	
	21. Do windows lock?	<input type="checkbox"/>	
	22. Do exterior doors open?	<input type="checkbox"/>	
	23. Do exterior doors lock?	<input type="checkbox"/>	
	24. Are there clear pathways to exits without clutter?	<input type="checkbox"/>	

	Interior Inspection Questions	CONCERN	NOTES/ACTIONS TAKEN
	25. Are smoke detectors in proper locations, such as bedrooms or just outside of bedrooms?	<input type="checkbox"/>	
	26. Does smoke detector beep when you press test button?	<input type="checkbox"/>	
	27. Is there a working carbon monoxide detector present, if necessary?	<input type="checkbox"/>	
	28. Breakers are accessible?	<input type="checkbox"/>	
	29. Breakers are working properly (ex: don't "trip" often)?	<input type="checkbox"/>	
	30. No exposed electrical wiring?	<input type="checkbox"/>	
	31. Are light switch covers intact and covering the outlet?		
	32. Are outlet covers intact and covering the outlet?	<input type="checkbox"/>	
	33. Lock clips for cabinets, etc. (if needed)?	<input type="checkbox"/>	
	34. Child gates for stairs (if needed)?	<input type="checkbox"/>	
	35. Safe storage for medicine?	<input type="checkbox"/>	
	36. Safe storage for chemicals?	<input type="checkbox"/>	
	37. <i>If two-story</i> , are there sturdy handrails on the stairs?	<input type="checkbox"/>	
	38. <i>If two-story</i> , are there light switches at top and bottom of stairs?	<input type="checkbox"/>	
	39. <i>If there is a basement stairway</i> , does the door open in the opposite direction from the steps?	<input type="checkbox"/>	
	40. <i>If a fireplace or woodstove</i> , is the flue clean?	<input type="checkbox"/>	
WEATHERIZATION & ENERGY	41. Windows have a good seal?	<input type="checkbox"/>	
	42. All windows intact with no broken/missing panes of glass?	<input type="checkbox"/>	
	43. Exterior doors have a good seal? (Is daylight <i>not</i> visible around door when it is closed?)	<input type="checkbox"/>	
	44. Are energy-saving light bulbs are being used?	<input type="checkbox"/>	
	45. Are water heater and pipes are insulated?	<input type="checkbox"/>	
	46. Is there insulation in the attic? If accessible, write depth in notes.	<input type="checkbox"/>	
	47. Floor ducts are working properly?	<input type="checkbox"/>	
	48. No cold spots or rooms that don't have heating or cooling sources?	<input type="checkbox"/>	
	49. If a mobile home, does it have skirting?	<input type="checkbox"/>	

Exterior Inspection:

Exterior Inspection Questions		CONCERN	NOTES/ACTIONS TAKEN
HEALTH	50. Does the roof appear in good condition from the ground?	<input type="checkbox"/>	
	51. Are there gutters on the house?	<input type="checkbox"/>	
	52. Are the gutters free from damage? Are there no visible leaves and vegetation growing in gutters?	<input type="checkbox"/>	
	53. Do downspouts effectively move water away from foundation and exterior walls?	<input type="checkbox"/>	
	54. Does dryer exhaust vent to exterior of home?	<input type="checkbox"/>	
	55. No dryer vent lint buildup?	<input type="checkbox"/>	
	56. Is there a cover on the exhaust vent to prohibit rodents or other pests?	<input type="checkbox"/>	
	57. No evidence of sewage leaks or that the piping is not connected to a proper system?	<input type="checkbox"/>	
	58. No excessive trash/ garbage/ debris present on lot/ grounds?	<input type="checkbox"/>	
SAFETY	59. Exterior walls and siding are free from cracks and holes?	<input type="checkbox"/>	
	60. Are any steps/ decks/ porches/ramps sturdy and safe, and free from mildew?	<input type="checkbox"/>	
	61. Are handrails present on all steps?	<input type="checkbox"/>	
	62. Do porches/ steps and decks more than 36" off the ground have railings that have pickets or something to block small children from falling through?	<input type="checkbox"/>	
	63. Adequate outdoor lighting for safe use of all steps?	<input type="checkbox"/>	
	64. Additional adequate outside lighting?	<input type="checkbox"/>	

Final Inspection Observations:

65. Does the house appear safe for children? ☐ Yes ☐ No (specify) _____
66. Any other issues that you believe present a health/safety concern? _____

DID YOU KNOW: Your ZIP code is a better predictor of health than your genetics! Time to work on that!

APPENDIX B



Safe and Healthy Homes

STAR RATING	DESCRIPTION	# CONCERNS IDENTIFIED
	House provides basic shelter from elements, but has 30 or more health and/or safety concerns identified.	25+
	House provides shelter from elements, but has 20 or more health and/or safety concerns identified.	10-24
	House provides shelter from elements, but has 5 or more health and/or safety concerns identified.	5-9
	House provides shelter from elements, has climate control , and has fewer than 5 health and/or safety concerns identified. House has also been tested or is known to be free from at least two of the three: asbestos, lead, and/or radon.	0-4
	House provides shelter from elements, has climate control , has a safe and healthy environment , and has additional weather and energy-saving aspects. House does not have asbestos or lead paint, and has safe levels of radon. House has reliable internet.	0-4

APPENDIX C

Health Advisory Council

Wayne Barth, Physical Therapist, Director of Rehabilitation, Union General Hospital

Theresa Holbrook, Finance and Administration at regional hospitals

Dr. Travis Williams, Physician, Chatuge Family Practice

Teresa Bowleg, Administrator/Associate Chief Nursing Officer, Erlanger Western North Carolina Hospital

Cassie Houff, Associate Vice President of Medicare Behavior Health, Humana

Katlyn Moss, BSN, RN, MAHEC



CHM

Chesapeake Housing Mission

HEALTHY HOMES INITIATIVE

3-YEAR STUDY (2019 - 2021)

Making Homes Warmer, Safer, Drier, and Healthier

Chesapeake Housing Mission
P.O. Box 1061, Salisbury MD 21802
410.546.4534 | www.chesapeakehousingmission.org

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BEACON at Salisbury University and Memo Diriker, for providing guidance and developing poverty level housing metrics for us to measure our progress.

With the support and input of our Health Advisory BOD, Lori Brewster, Dr. James Cockey, Roger Harrell, Becky Jones, Katherine Crowell Rodgers and Danielle Weber, we were able to focus on the health impacts of low income housing.

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Executive Summary

Chesapeake Housing Mission (CHM) is a Christian mission dedicated to leveraging volunteers to help their neighbors as Jesus would have wanted. Neighbor helping neighbor is our model. Through 2021, we have completed 676 critical home repair projects – although a large number, it only represents 4% of poverty level single family homes in our area. The need is so very great, and resources are needed.

This report discusses the health challenges faced by low income residents living in substandard housing on the Lower Eastern Shore of Maryland and outlines the positive impact of the housing repairs we have performed pertaining to these health challenges. In addition, it presents our future plans to make area homes warmer, safer, drier and healthier.

With this report, our objective is to increase the awareness of the link between population health and the environment where people live, especially their home. Although the link may be intuitive to some, little is published about health initiatives focused on improving the places where people live as a critical issue, especially for the poor. According to studies compiled by the North Carolina Housing Finance Agency, health is so greatly impacted by the conditions of a patient's home that every \$1.00 spent on home repairs saves \$19.00 in Medicare/Medicaid costs.

**Our objective is to
increase the awareness of
the link between
population health and the
environment where people
live, especially their
homes.**

Our outcomes constitute a compelling case for the need to educate health care workers and homeowners on the impact of housing conditions on health, the importance of establishing linkages to healthy housing resources, and the role of CHM and community leaders in making homes healthier for our citizens living in poverty.



Health Benefits Related to Our Work

- ↓ **87%** Reduction in FALLS
- ↓ **38%** Reduction in Hospital Admissions
- ↓ **53%** Reduction in Hospital Admission Charges
- ↓ **30%** Reduction in Emergency Department Admissions
- ↓ **45%** Reduction in Emergency Department Admission Charges
- ↑ **80%** Improvement in Connection to Community
- ↑ **85%** Improvement in Daily Outlook

Introduction

The four Lower Eastern Shore counties of Maryland, while known for their farms, beaches and rural landscape, are also known for their poverty. Somerset, Dorchester and Wicomico Counties are among the five counties in Maryland with the highest poverty levels. Worcester County is ranked in the top 10. In the four counties, over 31,000 residents live at or below the federal poverty level, and 37,000 are on food stamps.

According to BEACON (Business Economic and Community Outreach Network) of the Franklin P. Perdue School of Business at Salisbury University, the four Lower Eastern Shore counties have over 11,800 single family households living below the poverty level. Low income households usually have one or more severe housing problems, such as leaking roofs, broken heaters, or lack of adequate plumbing. The county in greatest need is Wicomico with over 5,000 single family homes in poverty, followed closely by Worcester and Dorchester.

Significant housing problems can cause family members to have health issues. Leaking roofs allow for water intrusion that can result in mold and respiratory problems over time. Winters without a functioning heater can result in health issues for the elderly and children, especially if the family resorts to the indoor use of oil or gas space heaters. Broken handrails and steps and uneven floors will eventually result in a fall that will send family members to the emergency room.

Safe and healthy homes are needed for all people in our area. This is why CHM repairs homes for low income families at no cost to them. Our mission is to restore hope and dignity to qualified low income homeowners, by repairing their homes as an expression of our love for our neighbors.

The leading cause of injury in adults over the age of 65 is falls.

The elderly are especially challenged with maintaining a safe, healthy home. Often as they look to age at home, they find that they cannot take care of their homes like they did, and that their needs for easier access, lower shelves, and safe bathrooms increase. Lack of easy access in and out of their home can reduce their visits to doctors to the detriment of their health. Increased healthcare costs can mean that they cannot afford these health improving changes. According to the U.S. Centers for Disease Control (CDC), the leading cause of injury in adults over the age of 65 is falls.





Our Work THROUGH 2021

Chesapeake Housing Mission has been repairing homes for our neighbors in need on the Lower Eastern Shore of Maryland since 2009, when a group of mission-minded leaders came together after years of doing Appalachian home repairs to found CHM and help our local residents. We are a faith-based non-profit organization, but are not affiliated to any one church. We repair homes for anyone who qualifies. Our vision is for all people in our communities to have a warm, safe, dry and healthy home.

Our work benefits many in our community who are at risk of health issues. In 2021, we repaired 105 homes, our most ever, and served 183 family members. Approximately three quarters of these persons were over 65 years old.

Since our inception, our focus has always been to provide only critical repairs, so that each year we are able to serve as many as possible. We define critical repairs as those that make our clients warmer, safer, drier and/or healthier.

We believe healthier homes translate to a feeling of safety and security for our neighbors, alleviating the stress that comes with the financial burden of home repairs and injuries. People face hard decisions every day, and home repairs are not always a priority. Over time, due to housing conditions, they may face isolation, additional physical and mental health issues.

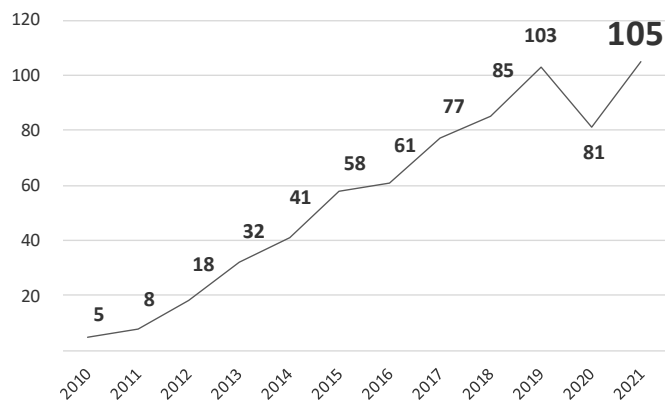
676 Completed Projects

1,119 Family Members Served

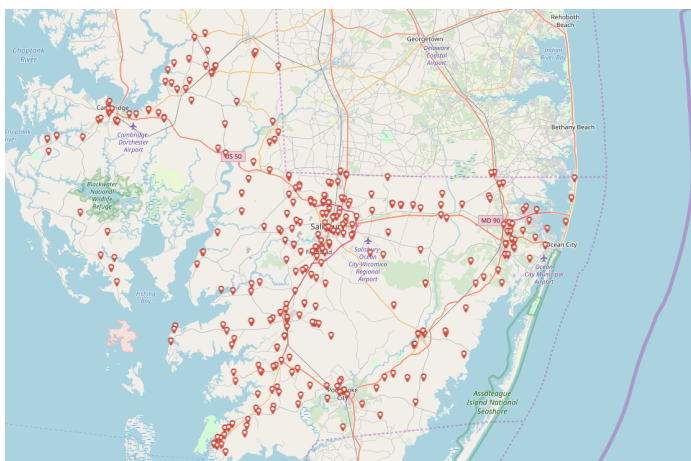
11,366 Volunteers

71,930 Volunteer Hours

Completed Projects



Project Locations



We understand that our work is only one of many factors affecting overall health. Our repairs may improve our clients' physical environment and provide them with hope in their community, a very powerful outcome. But, the reality is that genes and personal choices factor largely into their health status. In addition, a reduction in dollars spent on healthcare frees up dollars for other necessary services.

Through 2021, we completed over 676 home repair projects, making homes healthier for their residents. Although a large number, it only represents 4% of poverty-level single-family homes in our area.

These healthier Home received:

- Wheelchair ramps
- New or repaired floors
- Steps or handrails
- Bathroom grab bars
- Roof Repairs that stopped water leaks that could lead to mold

Outcomes

2019 THROUGH 2021



CHM began capturing outcome data in January 2019, for each client referred to us by our local partnering agencies. The objective was to measure the health impact of the critical home repairs we perform.

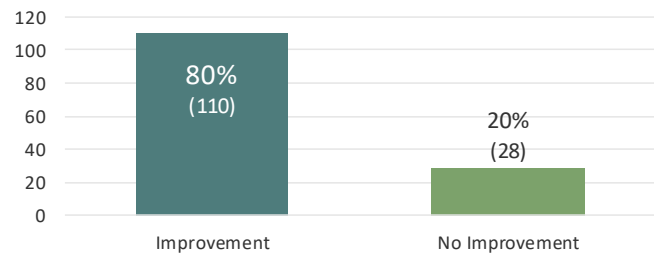
Prior to performing the work and then again 6 months after the service date, each client was asked a series of questions concerning falls, hospital and emergency department visits, and their daily outlook. TidalHealth partnered with us to identify the impact of our work.

We have completed our 3-year study. Our findings indicate that our 2019, 2020, and 2021 clients contacted 6 months after the project was completed, reduced falls from 339 to 43, a 87.32% reduction. The majority of these clients also expressed an improvement in their sense of connection to the community and their daily outlook.

