

REDUCING THE IMPACT OF HOUSING COST BURDEN ON LOW-INCOME HOUSEHOLDS IN  
SOUTHEAST CENTRAL DURHAM

Helen G. Bryant, Elizabeth Johnston, Lauren Latten, Nicole McDonald

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Approved by:

Dana Rice

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## ABSTRACT

Helen G. Bryant, Elizabeth Johnston, Lauren Latten, Nicole McDonald: REDUCING THE IMPACT OF HOUSING COST BURDEN ON LOW-INCOME HOUSEHOLDS IN SOUTHEAST CENTRAL DURHAM

(Under the direction of Zunair Ahsan, Kim Truesdale, and Becky Slifkin)

The health outcomes of low-income households in Southeast Central Durham are impacted in numerous ways by their neighborhood and built environment. At the core of these issues, we find that the cost burden of housing plays a major role on health outcomes. We have created a policy and program that will allow our target population to gain affordable housing while also increasing access to healthy food. Using analysis of our target population along with analysis of our stakeholders, we created a policy and program along with an engagement and accountability plan. Intertwining housing and access to healthy food has given us a foundation for addressing a cumulative burden. Implementing affordable loans with minority owned brokers as well as providing education lends to the sustainability of the program; along the same lines, working with local farmers to implement community-supported agriculture subsidies has a win-win impact.

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## LIST OF ABBREVIATIONS

AMI: Area Median Income

ANDP: Atlanta Neighborhood Development Program

CSA: community-supported agriculture

HEI: Healthy Eating Index



## COMMON PROPOSAL

### **Problem Statement and Goals**

The Office of Disease Prevention and Health Promotion defines social determinants of health as the everyday conditions and environments that affect health status and health outcomes (2022). In Durham County, North Carolina, a salient social determinant of health is housing. Durham County has approximately 325,000 residents and is growing faster than most counties in North Carolina, creating a higher demand for housing. In May 2021, the median sales price for a home in Durham County was \$340,246. In comparison, in May 2022 the median sales price was \$424,250, a 24.7% increase in the span of just one year (Triangle MLS, 2022). Consequently, neighborhoods that have historically had affordable housing are experiencing rapid rises in sales, rent prices, and property taxes (Enterprise, 2015).

Lack of affordable housing in North Carolina is primarily confined to areas with high rates of poverty, underinvestment, and historic segregation. Metropolitan racial and ethnic minorities and low-income households are disproportionately impacted by housing issues in North Carolina (North Carolina Institute of Medicine, 2020). Low-income households are those earning less than 80% of the Area Median Income (AMI) and the 2022 AMI for Durham is \$95,500 (Grubb, 2022). Extremely low-income households earn less than 30% of AMI. The U.S. Department of Housing and Urban Development defined 30% of AMI in Durham as a single person earning \$20,100 a year or a family of three earning \$25,800 a year (Grubb, 2022). In 2021, 32 percent of households in Durham County were cost-burdened, meaning they spend more than 30 percent of their income on housing (North Carolina Housing Coalition, 2021). Cost-burdened households potentially face more health risks secondary to having to spend a significant amount of their income on housing. These potential health risks include food insecurity, which is any type of deficiency in access to adequate food. Food insecurity and poor nutrition are associated with an increased risk for chronic diseases for both children and adults (Food Research & Action Center, 2017). Food insecurity is not solely impacted by income. Low-income households also live in underinvested communities with less food access, which also makes food insecurity a neighborhood issue (Burrowes, 2019). By making housing more affordable for the residents of Durham County, we hope to

lessen the financial burden that often leads low-income households to have to choose between paying their mortgage and making healthy choices.

### **Policy and Programmatic Changes**

The 2022-2023 City of Durham and Durham Consortium Annual Action Plan details that “communities of color have been disproportionately impacted” by housing changes (Johnson, 2020). As a result, it is imperative to eliminate housing disparities by increasing housing access and decreasing the quantity of house cost burden individuals in Southeast Central Durham, formerly known as the Hayti community. Health policy and public health programs play a significant role in spearheading long-term change. Two programs that have been shown to address housing insecurity are the Bank of America “No Down Payment Program for Home Loans” and the Atlanta Neighborhood Development Program (ANDP). We are proposing a hybrid program in Durham that provides the same services that the ANDP offers in conjunction with the components of the Bank of America Program. Bank of America launched an initiative entitled the “No Down Payment Program for Home Loans” that aims to close racial disparity gaps in home ownership. The purpose of this program is to address wealth disparities and “to combat raising rates” (2022). The ANDP was created “to address the diminishing supply of affordable housing in the Metropolitan Atlanta region as well as to help reclaim declining neighborhoods in its core. Throughout its history, ANDP has supported the creation of more than 11,000 units of housing for people of low-to-moderate incomes” (ANDP 2022).

In addition to our hybrid housing policy, we recommend a subsidized community-supported agriculture (CSA) program to improve access to healthy food. This program will provide 50 low-income households in Southeast Central Durham subsidies for a 30-week CSA membership with South Wind Produce for 5 years from April through November starting in April 2023. The projected cost is \$30 weekly based on current CSA membership costs. The subsidy will cover 50 percent of the weekly produce box. The participants will be provided the \$450 subsidy at the beginning of the CSA seasons, and then they will have to pay the remaining \$15 weekly when they order their produce boxes. A similar program was enacted in Franklin County, Massachusetts and found that CSA subsidies resulted in a

significant improvement in participant's Healthy Eating Index (HEI) scores; HEI scores measure how closely a diet aligns with the Dietary Guidelines for Americans with higher scores showing better adherence (Berkowitz et al., 2019). We recommend this program because it will provide participants direct access to fresh produce by lowering financial barriers. We also recommend this program because it increases business for local farmers, which supports the local economy.

## **Budget**

The total direct costs include staffing, fringe, operating cost, investments and other. The total direct costs for the first three years are \$354,904, \$2,595,524, and \$4,098,056, respectively. Direct costs include the staffing of a Chief Executive Officer, Executive Director, Chief Operating Officer, Director of Partnerships, VP of Real Estate & Development, Director of Community Engagement & Advocacy, Fundraiser & Grant Coordinators, Program Director, Marketing Manager, Volunteer Coordinator, Volunteers and Interns. Total staffing costs for the first three years are \$260,000, \$831,700, and \$880,232, respectively. Indirect costs include business permits, rent, and program costs. Programs will include training for volunteers/staff, education, advocacy, and fundraising. Education programs will be developed that educate the community on the home-buying process and how real estate can provide generational wealth. Advocacy programs that educate and advocate for community development and advocacy for housing affordability and access in Durham County and fundraising programs were aimed at fundraising for the organization. The programming budget for year 1 is \$25,000 and will gradually increase subsequently to \$50,000 in year 2, and then \$100,000 in year 3. This budget will fund 24 programs in the 1st year, which will impact an estimated 1,200-2,400 depending on an estimated 50-100 participants. The 2nd year the budget will fund 48-50 programs with an estimated impact of 2,500-5,000 participants and the third year the budget will fund at least 100 programs with an estimated impact of 10,000-15,000 people. The total fund balance for Year 1-3 is \$2,996, \$247,976, and \$111,894, respectively.

## **Stakeholders**

Our objective is to target specific partners to get the subsidized CSA program and the affordable loan project up and running. Stakeholders in this program include Forever Home Durham, minority

residents of Durham, Bank of America, minority real estate workers, Durham Community Development Department, South Wind Produce, Durham County Department of Public Health, and committee members. Utilizing the Power/Interest Grid (Appendix A) for our stakeholder analysis allowed us to create an organized framework and provided us a map to plan the approaches we may use for our stakeholder engagement plans. It was used to determine the various stakeholders' power and interest in the program and it has helped us understand how the stakeholders will influence the actions, goals, and policies of our proposed program. It also gave us insight on where we may need to focus more of our efforts of influence and those who would play a supportive, advising, or advocacy role. Several stakeholders have overlapping goals. Forever Home Durham, community members, and Durham Community Development Department have a shared vision in providing affordable homes for low-income residents in Durham. Existing stakeholder support will make our proposed programs more easily implemented and sustainable.

### **Engagement and Accountability Plan**

There are several strategies to involve important stakeholders in the decision-making of the program. These methods will include and inform stakeholders of the development, implementation, and evaluation phases of the program. Inclusion of the stakeholders builds trust, which is essential for the program's success. A detailed stakeholder engagement plan is provided in Appendix A.

Many of the engagement strategies are important because they will spread decision-making power to populations who previously did not have sufficient influence to make these changes individually. Building power in minority groups who have been systematically deprived of opportunity and privilege can change the current housing system and dynamic in Durham. The Advisory Committee will give a voice to low power or low influence groups who have firsthand knowledge on the program subject matter. Collaborative decision-making will uncover potential risks and the committee can collectively decide how to best address issues that arise. Using this opportunity to work with and within the community will make the program more likely to succeed, build a stronger community, and influence program sustainability.

Presenting a Memorandum of Understanding (MOU) will set in place a precedence for all stakeholders involved. It will align goals, set purpose, and solidify the partnerships. We will have an implementation timeline to reference for responsibilities and expectations.

### **Program Evaluation**

The success of the subsidized CSA program will be defined by achieving our primary objective that by December 01, 2025, the Healthy Eating Index (HEI) 2015 scores of households participating in the subsidized CSA program will have increased by at least 3 points. This expected change was used because the randomized control trial in Franklin County, Massachusetts that was used to model our program used this measurement as their definition of a clinically meaningful HEI difference (Berkowitz et al., 2019).

Self-administered 24-hour diet recalls will be given at the beginning and end of every CSA season. The diet recalls will be used to calculate HEI 2015 scores. The HEI 2015 scores calculated at the beginning of the first CSA season will serve as the baseline HEI scores. At the end of the third CSA season in December 2025, we expect to see at least a 3-point improvement in HEI 2015 scores compared to the baseline HEI 2015 scores.

The HEI 2015 score is composed of adequacy and moderation components. Adequacy components represent foods whose consumption is encouraged, such as fruits and vegetables (Food and Nutrition Service, 2022). The subsidized CSA program should increase the consumption of total fruits, whole fruits, total vegetables, and greens and beans. A sub-analysis of these specific adequacy components in the HEI 2015 score will be conducted to ensure the subsidized CSA program has its intended effect. To provide a more well-rounded evaluation, we will perform semi-structured phone interviews with program participants every 3 months during the CSA seasons to supplement the information provided by the HEI 2015 scores. A sample semi-structured interview and the evaluation plan timeline are included in Appendix A.