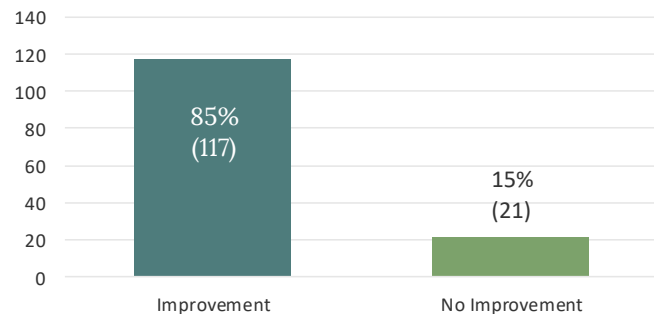


Client Fall Reduction
(from 339 to 43) = **87%**

**80% Improvement in
Connection to Community**



**85% Improvement in
Daily Outlook**



Outcomes (continued)

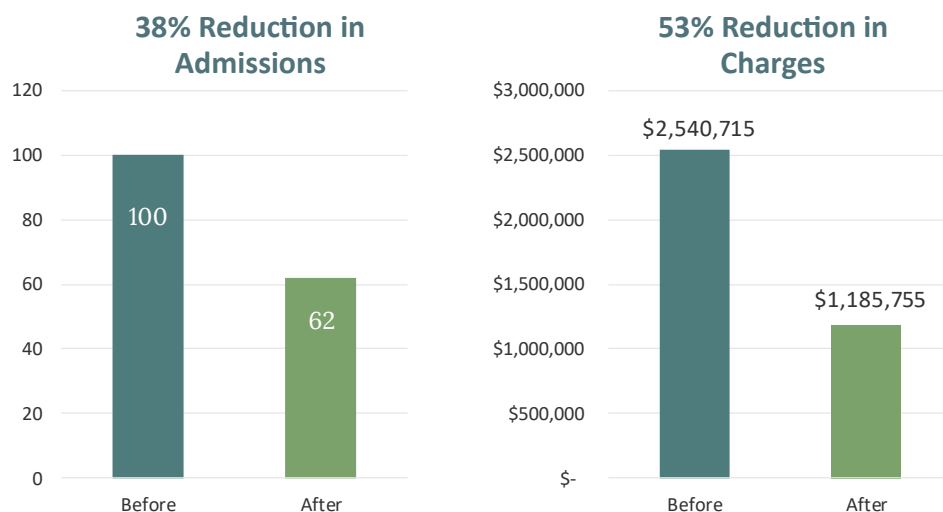
Of the 289 client projects CHM performed between 2019 and 2021, information for 216 of these was given to TidalHealth for analysis. Using CRISP (*see report sources for more information*), TidalHealth was able to match 141 clients to the Maryland health information database. The data analysis performed reflects hospital utilization and charges for 6 months prior to and 6 months after CHM service dates.

The approximate cost to CHM for home repairs for the 141 clients matched was \$440,000. Given that TidalHealth found hospital admission and emergency department savings totaling \$1,409,840 after CHM performed work, this translates to an amazing 220% return for dollars invested!

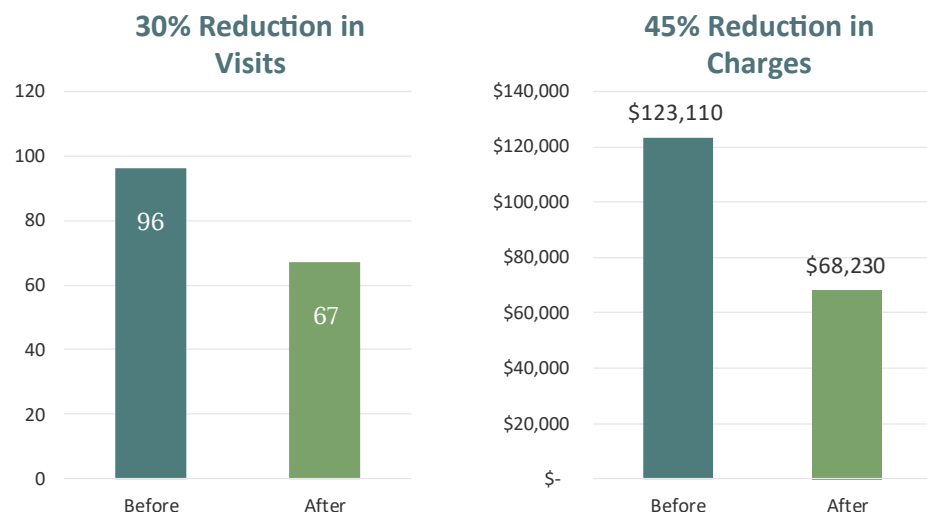
See Appendix A for more details.

220%
Return on
Investment

HOSPITAL



EMERGENCY DEPARTMENT



What the Research Says

Many organizations have begun to investigate the correlation between unhealthy, unsafe homes and health care costs. Healthcare organizations are looking beyond the doctor's office and the hospital at their communities to see what are the Social Determinants of Health (SDOHs). Researchers want to identify and address conditions in the places where people live, learn, work, and play that affect health risks and outcomes. One important area is home.



The National Academy of Medicine says that “medical care is estimated to account for only 10- 20% of the modifiable contributors to healthy outcomes for a population. The other 80 - 90% are sometimes broadly called the SDOH: health-related behaviors, socioeconomic factors, and environmental factors.”

One of the first organizations to look at whether home repairs reduce health costs was Johns Hopkins. In 2018 they completed a study of 250 elderly people on Medicare and Medicaid, where they teamed a nurse, an occupational therapist and a handyworker to address the home environment. They used the strengths of the older adults themselves to improve safety and independence. The resulting program was titled “CAPABLE”, Community Aging in Place - Advancing Better Living for Elders. People with functional limitations and chronic conditions are more than four times more likely than the general population to be among the 5 percent costliest users of health services. Roughly \$3,000 in program costs yielded more than \$20,000 in savings in medical costs, driven by reductions in both inpatient and outpatient expenditures. Participants had difficulty with an average of 3.9 out of 8.0 Activities of Daily Living (ADLs) at baseline, compared to 2.0 after five months. Symptoms of depression, as well as the ability to grocery shop and manage medications also improved.

CAPABLE is already eligible for Medicare and Medicaid coverage in some states, and when scaled nationally, could save Medicare an estimate of \$6.8 billion annually. It has been funded by the National Institutes of Health, the Centers for Medicare and Medicaid Services, the Robert Wood Johnson Foundation, the John A. Hartford Foundation, the Weinberg Foundation, and the Rita & Alex Hillman Foundation. It was implemented by Habitat for Humanity in six new areas across the United States.

There has been work sponsored by Medicaid in North Carolina to repair homes for low-income homeowners and track their medical costs. In a study done with Medicaid and WARM (Wilmington Area Rebuilding Ministry), they found that “health is so greatly impacted by the condition of a patient’s home that every \$1.00 spent on home repairs saves \$19.00 in Medicare/ Medicaid costs, according to studies compiled by the North Carolina Housing Finance Agency.

All of this research and study lead to a common conclusion: investment in improving living conditions of the poor will lead to significant and long lasting improvements in their health.

Home Environment Impacts Health

There is a significant amount of data in the literature about health issues that can shed light on the connection between home repair needs and family health impacts. For instance, the CDC says that falls are the leading cause of injury related illness among senior citizens. Approximately one in four US residents aged 65 and older report falling each year. Dilapidated floors, inadequate or broken railings and stairs, and high tub walls may cause falls, especially as homeowners age-in-place.

HUD (U.S. Department of Housing and Urban Development) started a Healthy Housing initiative in 1999 which has targeted low-income housing problems. In their strategic plan, they state that the health and economic burden of housing-related hazards is substantial. Unintentional injury is the leading cause of death and disability among children younger than 15 years of age, with over 2,800 child and adolescent deaths occurring each year due to injuries in the home. The elderly are also at an elevated risk for residential injuries; each year, 35-40% of adults 65 and older fall at least once. It is estimated that falls account for 33% of injury-related medical expenditures and cost Americans more than \$38 billion annually. Research in 2017 showed that asthma cases in the U.S. linked to dampness and mold cost approximately \$3.5 billion annually.

Indoor air pollution, excessive mold, and contaminants in old carpet may create or worsen respiratory conditions such as COPD and asthma. Research by the Robert Wood Johnson Foundation found that 40% of asthma diagnosed in childhood is caused by conditions in their homes, such as poor indoor air

quality caused by mold, mildew, and inadequate ventilation.

High housing-related costs place a particular economic burden on low-income families, forcing trade-offs between food, heating and other basic needs. One study found that low-income people with difficulty paying rent, mortgage or utility bills were less likely to have a usual source of medical care and more likely to postpone treatment and use the emergency room for treatment.

Since low-income homeowners are deciding what basic needs to pay for, any home repairs needed to make the environment better for them and their family are often not funded. Thus, they are caught in a web of not being able to afford home repairs that could make their lives healthier, and the resultant short term and long term health costs continue to mount.

Through the NC Department of Health and Human Services (NCDHHS), Medicaid is launching the Healthy Opportunities Pilot program, which will pay for certain non-clinical services that are proven to impact health. The five-year program will take a whole-person centered approach that addresses medical and non-medical drivers of health.

Data from the pilot program will be collected and analyzed to transform Medicaid and address fundamental drivers of health because, “research shows up to 80% of a person’s health is determined by social and environmental factors and the behaviors that emerge as a result.”

Robert Wood Johnson Foundation

Healthy homes promote good physical and mental health. Good health depends on having homes that are safe and free from physical hazards. In contrast, poor quality and inadequate housing contributes to health problems such as chronic diseases and injuries, and can have harmful effects on childhood development. Poor indoor air quality, lead paint, and other hazards often coexist in homes, placing children families at great risk for multiple health problems.

- ⇒ **Lead poisoning irreversibly affects brain and nervous system development, resulting in lower intelligence and reading disabilities.**
- ⇒ **Substandard housing such as water leaks, poor ventilation, dirty carpets and pest infestation can lead to an increase in mold, mites and other allergens associated with poor health.**
- ⇒ **Cold indoor conditions have been associated with poorer health, including an increased risk of cardiovascular disease. Extreme low and high temperatures have been associated with increased mortality, especially among vulnerable populations such as the elderly.**

What is a healthy home?

Housing conditions can and should support good health. But, what makes a healthy home environment according to the CDC?

DRY: Damp houses provide a nurturing environment for mites, roaches, rodents, and molds, all of which are associated with asthma.

CLEAN: Clean homes help reduce pest infestations and exposure to contaminants.

PEST-FREE: Recent studies show a causal relationship between exposure to mice and cockroaches and asthma episodes in children. Yet, inappropriate treatment for pest infestations can exacerbate health problems, since pesticide residues in homes pose risks for neurological damage and cancer.

VENTILATED: Studies show that increasing the fresh air supply in a home improves respiratory health.

SAFE: The majority of injuries among children and adults occur in the home. Falls are the most frequent cause of residential injuries to children, followed by injuries from objects in the home, burns, and poisonings.

CONTAMINANT-FREE: Chemical exposures include lead, radon, pesticides, volatile organic compounds, and environmental tobacco smoke. Exposures to asbestos particles, radon gas, carbon monoxide, and secondhand tobacco smoke are far higher indoors than outside.

MAINTAINED: Poorly maintained homes are at risk for moisture and pest problems. Deteriorated lead-based paint in older housing is the primary cause of lead poisoning, which affects some 535,000 U.S. children annually.

THERMALLY

CONTROLLED: Tenants and homeowners are at risk for various health problems related to prolonged exposure to excessive heat or cold when their homes do not maintain adequate temperatures.



Working to Achieve Health Equity

Health Equity is defined by the CDC as, “The opportunity to attain one’s full health potential and no one is disadvantaged from achieving this potential because of their social position or other socially determined circumstance.” Many attribute the responsibility of “health” and “health equity” to healthcare systems and healthcare providers. While these institutions have an important role in attaining the vision of health equity as stated by the CDC, so much of what creates inequity in health is outside of the realm of the healthcare system.

This is the impetus behind the *Healthy Homes Initiative* (HHI) initiated by CHM. As you can see by the results demonstrated through the outcome measures shared in this report, health outcomes can be directly impacted by actions unrelated to healthcare interventions. A focus on social conditions in a community has a much greater impact on the overall health of the residents of the community.

Of those key social determinants, CHM’s mission is to, “To provide critical housing repair services through Christian Mission to low -income families living in the Chesapeake Region...” Our focus is to address critical housing issues that may have a direct impact on a person’s ability to have a healthy, sustainable life in their home. This isn’t something that CHM can achieve in a vacuum; rather, it requires a close partnership between the healthcare system and community organizations to create the right focus for a community.

The Institute for Healthcare Improvement (IHI) has developed a vision for achieving such community results. IHI suggests that individual health within communities can be improved through the intentional partnerships between healthcare organizations and communities. The common goal: making our community healthier and more resilient, through improved social conditions and safer living environments. CHM has begun this meaningful work throughout the lower Eastern Shore, and we are leading the way for others by establishing these partnerships and sharing our results for others to see.



Future Plans

CHM is working with TidalHealth, and the four county Health Departments operating as a multi-county Health Advisory Board. Client slips and falls before and after the repairs will continue to be tracked, as well as emergency room visits and hospital admissions. Related health costs will also be compiled. Our four phase program is ongoing and currently underway.

PHASE 1

Develop an awareness program for Health Workers in the four county area, including printed materials and videos. The primary purpose of this is to increase awareness for those who have direct contact with those at risk, and provide contact numbers and resources to provide assistance. Increased education of what to look for to eliminate causes of slips, trips and falls is key to increasing awareness. In addition, making poverty level residents aware of housing repair services will be key to creating healthier home environments.

PHASE 2

Have CHM recognized as a partner and critical resource in Community Health Needs Assessments conducted in our service areas, especially when it comes to poverty level housing.

PHASE 3

Reach out to foundations and other potential funders to obtain larger grants to provide critical home repair services. With only 4% of the poverty level homes repaired by CHM in 12 years, we need to ramp up our local resources to attack this problem. In addition, implement a media campaign to solicit more volunteers to support a growing demand for critical home repairs.

PHASE 4

Work with local leaders and donors to encourage the formation of more non-profits that will focus on making the homes of our low income level owners healthy. A variety of skills are in short supply for the people who need this help, such as plumbing, roofing, and electrical, at a reasonable price. If we are going to help reduce the level of low income housing in our area, we need more resources focused on the problem.



August 18, 2022: Chesapeake Housing Mission, TidalHealth and the Wicomico and Somerset County Health Departments sign a Memorandum of Understanding to form a partnership to improve housing and health through the Healthy Homes Initiative.



October 6, 2021: Chesapeake Housing Mission, Atlantic General Hospital and the Worcester County Health Department sign a Memorandum of Understanding to form a partnership to improve housing and health through the Healthy Homes Initiative.

Appendix A

Outcome Data 2019 through 2021

CHM Survey

	Total Projects	FALLS				CONNECTION TO COMMUNITY			DAILY OUTLOOK		
		Total Clients Surveyed	6 Months Prior to Project	6 Months After Project	% Reduction	Total Clients Surveyed	Noticed Improvement	% Improvement	Total Clients Surveyed	Noticed Improvement	% Improvement
2019	103	44	130	6	95.38%	47	29	61.70%	47	40	85.11%
2020	81	55	56	0	100.00%	39	34	87.18%	42	37	88.10%
2021	105	68	153	37	75.82%	52	47	90.38%	49	40	81.63%
TOTALS	289	167	339	43	87.32%	138	110	79.71%	138	117	84.78%

CRISP Analysis

	Total Projects	Total Clients provided to TidalHealth for Utilization and Cost Analysis	Total Clients Matched by TidalHealth and Included on Panel for Analysis (CRISP)	HOSPITAL ADMISSIONS			HOSPITAL ADMISSION CHARGES			
				6 Months Prior to Project	6 Months After Project	% Reduction	6 Months Prior to Project	6 Months After Project	Savings	% Reduction
2019	103	47	44	18	16	11.11%	450,613	281,138	169,475	37.61%
2020	81	72	36	33	16	51.52%	939,653	347,651	592,002	63.00%
2021	105	97	61	49	30	38.78%	1,150,449	556,966	593,483	51.59%
TOTALS	289	216	141	100	62	38.00%	2,540,715	1,185,755	1,354,960	53.33%

	Total Projects	Total Clients provided to TidalHealth for Utilization and Cost Analysis	Total Clients Matched by TidalHealth and Included on Panel for Analysis (CRISP)	EMERGENCY DEPARTMENT VISITS			EMERGENCY DEPARTMENT CHARGES			
				6 Months Prior to Project	6 Months After Project	% Reduction	6 Months Prior to Project	6 Months After Project	Savings	% Reduction
2019	103	47	44	31	20	35.48%	35,362	18,805	16,557	46.82%
2020	81	72	36	25	18	28.00%	34,586	16,968	17,618	50.94%
2021	105	97	61	40	29	27.50%	53,162	32,457	20,705	38.95%
TOTALS	289	216	141	96	67	30.21%	123,110	68,230	54,880	44.58%

Return on Investment

	Total Projects	Total Clients provided to TidalHealth for Utilization and Cost Analysis	Total Clients Matched by TidalHealth and Included on Panel for Analysis (CRISP)	RETURN ON INVESTMENT			
				Average Cost of Project to CHM	Total Cost to CHM for Matched Clients	Hospital and Emergency Department Savings	ROI
2019	103	47	44	2,000	88,000	186,032	111%
2020	81	72	36	3,000	108,000	609,620	464%
2021	105	97	61	4,000	244,000	614,188	152%
TOTALS	289	216	141		440,000	1,409,840	220%

Sources

BEACON (Business Economic and Community Outreach Network) of the Franklin P. Perdue School of Business at Salisbury University, Salisbury MD.

TidalHealth, Salisbury MD.

CRISP: Chesapeake Regional Information System for our Patients, or CRISP, is a regional health information exchange (HIE) serving Maryland and the District of Columbia. They are a not-for-profit organization advised by a wide range of stakeholders who are responsible for healthcare throughout the region.

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Chesapeake Housing Mission

HEALTHY HOMES INITIATIVE

3-Year Study: 2019 - 2021



WNC Bridge Pilot Project

Report compiled by:

Dr. Stephen J. Sills

Senior Vice President

Research, Policy, & Impact Center

National Institute of Minority Economic Development



Volunteers work together to build the rail for a wheelchair ramp to make a home more accessible.
Photo courtesy of Jared Putnam <https://www.heart.org/en/news/2020/06/26/appalachia-volunteers-make-homes-safe-affordable-and-healthy>

WNC Bridge Pilot Project

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WNC Bridge Pilot Project

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WNC Bridge Pilot Project

Background

The Hinton Rural Life Center is a United Methodist retreat and conference center in the Appalachian Mountains of Western North Carolina, where guests can come to retreat, reflect, and renew. Hinton is also a mission agency, with year-round opportunities for individual volunteers and mission teams to work in Safe and Healthy Home Repair ministry. With its outreach focus, Hinton seeks to enhance the long-term quality of life in the rural area of Clay and Cherokee counties in North Carolina, as well as Towns County, Georgia. In these three counties, an average of 18% of residents live in poverty. Many of the residents they serve are single parents, elderly, individuals with a disability, or people who are unemployed.

The goals of the project were to remediate and repair the homes of five (5) patients experiencing mobility difficulty, falls, respiratory illnesses or other issues that could be made worse by environmental conditions in the home. Modifications included such items as access ramps, grab bars, levered door handles, and Americans with Disabilities Act (ADA) compliant bathrooms, as well as other repairs as needed to decrease environmental hazards. These modifications will permit the resident to age more gracefully and safely in place avoiding falls, and respiratory triggers, and increasing mobility in and out of the home thus improving quality of life. This project was supported by the Western North Carolina (WNC) Bridge Foundation.

Technical assistance provided by the consultant included reviewing the existing Hinton Safe and Healthy Homes Checklist and Star Rating system bringing it closer to U.S. Department of Housing and Urban Development Housing Quality Standards (HQS) Inspection; providing updated socio-economic and demographic data for Clay and Cherokee Counties; and documenting the activities and efforts of the Hinton project as they inspected and remediated issues with homes.



A volunteer from the Hinton Rural Life Center. (Photo courtesy of Jared Putnam)

WNC Bridge Pilot Project

Clay County Profile

Clay County is located in the mountains of the southwestern region of the state. Formed in 1861, Clay County was named for Henry Clay. It has a total area of 221 square miles. Early inhabitants of the area included indigenous members of the Cherokee tribe and Scotch-Irish and English settlers.

According to Data USA, the largest industries in Clay County, NC are Health Care & Social Assistance (775 people), Retail Trade (697 people), and Construction (607 people), and the highest paying industries are Transportation & Warehousing (\$77,702), Professional, Scientific, & Technical Services (\$65,000), and Finance & Insurance (\$52,125). The most common job groups, by number of people living in Clay County, NC, are Construction & Extraction Occupations (522 people), Sales & Related Occupations (435 people), and Office & Administrative Support Occupations (429 people).

According to the American Community Survey (2021), Clay County had a population of 11,045 living in 5,383 households. The median age was 52.20 years old with 29.43% of the population 65 years or older and 16.93% being children under 18. The population was mostly White (95.23%), with 3.15% African American and 3.47% identifying as Hispanic. About 9.94% of the population are veterans (ACS 2021) and 6.51% of the population 18 years old to 64 years old are disabled (ACS 2019).

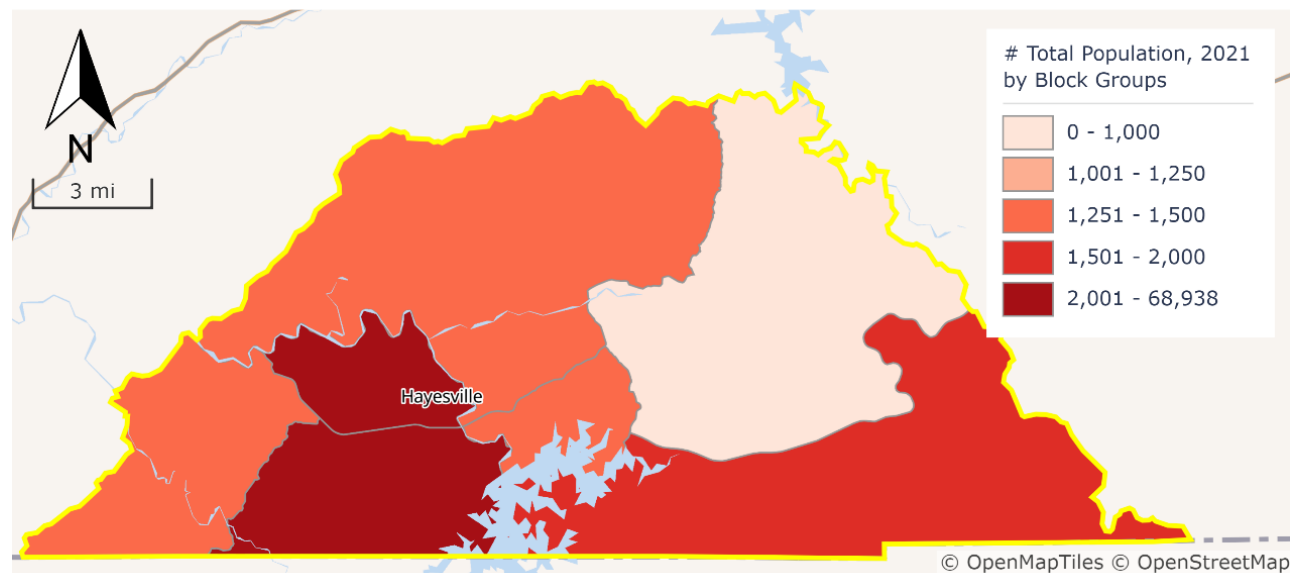


Figure 1 - Population Distribution Clay County 2021

WNC Bridge Pilot Project

Key Demographics

	Clay County, NC		North Carolina	
POPULATION & SEX				
Total Population	11,045		10,474,324	
Male	5,248	47.51%	5,096,377	48.66%
Female	5,789	52.41%	5,372,609	51.29%
AGE				
Under 5 years	351	3.18%	607,062	5.80%
5 to 9 years	632	5.72%	627,491	5.99%
10 to 14 years	732	6.63%	665,579	6.35%
15 to 17 years	155	1.40%	413,880	3.95%
18 and 19 years	167	1.51%	308,361	2.94%
20 to 24 years	591	5.35%	752,241	7.18%
25 to 34 years	1,039	9.41%	1,372,790	13.11%
35 to 44 years	1,103	9.99%	1,269,280	12.12%
45 to 54 years	1,179	10.67%	1,337,650	12.77%
55 to 64 years	1,740	15.75%	1,320,877	12.61%
65 to 74 years	1,971	17.85%	1,018,456	9.72%
75 to 84 years	1,119	10.13%	492,956	4.71%
85 years and over	161	1.46%	182,989	1.75%
RACE & ETHNICITY				
White alone	10,518	95.23%	7,051,555	67.32%
Black or African American alone	348	3.15%	2,238,521	21.37%
American Indian and Alaska Native alone	66	0.60%	138,665	1.32%
Asian alone	33	0.30%	335,521	3.20%
Native Hawaiian and Other Pacific Islander alone	26	0.24%	9,917	0.09%
Some other race alone	0	0.00%	372,201	3.55%
Two or more races	45	0.41%	317,306	3.03%
Not Hispanic or Latino	10,657	96.49%	9,417,251	89.91%
Hispanic or Latino	383	3.47%	1,052,522	10.05%
INCOME				
Median Household Income	\$41,481.21		\$55,073.81	
Per Capita Income	\$28,930.79		\$31,107.91	
Households	5,383		4,042,988	
Less than \$10,000	379	7.04%	234,191	5.79%
\$10,000 to \$19,999	684	12.71%	383,874	9.49%
\$20,000 to \$29,999	647	12.02%	398,800	9.86%
\$30,000 to \$39,999	886	16.46%	398,130	9.85%
\$40,000 to \$49,999	710	13.19%	368,449	9.11%
\$50,000 to \$59,999	290	5.39%	319,699	7.91%
\$60,000 to \$74,999	447	8.30%	388,439	9.61%
\$75,000 to \$99,999	650	12.08%	495,093	12.25%
\$100,000 to \$124,999	268	4.98%	336,689	8.33%
\$125,000 to \$149,999	35	0.65%	216,467	5.35%
\$150,000 to \$199,999	145	2.69%	224,724	5.56%
\$200,000 or more	198	3.68%	241,345	5.97%

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EDUCATION				
Population 25 years and over	8,620		7,183,805	
Less than high school diploma	1,172	13.60%	944,790	13.15%
High school graduate (includes equivalency)	2,932	34.01%	1,721,424	23.96%
Some college	1,462	16.96%	1,474,759	20.53%
Associate's degree	877	10.17%	697,915	9.72%
Bachelor's degree	1,214	14.08%	1,433,191	19.95%
Master's degree	565	6.55%	608,356	8.47%
Professional school degree	251	2.91%	137,302	1.91%
Doctorate degree	78	0.90%	107,093	1.49%
LANGUAGE				
Speak only English	10,392	97.23%	8,616,954	87.27%
Spanish	163	1.53%	766,248	7.76%
French, Haitian, or Cajun	36	0.34%	42,381	0.43%
German or other West Germanic languages	22	0.21%	31,493	0.32%
Russian, Polish, or other Slavic languages	0	0.00%	29,914	0.30%
Other Indo-European languages	0	0.00%	107,337	1.09%
Korean	0	0.00%	19,122	0.19%
Chinese (incl. Mandarin, Cantonese)	0	0.00%	44,921	0.45%
Vietnamese	37	0.35%	27,766	0.28%
Tagalog (incl. Filipino)	0	0.00%	17,292	0.18%
Other Asian and Pacific Island languages	34	0.32%	92,105	0.93%
Arabic	0	0.00%	29,165	0.30%
Other and unspecified languages	0	0.00%	43,569	0.44%
CITIZENSHIP				
Total population in the United States	11,045		10,473,467	
U.S. citizen, born in the United States	10,737	97.21%	9,463,475	90.36%
U.S. citizen, born in Puerto Rico or U.S. Island Areas	0	0.00%	43,232	0.41%
U.S. citizen, born abroad of American parent(s)	1	0.01%	100,807	0.96%
U.S. citizen by naturalization	122	1.10%	358,424	3.42%
Not a U.S. citizen	183	1.66%	503,510	4.81%
HOUSING				
Housing Units	7,435		4,734,376	
Occupied	5,383	72.40%	4,042,988	85.40%
Vacant	2,047	27.53%	686,593	14.50%
Owner occupied	4,177	77.60%	2,627,718	64.99%
Renter occupied	1,199	22.27%	1,409,723	34.87%

WNC Bridge Pilot Project

Economics

The unemployment rate was 4% in Clay County (Bureau of Labor Statistics, Jul 2022). According to the 2019 American Community Survey, the median household income in Clay County was \$41,481.21 and the per capita income was \$28,930.79. More than one-in-seven (14.17%) were in poverty (ACS 2017-2021.). There are an estimated 11.21% of the people in Clay County had no health insurance (ACS 2021). Educational attainment in Clay County was 34.01% of adults completing only high school or a GED and 24.45% of adults have a higher education degree (bachelor's, master's, or doctorate; ACS 2021). The average freshman high school graduation rate in the 2020-2021 school year was 89.1% (EducationNC). There is one head start center in the county (Head Start 2019).

Affordability

About 648 households (12.97% of households) receive public assistance income/food stamps/SNAP. About one-in-five (21.22%) homeowners and more than a quarter (31.3%) of renters are cost burdened, spending more than 30% of income on housing-related costs (ACS 2017-2021). The average household spent \$11,577.65 on transportation costs in 2022 (Consumer Expenditures Database, 2019) and 3.53% of households do not have a vehicle (ACS 2019). The average household spent \$4,751.10 on utilities in 2022 (Consumer Expenditures Database, 2022).

Health

There are no hospitals or Federally Qualified Health Centers in Clay County however there is one mental health facility that also provides drug and alcohol treatment (Appalachian Community Service). All census tracts in Clay County have been designated as Medically Underserved Areas for having too few primary care providers, high infant mortality, high poverty, and/or a high elderly population by the Health Resources and Services Administration (HRSA 2022). One-in-six residents (15.6%) self-report poor physical health and one-in-seven (13.5%) report poor mental health in the past 30 days (CDC BRFSS, 2019).