## REFERENCES

- Bank of America. (2022). *Down payment grants and loan assistance programs for first-time homebuyers*. Bank of America. Retrieved October 14, 2022, from <https://www.bankofamerica.com/mortgage/affordable-housing-programs/>
- Berkowitz et al. (2019). Health Center–Based Community-Supported Agriculture: An RCT. *American Journal of Preventive Medicine*, 57(6), 55-64. <https://doi.org/10.1016/j.amepre.2019.07.015>
- Burrowes, K. (2019, October 2). *How Stable, Affordable Housing Can Help Tackle Food Insecurity*. Housing Matters. <https://housingmatters.urban.org/articles/how-stable-affordable-housing-can-help-tackle-food-insecurity>
- Enterprise. (2015). City of Durham Affordable Housing Goals 2016-2021. Enterprise. Accessed September 18, 2022. <https://www.durhamnc.gov/DocumentCenter/View/28819/Affordable-Housing-Goals>
- Food and Nutrition Service (2022, April 27). *How the HEI is Scored*. U.S. Department of Agriculture. <https://www.fns.usda.gov/how-hei-scored>
- Food Research & Action Center. (2017, December). *The Impact of Poverty, Food Insecurity, and Poor Nutrition on Health and Well-Being*. <https://frac.org/wp-content/uploads/hunger-health-impact-poverty-food-insecurity-health-well-being.pdf>
- Grubb, T. (2022). Residents call out affordable housing crisis. Here’s what they want an NC city to do. The News & Observer. Accessed September 18, 2022. <https://www.newsobserver.com/news/local/counties/durham-county/article264736799.html>
- Home. andpi. (n.d.). Retrieved October 16, 2022, from <https://www.andpi.org/>
- Johnson, R. J. (2020, June 30). *City of durham and Durham Consortium Draft FY 2022-2023 annual action plan*. Retrieved October 15, 2022, from [https://www.durhamnc.gov/DocumentCenter/View/43594/Draft-2022-2023-AAP\\_3102022?bidId](https://www.durhamnc.gov/DocumentCenter/View/43594/Draft-2022-2023-AAP_3102022?bidId)
- Major Banks now offering no down payments on home loans*. Good Morning America. (2022, September 22). Retrieved October 13, 2022, from <https://www.goodmorningamerica.com/news/video/major-banks-now-offering-payments-home-loans-90315444>
- North Carolina Housing Coalition (2021, December 29). *The 2021 Housing Need in Durham County*. <https://nchousing.org/wp-content/uploads/2017/01/NCH-CountyProfile-Durham.pdf>
- North Carolina Institute of Medicine. (2020, February 18). *Healthy North Carolina 2030: A Path Toward Health: Chapter 4- Physical Environment*. [https://nciom.org/wp-content/uploads/2020/04/Ch-4\\_HNC-2030\\_Physical-Environment2.pdf](https://nciom.org/wp-content/uploads/2020/04/Ch-4_HNC-2030_Physical-Environment2.pdf)
- Office of Disease Prevention and Health Promotion (2022, April 6). *Social Determinants of Health*. <https://health.gov/healthypeople/priority-areas/social-determinants-health>

Triangle MLS. (2022). Local Market Update. *Triangle Multiple Listing Services*. Accessed September 18, 2022.

<https://www.trianglemls.com/clientuploads/TMLS/Market%20Trends/Local%20Market%20Updates/2022/May/Entire-Triangle-Region.pdf>

APPENDIX A: COMMON PROPOSAL FIGURES AND TABLES

Table A1

Budget

2023 Budget					
Durham Minority Homeownership Development Program					
REVENUE					
		Year 1	Year 2	Year 3	
Grants	Coca-Cola Foundation	\$0.00	\$100,000.00	\$100,000.00	
Grants	North Carolina Department of Commerce: Community Development Block Grant - Neighborhood Revitalization	\$0.00	\$500,000.00	\$500,000.00	
Grants	US Bank: Community Possible Grant Program: Play, Work, & Home Grants	\$0.00	\$500,000.00	\$500,000.00	
Grants	Draper Richards Kaplan Foundation	\$0.00	\$150,000.00	\$150,000.00	
Grants	Department of Housing and Urban Development	\$0.00	\$25,000.00	\$25,000.00	
Grants	Other Grants	\$0.00	\$500,000.00	\$500,000.00	
Loans	County Commissioner Request	\$100,000.00	\$350,000.00	\$500,000.00	
Additional Funding	Fundraisers & Events	\$55,000.00	\$67,500.00	\$105,000.00	
Additional Funding	Private Investments/Partnerships	\$250,000.00	\$500,000.00	\$1,000,000.00	
Additional Funding	Individual Contributions	\$5,000.00	\$10,000.00	\$250,000.00	
Additional Funding	Investment Income	\$0.00	\$15,000.00	\$15,750.00	
Additional Funding	Miscellaneous	\$3,000.00	\$12,000.00	\$49,200.00	
Investment Revenue	Real Estate	\$0.00	\$250,000.00	\$500,000.00	
<b>TOTAL REVENUE</b>		<b>\$413,000</b>	<b>\$2,979,500.00</b>	<b>\$4,419,950.00</b>	
EXPENSES					
		Year 1	Year 2	Year 3	
Staffing	Chief Executive Officer	\$0.00	\$150,000.00	\$157,500.00	
Staffing	Executive Director	\$60,000.00	\$0.00	\$0.00	
Staffing	Chief Operations Officer	\$0.00	\$100,000.00	\$103,000.00	
Staffing	Director of Partnerships	\$75,000.00	\$77,250.00	\$79,567.50	
Staffing	Vice President of Real Estate & Development	\$0.00	\$125,000.00	\$128,750.00	
Staffing	Director of Community Engagement & Advocacy	\$40,000.00	\$60,000.00	\$61,800.00	
Staffing	Fundraiser & Grant Coordinator (Part Time)	\$30,000.00	\$30,900.00	\$31,827.00	
Staffing	Fundraiser & Grant Coordinator	\$0.00	\$60,000.00	\$61,800.00	
Staffing	Program Director	\$0.00	\$75,000.00	\$76,500.00	
Staffing	Marketing Manager	\$0.00	\$75,000.00	\$77,250.00	
Staffing	Volunteer Coordinator	\$55,000.00	\$57,750.00	\$60,637.50	
Staffing	Volunteers	\$0.00	\$0.00	\$0.00	
Staffing	Interns	\$0.00	\$20,800.00	\$41,600.00	
<b>Total Staffing</b>		<b>\$260,000.00</b>	<b>\$831,700.00</b>	<b>\$880,232.00</b>	
Direct Costs					
	Staffing/Labor	\$260,000.00	\$831,700.00	\$880,232.00	
	Fringe	\$59,904.00	\$109,824.00	\$109,824.00	
	Operating	\$25,000.00	\$80,000.00	\$88,000.00	
	Other	\$10,000.00	\$75,000.00	\$20,000.00	
	Investments	\$0.00	\$1,500,000.00	\$3,000,000.00	
<b>Total Direct Costs</b>		<b>\$354,904.00</b>	<b>\$2,596,524.00</b>	<b>\$4,098,056.00</b>	
Indirect Costs					
		Year 1	Year 2	Year 3	
	Business Permits	\$3,000.00	\$5,000.00	\$10,000.00	
	Rent: Flexible Office Space	\$17,100.00	\$0.00	\$0.00	
	Rent: Office Space	\$0.00	\$60,000.00	\$60,000.00	
	Program Costs	\$25,000.00	\$50,000.00	\$100,000.00	
	Investments	\$0.00			
	Miscellaneous	\$10,000.00	\$20,000.00	\$40,000.00	
<b>Total Indirect Costs</b>		<b>\$55,100.00</b>	<b>\$135,000.00</b>	<b>\$210,000.00</b>	
<b>TOTAL EXPENSES</b>		<b>\$ 410,004.00</b>	<b>\$2,731,524.00</b>	<b>\$4,308,056.00</b>	
<b>TOTAL FUND BALANCE</b>		<b>\$ 2,996.00</b>	<b>\$247,976.00</b>	<b>\$111,894.00</b>	



Table A2

Power/Interest Grid

Stakeholder Analysis: Power Interest Grid

<b>High I/Low P</b> <ul style="list-style-type: none"><li>• Durham County Housing Authority</li><li>• Hayti Reborn Community Group</li><li>• Durham Community Development Department</li></ul>	<b>High/High</b> <ul style="list-style-type: none"><li>• Low-income residents in Southeast Central Durham County (SCDC)</li><li>• Durham County Dept. of Public Health</li><li>• Forever Home Durham</li><li>• Choice Neighborhoods Grant Funding</li></ul>
<b>Low/Low</b> <ul style="list-style-type: none"><li>• Neighborhood Foodbanks</li><li>• Minority Developers/Real Estate Agents</li><li>• Schools Districts in SCDC</li></ul>	<b>High P/Low I</b> <ul style="list-style-type: none"><li>• Bank of America</li><li>• Landlords of Current Housing</li><li>• North Carolina State Government</li><li>• Durham County Local Farmers</li></ul>

**Table A3****Stakeholder Engagement Methods**

<b>Engagement Methods</b>			
<b>Stakeholder(s)</b>	<b>Strategy</b>	<b>Level</b>	<b>Program Involvement</b>
Representatives from: Black/Brown Durham community, Durham Community Development Department, minority real estate agents/brokers	Advisory Committee	Group	Design program eligibility requirements, review applications, select beneficiaries
Bank of America	Face-to-face Meetings	Individual	Provide direct program benefits through implementation
Southeast Central Durham County Residents	1:1 Meetings/ Questionnaires/ Interviews	Individual	Gain perspective and input from the residents, begin having them become a part of the program
Durham County Department of Public Health	Strategy meetings throughout	Group	Provide data regarding baseline and measuring impact and outcomes

**Table A4**

**Stakeholder Engagement Plan**

Stakeholder	Power and Interest	Areas of Influence and Interest	Project Phase	Engagement Approach	Engagement Tools	Frequency
Southeast Central Durham Residents and Minority Residents	High Influence High Interest	Advocacy, Equity	Design, Implementation, Evaluation	Collaborative	Advisory Committee, Website	Monthly
Forever Home, Durham	High Influence High Interest	Political Advocate and Ally, Research	Implementation, Evaluation	Consult	Newsletter, Website	Monthly
Bank of America	High Influence Low Interest	Policy Development, Equity	Implementation, Evaluation	Consult	Face to Face Meetings, Website	Biweekly
Durham Community Development Department	Low Influence High Interest	Research, Partnership	Design, Implementation, Evaluation	Collaborative	Advisory Committee, Website	Monthly
Durham County Local Farmers	High Influence, Low Interest	Partnership	Design, Implementation, Evaluation	Collaborative	Advisory Committee, Face to Face Meetings	Bimonthly
Durham County Department of Public Health	High Influence, High Interest	Research, Equity, Quality Improvement, Policy Development	Design, Evaluation	Consult	Data Review and Report	Quarterly
Minority Real Estate Agents and Brokers	Low Influence Low Interest	Education, Training of first-time homeowners	Design, Implementation, Evaluation	Collaborative	Advisory Committee, Website	Monthly

**Table A5**

**Sample Semi-Structured Interview**

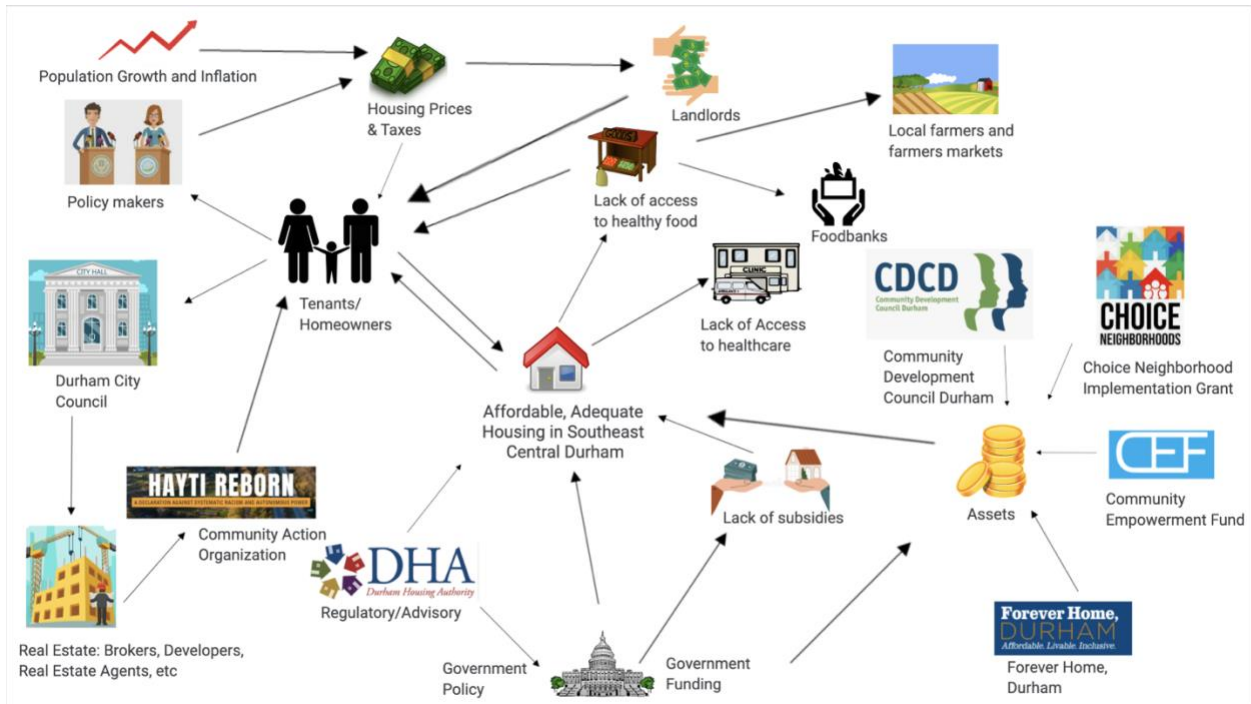
<b>Question 1</b>	What items did you order in your CSA box this week?
<b>Question 2</b>	How do you plan to use the items you received?
<b>Question 3</b>	How often do you receive items that you do not know how to prepare?
<b>Question 4</b>	If you do not know how to prepare items, what do you do with them?
<b>Question 5</b>	How often do items from your CSA box go uneaten?