Quality of Life

In Clay County, 21.56% of households do not have broadband internet subscriptions. Clay County ranked “very low” in terms of social vulnerability, which was a variable that considers four categories: socioeconomic (ranked as “low”); and household composition (ranked as “low”); minority and language (ranked as “very low”); and housing and transportation (ranked as “very low”; CDC 2018). The rate of crime in Clay County is 41.07 per 1,000 residents during a standard year.¹ While violent crime is quite low, property crimes like theft and burglary are higher. Most people in Clay County drove alone to work, and the average commute time was 22.8 minutes. The average car ownership in was 2 cars per household.

¹ <https://crimegrade.org/safest-places-in-clay-county-nc/>

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Cherokee County Profile

Cherokee County is the westernmost county in the U.S. state of North Carolina. It borders Tennessee to its west and Georgia to its south. Cherokee County was formed in 1839 from the western part of Macon County. It was named for the Cherokee Native Americans, of whom many live in the area. It has a total area of 467 square miles.

According to Data USA, the largest industries in Cherokee County, NC are Retail Trade (1,764 people), Health Care & Social Assistance (1,507 people), and Construction (1,357 people). The highest paying industries are Utilities (\$56,771), Transportation & Warehousing, & Utilities (\$54,961), and Transportation & Warehousing (\$53,633).

According to the American Community Survey (2021), Cherokee County had a population of 28,362. The median age was 51.5 years old with 28.36% of the population 65 years or older and 17.65% being children under 18. The population was mostly White (92.38%) and Hispanic (3.38%). About 12.17% of the population are veterans (ACS 2021) and 7.88% of the population 18 years old and older are disabled (ACS 2019). Notably, the Eastern Band of Cherokee Indians has a total of 14,000 tribal members. According to the U.S. Census, the population of the reservation is approximately 9,600 people, and is 77% American Indian and 23% non-Indian.

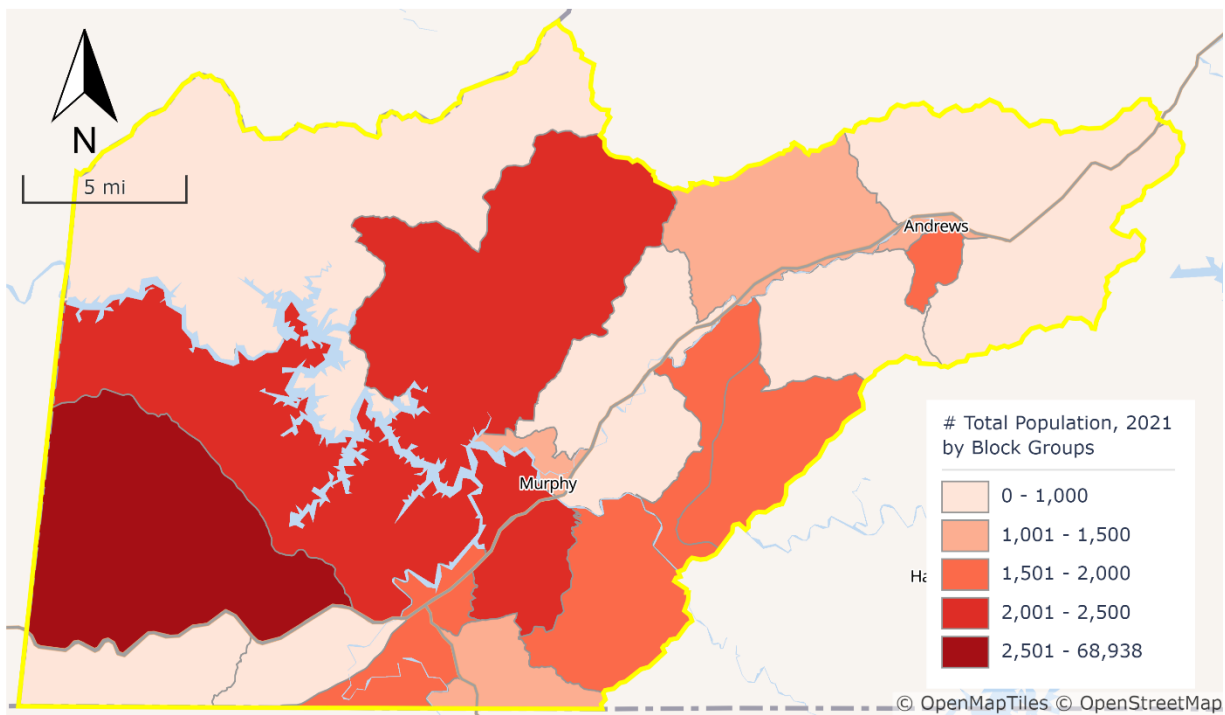


Figure 2 - Population Distribution Cherokee County 2021

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Key Demographics

	Cherokee County, NC		North Carolina	
POPULATION & SEX				
Total Population	28,362		10,474,324	
Male	13,934	49.13%	5,096,377	48.66%
Female	14,412	50.81%	5,372,609	51.29%
AGE				
Under 5 years	1,141	4.02%	607,062	5.80%
5 to 9 years	1,223	4.31%	627,491	5.99%
10 to 14 years	1,632	5.75%	665,579	6.35%
15 to 17 years	1,011	3.56%	413,880	3.95%
18 and 19 years	546	1.93%	308,361	2.94%
20 to 24 years	1,330	4.69%	752,241	7.18%
25 to 34 years	2,483	8.75%	1,372,790	13.11%
35 to 44 years	2,684	9.46%	1,269,280	12.12%
45 to 54 years	3,395	11.97%	1,337,650	12.77%
55 to 64 years	4,518	15.93%	1,320,877	12.61%
65 to 74 years	4,830	17.03%	1,018,456	9.72%
75 to 84 years	2,456	8.66%	492,956	4.71%
85 years and over	758	2.67%	182,989	1.75%
RACE & ETHNICITY				
White alone	26,202	92.38%	7,051,555	67.32%
Black or African American alone	304	1.07%	2,238,521	21.37%
American Indian and Alaska Native alone	439	1.55%	138,665	1.32%
Asian alone	284	1.00%	335,521	3.20%
Native Hawaiian and Other Pacific Islander alone	11	0.04%	9,917	0.09%
Some other race alone	368	1.30%	372,201	3.55%
Two or more races	717	2.53%	317,306	3.03%
Not Hispanic or Latino	27,390	96.57%	9,417,251	89.91%
Hispanic or Latino	959	3.38%	1,052,522	10.05%
INCOME				
Median Household Income	\$42,315.19		\$55,073.81	
Per Capita Income	\$24,385.10		\$31,107.91	
Households	13,285		4,042,988	
Less than \$10,000	675	5.08%	234,191	5.79%
\$10,000 to \$19,999	1,848	13.91%	383,874	9.49%
\$20,000 to \$29,999	1,620	12.19%	398,800	9.86%
\$30,000 to \$39,999	1,818	13.68%	398,130	9.85%
\$40,000 to \$49,999	1,320	9.94%	368,449	9.11%
\$50,000 to \$59,999	970	7.30%	319,699	7.91%
\$60,000 to \$74,999	1,360	10.24%	388,439	9.61%
\$75,000 to \$99,999	1,715	12.91%	495,093	12.25%
\$100,000 to \$124,999	942	7.09%	336,689	8.33%
\$125,000 to \$149,999	401	3.02%	216,467	5.35%
\$150,000 to \$199,999	331	2.49%	224,724	5.56%
\$200,000 or more	157	1.18%	241,345	5.97%

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EDUCATION				
Population 25 years and over	22,026		7,183,805	
Less than high school diploma	2,943	13.36%	944,790	13.15%
High school graduate (includes equivalency)	7,247	32.90%	1,721,424	23.96%
Some college	4,559	20.70%	1,474,759	20.53%
Associate's degree	2,893	13.13%	697,915	9.72%
Bachelor's degree	2,213	10.05%	1,433,191	19.95%
Master's degree	1,524	6.92%	608,356	8.47%
Professional school degree	233	1.06%	137,302	1.91%
Doctorate degree	203	0.92%	107,093	1.49%
LANGUAGE				
Population 5 years and over	27,307		9,874,041	
Speak only English	26,344	96.47%	8,616,954	87.27%
Spanish	600	2.20%	766,248	7.76%
French, Haitian, or Cajun	1	0.00%	42,381	0.43%
German or other West Germanic languages	0	0.00%	31,493	0.32%
Russian, Polish, or other Slavic languages	60	0.22%	29,914	0.30%
Other Indo-European languages	93	0.34%	107,337	1.09%
Korean	77	0.28%	19,122	0.19%
Chinese (incl. Mandarin, Cantonese)	31	0.11%	44,921	0.45%
Vietnamese	52	0.19%	27,766	0.28%
Tagalog (incl. Filipino)	3	0.01%	17,292	0.18%
Other Asian and Pacific Island languages	1	0.00%	92,105	0.93%
Arabic	0	0.00%	29,165	0.30%
Other and unspecified languages	30	0.11%	43,569	0.44%
CITIZENSHIP				
Total population in the United States	28,362		10,473,467	
U.S. citizen, born in the United States	27,029	95.30%	9,463,475	90.36%
U.S. citizen, born in Puerto Rico or U.S. Island Areas	136	0.48%	43,232	0.41%
U.S. citizen, born abroad of American parent(s)	337	1.19%	100,807	0.96%
U.S. citizen by naturalization	450	1.59%	358,424	3.42%
Not a U.S. citizen	397	1.40%	503,510	4.81%
HOUSING				
Housing Units	18,571		4,734,376	
Occupied	13,285	71.54%	4,042,988	85.40%
Vacant	5,271	28.38%	686,593	14.50%
Owner occupied	10,431	78.52%	2,627,718	64.99%
Renter occupied	2,835	21.34%	1,409,723	34.87%

WNC Bridge Pilot Project

Economics

The unemployment rate was 3.9% in Cherokee County (Bureau of Labor Statistics, Jul 2022). According to the 2021 American Community Survey, the median household income in Cherokee County was \$42,315.19 and the per capita income was \$24,385.10. Nearly one-in-seven (14.51%) were in poverty (ACS 2021). There are an estimated 13.66% of the people in Cherokee County had no health insurance (ACS 2021). Educational attainment in Cherokee County was 32.90% of adults completing only high school or a GED and 18.95% of adults have a higher education degree (bachelor's, master's, or doctorate; ACS 2021). The average freshman high school graduation rate in the 2020-2021 school year was 86.9% (EducationNC). There are two head start center in the county (Head Start 2022).

Affordability

About 1,637 households (12.32% of households) receive public assistance income/food stamps/SNAP. About one-in-five (19.44%) homeowners and more than 41.09% of renters are cost burdened, spending more than 30% of income on housing-related costs (ACS 2017-2021). The average household spent \$9,388.69 on transportation costs in 2022 (Consumer Expenditures Database, 2019) and 3.93% of households do not have a vehicle (ACS 2017-2021). The average household spent \$4,552.43 on utilities in 2022 (Consumer Expenditures Database, 2022).

Health

There is one hospital (Murphy Medical Center) and Eight Federally Qualified Health Centers in Cherokee County. There are two mental health facility that also provides drug and alcohol treatment (Appalachian Community Service and Meridian BH Services). All census tracts in Cherokee County have been designated as Medically Underserved Areas for having too few primary care providers, high infant mortality, high poverty, and/or a high elderly population by the Health Resources and Services Administration (HRSA 2022). One-in-six residents (16.4%) self-report poor physical health and one-in-seven (14.3%) report poor mental health in the past 30 days (CDC BRFSS, 2019).

Quality of Life

In Cherokee County, 19.37% of households do not have broadband internet subscriptions. Cherokee County ranked “low” in terms of social vulnerability, which was a variable that considers four categories: socioeconomic (ranked as “moderate”); and household composition (ranked as “low”); minority and language (ranked as “low”); and housing and transportation (ranked as “low”; CDC 2018). The rate of crime in Cherokee County is 43.96 per 1,000 residents during a standard year.² While violent crime is quite low, property crimes like theft and burglary are moderate. Most people in Cherokee, NC drove alone to work, and the average commute time was 12.5 minutes. The average car ownership in Cherokee, NC was 1 car per household.

² <https://crimegrade.org/safest-places-in-cherokee-county-nc/>

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Hinton Safe and Healthy Homes Checklist Results

After a process of review and assessment, the UNCG Center for Housing and Community Studies, along with Mr. Brett Byerly (former home inspector, former Executive Director of the Greensboro Housing Coalition, and licensed general contractor), made recommendations for the revision of the existing Hinton Safe and Healthy Homes Checklist. The new checklist (see Appendix A) takes into consideration issues with a home that may compromise the health and safety of residents and also aligns the inspection instrument with the U.S. Department of Housing and Urban Development Housing Choice Voucher Program Inspection Checklist. The goal is that this assessment would balance the need for ease of use with volunteer home assessors with the rigor of a comprehensive tool to ascertain the condition of the home.

A total of 55 Hinton Safe and Healthy Homes Checklists were completed during 2022. Copies were relayed to researchers who captured the data using a Qualtrics online survey software and then saved the data into IBM Statistical Package for the Social Sciences (SPSS 28.0.1) for descriptive analysis.

Home Type & Ownership

Of the homes inspected, 95.6% were owner occupied. Nearly two-thirds (62.3%) of the homes were single-family detached, stick built/wood/brick construction. A third of homes (35.8%) were mobile homes. Finally, one home inspected was indicated to be a modular manufactured home. Homes ranged drastically in age with the oldest being built in 1874 and the newest in 2014. The average (mean) year built was 1980.