**Table A6****Evaluation Plan Timeline**

<i>Date</i>	<i>Program Activity</i>	<i>Evaluation Activity</i>
April 2023	1 <sup>st</sup> year of subsidized CSA program begins	Self-administered 24-hour diet recall; HEI score calculation
Late May 2023		Semi-structured interviews
Late July 2023		Semi-structured interviews
Late September 2023		Semi-structured interviews
November 2023	1 <sup>st</sup> year of subsidized CSA program ends	Self-administered 24-hour diet recall; HEI score calculation
April 2024	2 <sup>nd</sup> year of subsidized CSA program begins	Self-administered 24-hour diet recall; HEI score calculation
Late May 2024		Semi-structured interviews
Late July 2024		Semi-structured interviews
Late September 2024		Semi-structured interviews
November 2024	2 <sup>nd</sup> year of subsidized CSA program ends	Self-administered 24-hour diet recall; HEI score calculation
April 2025	3 <sup>rd</sup> year of subsidized CSA program begins	Self-administered 24-hour diet recall
Late May 2025		Semi-structured interviews
Late July 2025		Semi-structured interviews
Late September 2025		Semi-structured interviews
November 2025	3 <sup>rd</sup> year of subsidized CSA program ends	Self-administered 24-hour diet recall; HEI score calculation; HEI score evaluation
April 2026	4 <sup>th</sup> year of subsidized CSA program begins	Self-administered 24-hour diet recall; HEI score calculation
Late May 2026		Semi-structured interviews
Late July 2026		Semi-structured interviews
Late September 2026		Semi-structured interviews
November 2026	4 <sup>th</sup> year of subsidized CSA program ends	Self-administered 24-hour diet recall; HEI score calculation
April 2027	5 <sup>th</sup> year of subsidized CSA program begins	Self-administered 24-hour diet recall; HEI score calculation
Late May 2027		Semi-structured interviews
Late July 2027		Semi-structured interviews
Late September 2027		Semi-structured interviews
November 2027	5 <sup>th</sup> year of subsidized CSA program ends	Self-administered 24-hour diet recall; HEI score calculation; HEI score evaluation

Figure A1

Rich Picture



## **APPENDIX B: HELEN G. BRYANT'S INDIVIDUAL DELIVERABLES**

### Appendix B.1: Individual Problem Statement

#### ***Social Determinant of Health- Neighborhood and Built Environment***

The residents of Durham County deserve to have healthy and happy lives and the Board of County Commissioners should work to address the issues that prevent them from achieving this. Social determinants of health are the conditions and environments that affect health status and health outcomes (The Office of Disease Prevention and Health Promotion, 2022). In Durham County a salient social determinant of health is a person's neighborhood and built environment and under this domain is housing. In 2021, 32 percent of households in Durham County were cost-burdened; cost-burdened households spend more than 30 percent of their income on housing (North Carolina Housing Coalition, 2021). In addition to the financial burden of housing, people are faced with issues related to poor housing. Healthy North Carolina 2030 defines poor housing as having at least 1 housing problem; housing problems include lack of kitchen facilities, lack of plumbing facilities, high housing costs, and overcrowding (2020). A lack of sufficient kitchen facilities leads to the inability for residents to cook at home. The inability to cook at home is associated with adverse health outcomes including food insecurity and poor nutrition. Food insecurity and poor nutrition are associated with an increased risk for chronic diseases for both children and adults, including asthma in both children and adults and diabetes mellitus and obesity in adults (Food Research & Action Center, 2017; North Carolina Institute of Medicine, 2020). The cost burden of housing as well poor housing issues can ultimately compound upon each other and negatively impact the health of Durham County residents.

#### ***Geographic Context- Durham County, North Carolina***

Durham County was created in 1881 when land, including several large plantations, was transferred to the county from Wake and Orange Counties. Prior to the creation of Durham County, when the American Civil War began in 1861, approximately one-third of people in the area that would later become Durham County were enslaved. After the Emancipation Proclamation in 1863, previously enslaved Black people and poorer White people did not have the financial or social resources to purchase

land. The land in the area that would later become Durham County was primarily owned by White people in the industrial industry. At the dawn of the 20<sup>th</sup> century, real estate companies began to purchase and invest in areas in Durham County. Simultaneously, as Jim Crow laws were created, neighborhoods in Durham County were segregated by race, social status, and income; consequentially working-class Black residents had the poorest housing. Black neighborhoods had more garbage incinerators and unpaved roads and delayed access to county sewage lines compared to White neighborhoods. These disparities in housing resulted in less investment in Black neighborhoods and poor health for Black residents (Tan, 2021).

Despite these disparities, Black neighborhoods in Durham County, such as Hayti, became the foundation of Black community as political movements began. As Black neighborhoods began to function as places for individual and community growth, North Carolina Mutual Life Insurance Company helped Black residents purchase homes. However, the efforts of North Carolina Mutual Life Insurance Company were thwarted by segregation in the form of deed restrictions, suburban development, zoning laws, steering, real estate marketing, redlining, and public housing, which led to racial disparities in home ownership and wealth. In the 1950s as the Urban Renewal movement began in the United States, the local government promised Black Durham residents new housing and improvements to Black neighborhoods. However, the Urban Renewal only resulted in the destruction of the Black business district in the Hayti neighborhood to build the Durham Freeway, which displaced 4,000 families and 500 businesses (Tan, 2021).

Now, approximately 70 years later, many historically Black neighborhoods in Durham County are being gentrified and Black people, who cannot afford the rising home prices, are being pushed out. From mid-2010 to October 2019, the median home sale price in Durham increased by more than 50 percent.

Additionally, the gentrification crisis in Durham County is now being exacerbated by an eviction crisis secondary to the COVID-19 pandemic and unemployment issues (Tan, 2021). Thus, Durham County has a history of poor housing disproportionately impacting certain communities and it is a social determinant of health that can no longer be ignored.



### ***Priority Population- Low-income Families in Southeast Central Durham***

Housing issues in North Carolina are primarily confined to areas with high rates of poverty and areas that were not previously invested in secondary to segregation. Metropolitan racial and ethnic minorities and low-income people are disproportionately impacted by housing issues in North Carolina (North Carolina Institute of Medicine, 2020). As aforementioned, the Hayti neighborhood is a historically Black community in Durham; it is now known as southeast central Durham. The construction of the Durham Freeway isolated the southeast central Durham community from the metropolitan growth experienced by other nearby Durham communities and gentrification has started to shrink this community (Knuth, 2022). Given the history of broken promises that this community has received and the current disparities in housing issues, we have decided to target low-income families, especially low-income racial and ethnic minorities, with our intervention to improve access to affordable housing in Durham County. The U.S. Department of Housing and Urban Development defines a family of 4 in Durham County as low-income if their income is less than \$76,400 (2022).

### ***Measures of Problem Scope***

Seventeen percent of households in Durham County face at least 1 housing problem compared to the state average of 15 percent. Additionally, 13 percent of households in Durham County are severely cost burdened compared to the state average of 12 percent. Severe cost-burdened households spend 50 percent or more of their income on housing (University of Wisconsin Population Health Institute, 2022).

### ***Rationale/Importance***

Historically, Durham County has had housing inequality issues, which have not been addressed or rectified. This housing inequality has placed certain communities at greater risk for chronic health diseases. Thus, creating access to affordable housing for low-income people, especially low-income racial and ethnic minorities, in southeast central Durham, is a current public health priority that must be addressed by the Board of County Commissioners. Creating access to affordable housing will not only be helping Durham County residents live happy and healthier lives, but it will also help strengthen our community.

### *Disciplinary Critique*

Nutritionists are tasked with improving the health of the communities they serve and it is imperative that nutritionists recognize both the importance of health equity and the relationship between social determinants of health and health outcomes. As described above, housing inequities exacerbate the disproportionate burden of chronic diseases, including diet-related diseases, among racial and ethnic minorities. Thus, nutritionists must champion issues such as access to affordable housing in order to truly improve community health and to achieve health equity.

## REFERENCES

- Food Research & Action Center. (2017, December). *The Impact of Poverty, Food Insecurity, and Poor Nutrition on Health and Well-Being*. <https://frac.org/wp-content/uploads/hunger-health-impact-poverty-food-insecurity-health-well-being.pdf>
- Knuth, Chad. (2022, September 21). *City of Durham and Durham Housing Authority Receive \$40 Million Grant*. INDY Week. <https://indyweek.com/news/durham/city-of-durham-and-durham-housing-authority-receive-40-million-grant/>
- North Carolina Institute of Medicine. (2020, February 18). *Healthy North Carolina 2030: A Path Toward Health: Chapter 4- Physical Environment*. [https://nciom.org/wp-content/uploads/2020/04/Ch-4\\_HNC-2030\\_Physical-Environment2.pdf](https://nciom.org/wp-content/uploads/2020/04/Ch-4_HNC-2030_Physical-Environment2.pdf)
- Office of Disease Prevention and Health Promotion (2022, April 6). *Social Determinants of Health*. <https://health.gov/healthypeople/priority-areas/social-determinants-health>
- Tan, Katie. (2021, November 8). *Forbidden real estate and broken promises: The history of housing inequality in Durham*. The Chronicle. <https://www.dukechronicle.com/article/2021/11/durham-housing-inequality-affordable-gentrification-civil-war-history-uneven-ground>
- University of Wisconsin Population Health Institute. (2022). *County Health Rankings & Roadmaps*. <https://www.countyhealthrankings.org/app/north-carolina/2022/rankings/durham/county/outcomes/overall/snapshot>
- U.S. Department of Housing and Urban Development. (2022). FY 2022 Income Limits Documentation System. <https://www.huduser.gov/portal/datasets/il/il2022/2022summary.odn>

## Appendix B.2: Evidence-Based Nutrition Program

### ***Introduction***

The Office of Disease Prevention and Health Promotion defines social determinants of health as the everyday conditions and environments that affect health status and health outcomes (2022). In Durham County, North Carolina a salient social determinant of health is a person's neighborhood and built environment and under this domain is housing. In 2021, 32 percent of households in Durham County were cost-burdened; cost-burdened households spend more than 30 percent of their income on housing (North Carolina Housing Coalition, 2021). Cost-burdened households, which are typically low-income, potentially face more health risks secondary to having to spend a significant amount of their income on housing. These potential health risks include low food and nutrition security. Low-income households are burdened by having to have to choose between paying their rent or mortgage and purchasing healthy food. However, food and nutrition security are not solely impacted by income. Low-income households also live in underinvested communities with less food access, which also makes food and nutrition security a neighborhood issue (Burrowes, 2019). Thus, in order to improve the health status and health outcomes of low-income households in Durham County, public health practitioners and nutritionists need to focus on improving access to both affordable housing and healthy foods.