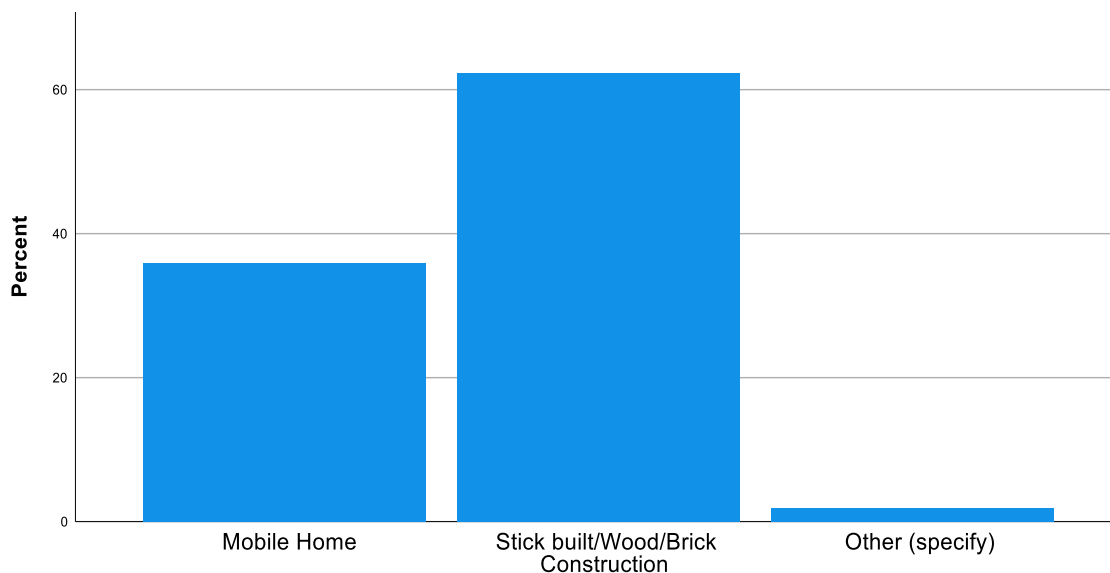


Figure 3 - Type of Home

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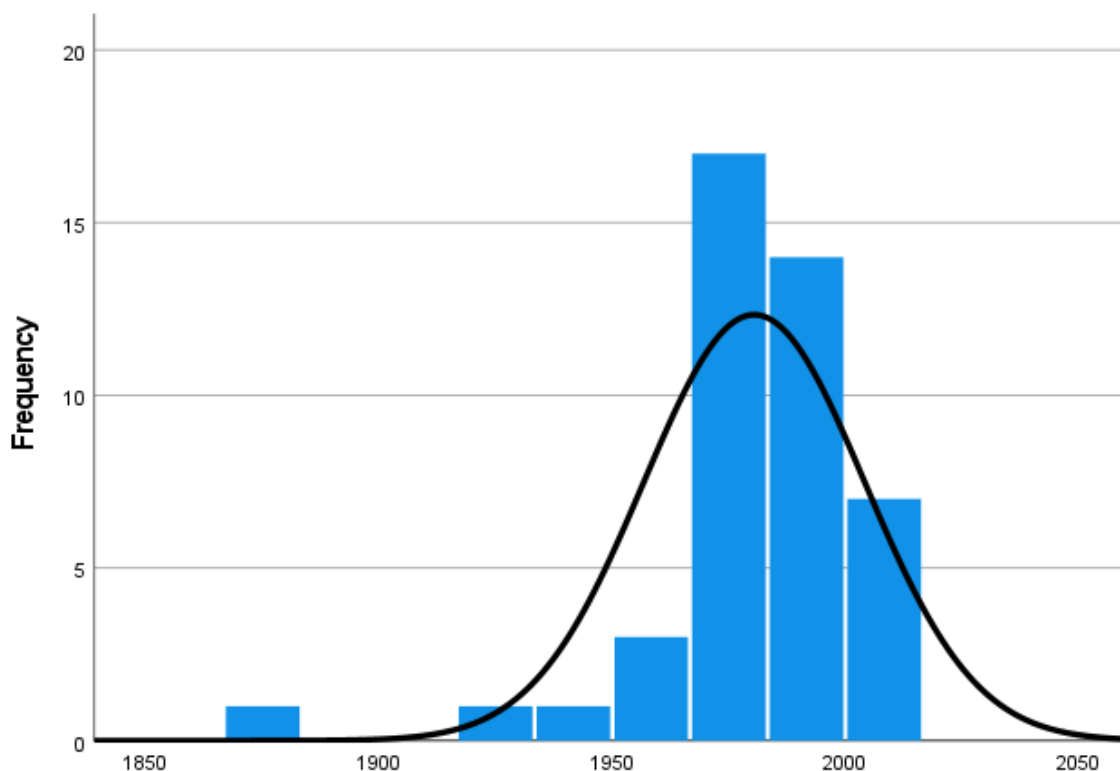


Figure 4 – Year Built

Interior Inspections

Interior inspections were completed by volunteers and staff looking for areas of concern or issues that may post a risk to health or safety of occupants. Most (87.5%) indicated that the floors, walls, windowsills, etc. were dry and free of decay or rot. In those homes that did indicate issues, the most common was water damage to window trim or windowsills.

Nearly all (92.9%) walls and ceilings were in good condition without holes or major cracks and 91.7% said paint on walls and ceilings was in good condition. Similarly, 88.0% agreed that the floors were clean and in good repair and 72.2% said the floors did not have weak or springy spots. However, in those homes where floors were an issue, notes indicate that the problems were extensive and throughout the homes rather than isolated to particular areas. Also, 40.0% of homes had chipped or peeling paint on windowsills and/or doorways. In older homes, this could pose a potential lead contamination risk for small children. Nearly a quarter of homes (23.1%) inspected showed evidence of active leaks on the ceiling and 25% showed evidence of past leaks or staining.

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Importantly for prevention of respiratory issues and proper functioning of equipment, the HVAC filters were clean in 91.7% of homes and 88.9% of refrigerator coils were clean. More than a quarter of homes (27.3%), however, showed evidence of pests or rodents. According to the CDC, Rats and mice are known to spread many diseases. Likewise, the National Center for Healthy Housing says that “cockroaches in the home environment are a health hazard not only because of the risks posed by cockroach antigens to asthma sufferers, but also because they can carry disease-causing germs and because some of the methods traditionally used to eliminate them cause additional health hazards.”³

Nearly all kitchens (95.2%) and bathrooms (95.7%) had both hot and cold running water. Likewise, 93.3% of toilets were securely mounted and had no evidence of leaks. Loose or damaged wax-ring toilet seal may leak very slowly and present a health and safety hazard. Notes on bathrooms included leaking faucets, toilets that run continuously and need new flappers, leaking wax rings, and unsecured toilets.

About half (45.5%) of homes had potential evidence of asbestos containing materials. From the 1930s through the 1970s, asbestos was included in building materials including shingles, flooring, ceiling tiles, insulation, HVAC supply, etc. According to the CDC, asbestos exposure can cause lung cancer and mesothelioma as well as cancer of the larynx and ovary.⁴ Thorough inspection by asbestos abatement professionals is warranted in homes with suspected materials.

Heating Source

Electric heat (baseboard and heat pump) was the predominant heat source with 62.0% of homes versus natural gas/propane for 20.0% of homes, and fire/woodstoves in 6.0% of homes. There were six homes that used other primary heat sources including kerosine heaters or oil furnaces.

Table 1 – Heating Source

Source		Frequency	Percent	Valid Percent
Valid	Electric	31	56.4	62.0
	Gas	10	18.2	20.0
	Fire/Woodstove	3	5.5	6.0
	Other (specify)	6	10.9	12.0
	Total	50	90.9	100.0
Missing	System	5	9.1	
Total		55	100.0	

³ <https://nchh.org/information-and-evidence/learn-about-healthy-housing/health-hazards-prevention-and-solutions/cockroaches/>

⁴ https://www.atsdr.cdc.gov/asbestos/health_effects/asbestos.html

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Weatherization & Energy Efficiency

Most homes (84.2%) had insulation in the attic and 92.9% of homes indicated that Windows have a good seal. However, 19.0% had windows with broken/ missing panes of glass and 21.7% had doors with poor seals. Weather-stripping, caulking, and spray foam or other insulation may be used to reduce energy loss from around windows and doors.

Many homes (60.0%) were using energy saving light bulbs and 70.6% had insulated water heaters and pipes. A few homes (9.5%) said floor ducts were not working properly, and 30.0% said there are cold spots or rooms that don't have heating or cooling sources. Half of mobile homes had skirting. Skirting helps prevent critters from getting underneath the home and retains heat in the winter. Some residents may be eligible for free energy assessment and energy-saving products installed at no cost by Duke Energy's Neighborhood Energy Savers Program.⁵

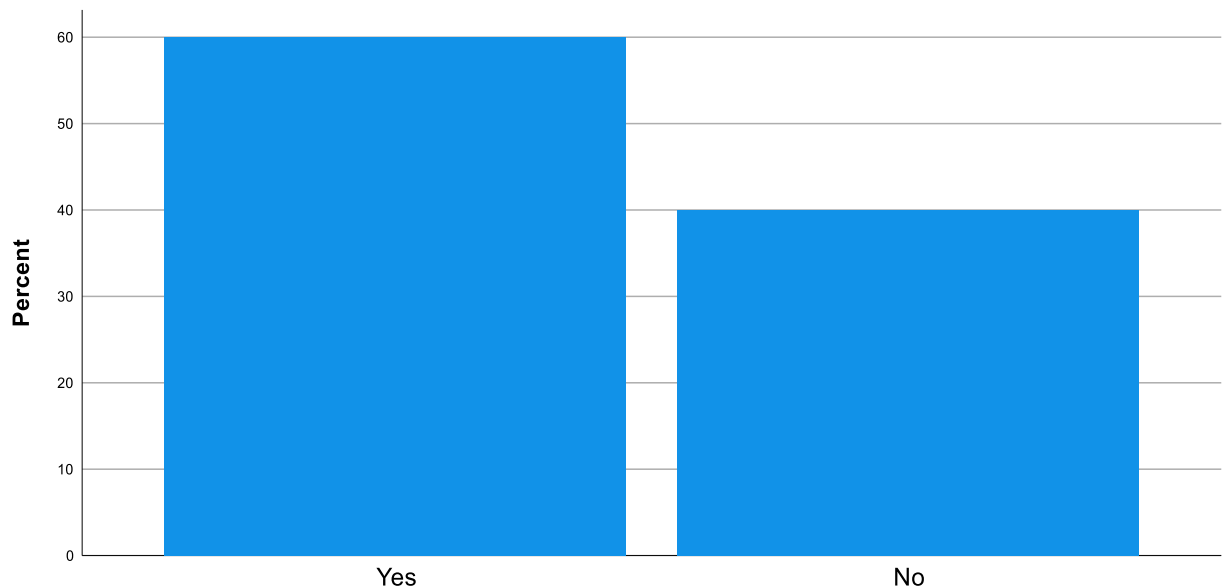


Figure 5 - Using Energy Efficient Bulbs

⁵ https://www.epa.gov/sites/default/files/2017-06/documents/duke_energy_profile_508.pdf

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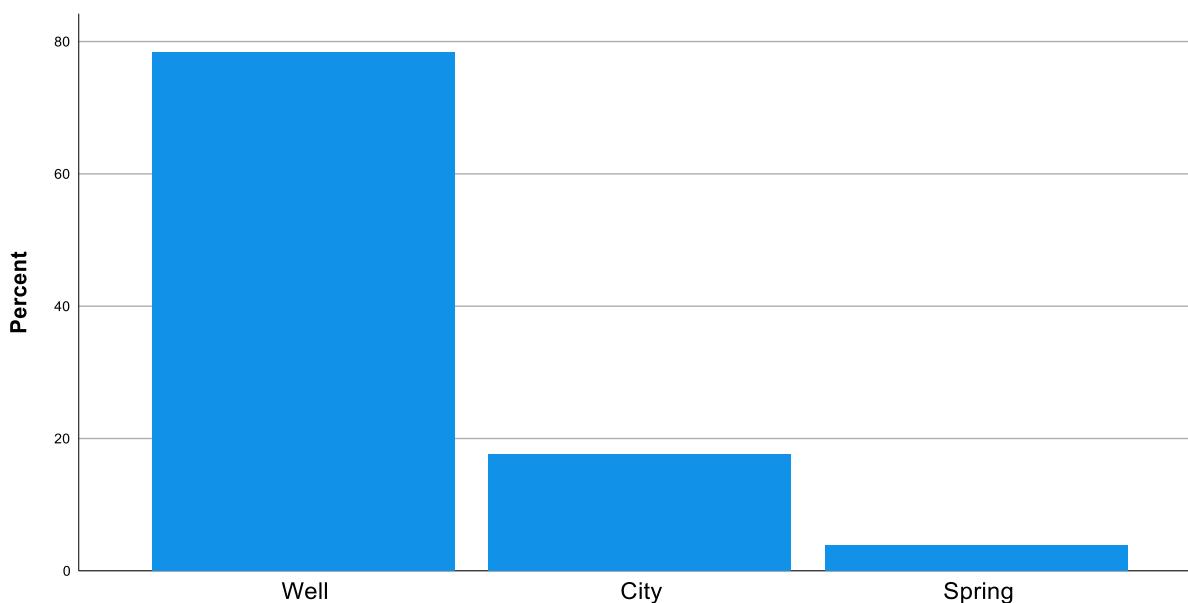


Figure 6 – Water Source

Water & Sewer

The majority of homes inspected (78.4%) rely on well water with 17.6% on municipal water supply and two homes that utilize a spring for water. Unfortunately, none of the homes indicated having had any well water testing. It is recommended by the CDC that wells are tested once each year for total coliform bacteria, nitrates, total dissolved solids, and pH levels.⁶ Nearly all homes (94.1%) assessed utilize septic systems. According to the EPA, the average household septic system should be inspected at least every three years by a septic service professional.⁷

Internet Access

Nearly three-quarters (72.3%) of homes had internet access while another 17% indicated that while there was access to internet, they chose not to have it. One-in-ten (10.6%) do not have internet available.

Accessibility

About two-in-five (39.1%) of homes had grab bars in the tub/shower/other places, as needed. Similarly, 41.7% of homes had accessibility ramp, though 60% of ramps were indicated to not be installed properly with 1 inch per foot of slope. A majority (60.0%) of respondents indicated need for additional home modification for accessibility and mobility.

⁶ <https://www.cdc.gov/healthywater/drinking/private/wells/testing.html>

⁷ <https://www.epa.gov/septic/how-care-your-septic-system>

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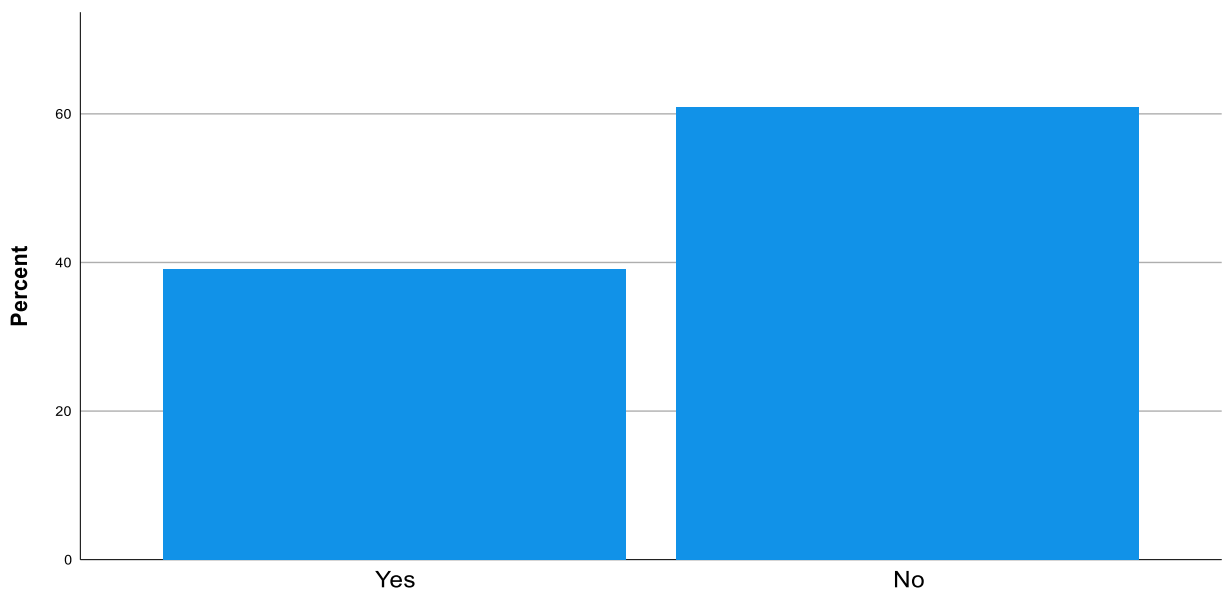


Figure 7 – Grab Bars

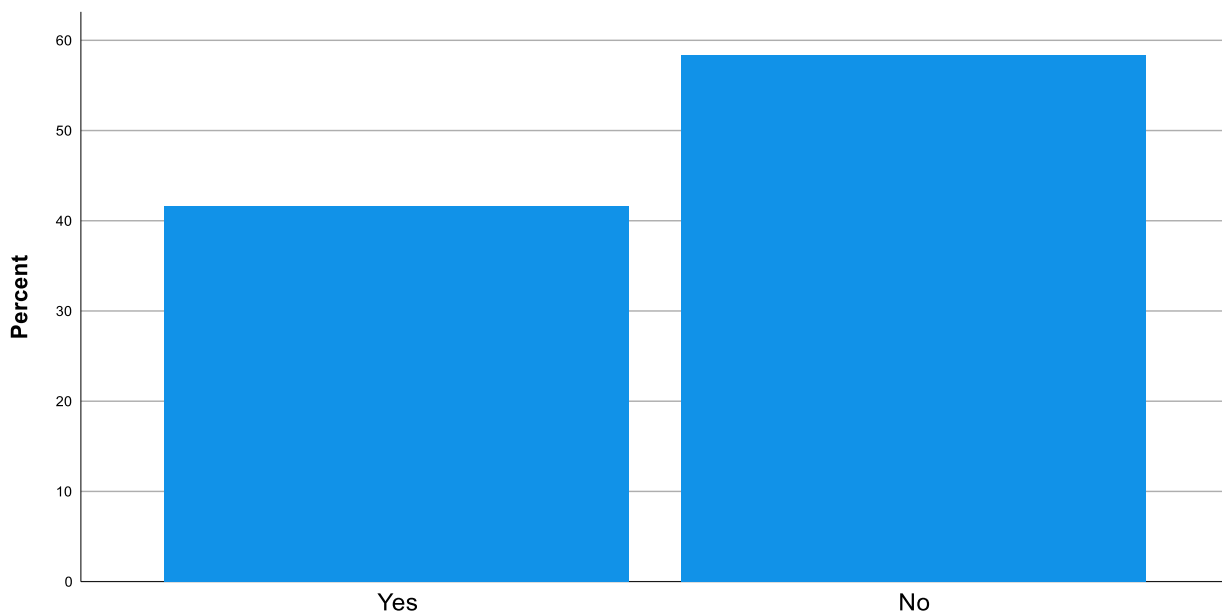


Figure 8 – Accessibility Ramp

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Resident Health & Safety Issues

Studies have shown that substandard housing is clearly related to increased likelihood of health concerns and mental health issues. Specific health hazards of substandard housing include: frequent changes of residence (community instability), mold from excessive moisture, exposure to lead, exposure to allergens that may cause or worsen asthma, rodent and insect pests, pesticide residues, and indoor air pollution.

Environmental Hazards

More than a quarter (28.9%) of residents indicated that a member of their household had been diagnosed with asthma. Likewise, 6.7% of respondents indicated that a member of the household had been diagnosed with lung cancer. Lung cancer is by far the leading cause of cancer death in the US, accounting for about 1 in 5 of all cancer deaths.

Of the nine homes built before 1970, eight indicated that they had not been tested for lead-based paint. Lead inspections and lead risk assessments should be completed for all homes built before 1978. Only five homes (10.4%) had tested for radon. While the average national indoor radon level is 1.3 pCi/L, the average indoor radon levels of Clay County is 4 pCi/L. Radon is the leading cause of lung cancer among non-smokers. Every year, 450 North Carolinians are estimated to die due to radon-induced lung cancer.

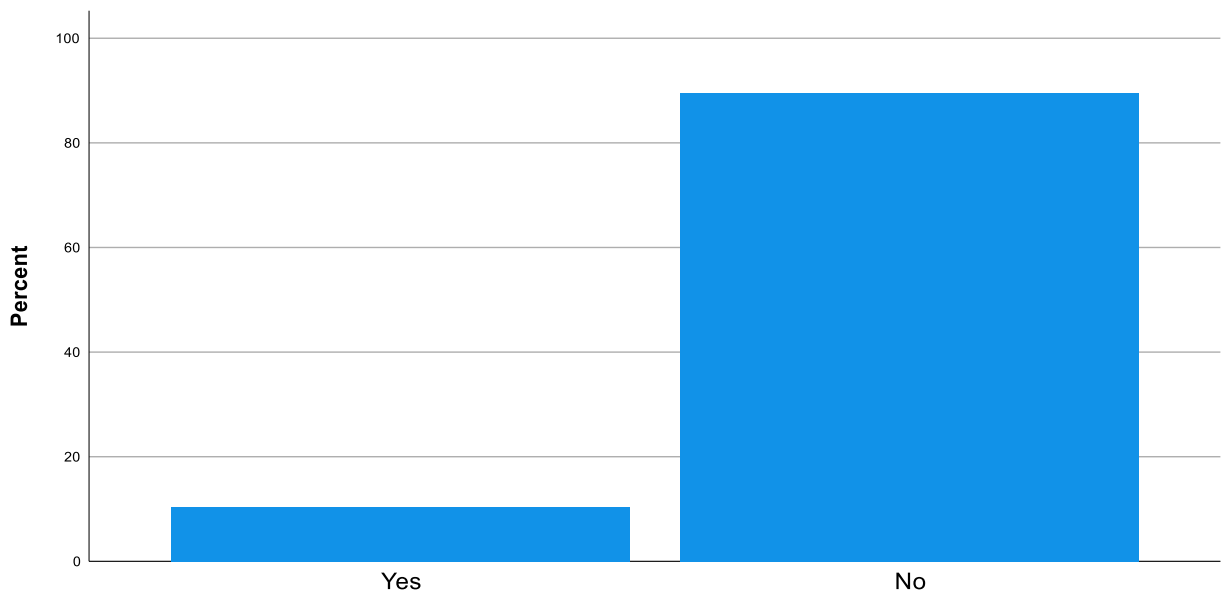


Figure 9 – Radon Testing

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Falls & Unintentional Injuries

About 8.5% of respondents noted that they had an unintentional injury because of unsafe housing conditions such as unsafe stairs. Unintentional injuries due to falls, poisoning, burns, and other causes is greater among older adults.⁸ About half of homes (50.0%) had fall or tripping hazards like uneven areas in the floors, buckled flooring, holes in floors or changes in the level of the floors. Of two-story homes, 25.0% did not have sturdy handrails on the stairs and 22.2% did not have light switches at top and bottom of stairs. Also, 50.0% of homes with basements did not have doors that open in the opposite direction from the steps.

Home Security

Some homes (13.6%) had inoperable windows which present a potential problem for egress and 8.7% had windows that did not lock. Similarly, 13.6% had exterior doors that did not open and 13.0% had doors that did not lock. One-in-five homes (21.1%) had no clear pathways to exits without clutter impeding movement.

Fire Safety

Importantly, 29.0% of homes did not have working fire extinguisher and 18.2% didn't have a smoke detector in proper locations, such as bedrooms or just outside of bedrooms. Smoke detectors are only effective if functional and having good batteries, 25.0% smoke detector do not beep when the test button is pressed. Also, 42.3% of homes did not have working carbon monoxide detector.

One-quarter (25.0%) of homes with fireplaces/woodstoves did not have a clean flue, posing potential fire hazard. Electrical systems/lighting equipment are the third leading cause of intentional fires behind cooking and heating. Electrical breakers play an important role in reducing the chances of overheating wiring. Nonetheless, 9.5% homes had breakers that were not accessible and 13.6% said breakers are not working properly. Importantly, 45.5% said there was exposed electrical wiring, 11.1% had light switch covers that were not intact or covering the outlet, and 10.0% said outlet covers were not intact and covering the electrical outlets.

Child Safety

While 92.6% of homes "appear safe" for children, there were some potential concerns. According to the CDC, "Every day, 374 children in the United States ages 0 to 19 are treated in an emergency department, and two children die, as a result of being poisoned."⁹ Accidental poisonings occur most frequently by ingestion of household medications and cleaning products, especially among children under 4 years-old. Most (80.0%) homes with children indicated no locking clips for cabinets, 14.3% lacked safe storage for medicine, and 9.5% did not have safe storage for chemicals. Also, 60.0% of homes with children indicated no child gates for stairs.

⁸ <https://pubmed.ncbi.nlm.nih.gov/15626560/>

⁹ https://www.cdc.gov/injury/pdfs/fact_sheets/poisoning-fact-sheet-a-1.pdf

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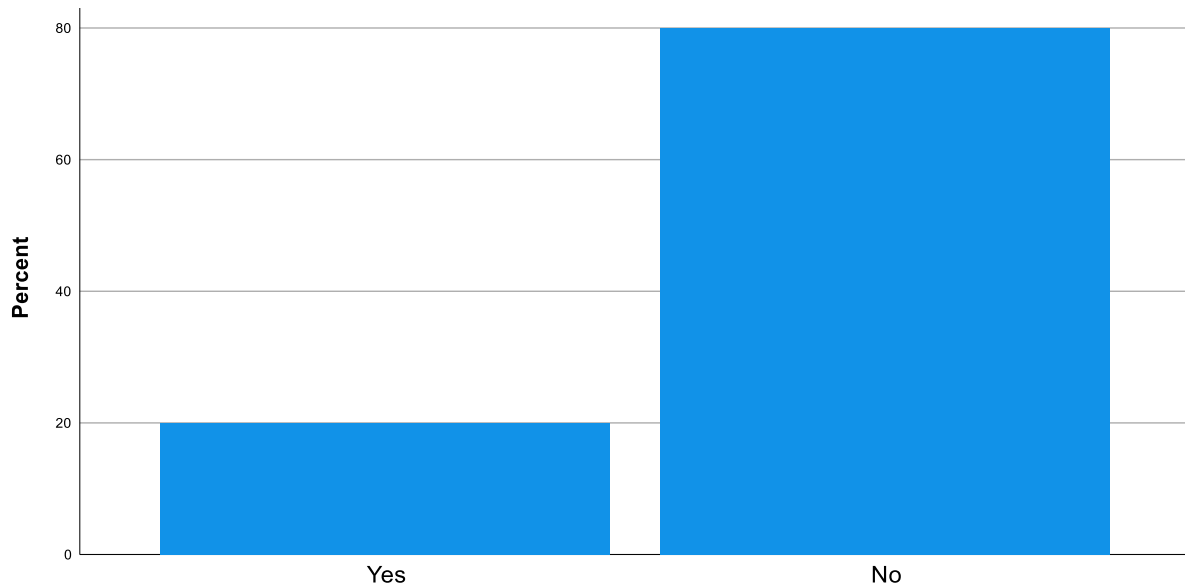


Figure 10 - Clips on Cabinets (if children are present)

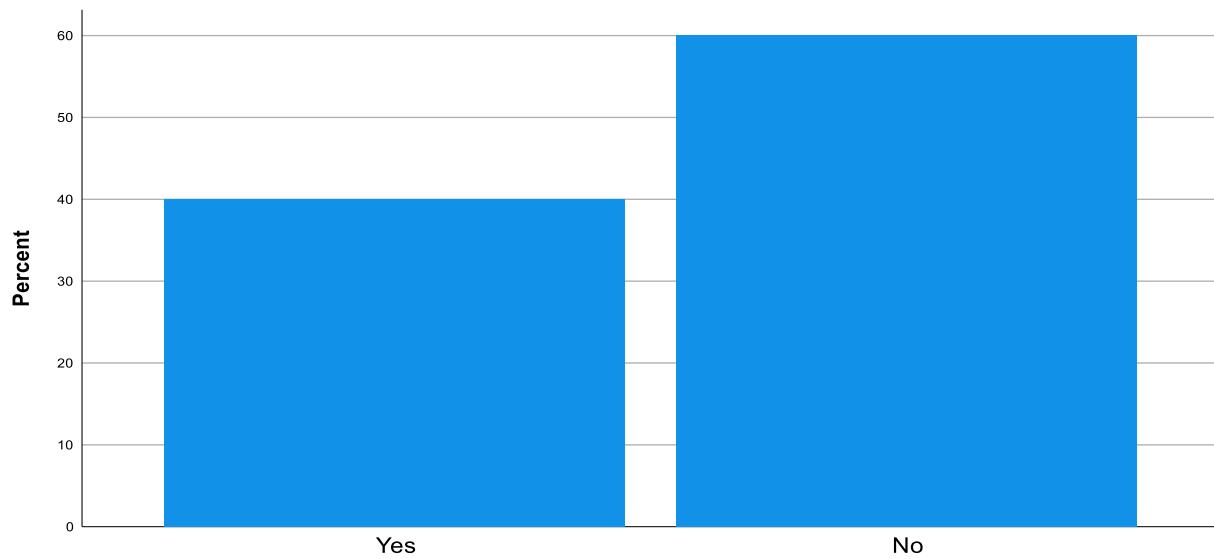


Figure 11 - Child Gate on Stairs (if needed)

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Firearms

Preventable deaths related to firearms have increased in recent years after decreasing between 2011 and 2020.¹⁰ Gun-related deaths from preventable, intentional, and undetermined causes totaled 45,222 in 2020, an increase of 13.9% from 39,707 deaths in 2019. Suicides account for 54% of deaths related to firearms, while 43% were homicides, and about 1% were preventable/accidental. Nearly half of respondents (47.7%) were aware of free gun locks provided by the sheriff's office.

Exterior Inspection

Exterior Conditions

Most (69.2%) exterior walls and siding were free from cracks and holes. Most homes (81.0%) had dryer exhaust venting to the exterior of home and of those 83.3% had a cover on the exhaust vent to prohibit rodents or other pests. A third of those (33.3%) had lint build-up creating a potential fire hazard. A third (33.3%) also reported sewage leaks or that the piping is not connected to a proper system and 50% had excessive trash/ garbage/ debris present on the grounds.

Roof & Gutters

Most roofs (98.05) appeared to be in good condition from the ground. Yet, a quarter (25.0%) of homes lacked gutters, allowing water to run off of roofs and potentially into the foundation. Of those homes with gutters, 25.0% had damage and/or visible leaves and vegetation growing. Also, of those homes with gutters, 15.0% had issues with the downspouts effectively moving water away from foundation and exterior walls.