### ***Evidence-Based Nutrition Program***

The U.S. Department of Agriculture (USDA) defines food security as having access to foods that promote an active and healthy lifestyle. This access includes the availability of nutritionally adequate and safe foods as well as the ability to obtain these foods without coping strategies, such as using emergency food supplies or stealing. The USDA defines nutrition security as the consistent access, availability, and affordability of foods that promote an active and healthy lifestyle, prevent disease, and treat disease. Lack of food and nutrition security leads to poor nutrition and diet-related diseases, including obesity, prediabetes, and diabetes. Poor nutrition is estimated to lead to 600,000 deaths in the United States per year and it is the leading cause of illness. Over 40 percent of adults in the United States have obesity. Furthermore, poor nutrition and diet-related diseases have an adverse impact on academic achievement

and financial stability, which leads to lower productivity, increased health care costs, and worsening health disparities (Food and Nutrition Service, 2022).

As aforementioned, food and nutrition security are not only impacted by income, they are also impacted by neighborhood. Thus, while improving housing affordability will alleviate the financial constraints of low-income households in Durham County and hopefully improve their food security, it does not guarantee that they will be able to access healthy foods. To improve both the food and nutrition security of low-income households in Durham County, a nutrition program to address food access should also be implemented in concordance with a policy to make housing more affordable. Community-supported agriculture (CSA) programs provide direct access to fresh produce grown by local farmers, which can improve diet quality and health outcomes. Typically, CSA program participants pay the farmer in advance, and then receive a weekly share of the produce that the farmer harvests. CSA programs help participants obtain fresh produce at a lower price. However, the price is still high for low-income households and the pre-pay model is often not accessible for low-income households. Subsidized CSA programs can lower these financial barriers for low-income households and help improve their food access (Health Law Lab, 2019).

A randomized controlled trial (RTC) in Franklin County, Massachusetts studied the effect of a subsidized CSA intervention on diet quality. In this RTC, participants were randomized to the intervention group, which was given a financial subsidy for a 24-week CSA membership, or the control group, which was given a financial incentive equivalent to the subsidy, as well as MyPlate materials. The primary outcome of this RTC was the total Healthy Eating Index (HEI) 2010 score; HEI scores range from 0 to 100 with higher scores signifying greater adherence to the USDA dietary recommendations (Food and Nutrition Service, 2022). A secondary outcome of this RTC was participant-reported food security. To measure this outcome the researchers used the U.S. Household Food Security Survey Module: Six-Item Short Form (Economic Research Service, 2012). The results of this RTC showed a significant improvement in the HEI scores of the intervention group, 60.2, compared to the control group, 55.9. The researchers analyzed HEI subscores, which revealed significant improvements in categories

associated with the intervention, including total vegetables, total fruit, and whole fruit. The results also showed a significant improvement in food security of the intervention group, 32 percent to 11 percent, compared to the control group, 42 percent to 31 percent. This RTC found that a subsidized CSA program significantly improved diet quality and reduced food insecurity (Berkowitz et al., 2019). Therefore, we recommend a subsidized CSA program in conjunction with our affordable housing policy to help improve the food and nutrition security of low-income households in Durham County.

The subsidized CSA program in Durham County will provide 50 low-income households subsidies for a 30-week CSA membership with South Wind Produce for 5 years from April through November starting in April 2023. The projected cost is \$30 weekly based on current CSA membership costs. The subsidy will cover 50 percent of the weekly produce box. The participants will be provided the \$450 subsidy at the beginning of the CSA membership, and then they will have to pay the remaining \$15 weekly when they order their produce boxes. The boxes will contain 6 to 8 produce items weekly. Participants are able to customize the produce they receive every week. South Wind Produce has over 70 produce varieties, including strawberries, cabbage, green beans, heirloom tomatoes, broccolini, and butternut squash. South Wind Produce also provides CSA members weekly updates that include recipes using their produce (South Wind Produce, n.d.).

### ***Evidence-Based Outcomes***

Short-term objective: By December 01, 2025, the HEI 2015 scores of households participating in the subsidized CSA program will have increased by at least 3 points compared to their baseline HEI 2015 scores. The RCT in Franklin County, Massachusetts used this measurement as their definition of a clinically meaningful HEI difference. During the program evaluation, an improvement in the adequacy components, which are the survey components associated with the CSA program, will be investigated.

Short-term objective: By December 01, 2025, the prevalence of food insecurity among households participating in the subsidized CSA program will decrease by 20 percent as measured by the U.S. Household Food Security Survey Module: Six-Item Short Form. The randomized trial in Franklin County Massachusetts found a similar decrease in their RTC. During the program evaluation, the

responses to question HH4 that addresses whether or not households are able to afford balanced meals, the survey component associated with the CSA program, will be investigated.

Long-term objective: By December 01, 2027, households participating in the subsidized CSA program will have a lower burden of diet-related diseases, such as obesity, compared to their baseline burden of diet-related diseases. There is limited evidence that children and adolescents who consume diets low in fruits and vegetables have higher fat-mass indices and BMIs later in adolescence. There is also moderate evidence that adults who consume diets higher in vegetables and fruits have lower BMIs and decreased risk of obesity (Nutrition Evidence Systematic Review, 2020).

### ***Evidence-Based Implementation Strategies and Activities***

1. Create a taskforce to implement the subsidized CSA program. This taskforce will consist of public health practitioners as well as stakeholders, such as residents, local farmers, and local government officials. The taskforce will work to secure funding from the Choice Neighborhoods Implementation Grant to fund the program.
2. The taskforce will work with South Wind Produce to establish this program in conjunction with their current CSA memberships. South Wind Produce has a well-established CSA program, but we will work with them to discuss any adaptations for the subsidized CSA program. Potential adaptations include providing more information and recipes using the produce.
3. The taskforce will identify low-income households living in the southeast central Durham community to participate in the subsidized CSA program. Once the participants are identified, the taskforce will have to administer the baseline surveys.
4. The taskforce will perform check-ins with program participants every 2 months to address any issues.
5. The taskforce will administer repeat surveys once the program has ended. The pre- and post-program surveys will be used to inform the funding source and community of the program's outcomes.

This program addresses the living and working conditions and interpersonal connections levels of the socioecological model.

***Stakeholders***

The stakeholders who must be involved throughout the subsidized CSA program are southeast central Durham community members and South Wind Produce because they will be impacted by this program. Thus, to implement the program effectively and expeditiously, individuals who represent their interests will be asked to join the taskforce to help shape the program.

***Budget***

<b>Line Items</b>	<b>Proportion of Budget</b>
Taskforce personnel	44%
CSA subsidies	56%

The budget will consist of financing the CSA subsidies and the taskforce personnel. The program budget is \$200,000. The cost of providing 50 low-income households \$450 subsidies for 5 years is \$112,500, which is approximately 56 percent of the budget. The remaining 44 percent of the budget will be used to pay the taskforce. The taskforce will consist of paid personnel as well as volunteers. The paid personnel will be responsible for securing funding, administering surveys to participants, checking in with the participants throughout the program, and reporting program outcomes. A potential funding source is a NC AgVentures Farm Grant. This funding source provides grants to community organizations to create innovative agricultural projects to increase farm profits (NC State Extension, n.d.).

***Conclusion***

The subsidized CSA program has the potential to improve the food and nutrition security of low-income households in southeast central Durham. In conjunction with the affordable housing policy, this program could improve the health status and health outcomes of program participants. If proven successful in this community, it could be expanded to other communities in Durham County and



throughout North Carolina. However, if the proposed outcomes are not achieved, it could dissuade similar programs in the future, which could negatively impact low-income households and local farmers.

## REFERENCES

- Berkowitz et al. (2019). Health Center–Based Community-Supported Agriculture: An RCT. *American Journal of Preventive Medicine*, 57(6), 55-64. <https://doi.org/10.1016/j.amepre.2019.07.015>
- Burrowes, K. (2019, October 2). *How Stable, Affordable Housing Can Help Tackle Food Insecurity*. Housing Matters. <https://housingmatters.urban.org/articles/how-stable-affordable-housing-can-help-tackle-food-insecurity>
- Economic Research Service (2012, September). *U.S. Household Food Security Survey Module: Six-Item Short Form*. U.S. Department of Agriculture. <https://www.ers.usda.gov/media/8282/short2012.pdf>
- Food and Nutrition Service (2022, April 27). *How the HEI is Scored*. U.S. Department of Agriculture. <https://www.fns.usda.gov/how-hei-scored>
- Food and Nutrition Service (2022, March). *USDA Actions on Nutrition Security*. U.S. Department of Agriculture. <https://www.usda.gov/sites/default/files/documents/usda-actions-nutrition-security.pdf>
- Health Law Lab (2019, November 10). *Health Benefits of Subsidized Community Supported Agriculture Farm Shares*. <https://www.healthlawlab.org/2019/11/health-benefits-of-subsidized-community-supported-agriculture-farm-shares/>
- NC State Extension (n.d.). *Apply for NC AgVentures Farm Grant*. <https://agventures.ces.ncsu.edu/application-for-ag-ventures-grant/>
- North Carolina Housing Coalition (2021, December 29). *The 2021 Housing Need in Durham County*. <https://nchousing.org/wp-content/uploads/2017/01/NCH-CountyProfile-Durham.pdf>
- Nutrition Evidence Systematic Review (2020, July 15). *2020 Dietary Guidelines Advisory Committee Systematic Reviews: Dietary Patterns Subcommittee*. U.S. Department of Agriculture. <https://nesr.usda.gov/2020-dietary-guidelines-advisory-committee-systematic-reviews/dietary-patterns-subcommittee/dietary-patterns-growth-size-body-composition-obesity>
- Office of Disease Prevention and Health Promotion (2022, April 6). *Social Determinants of Health*. <https://health.gov/healthypeople/priority-areas/social-determinants-health>
- South Wind Produce (n.d.). *Subscription and Online Ordering Details*. <https://southwindproduce.com/csa-details>

## Appendix B.3: Evidence-Based Nutrition Program Evaluation Plan

### ***Introduction***

Our key issue is increasing affordable housing for low-income households in Durham County, North Carolina. A salient social determinant of health is a person's neighborhood and built environment and under this domain is housing. In 2021, 32 percent of households in Durham County were cost-burdened; cost-burdened households spend more than 30 percent of their income on housing (North Carolina Housing Coalition, 2021). Cost-burdened households, which are typically low-income, potentially face more health risks secondary to having to spend a significant amount of their income on housing. These health risks include low food and nutrition security.

Food and nutrition security are not solely impacted by income. Low-income households also live in underinvested communities with less food access, which also makes food and nutrition security a neighborhood issue (Burrowes, 2019). To improve the health status and health outcomes of low-income households in Durham County, we are focused on improving access to both affordable housing and healthy foods. Our evidence-based nutrition program is a subsidized community-supported agriculture (CSA) program that will provide 50 low-income households subsidies for a 30-week CSA membership with South Wind Produce for 5 years from April through November starting in April 2023. This program will be implemented in the southeast central Durham community, which is where our affordable housing policy will also be implemented, by our program taskforce.

### ***Evidence Based Evaluation Plan***

Our evaluation plan will be focused on the short-term objective that by December 01, 2025, the Healthy Eating Index (HEI) 2015 scores of households participating in the subsidized CSA program will have increased by at least 3 points compared to their baseline HEI 2015 scores. This expected change was used because the randomized control trial in Franklin County, Massachusetts that was used to model our program used this measurement as their definition of a clinically meaningful HEI difference (Berkowitz et al., 2019). This objective will be evaluated 3 years into the program.

### ***Study Design/Data Collection***

Our evaluation plan will use an observational method and our evaluation tool will be the Automated Self-Administered 24-hour (ASA24®) Dietary Assessment Tool. This is an a self-administered 24-hour diet recall. The diet recalls will be used to calculate program participant's HEI 2015 scores using the HEI scoring algorithm (Epidemiology and Genomics Research Program, 2022).