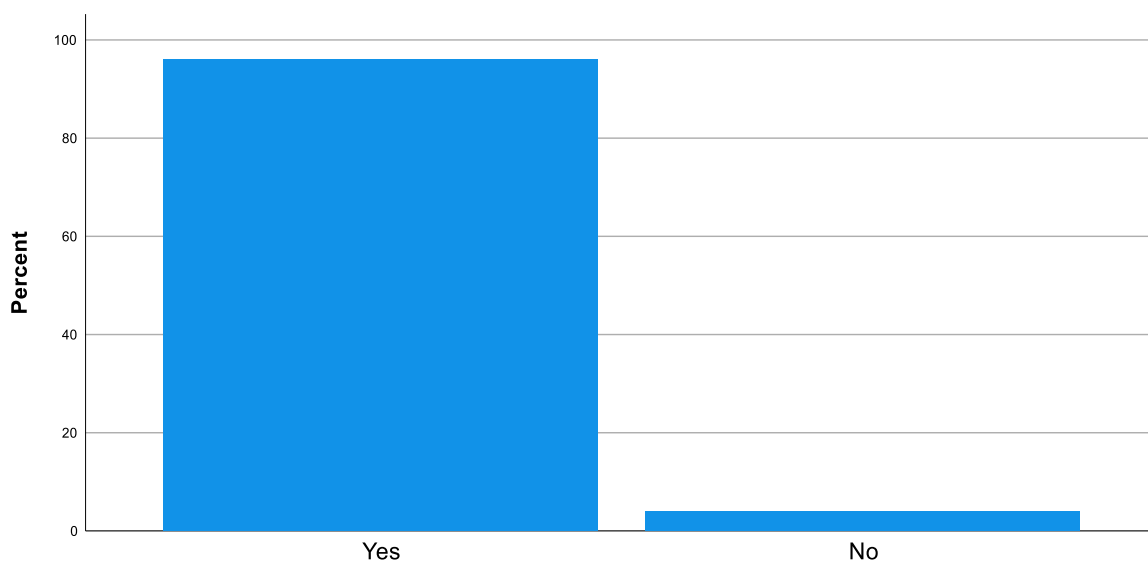


Figure 12 - Roof in Good Condition

¹⁰ <https://injuryfacts.nsc.org/home-and-community/safety-topics/guns/>

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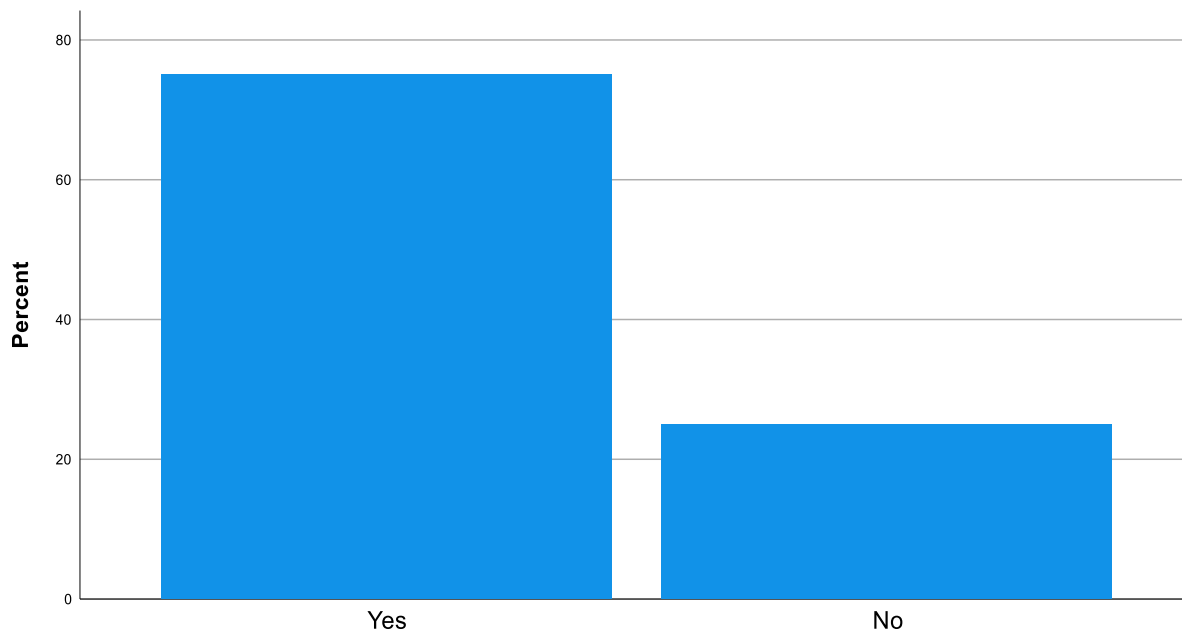


Figure 13 - Gutters Present

Steps, Stairs, & Lighting

Most (84.2%) of the steps/ decks/ porches/ramps were sturdy and safe, and free from mildew and 93.1% had handrails for the outside stairs. Likewise, 88.2% of porches/ steps and decks more than 36" off the ground had railings that have pickets or something to block small children from falling through. While 87.5% of homes had adequate outdoor lighting for safe use of all steps, only 41.7% said there adequate outside lighting overall.

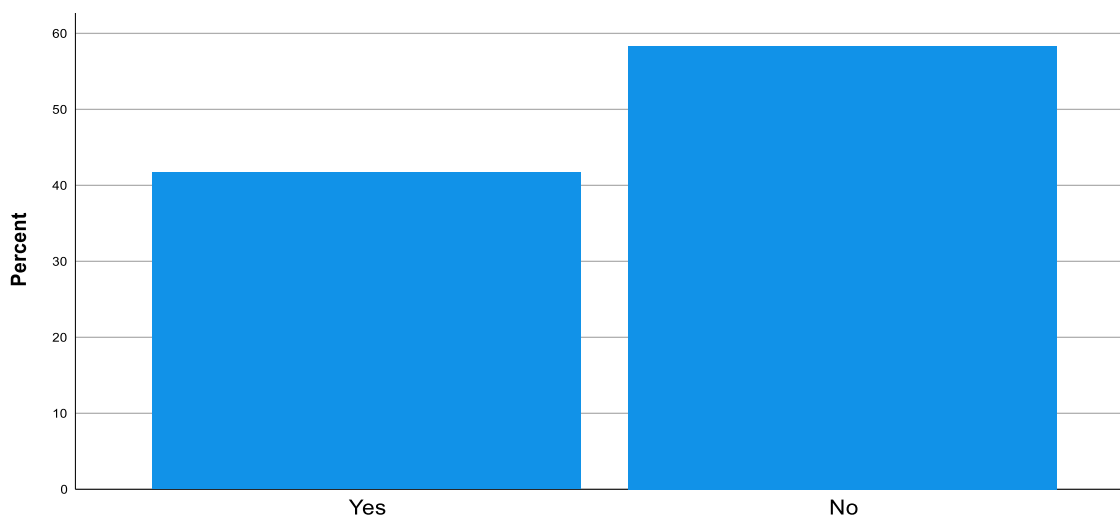


Figure 14 - Adequate Exterior Lighting

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Client Interviews

Telephone interviews were completed with four of six residents (one refusal, one no answer, four completed interviews) who received services during the pilot of this project. Respondents were elderly individuals (80-90 years old) who had experienced falls in the home resulting in broken hips or other injuries. In each case, ramps had been constructed to allow for greater mobility and independence. One participant explained:

"Okay, it's very, very simple. I'm 80 years old and by myself. I do have some good neighbors, but they travel quite a bit. I don't drive, so I depend completely on transportation to take me places. I do have a friend who takes me to church. In April, I think it was, I fell and broke my hip. And I was in the hospital. I fell from my back porch which has high cement steps - four or five feet or whatever. When I came home, I was able to do things by myself. But, I did not use the steps in the back where I fell and the other was a side porch, it was wooden, it had steps, but they were still four or five feet high but not as dangerous as the others. So, somehow, a friend or someone knew about Hinton and they notified them and they came out. And a group of men, women and teenagers, wonderful, wonderful Christian group came out and built me the most wonderful ramp. Enormous, huge ramp so I wouldn't have to step down steps. And you know, I use the ramp when you know, whatever happens... They did that in like two and a half days. And at no cost whatsoever.... they [also] helped put in a step up to my shed for me and they cut some branches that was in some wires, to the telephone or to the house. And so, I've had very good service and very, very, I mean, they're very professional, they know what to do. I am very happy and very good people."

Another participant told a very similar story:

"They come out and build my daddy a ramp when he broke his hips ... Well, they come on Monday, and they finish it up on Wednesday. I don't know what [date] they come but they come on Monday and finished up on Wednesday.... They was real quick about building the ramp. And they was, you know, they, they said, whatever time they said they would be there, they was there on time. And you know, they tell us, they'd be back at eight or nine o'clock, and they would stay there, and they got it built within so many days. So, it was a quick, quick build and stuff."

Another interviewee shared that she first became acquainted with Hinton through having some routine maintenance done and that through an inspection process they identified additional health and safety issues to address

"The reason that I called them originally was that leaves had gathered in the gutter on the back of the house. And so, I called to see if they could, because I'm 79 and most of my friends are about the same age, and I don't want them getting on ladders. And, you know, cleaning the gutters out, and I'm not going to do it. And I had heard that Hinton Center helped seniors. And so, I called and Nick came out and cleaned the gutters. And while he was here, he noticed that I have a ramp. And he noticed that the ramp was getting, it was sitting on the dirt, and it was getting a little bit damaged. And so, he said that they might have somebody that could repair the ramp for me. And I said that

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was great. And so then later on, they did send some people out to do that. And then also check the rails and there was a railing that needed repair. And another one, we had cleaned out some bushes and the side of my back porch was open. And they put a rail there. And they did a great job. And it was people that volunteered at the Hinton Center that came in did those plus they lost the side of the house.... And then they called me and said that they had gotten a grant with to do grab bars and bathroom. And I had mentioned that to Nick that. And I think there was another fellow that came by and talked to us about grab bars in the bathroom. And because of my age and stuff. I didn't have any and so they did come and put grab bars in the bathrooms and that was a big help to us."

Since having the ramps installed, the respondents indicate that they had experienced greater mobility and increased independence. As one said, *"he gets out on the porch. Like if we have to take him someplace, he walks down the ramp to get in the car. And every time, he's walking more with the walker out on the porch and stuff."* Similarly, another resident also had greater freedom and mobility and was able to leave her home using a walker:

"Well, I wouldn't go down the back steps because first of all, they're too steep. And they're cement the house is built in 1960. And with my hip, I was on initially on, after I go to the hospital I was on a walker. And so you know, how could I go down the steps with a walker? So, using the ramp, I was able to get down the steps and, and, I didn't go out that much until I was able to get some groceries with transportation. But initially, because of that, I would have to use a walker to go down the lot the ramp, I couldn't have used a walker to go down the back steps at all. So, I was able to get out of the house and do what I had to do... after that it took me still several months, I think before I would even of course was healed with my hip and I even tried to go down those back steps. I was still a little bit afraid to get to go down the back steps."

Participants were asked if there were other issues they needed help with in terms of repairs or modifications to the home. While two said there were no issues that needed to be addressed, one explained that further modifications would be desired in order to fully utilize her bathroom:

"I heard they had a new program that where in the bathtub, they had grab bars, I think they call them. I had two very nice men come and put one, install one in for me, which was very helpful getting in and out. I'm almost 99% healed as far as my hip is concerned. But, at 80 years old, my legs are getting weaker, and so, that it's not quite so easy to get around. So, that was very helpful and that was just within the last, I think month or so, and I've always been self-sufficient, of course, with my husband who died 10 years ago. So, I've been on my own, and I really don't like to help ask for help, but being 80 and not quite as strong as I used to be. There's just all kinds of small things around the house that needs to be done and everyone's situation... So, there's a few things that need to be done. One gentleman came out and made a list and because it was raining, and whatever, it was never done, but it was something that I can live without. So basically, right now, everything is, is fine as far as the house is concerned. I've got heat and I got air. You know, of course when it was below zero, the pipes froze, but they thawed out and so everything is going fine, day by day so far."

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Another interviewee said she needed a fence for her daughter's therapy animal.

"Do they do they build a fence? Because we, we have a miniature horse? It's a therapy animal. Right? And if they could build a fence. Yeah, my daughter needed a therapy animal. And so, we got a miniature horse. And right now, we've got an electric fence around. But if they, if they could put a fence up, that would be wonderful. And I could help with the cost of the materials."

Residents were asked if they would recommend this program from Hinton to neighbors, friends, or others who were in similar circumstances. All agreed. One respondent elaborated:

"Anybody I know, whether they are in circumstances or not, I really praise Hinton and the other churches and Christian organizations other than the government who to get out and do what needs to be done, doesn't ask for anything. very joyful to be helping other people. And thankfully, they're getting some money in grants from other organizations or whatever. But most certainly everyone I've talked to, especially when they come to the house, and they see the ramp, they're just overjoyed and awed how beautiful the ramp is. And Hinton did that in two and a half days, and the very, very professional, very, very well done. So, every everyone I talked to, there's a lot of resources here in Haysville and, and all over the United States that people don't know about, and thankfully, they don't have to depend on the government for it. So, everyone I speak to, I certainly do recommend them and praise them to their professionalism, their joy in doing and helping and helping those in need you no matter what, at what circumstances you're in."

Another participant also said she tells everyone she can about the Center.

"Yeah, I've told some of my neighbors here that most of my neighbors are about, about my age, in fact, are exactly 79. And I'm 79. And I've told them about Hinton Center, how they, they helped with the gutters, and with the ramp, and the grab bars. I've told them another friend, my best friend. I've told her how good [Hinton is] and how much help they have."

Summary & Conclusions

Clay and Cherokee Counties are very rural, with low population densities outside of a few small towns, and a total population of about 40,000 individuals. The median income in these counties is about about 27% less (about \$15,000) less than NC median household income. The population is predominantly non-Hispanic white and native-born US citizens. While unemployment is low, employment options are limited. About one-in-five homes do not have broadband subscriptions and about 12% receive some form of public assistance. Around 78% of housing is owner occupied and about 20% of homeowners are cost burdened.

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Home inspections were conducted on a total of 55 properties. More than a third of these homes were mobile homes. Nearly all homes were owner occupied. There were several key repair concerns observed with potential health implications:

- 60.0% indicated need for additional home modification for accessibility and mobility;
- 50.0% had fall or tripping hazards;
- 45.5% of homes had potential evidence of asbestos containing materials;
- 40.0% of homes had chipped or peeling paint on windowsills and/or doorways;
- 33.3% had lint build-up in dryer exhaust vents creating a potential fire hazard;
- 29.0% of homes did not have working fire extinguisher
- 27.3% showed evidence of pests or rodents;
- 23.1% of homes inspected showed evidence of active leaks on the ceiling;
- 21.7% had doors with poor seals;
- 19.0% had windows with broken/ missing panes of glass;
- 18.2% didn't have a smoke detector in proper locations;
- 10% of homes had been tested for radon; and
- None of the homes indicated having had any well water testing.

Interviews with homeowners who had repairs/modifications during the pilot project all showed great appreciation for the work that had been done. All indicated that the modifications will permit them to enter and leave their residences without concerns for falls thus increasing their overall mobility and improving the quality of life. Participants praised Hinton for its volunteers, for the timeliness of the installation of ramps, and for their generosity.

It is recommended that the program be expanded, additional points of referral sought after (including promoting the expansion of utilization of the NCCARE360 platform in other local agencies), and that funding be sought to tackle some of the remaining health and safety concerns in the homes. Additionally, continued utilization of and refinement in the checklist is encouraged.