### ***Sample and Sampling Strategy***

Our program will act as a demonstration project in this community. Starting with 50-low income households will allow us to demonstrate the effectiveness of this program within our budgetary constraints. Given that our sample size is relatively small, we plan on sampling all of the participants during our evaluation plan. Self-administered 24-hour diet recalls will be given at the beginning and end of every CSA season. The diet recalls will be used to calculate HEI 2015 scores. The HEI 2015 scores calculated at the beginning of the first CSA season will serve as the baseline HEI scores. We will calculate the difference in the HEI 2015 scores at the beginning and end of each CSA season. At the end of the third CSA season in December 2025, we expect to see at least a 3-point improvement in HEI 2015 scores compared to the baseline HEI 2015 scores. Each low-income household will designate 1 adult to conduct the diet recalls. If the household contains any children, individuals under age 18, then 1 child will also be designated to conduct diet recalls. If the child is under 12, the diet recalls will be completed with the assistance of an adult in the household. In households with both adults and children, the average will be taken of the 2 HEI scores to represent the household HEI score.

### ***Specific Measures***

Our evaluation is focused on HEI 2015 scores, which range from 0 to 100 with higher scores representing a better diet quality. Baseline HEI 2015 scores will be compared to HEI 2015 scores after the third year of the subsidized CSA program with at least a 3-point increase showing improved diet quality. The HEI 2015 score is composed of adequacy and moderation components. Adequacy components represent foods whose consumption is encouraged, such as fruits and vegetables (Food and Nutrition

Service, 2022). The subsidized CSA program should increase the consumption of total fruits, whole fruits, total vegetables, and greens and beans. A sub-analysis of these specific adequacy components in the HEI 2015 score will be conducted to ensure the subsidized CSA program has its intended effect. To provide a more well-rounded evaluation to supplement the information provided by the HEI 2015 scores, we will perform semi-structured phone interviews with program participants every 3 months during the CSA seasons. The interviews will help determine whether or not participants are using the produce items they receive in their CSA boxes. These interviews will investigate potential food waste. A sample semi-structured interview is included in Appendix B.3.a.

### ***Timing***

As aforementioned, we will use self-administered 24-hour diet recalls at the beginning and end of every CSA season. These diet recalls will be used to determine HEI 2015 scores at the beginning and end of each CSA season. Program success is defined as at least a 3-point improvement in HEI 2015 scores by the third year of the program. We will continue the self-administered 24-hour diet recalls at the beginning and end of the fourth and fifth year of the program to ensure that HEI 2015 scores continue to increase. The evaluation plan timeline is included in Appendix B.3.a.

### ***Analysis Plan***

Our evaluation plan will use quantitative statistics to describe the difference in HEI 2015 scores with a sub-analysis of the adequacy components addressed by our program. We will also include qualitative statistics from the semi-structured interviews.

### ***Funding Source***

We will seek an NC AgVentures Farm Grant to fund this program from April 2023 to November 2025. This funding source provides grants to community organizations to create innovative agricultural projects to increase farm profits (Miller, 2022).

### ***Data Use and Dissemination***

We will use the evaluation data to inform the southeast central Durham community of the program's impacts and successes. For this purpose, we will create a presentation to deliver. We will also use the evaluation data to inform our funding source of the impacts of the program in order to encourage similar programs across the county and state. For this purpose, our evaluation data will be detailed in a report along with recommendations for how to implement a similar program.

### ***Conclusion***

Public health issues require an interdisciplinary and collaborative approach because these issues are often intersectional and multidimensional. Lack of affordable housing leads to poor nutrition outcomes, especially for racial and ethnic minorities. Thus, to address this issue equitably, public health practitioners have to work outside of conventional silos.

## REFERENCES

- Berkowitz et al. (2019). Health Center–Based Community-Supported Agriculture: An RCT. *American Journal of Preventive Medicine*, 57(6), 55-64. <https://doi.org/10.1016/j.amepre.2019.07.015>
- Burrowes, K. (2019, October 2). *How Stable, Affordable Housing Can Help Tackle Food Insecurity*. Housing Matters. <https://housingmatters.urban.org/articles/how-stable-affordable-housing-can-help-tackle-food-insecurity>
- Epidemiology and Genomics Research Program (2022, October 18). *Automated Self-Administered 24-Hour (ASA24®) Dietary Assessment Tool*. National Cancer Institute Division of Cancer Control and Population Sciences. <https://epi.grants.cancer.gov/asa24/>
- Epidemiology and Genomics Research Program (2022, May 13). *HEI Scoring Algorithm*. National Cancer Institute Division of Cancer Control and Population Sciences. <https://epi.grants.cancer.gov/hei/hei-scoring-method.html>
- Food and Nutrition Service (2022, April 27). *How the HEI is Scored*. U.S. Department of Agriculture. <https://www.fns.usda.gov/how-hei-scored>
- Miller, J. (2022). *Apply for NC AgVentures Farm Grant*. NC State Extension. <https://agventures.ces.ncsu.edu/application-for-ag-ventures-grant/>
- North Carolina Housing Coalition (2021, December 29). *The 2021 Housing Need in Durham County*. <https://nchousing.org/wp-content/uploads/2017/01/NCH-CountyProfile-Durham.pdf>

Appendix B.3.a: Evidence-Based Nutrition Program Evaluation Plan Figures and Tables

**Sample Semi-Structured Interview**

<b>Question 1</b>	What items did you order in your CSA box this week?
<b>Question 2</b>	How do you plan to use the items you received?
<b>Question 3</b>	How often do you receive items that you do not know how to prepare?
<b>Question 4</b>	If you do not know how to prepare items, what do you do with them?
<b>Question 5</b>	How often do items from your CSA box go uneaten?



## Evaluation Plan Timeline

<i>Date</i>	<i>Program Activity</i>	<i>Evaluation Activity</i>
April 2023	1 <sup>st</sup> year of subsidized CSA program begins	Self-administered 24-hour diet recall; HEI score calculation
Late May 2023		Semi-structured interviews
Late July 2023		Semi-structured interviews
Late September 2023		Semi-structured interviews
November 2023	1 <sup>st</sup> year of subsidized CSA program ends	Self-administered 24-hour diet recall; HEI score calculation
April 2024	2 <sup>nd</sup> year of subsidized CSA program begins	Self-administered 24-hour diet recall; HEI score calculation
Late May 2024		Semi-structured interviews
Late July 2024		Semi-structured interviews
Late September 2024		Semi-structured interviews
November 2024	2 <sup>nd</sup> year of subsidized CSA program ends	Self-administered 24-hour diet recall; HEI score calculation
April 2025	3 <sup>rd</sup> year of subsidized CSA program begins	Self-administered 24-hour diet recall
Late May 2025		Semi-structured interviews
Late July 2025		Semi-structured interviews
Late September 2025		Semi-structured interviews
November 2025	3 <sup>rd</sup> year of subsidized CSA program ends	Self-administered 24-hour diet recall; HEI score calculation; HEI score evaluation
April 2026	4 <sup>th</sup> year of subsidized CSA program begins	Self-administered 24-hour diet recall; HEI score calculation
Late May 2026		Semi-structured interviews
Late July 2026		Semi-structured interviews
Late September 2026		Semi-structured interviews
November 2026	4 <sup>th</sup> year of subsidized CSA program ends	Self-administered 24-hour diet recall; HEI score calculation
April 2027	5 <sup>th</sup> year of subsidized CSA program begins	Self-administered 24-hour diet recall; HEI score calculation
Late May 2027		Semi-structured interviews
Late July 2027		Semi-structured interviews
Late September 2027		Semi-structured interviews
November 2027	5 <sup>th</sup> year of subsidized CSA program ends	Self-administered 24-hour diet recall; HEI score calculation; HEI score evaluation

## Appendix B.4: Individual Presentation Slides and Scripts

**Policy and Programmatic Changes: Subsidized Community-Supported Agriculture (CSA) Program**

- Who: 50 low-income households in Southeast Central Durham
- What: Subsidies for a 30-week CSA membership with South Wind Produce
- When: April through November starting in April 2023 for 5 years
- Why: To improve access to healthy food

Problem Statement → Priority Population → Goals → Policy → **Nutrition**

To supplement our community development nonprofit we recommend a subsidized community-supported agriculture (CSA) program.

This program will provide 50 low-income households in Southeast Central Durham subsidies for a 30-week CSA membership with South Wind Produce for 5 years from April through November starting in April 2023.

The subsidy will cover 50 percent of the weekly produce box. The participants will be provided the subsidy at the beginning of the CSA seasons, and then they will have to pay the remaining balance weekly when they order their produce.

A similar program was enacted in Franklin County, Massachusetts and found that CSA subsidies resulted in a significant improvement in participant's Healthy Eating Index (HEI) scores.

HEI scores measure how closely a diet aligns with the Dietary Guidelines for Americans with higher scores showing better adherence.

We recommend this program because it will provide participants direct access to fresh produce by lowering financial barriers.

We also recommend this program because it increases business for local farmers.

## Subsidized CSA Program Evaluation

- Primary objective: By December 01, 2025, the Healthy Eating Index (HEI) 2015 scores of households participating in the program will have increased by at least 3 points.
  - Evaluation Tool: Self-administered 24-hour diet recalls will be used to calculate HEI 2015 scores
  - Evaluation Timing: At the end of the third CSA season in December 2025
  - Additional Evaluation Measures:
    - Sub-analysis of HEI adequacy components
    - Semi-structured phone interviews with program participants every 3 months during the CSA seasons

Problem Statement

Priority Population

Goals

Policy

Nutrition

The success of the subsidized CSA program will be measured by achieving our primary objective, which is that by December 01, 2025, the HEI 2015 scores of households participating in the program will have increased by at least 3 points.

The study that was used to model our program used this measurement as their definition of a clinically meaningful HEI difference.

Self-administered 24-hour diet recalls will be given at the beginning and end of every CSA season. The diet recalls will be used to calculate HEI 2015 scores.

The HEI 2015 scores calculated at the beginning of the first CSA season will serve as the baseline.

At the end of the third CSA season in December 2025, we expect to see at least a 3-point improvement compared to the baseline HEI 2015 scores.

The HEI 2015 score is composed of adequacy and moderation components. Adequacy components represent foods whose consumption is encouraged, such as fruits and vegetables.

This program should increase the consumption of total fruits, whole fruits, total vegetables, and greens and beans.

A sub-analysis of these specific adequacy components in the HEI 2015 score will be conducted to ensure the subsidized CSA program has its intended effect.

We will also perform semi-structured phone interviews with program participants every 3 months during the CSA seasons to provide supplementary qualitative data.

## **APPENDIX C: ELIZABETH JOHNSTON'S INDIVIDUAL DELIVERABLES**

### Appendix C.1: Individual Problem Statement

#### **Affordable Housing for Low Income Residents in Durham County, North Carolina**

##### **Affordable Housing as a Social Determinant of Health**

Social determinants of health are the conditions and environments where people live, learn, work, and play that impact health and quality of life. Housing is a widely acknowledged social determinant of physical and mental health because it directly affects living conditions, social support networks, access to healthcare, neighborhood, and socioeconomic status. Specifically, affordable housing is a determinant of health as it influences housing costs, risk of eviction, overcrowding, and stability (Hernandez, 2016). Short term outcomes of unaffordable housing can result in temporary homelessness, increased difficulty becoming approved for an apartment or a loan, and frequent moves.

Households that are cost-burdened often have limited resources to invest in health and wellbeing. Lack of affordable housing can create financial strain for low-income households, leading to difficulty making housing payments, accessing regular medical care, postponing treatment, and forgoing prescribed medications (Taylor, 2018). Long-term outcomes can result in severe health complications, higher costs for health treatment, permanent homelessness, job loss, and reduced quality of life. In addition, becoming behind on housing payments increases the risk for food insecurity and an insufficient food supply, leading to malnutrition (Alley, 2011). Affordable housing supports mental health by reducing stressors like financial burden, overcrowding, and limited housing options. Affordable housing also frees household resources for other needs such as healthcare, food, and education (Maqbool, 2015).

##### **Geographic and Relevant Context of Affordable Housing in Durham County**

Durham County is in mid-North Carolina and hosts approximately 325,000 residents. Durham County is growing faster than most counties in North Carolina, creating a higher demand for housing. Cities such as Durham provide the majority of the economic activity in North Carolina, attracting more

people to relocate in the city rather than more rural areas (DeBruyn, 2020). Because there are more people buying than selling, housing prices have significantly increased over the past several years.

Communities that have historically had affordable housing are experiencing rapid rises in sales, rent prices, and property taxes (Enterprise, 2015). In May 2021, the median sales price for a home in Durham County was \$340,246. In comparison, in May 2022 the median sales price was \$424,250, a 24.7% increase in the span of just one year (Triangle MLS, 2022). Similarly, the overall median cost for a Durham County apartment, which includes one- and two-bedroom apartments, rose from \$1,239 a month in June 2021 to \$1,455 a month in June of 2022, which is a 17.3% increase in one year (Apartment List, 2022). Despite housing costs drastically rising, incomes have not received necessary cost-of-living increases. Consequently, Durham is currently facing a shortage of affordable housing for low-income households.

Forever Home Durham is a county project with a \$160 million budget for creating more affordable housing for low-income residents (Price, 2022). Specific goals include building 1,600 new affordable rental homes, preserving 800 affordable rental homes, and providing 400 affordable homeownership opportunities for low-income homebuyers (City of Durham, 2022). This program has helped hundreds retain and obtain housing, but there are still goals with little success. For example, Forever Home Durham has only completed 6 out of 400 homeownership opportunities for low-income homebuyers since its implementation in July of 2019, and only 192 out of 1,600 new rental homes have been completed (City of Durham, 2022).

### **Priority Population**

Housing is tied to economic factors, so low-income households are more likely to suffer from lack of affordable housing and related poor health outcomes. Low-income households are those earning less than 80% of the Area Median Income (AMI), and extremely low-income households earn less than 30% of AMI. Affordable housing means that low-income households are paying no more than 30% of gross household income for housing-related expenses (Enterprise, 2015). Households paying over

30% of their income on housing are considered cost burdened, and households paying more than 50% for housing are severely cost burdened.

The 2022 Area Median Income for Durham County is \$95,500 (Grubb, 2022). Low-income households in Durham at 80% of AMI earn \$76,400 or less a year. The U.S. Department of Housing and Urban Development defined 30% of Area Median Income in Durham as a single person earning \$20,100 a year or a family of three earning \$25,800 a year (Grubb, 2022). These constitute extremely low-income households.

### **Scope of the Affordable Housing Crisis in Durham County**

For low-income households, or households at or below 80% of Area Median Income, affordable housing in North Carolina would need to cost \$609 a month. This is essentially unattainable, as the monthly Fair Market Rent for a 1-bedroom apartment is \$847, and \$997 for a 2-bedroom (National, 2022). An individual working a minimum wage job in North Carolina would need work 90 hours a week to afford a 1-bedroom rental home at Fair Market Rent and not be cost burdened.

The Triangle, referring to the geographic area around Chapel Hill, Durham, and Raleigh, hosts over 170,000 cost burdened households (DeBruyn, 2020). In Northeast Central Durham, over 50% of households are severely housing cost-burdened (Enterprise, 2015). Approximately 11.7% of Durham County residents live in poverty (Appendix 1).

### **Rationale for Prioritization**

The rise of housing costs in Durham County has become a public concern. The Durham community has come together petitioning for 30% of new, affordable housing to be priced for people earning less than 30% of the Area Median Income (Grubb, 2022). The Durham Rescue Mission, a shelter providing temporary housing, is at a historical all-time high for residents, half of which still have jobs but cannot afford housing (Krueger, 2022). Despite being employed, Durham County residents cannot afford a basic need such as housing, which can lead to the severe health and social implications previously addressed.

There are several factors that will lead to successful housing reform in Durham County. First, this issue is already a community priority and will receive much support from residents. Second, the city council is open to housing reform and has previously implemented projects to mitigate the loss of affordable housing. Lastly, there are many local, state, and federal organizations that will partner with Durham County to improve housing affordability.

### **Disciplinary Critique**

Public health leaders play a critical role in addressing housing reformation in Durham County. They understand that low-income households not only face higher rates of housing instability but have a disproportional representation on its related outcomes like limited educational attainment, food insecurity, and poor mental health. Public health leaders can provide insight into restructuring the housing system to simultaneously improve various related aspects of health and wellbeing. The housing crisis has inequitable outcomes on low-income households due to lack of available supports, policies, and options. Public health leaders can advocate for housing reformation that will have lasting and widespread impact for low-income households.

## REFERENCES

- Alley, D. E., Lloyd, J., Pagán, J. A., Pollack, C. E., Shardell, M., & Cannuscio, C. (2011). Mortgage delinquency and changes in access to health resources and depressive symptoms in a nationally representative cohort of Americans older than 50 years. *American journal of public health, 101*(12), 2293–2298. <https://doi.org/10.2105/AJPH.2011.300245>
- Apartment List. (2022). Data and Rent Estimates. *Apartment List*. Accessed September 18, 2022. <https://www.apartmentlist.com/research/category/data-rent-estimates>
- City of Durham. (2022). Forever Home, Durham. *City of Durham*. Accessed September 18, 2022. <https://www.durhamnc.gov/4593/Forever-Home-Durham>
- DeBruyn, J., McKeown, B. (2020). Where We Live- Exploring The Housing Crisis in North Carolina. *The Samuel DuBois Cook Center on Social Equity at Duke University*. Accessed September 18, 2022. <https://socialequity.duke.edu/uncategorized/where-we-live-exploring-the-housing-crisis-in-north-carolina/>
- Enterprise. (2015). City of Durham Affordable Housing Goals 2016-2021. *Enterprise*. Accessed September 18, 2022. <https://www.durhamnc.gov/DocumentCenter/View/28819/Affordable-Housing-Goals>
- Grubb, T. (2022). Residents call out affordable housing crisis. Here’s what they want an NC city to do. *The News & Observer*. Accessed September 18, 2022. <https://www.newsobserver.com/news/local/counties/durham-county/article264736799.html>
- Hernandez, D., Suglia, S. (2016). Housing as a Social Determinant of Health. *Robert Wood Johnson Foundation*. Accessed September 18, 2022. <https://healthequity.globalpolicysolutions.org/wp-content/uploads/2016/12/Housing2.pdf>
- Krueger, S. (2022). ‘Housing crisis is really starting to show its crunch’: CEO of Durham homeless shelter says it has reached full capacity. *WRAL News*. Accessed September 18, 2022. <https://www.wral.com/housing-crisis-is-really-starting-to-show-its-crunch-ceo-of-durham-homeless-shelter-says-it-has-reached-full-capacity/20374968/>
- Maqbool, N., Viveiros, J., Ault, M. (2015). The Impacts of Affordable Housing on Health: A Research Summary. *Center for Housing Policy*. Accessed September 18, 2022. <https://nhc.org/wp-content/uploads/2017/03/The-Impacts-of-Affordable-Housing-on-Health-A-Research-Summary.pdf>
- National Low Income Housing Coalition. (2022). North Carolina. *National Low Income Housing Coalition*. Accessed September 18, 2022. <https://nlihc.org/oor/state/nc>



Price, C. (2022). Durham City Council discusses how to address affordable housing crisis as median home price soars to \$365k. *Durham County News*. Accessed September 18, 2022. <https://www.cbs17.com/news/local-news/durham-county-news/durham-city-council-discusses-how-to-address-affordable-housing-crisis-as-median-home-price-soars-to-365k/>

Taylor, L. (2018). Housing And Health: An Overview Of The Literature. *Health Affairs*. Accessed September 18, 2022. <https://www.healthaffairs.org/doi/10.1377/hpb20180313.396577/>

Triangle MLS. (2022). Local Market Update. *Triangle Multiple Listing Services*. Accessed September 18, 2022. <https://www.trianglemls.com/clientuploads/TMLS/Market%20Trends/Local%20Market%20Updates/2022/May/Entire-Triangle-Region.pdf>

United States Census Bureau. (2021). QuickFacts Durham County, North Carolina. United States Census Bureau. Accessed September 18, 2022. <https://www.census.gov/quickfacts/durhamcountynorthcarolina>

### Appendix C.1.a: Individual Problem Statement Figures and Tables

Table 1. Demographic Characteristics in Durham County, NC (United States, 2021)

Total population estimates	326, 126
Housing units	149,204
Owner-occupied housing unit rate	55.4%
Households	130,128
Persons per household	2.33
Persons in poverty, percent	11.7%

## **Appendix C.2: Stakeholder Analysis**

### **Durham Minority Homeowner Development Stakeholder Analysis**

#### **Introduction**

Housing is a social determinant of health that directly influences where people live and is an important factor in health and quality of life. Housing is linked to both physical and mental health due to safety, the environment, social opportunities, and available and accessible resources like food and healthcare (Hernandez, 2016). The Kano Model is a tool used to assess the impact that a service or product has on a consumer, which is further used to understand the consumers' needs and desires. When using the Kano Model to analyze the impact housing has on customers, it demonstrates that housing is primarily a basic necessity (Appendix A), reiterating that housing is an important social determinant of health.

Affordable housing in Durham County, North Carolina, is becoming scarce due to population growth and inflated pricing (DeBruyn, 2020). Communities that have historically had affordable housing are experiencing rapid rises in sales, rent prices, and property taxes (Enterprise, 2015). Extremely low-income households, defined as those earning less than 30% of the Area Median Income (AMI), are often cost-burdened, where households are paying over 30% of income on housing related expenses. Black and brown people are disproportionately affected by housing cost burden (NC Policy Watch, 2018).

#### **Program Description**

Durham Minority Homeownership Development (DMHD) will address inequities of homeownership for low-income Black and Brown people in Durham County by changing organizing principles, the rules that govern the housing system. Northeast Central Durham has been particularly affected by affordable housing shortages, which is where the program will be implemented. DMHD will partner with Bank of America to help first-time Black and Hispanic home buyers by offering affordable loans and waiving down payments, closing costs, and minimum credit scores. A committee will be formed to approve eligibility requirements and choose primary beneficiaries. It will also define appropriate housing measures and ensure the housing meets the established standards.

DMHD will also partner with Forever Home Durham (FHD) which is a local project with a \$160 million budget aiming to expand affordable housing throughout the city. FHD aims to provide 400 affordable homeownership opportunities for low-income homebuyers by 2025 but has unsuccessfully been meeting milestones for this goal. DMHD will bridge this gap by working with low-income black and brown Northeast Central Durham residents to secure affordable homeownership opportunities. DMHD will help Black and Hispanic communities build wealth and revitalize minority communities. It will also decrease racial disparities in homeownership rates in Durham County by increasing minority home ownership.

The SIPOC Analysis (Appendix B) is a process map that provides information for efficient operations in Durham Minority Homeownership Development. This high-level overview is helpful because it identifies the relevant elements of the program and defines the complex project through visual representation, giving more details to the program description. It also demonstrates who the primary stakeholders are in the development and delivery of the program.

### **Stakeholder Analysis**

Stakeholders in this program include Forever Home Durham, Black/Brown residents of Northeast Central Durham, Bank of America, minority real estate workers, and committee members. The committee members will specifically include representatives from Northeast Central Durham, Durham Community Development Department, minority developers and real estate agents, and Forever Home Durham. From the stakeholders' perspective, the transformation needed is additional affordable housing for low-income Durham residents.

A power analysis was used to determine the various stakeholders' influence and interest in the program (Appendix C). This analysis helps to understand how the stakeholders will influence the actions, goals, and policies of DMHD. In addition, the Stakeholder Analysis Map (Appendix D) demonstrates key criteria for each stakeholder, including roles, influence, and strategies for engagement. This tool is used to analyze and understand who is involved in DMHD and how they are connected.

The primary beneficiaries of DMHD are low-income Black and Brown residents in Northeast Central Durham. They are high interest as well as high influence stakeholders. Affordable homeownership opportunities will become feasible and a reality for households previously unable to own a home, leading to the high interest. The CATWOE Analysis (Appendix E) demonstrates the power that Durham community members hold through voting and voicing concerns, clarifying the influence that the beneficiaries hold. This analysis is a framework for analyzing the stakeholders' perspective and for project management.