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Appendix A - Safe & Healthy Homes Checklist

SAFE & HEALTHY HOMES CHECKLIST



DIRECTIONS: Hinton has a goal of making homes safer and healthier. If it's okay with you, we'd be happy to conduct a safe and healthy evaluation to see if we can help make your home healthier and safer. In order to do this, we'll need to ask you a few questions and walk throughout your house and outside. You can come with us if you want. We'll review with you before taking any actions.

Questions for resident:

1. **Name:** First _____ Last _____
2. **Do you rent or own this home?** ☐ Own ☐ Rent
3. **Owner name (if renting):** _____
4. **Address:** _____
5. **Town:** _____ **State:** _____ 6. **Year house was built:** _____
7. **Type of Home:** ☐ Mobile Home ☐ Stick built/Wood/Brick Construction
☐ Camper ☐ Other (specify) _____
8. **Primary source of heat:** ☐ Heat pump ☐ Electric ☐ Gas
☐ Fire/Woodstove ☐ None ☐ Other (specify) _____
If fireplace/woodstove, interested in load of wood? ☐ Yes ☐ No
If fireplace/woodstove, date of last cleaning? _____ (year)
9. **Water Source:** ☐ Well ☐ City ☐ Spring ☐ None
If well or spring, when was the last time it was tested? _____ (year)
10. **Sewer Type:** ☐ City ☐ Septic
11. **Has the house been tested for lead-based paint?** ☐ Yes ☐ No ☐ N/A (built 1970+)
12. **Has the house been tested for radon?** ☐ Yes ☐ No
If yes, has radon remediation been done? ☐ Yes ☐ No

Optional Questions:

13. Currently or in the past, has any member of the household been diagnosed with...
 - Asthma : ☐ Yes ☐ No ☐ Prefer not to answer
 - COPD: ☐ Yes ☐ No ☐ Prefer not to answer
 - Lung Cancer: ☐ Yes ☐ No ☐ Prefer not to answer
14. Unintentional injury because of unsafe housing conditions (ex. Fall down rotted steps):
☐ Yes ☐ No ☐ Prefer not to answer
If yes, did injury cause visit to ☐ Primary Doctor ☐ Urgent Care ☐ ER
☐ Hospitalization? ☐ Prefer not to answer
15. Are you aware if you have guns in the home, the sheriff's department has free gun locks?
☐ Yes ☐ No – Can refer them to call 828-389-6354.
16. Do you have internet access? ☐ Yes ☐ No, not available ☐ No, available but choose not to have

SAFE & HEALTHY HOMES CHECKLIST



Interior Inspection:

Interior Inspection Questions		YES	NO	NOTES/ACTIONS TAKEN
HEALTH	1. Floors, walls, windowsills, etc. are dry and free of decay or rot?	<input type="checkbox"/>	<input type="checkbox"/>	
	2. Floors are clean and in good repair?	<input type="checkbox"/>	<input type="checkbox"/>	
	3. Floors do not have 'weak' or springy spots?	<input type="checkbox"/>	<input type="checkbox"/>	
	4. Paint on windowsills and doorways are not chipped or peeling?	<input type="checkbox"/>	<input type="checkbox"/>	
	5. Ceiling does not show evidence of active leaks?	<input type="checkbox"/>	<input type="checkbox"/>	
	6. Ceiling does not show evidence of past leaks or staining?	<input type="checkbox"/>	<input type="checkbox"/>	
	7. Walls/ ceilings are in good condition without holes or major cracks?	<input type="checkbox"/>	<input type="checkbox"/>	
	8. Paint on walls/ ceilings in good condition?	<input type="checkbox"/>	<input type="checkbox"/>	
	9. Heating/ cooling system filters are clean?	<input type="checkbox"/>	<input type="checkbox"/>	
	10. Refrigerator coils are clean?	<input type="checkbox"/>	<input type="checkbox"/>	
	11. House does not show evidence of pests or rodents?	<input type="checkbox"/>	<input type="checkbox"/>	
	12. Kitchen has running hot and cold water?	<input type="checkbox"/>	<input type="checkbox"/>	
	13. Bathroom has running hot and cold water?	<input type="checkbox"/>	<input type="checkbox"/>	
	14. Toilet seals are secure and no evidence of leaks?	<input type="checkbox"/>	<input type="checkbox"/>	
	15. No evidence of asbestos containing materials?	<input type="checkbox"/>	<input type="checkbox"/>	
SAFETY	16. Are there fall or tripping hazards like uneven areas in the floors, buckled flooring, holes in floors or changes in the level of the floors?	<input type="checkbox"/>	<input type="checkbox"/>	
	17. Do windows open?	<input type="checkbox"/>	<input type="checkbox"/>	
	18. Do windows lock?	<input type="checkbox"/>	<input type="checkbox"/>	
	19. Do exterior doors open?	<input type="checkbox"/>	<input type="checkbox"/>	
	20. Do exterior doors lock?	<input type="checkbox"/>	<input type="checkbox"/>	
	21. Are there clear pathways to exits without clutter?	<input type="checkbox"/>	<input type="checkbox"/>	
	22. Is there a working fire extinguisher?	<input type="checkbox"/>	<input type="checkbox"/>	

SAFE & HEALTHY HOMES CHECKLIST



	Interior Inspection Questions	YES	NO	NOTES/ACTIONS TAKEN
	23. Are smoke detectors in proper locations, such as bedrooms or just outside of bedrooms?	<input type="checkbox"/>	<input type="checkbox"/>	
	24. Does smoke detector beep when you press test button?	<input type="checkbox"/>	<input type="checkbox"/>	
	25. Is there a working carbon monoxide detector present, if necessary?	<input type="checkbox"/>	<input type="checkbox"/>	
	26. Is there any exposed electrical wiring?	<input type="checkbox"/>	<input type="checkbox"/>	
	27. Are light switch covers intact and covering the outlet?	<input type="checkbox"/>	<input type="checkbox"/>	
	28. Are outlet covers intact and covering the outlet?	<input type="checkbox"/>	<input type="checkbox"/>	
	29. Lock clips for cabinets, etc. (if children in the home)?	<input type="checkbox"/>	<input type="checkbox"/>	
	30. Child gates for stairs (if needed)?	<input type="checkbox"/>	<input type="checkbox"/>	
	31. Safe storage for medicine?	<input type="checkbox"/>	<input type="checkbox"/>	
	32. Safe storage for chemicals?	<input type="checkbox"/>	<input type="checkbox"/>	
	33. <i>If two-story</i> , are there sturdy handrails on the stairs?	<input type="checkbox"/>	<input type="checkbox"/>	
	34. <i>If two-story</i> , are there light switches at top and bottom of stairs?	<input type="checkbox"/>	<input type="checkbox"/>	
	35. <i>If there is a basement stairway</i> , does the door open in the opposite direction from the steps?	<input type="checkbox"/>	<input type="checkbox"/>	
	36. <i>If a fireplace or woodstove</i> , is the flue clean?	<input type="checkbox"/>	<input type="checkbox"/>	
WEATHERIZATION & ENERGY	37. Windows have a good seal?	<input type="checkbox"/>	<input type="checkbox"/>	
	38. All windows intact with no broken/missing panes of glass?	<input type="checkbox"/>	<input type="checkbox"/>	
	39. Exterior doors have a good seal? (Is daylight not visible around door when it is closed?)	<input type="checkbox"/>	<input type="checkbox"/>	
	40. Are energy saving light bulbs are being used?	<input type="checkbox"/>	<input type="checkbox"/>	
	41. Are water heater and pipes are insulated?	<input type="checkbox"/>	<input type="checkbox"/>	
	42. Is there insulation in the attic? If accessible, write depth in notes.	<input type="checkbox"/>	<input type="checkbox"/>	
	43. Floor ducts are working properly?	<input type="checkbox"/>	<input type="checkbox"/>	
	44. Are there cold spots or rooms that don't have heating or cooling sources?	<input type="checkbox"/>	<input type="checkbox"/>	
	45. If a mobile home, does it have skirting?	<input type="checkbox"/>	<input type="checkbox"/>	

SAFE & HEALTHY HOMES CHECKLIST



Exterior Inspection:

Exterior Inspection Questions		YES	NO	NOTES/ACTIONS TAKEN
HEALTH	46. Does the roof appear in good condition from the ground?	<input type="checkbox"/>	<input type="checkbox"/>	
	47. Are there gutters on the house?	<input type="checkbox"/>	<input type="checkbox"/>	
	48. Are the gutters free from damage? Are there no visible leaves and vegetation growing in gutters?	<input type="checkbox"/>	<input type="checkbox"/>	
	49. Do downspouts effectively move water away from foundation and exterior walls?	<input type="checkbox"/>	<input type="checkbox"/>	
	50. Does dryer exhaust vent to exterior of home?	<input type="checkbox"/>	<input type="checkbox"/>	
	51. Is there any lint build-up?	<input type="checkbox"/>	<input type="checkbox"/>	
	52. Is there a cover on the exhaust vent to prohibit rodents or other pests?	<input type="checkbox"/>	<input type="checkbox"/>	
	53. Any evidence of sewage leaks or that the piping is not connected to a proper system?	<input type="checkbox"/>	<input type="checkbox"/>	
	54. Excessive trash/ garbage/ debris present on lot/ grounds?	<input type="checkbox"/>	<input type="checkbox"/>	
55. Exterior walls and siding are free from cracks and holes	<input type="checkbox"/>	<input type="checkbox"/>		
SAFETY	56. Are any steps/ decks/ porches/ramps sturdy and safe, and free from mildew?	<input type="checkbox"/>	<input type="checkbox"/>	
	57. Are handrails present on all steps?	<input type="checkbox"/>	<input type="checkbox"/>	
	58. Do porches/ steps and decks more than 36" off the ground have railings that have pickets or something to block small children from falling through?	<input type="checkbox"/>	<input type="checkbox"/>	
	59. Adequate outdoor lighting for safe use of all steps?	<input type="checkbox"/>	<input type="checkbox"/>	
	60. Is there additional adequate outside lighting?	<input type="checkbox"/>	<input type="checkbox"/>	
	61. If a mobile home, does it have skirting?	<input type="checkbox"/>	<input type="checkbox"/>	

SAFE & HEALTHY HOMES CHECKLIST



Final Inspection Observations:

62. Does the house appear safe for children? ☐ Yes ☐ No (specify) _____

63. Are there any other issues that you believe present a health or safety concern? _____

Additional Home Modification Questions, if needed:

64. Are there grab bars in the tub/shower/other places, as needed? ☐ Yes ☐ No ☐ N/A

Comments: _____

65. Is there an accessibility ramp, if needed? ☐ Yes ☐ No ☐ N/A

Comments: _____

If ramp is present, is it properly installed (1 in 12)? ☐ Yes ☐ No

66. Any additional home modification needs? ☐ Yes ☐ No

Comments: _____

Appendix B - Interview Script

WNC Bridge- Safe & Healthy Homes Assessment 2022 Interview Script

Date: _____

Person Interviewed: _____

Good Afternoon. My name is _____. I'm a _____ with the UNCG Center for Housing and Community Studies. We are assisting the Hinton Rural Life Center with assessing the impact of their Safe and Healthy Homes by speaking with homeowners who received their assistance. In particular, we are interested in learning about how changes they made in your home have impacted your quality of life, mobility, or health.

If it is okay with you, we will be recording this interview but only for internal transcription purposes. What we say will be kept confidential. We will report on what we learned today, and we will use quoted excerpts in our reporting, but we will not attribute any statement to you by name. We'll ask about a variety of topics; if in any instance you aren't familiar with the topic and don't have an answer, feel free to say so, and we'll move on to the next question.

Is it okay for us to record this interview?

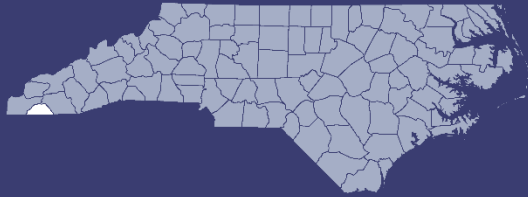
START RECORDING

1. To begin, tell me a little bit about your home, how long you've lived there, what you like and don't like about the place.
2. In your own words, what would you say were the issues were having with the home before the Hinton Center assisted you?
3. How did these issues affect you?
 - a. Did they limit your activity level?
 - b. Did they prevent you from getting in/out of the house easily?
 - c. Did they impact your health in any way? (please explain).
4. What modifications or improvements did Hinton make to your home?
5. Have these modifications improved your quality of life?
 - a. If so, please explain
 - b. If not, please explain
 - c. Were there any unintended consequences or unexpected results from these modifications?
 - d. What can you do today as a result of these modifications that you couldn't do before?
6. Have these modifications or improvements to your home impacted your health in any way?
 - a. If so, please explain
 - b. If not, please explain
 - c. Have these improvements resulted in fewer falls?
7. Have these modifications or improvements helped you to save money or reduce expenses in anyway?
 - a. If so, please explain – how much savings
 - b. If not, please explain
8. Are there other issues in your home that need to be resolved?
9. Would you recommend this program to others in similar circumstances?
10. Is there anything else you would like add that we have not already covered in this interview?

STOP RECORDING

Appendix C - NC Housing Coalition Clay County Profile

The 2023 Housing Need in Clay County



27%

of Clay County are
cost-burdened

1,280 households

Renters who have difficulty affording their homes:



52%

441 households

Homeowners who have difficulty affording their homes:



21%

839 households

Families that spend more than 30% are considered **cost-burdened**, more than 50%, are considered **severely cost-burdened**.



\$844 monthly Fair Market Rent*:

An income of **\$33,760 per year** is needed to afford the Fair Market Rent.



\$16.23 hour Housing Wage:

The hourly wage needed to afford a Fair Market Rent apartment.

Average Annual Salaries



Healthcare
\$28,200



Childcare
\$23,550



Police officer
\$40,190



Farming labor
\$24,290

**Fair Market Rents, regularly published by HUD, represent the cost to rent a moderately-priced dwelling unit in the local housing market. The above FMR is for a two-bedroom unit.*

When Housing Costs Too Much

When housing costs become too much, a family can lose their home. This takes an incredible toll not only on a family, but also on the entire community.



14 families in Clay County faced a foreclosure this year...

1.67% of all cost-burdened homeowners.



42 families in Clay County faced an eviction filing this year...

9.52% of all cost-burdened renters.

Ranks

#74

for evictions among renter households.

(1 = highest and 100 = lowest)

The mission of the North Carolina Housing Coalition is to lead a movement to ensure that every North Carolinian has a home in which to live in dignity and opportunity.

Join the movement:  @NCHCOnline | nchousing.org

APPENDIX F

List of Funders

AARP

Granny's Attic

Alliance for Green Heat

Highlands Cashiers Health Foundation

Blue Cross Blue Shield of North Carolina

Housing Assistance Council

Coalition for Home Repairs

Nantahala Health Foundation

Community Foundation of Western North Carolina

North Carolina Housing Opportunities Grant

Dogwood Health Trust

Solomon Cramer

Dub and Murray Martin Trust

Southeastern Jurisdiction of the United Methodist Church

Evergreen Foundation

The Duke Endowment

Fortune Family Foundation

United Methodist Camp and Retreat Ministries

Franklin United Methodist Church

Wesley Memorial United Methodist Church

Good Shepherd Episcopal Church