Forever Home Durham (FHD) is directly affecting affordable housing availability through its efforts to build and develop for low-income Durham residents. FHD has a significant budget with many partners supporting their efforts to improve housing conditions and opportunities. FHD is a high-interest stakeholder because DMHD will augment its success in providing homeownership opportunities for low-income homebuyers. FHD is a high-power stakeholder because it has significant funding available and is already partnered with many local, state, and national organizations.

Durham Community Development Department (DCDD) also directly impacts housing, as their primary goal is to enhance housing quality and affordability. Provided services include financial empowerment, home retention, affordable housing, and homelessness services (City of Durham, 2022). DCDD is also a high interest stakeholder because the program will enhance housing affordability for Durham homeowners, which will in turn lead to neighborhood stabilization. However, DCDD is a low influence stakeholder as there is limited funding and fewer partners to support the organization's goals.

Bank of America is a high influence stakeholder because it will provide the loans for qualified program beneficiaries. However, because Bank of America would be taking a loss on its profits, it is of low interest for them to participate in the program. Engagement strategies will be particularly important and will be further discussed in a different section.

Minority real estate agents and brokers are both low influence and low interest. Although the brokers and real estate agents will be financially compensated for their guidance and time, it will still take additional effort for the agents and brokers to learn the about program and guide the clients when

necessary. Furthermore, because of the nature of the program, the homes will be sold at overall lower prices and the agents/brokers' cuts will be lower. Lastly, the real estate agents and brokers have little influence on the program. Although they will be a beneficial voice for the beneficiaries, they have little ability to develop and execute the program.

### **Rationale**

The Give/Get Grid (Appendix F) demonstrates why these key stakeholders should be included in this transformative change. Black and Brown residents can provide personal knowledge and expertise on the issue and can help shape appropriate approaches for marketing and applications. Forever Home Durham has experience in Durham housing development, additional resources, and current funding. Durham Community Development Department has subject matter knowledge on neighborhood development and revitalization.

Bank of America will provide the loans to first-time minority homeowners. They can assist in evaluating the effectiveness of the program as well as develop possible policy changes for future clients. Bank of America may also improve its reputation and increase the number of members through the program. Benefits for minority real estate agents and brokers include expanding community partners and networks as well as access to additional resources and compensation for program contributions.

Furthermore, several stakeholders have overlapping goals. Forever Home Durham, community members, and Durham Community Development Department have a shared vision in providing affordable homes for low-income residents. Existing stakeholder support will make Durham Minority Homeownership Development easily implemented and sustainable.

More importantly, power and influence can be spread differently in housing conditions as minority homeownership expands. This will reduce the effects of gentrification and segregation, which perpetuate housing disparities and related health outcomes. Minorities are often underrepresented in health and in wealth. Limiting the beneficiaries to Black and Brown members will aim for equitable distribution of these rights.

## REFERENCES

- City of Durham. (2022). Community Development Department. *City of Durham*. Accessed October 7, 2022. <https://www.durhamnc.gov/445/Community-Development>
- DeBruyn, J., McKeown, B. (2020). Where We Live- Exploring The Housing Crisis in North Carolina. *The Samuel DuBois Cook Center on Social Equity at Duke University*. Accessed September 18, 2022. <https://socialequity.duke.edu/uncategorized/where-we-live-exploring-the-housing-crisis-in-north-carolina/>
- Dunlap, D. (2022). Nonprofits, governments team up to help people keep a roof overhead amid Georgia housing crisis. *GPB News*. Accessed October 8, 2022. <https://www.gpb.org/news/2022/09/23/nonprofits-governments-team-help-people-keep-roof-overhead-amid-georgia-housing>
- Enterprise. (2015). City of Durham Affordable Housing Goals 2016-2021. *Enterprise*. Accessed September 18, 2022. <https://www.durhamnc.gov/DocumentCenter/View/28819/Affordable-Housing-Goals>
- Hernandez, D., Suglia, S. (2016). Housing as a Social Determinant of Health. *Robert Wood Johnson Foundation*. Accessed September 18, 2022. <https://healthequity.globalpolicysolutions.org/wp-content/uploads/2016/12/Housing2.pdf>
- National Low Income Housing Coalition. (2022). North Carolina. *National Low Income Housing Coalition*. Accessed October 8, 2022. <https://nlihc.org/housing-needs-by-state/north-carolina>
- NC Policy Watch. (2018). New report details racial inequality, poverty and gentrification in Durham. *NC Policy Watch*. Accessed October 15, 2022. <https://ncpolicywatch.com/2018/08/22/new-report-details-racial-inequality-poverty-and-gentrification-in-durham/>

## Appendix C.2.a: Stakeholder Analysis Figures and Tables

### Appendix A. Kano Model Description of Housing Needs for Consumers

<b>Kano Model Description of Housing Needs for Consumers</b>		
<b>Need</b>	<b>Rank</b>	<b>Description</b>
Safety	Basic	The neighborhood has low occurrence of violence. The house has adequate protections, such as functioning locks, fire detectors, etc.
Cleanliness	Basic	The housing is does not have health-harming conditions such as lead, mold, water damage, pests, etc. It is also not negatively affected by environmental conditions such as pollution or water contamination.
Functionality	Basic	The housing provides working electricity, plumbing, and has appropriate areas for appliance installment (refrigerator, router, etc.).
Social Network	Performance	The neighborhood provides opportunities for community bonding.
Accessibility	Basic	The housing is within reasonable distance to grocery stores, healthcare facilities, schools, etc.
Affordability	Basic	Housing costs are given a maximum of 30% of household income. Unexpected charges do not occur.
Stability	Basic	Low risk of eviction, replacement, or loss of housing. There is no time limit.
Design	Delighter	The housing is comfortable, cohesive, and enjoyable to live in.



Appendix B. SIPOC for Durham Minority Homeownership Development

<b>SIPOC</b>				
<b>Suppliers</b>	<b>Inputs</b>	<b>Process</b>	<b>Outputs</b>	<b>Customers</b>
DMHD	Selected committee members	Committee sets eligibility and housing requirements	Application Forms	Black/Brown low-income Durham residents
Selected committee	Applications	Beneficiaries are selected	Qualified for approved loans	Black/Brown low-income Durham residents
DMHD	Partnerships with minority real estate agents	Connect beneficiaries with brokers and real estate agents	Housing options presented	Black/Brown low-income Durham residents
Bank of America	Funding	Bank provides housing loans	Home acquisition	Black/Brown low-income Durham residents; Bank of America
DMHD	Paperwork documentation and files; surveys	Monitor success of program	Evaluation reports	Forever Home Durham

Appendix C: Stakeholder Power Analysis Grid

<b>Stakeholder Power Analysis Grid</b>	
<b>High Influence/Low Interest</b> <i>Meet their needs</i> Bank of America	<b>High Influence/High Interest</b> <i>Key Player</i> Forever Home Durham Black/Brown Durham residents
<b>Low Influence/Low Interest</b> <i>Keep informed minimally</i> Minority developers/real estate agents	<b>Low Influence/High Interest</b> <i>Show consideration</i> Durham Community Development Department

Appendix D: DMHD Stakeholder Analysis Map

<b>DMHD Stakeholder Analysis Map</b>			
<b>Stakeholder</b>	<b>Stakeholder Interest(s) in Durham Minority Homeownership Development (DMHD)</b>	<b>Assessment of Impact</b>	<b>Potential Strategies for Obtaining Support and/or Reducing Obstacles</b>
Black/Brown Durham Residents	Low-income minority Durham residents face disproportionate housing related cost burden. Affordable housing, particularly home ownership, can improve health outcomes and lesson the gap in wealth, health, and quality of life.	High Interest/High Influence	-Easy to understand application and process -Use minority brokers to help find available homes -Announce program through highly received platforms
Forever Home Durham	DMHD can aid Forever Home Durham in reaching their goal of providing 400 affordable homeownership opportunities for low-income homebuyers. This is especially of interest because FHD has not progressed in this area of the project.	High Interest/ High Influence	-Presenting plan to assist FHD in reaching already identified goals -Secure additional funding through Bank of America and HUD
Bank of America	Improve public image and boost the number of bank members. Invest in growing community for future bank usage.	High Influence/ Low Interest	-Reiterate past success -Demonstrate impact of DMHD on eligible homeowners
Durham Community Development Department	In line with goal to enhance housing quality and affordability for Durham residents. DMHD also will improve neighborhood stabilization and revitalization efforts.	Low Influence/ High Interest	-Include representative(s) on committee
Minority Real Estate Agents and Brokers	Increased job opportunities and strengthening community. Can improve personal image and lead to future business success.	Low Influence/ Low Interest	-Receive compensation/commission for work

Appendix E. Minority Durham Resident CATWOE Analysis

<b>Minority Durham Resident CATWOE Analysis</b>	
<b>Customer</b>	Low-income Black and Brown persons who disproportionately represent housing related cost-burden in Durham, NC
<b>Actor</b>	Durham community members voted to pass the affordable housing referendum in 2019
<b>Transformation</b>	Approximately 30% of future housing development for extremely low-income households
<b>Worldview</b>	Expand affordable housing for low-income households in Durham
<b>Owner</b>	Policymakers in Forever Home, Durham who manage the \$160 budget for housing development in Durham
<b>Environment</b>	Growth in Durham, inflation, increased taxes, rising costs of building materials and land

Appendix F: DMHD Stakeholder Give/Get Grid

<b>DMHD Stakeholder Give/Get Grid</b>		
<b>Stakeholder</b>	<b>Give/Contributions</b>	<b>Get/Benefits</b>
Durham Minority Homeownership Development	<ul style="list-style-type: none"> <li>-Dedicated time for project planning, implementation, and evaluation</li> <li>-Dissemination of information</li> <li>-Qualitative research (through committee)</li> </ul>	<ul style="list-style-type: none"> <li>-Gain experience increasing affordable housing</li> <li>-Provide evidence on program’s overall impact</li> <li>-Increase the number of minority homeowners</li> </ul>
Black/Brown Durham Residents	<ul style="list-style-type: none"> <li>- Personal expertise of the issue</li> <li>- Knowledge on experience dealing with lack of affordable housing</li> <li>-Advice on successful marketing and applications of DMHD</li> </ul>	<ul style="list-style-type: none"> <li>- Group knowledge gained on how this housing shortage could be dealt with politically</li> <li>- Personal insight</li> <li>-Appropriate approaches to targeted audience</li> </ul>
Forever Home Durham	<ul style="list-style-type: none"> <li>-Subject matter knowledge</li> <li>-Experience in leading affordable Durham housing development</li> <li>- Current funding</li> <li>-Various partnerships</li> </ul>	<ul style="list-style-type: none"> <li>- Access to funding</li> <li>- Insight from current projects and interventions</li> <li>- Resources and experience working with community members on affordable housing development and community transformation</li> </ul>
Bank of America	<ul style="list-style-type: none"> <li>-Funding; waive certain loan requirements</li> <li>-Experience in past loan waivers for home ownership opportunities</li> </ul>	<ul style="list-style-type: none"> <li>-Help meet mission of collaborative–data gathering</li> <li>-Evidence on outcomes</li> <li>-Possible policy changes</li> </ul>
Durham Community Development Department	<ul style="list-style-type: none"> <li>-Knowledge of best neighborhoods for development and revitalization</li> <li>-Advice for application process and selected beneficiaries</li> </ul>	<ul style="list-style-type: none"> <li>-Advance personal interests without needing to put in additional funding</li> <li>-Stabilize Durham County by housing additional residents</li> </ul>
Minority real estate agents and brokers	<ul style="list-style-type: none"> <li>-Sufficient understanding of expectations, rules, and responsibilities</li> <li>-Transparency in advocacy intentions for clients</li> <li>-Appropriate updates and reports to DMHD and clients</li> <li>-Clear budget and financial responsibility</li> <li>-Dedicated and involved staff</li> </ul>	<ul style="list-style-type: none"> <li>-Access to resources and/or compensation for work</li> <li>-Increased opportunities to sell homes and establish name</li> <li>-Expand community partners and/or network</li> <li>-Improved understanding of best practices for selling to low-income homebuyers</li> </ul>

## **Appendix C.3: Engagement and Accountability Plan**

### **Durham Minority Homeowner Development Engagement and Accountability Plan**

#### **Statement of Purpose**

Durham, like many other cities in the country, is faced with rising housing costs from inflation and population growth (DeBruyn, 2020). Durham Minority Homeownership Development (DMHD) will increase affordable housing opportunities for low-income Black and Brown residents of Southeast Central Durham by waiving traditional requirements and fees for loan approval. Waiving requirements such as a minimum credit score can create opportunities for low-income persons to purchase a home. In addition, eliminating closing fees and a down payment can make housing affordable when it otherwise would not have been. Black and Brown populations will be prioritized as beneficiaries as they have historically been housing cost burdened (NC Policy Watch, 2018). Essential stakeholders must collaborate and be engaged for the program to be successful.

#### **Engagement Methods**

There are several strategies to involve important stakeholders in the decision-making of the program (see Table 1.). These methods will include and inform stakeholders of the development, implementation, and evaluation phases of the program. Inclusion of the stakeholders builds trust, which is essential for the program's success. A more detailed stakeholder engagement plan is included in Appendix G.

**Table 1.**

<b>Engagement Methods</b>			
<b>Stakeholder(s)</b>	<b>Strategy</b>	<b>Level</b>	<b>Program Involvement</b>
Representatives from: Black/Brown Durham community, Durham Community Development Department, minority real estate agents/brokers	Advisory Committee	Group	Design program eligibility requirements, review applications, select beneficiaries
Bank of America	Face-to-face Meetings	Individual	Provide direct program benefits through implementation
Forever Home Durham	Newsletter	Individual	Fund various aspects of program
Advisory Committee Representatives, Bank of America, Forever Home Durham	Website Surveys	Group	Provide feedback for program evaluation, adapt program based on feedback

The first group strategy is to form an Advisory Committee consisting of Black/Brown resident representatives in Durham, Durham Community Development Department participants, and minority real estate agents and/or brokers. The committee includes these representatives because they will be directly affected by the program’s decisions. These committee members will also have valuable experience and insight on how to best design, implement, and adapt the program. The Advisory Committee will be engaged in Durham Minority Homeownership Development (DMHD) through decision-making and consulting. The committee will establish guidelines for appropriate and approved housing. It will determine eligibility criteria for potential beneficiaries in addition to low-income and cost-burden status. The Advisory Committee will develop and review the applications and select beneficiaries. They will inform the DMHD team of chosen beneficiaries, where the team will then work with selected beneficiaries on next steps. The Advisory Committee will meet monthly to review applications, select beneficiaries, and inform the DMHD team on chosen participants.

The second strategy is individual; face to face meetings with Bank of America. A DMHD team member will assist beneficiaries in these meetings with the Bank of America to go through the loan approval process. Bank of America will ultimately approve the modified loan requirements for the program beneficiaries. The DMHD team will meet with Bank of America biweekly with chosen beneficiaries and to review the program’s development.

The third strategy is to write monthly newsletters for Forever Home Durham, an individual engagement approach. Forever Home Durham will allocate funds to achieve shared goals and objectives. The newsletter will allow Forever Home Durham to track the number of low-income households who successfully purchased a home, which is the most prominent shared goal. The newsletter will also include a report on the use of provided funds to promote transparency and build trust. The newsletter can also raise a profile for DMHD by alerting Forever Home Durham partners.

The fourth and final strategy is aimed at group engagement. Durham Minority Homeownership Development will create a website to market and advertise the program, submit applications, and receive feedback. In addition, Bank of America can post videos of their involvement in the program. Anonymous online surveys will be available for stakeholders, beneficiaries, or anyone else interested or impacted by the program. These surveys will be helpful for evaluating the program because all involved stakeholders can express what is going well and what needs to improve (Appendix H). The website will be reviewed monthly by the DMHD team to review feedback and make necessary adjustments to the program.

### **Rationale for Engagement Strategies**

The Advisory Committee is important because it will spread decision-making power to populations who previously did not have sufficient influence to make these changes individually. Building power in minority groups who have been systematically deprived of opportunity and privilege can change the current housing system and dynamic in Durham. The Advisory Committee will give a voice to low power or low influence groups who have firsthand knowledge on the program subject matter. Collaborative decision-making will uncover potential risks and the committee can collectively decide how to best address issues that arise. Working together will make the program more likely to succeed and build a stronger community.

Meeting face to face with Bank of America will allow the bank to be informed on clientele. The program becomes more personal and the impact more important when the beneficiaries are identified. These meetings will actively update and involve the bank in the loan approval process. And the bank can deny loans in face to face meetings if it decides there are red flags.



The monthly newsletter is important because it will keep Forever Home Durham informed of DMHD's progress. It will hold the DMHD team accountable with the management of funds and increase mutual respect. The newsletter can demonstrate the effectiveness of the program to Forever Home Durham and by extension, its partners. Making the program's success well known can allow for similar programs to be implemented in other cities.

The program website is crucial to DMHD. It is interactive and can engage all stakeholders, including the community. The website is a tool for feedback, a platform for stakeholders' voices. This will give power to the stakeholders in expressing their desires and suggestions for the program. Using a variety of individual and group tools to engage stakeholders builds the likelihood of program success and sustainability. The impact of DMHD can reach farther as stakeholders are informed and involved in the program development, implementation, evaluation, and adaptation.

## REFERENCES

- DeBruyn, J., McKeown, B. (2020). Where We Live- Exploring The Housing Crisis in North Carolina. *The Samuel DuBois Cook Center on Social Equity at Duke University*. Accessed September 18, 2022. <https://socialequity.duke.edu/uncategorized/where-we-live-exploring-the-housing-crisis-in-north-carolina/>
- Grubb, T. (2022). Residents call out affordable housing crisis. Here's what they want an NC city to do. *The News & Observer*. Accessed September 18, 2022. <https://www.newsobserver.com/news/local/counties/durham-county/article264736799.html>
- NC Policy Watch. (2018). New report details racial inequality, poverty and gentrification in Durham. *NC Policy Watch*. Accessed October 15, 2022. <https://ncpolicywatch.com/2018/08/22/new-report-details-racial-inequality-poverty-and-gentrification-in-durham/>
- Newman, S. D., Andrews, J. O., Magwood, G. S., Jenkins, C., Cox, M. J., & Williamson, D. C. (2011). Community advisory boards in community-based participatory research: a synthesis of best processes. *Preventing chronic disease*, 8(3), A70.
- Tobi, P. (2016). Health Needs Assessment. *Public Health Intelligence*. Accessed November 16, 2022. [https://doi.org/10.1007/978-3-319-28326-5\\_9](https://doi.org/10.1007/978-3-319-28326-5_9)

## Appendix C.3.a: Engagement and Accountability Plan Figures and Tables

### Appendix G: Stakeholder Engagement Plan

Stakeholder	Power and Interest	Areas of Influence and Interest	Project Phase	Engagement Approach	Engagement Tools	Frequency
Black and Brown Durham Residents	High Influence High Interest	Advocacy, Equity	Design, Implementation, Evaluation	Collaborative	Advisory Committee, Website	Monthly
Forever Home, Durham	High Influence High Interest	Political Advocate and Ally, Research	Implementation, Evaluation	Consult	Newsletter, Website	Monthly
Bank of America	High Influence Low Interest	Policy Development, Equity	Implementation, Evaluation	Consult	Face to Face Meetings, Website	Biweekly
Durham Community Development Department	Low Influence High Interest	Research, Partnership	Design, Implementation, Evaluation	Collaborative	Advisory Committee, Website	Monthly
Minority Real Estate Agents and Brokers	Low Influence Low Interest	Education, Training of first-time homeowners	Design, Implementation, Evaluation	Collaborative	Advisory Committee, Website	Monthly

Appendix H: Stakeholder Survey Questions

Stakeholder Survey Questions
How did you find out about the program? A. Recommendation B. Social Media C. Community Advertisement D. Other (list)
What is your involvement with the program? A. Program Beneficiary B. Program Designer C. Researcher and Evaluator D. Funder E. Other (list)
Has Durham Minority Homeowner Development impacted you or your organization? How?
What is going well with the program? What needs to be improved?
Would you recommend this program? Why or why not?

**MEMORANDUM OF UNDERSTANDING**  
**between**  
**Durham County Department of Public Health**  
**and**  
**Durham Minority Homeownership Development Advisory Committee**

This Memorandum of Understanding (MOU) sets the terms and understanding between Durham County Department of Public Health and the Durham Minority Homeownership Development Advisory Committee to increase affordable housing opportunities for low-income Black and Brown residents of Southeast Central Durham by approving eligible applicants for waived requirements and fees for loan approval and guiding them to appropriate housing opportunities.

**Introduction**

This partnership is important for the success of Durham Minority Homeownership Development, which was created to provide affordable housing for minority populations in Durham. We aim to increase affordable housing in Durham for low-income and cost-burdened households through this program by changing organizing principles that govern the housing system. First-time minority homeowners will be offered affordable loans through waived down payments, closing costs, and minimum credit scores. There is a prioritization to support Black and Brown households because of existing housing cost burden disparities in Durham. The Advisory Committee has several representatives that with unique resources, knowledge, expertise, and experience on the community and the housing environment. Partnering builds a solid foundation for the success of the program.

**Purpose**

The purpose of this MOU is to develop health and build environment cooperation based on equity as well as to promote sustainable partnerships. This MOU is a documentation of collective agreement for participating in Durham Minority Homeownership Development. Our goal is to increase the number of Black and Brown homeowners in Durham by providing affordable housing opportunities through new loan terms and conditions.

**Common Expectations**

The work of Durham County Department of Public Health and the Durham Minority Homeownership Development Advisory Committee shall adhere to the following shared expectations:

1. Joint efforts will be population-health oriented and work to promote equity and social determinants of health
2. Understand and leverage individual committee members' strengths and weaknesses
3. Provide feedback to each other respectfully and constructively
4. Ensure work is done in a timely manner to allow internal review and feedback prior to next steps
5. Resolve conflicts with each other; if unattainable, include program team management for resolution
6. Foster an environment for active participation and engagement
7. This MOU is not a commitment of funds

### **Roles and Responsibilities**

The Durham Minority Homeownership Development Advisory Committee will be accountable for implementing a new program in Durham to address the shortage of affordable housing for low-income households. It will also record necessary data for future evaluation (Newman, 2011). The Durham County Department of Public Health will evaluate effectiveness and adherence to the agreement as the program is continually evaluated. Specifically, the health department will assess the community's need for housing as a social determinant of health (Tobi, 2016). Adherence will be reported quarterly. It will also be responsible for analyzing the program's impact and success.

### **Goal and Metrics**

The goal to increase the number of Black and Brown homeowners in Durham by providing affordable housing opportunities through new loan terms and conditions will be accomplished by undertaking the following aims:

1. Design program applications
2. Review submissions
3. Select program beneficiaries
4. Record relevant details for future evaluation and similar programs
5. Adapt program according to stakeholder feedback
6. Evaluate the impact of the program

The following metrics will be used to achieve the previous listed aims:

1. Using the Area Median Income to determine low-income status (Grubb, 2022).
2. Determine cost burden status based on income and housing related costs (before and after program)
3. Number of applicants and beneficiaries
4. Housing retention throughout the duration of the program

### **Renewal, Termination, and Amendment**

This MOU is at-will and may be modified by mutual consent of authorized officials from Durham County Department of Public Health and the Durham Minority Homeownership Development Advisory Committee. This MOU shall become effective upon signature by the authorized officials from Durham County Department of Public Health and the Durham Minority Homeownership Development Advisory Committee. The MOU will remain in effect until modified or terminated by any one of the partners by mutual consent. In the absence of termination by the authorized officials from Durham County Department of Public Health and the Durham Minority Homeownership Development Advisory Committee, this MOU shall end on December 31, 2025. If the program is extended, the MOU will be renewed at that time.

### **Contact Information**

Partner name

Partner representative

Position

Address

Telephone

Date:

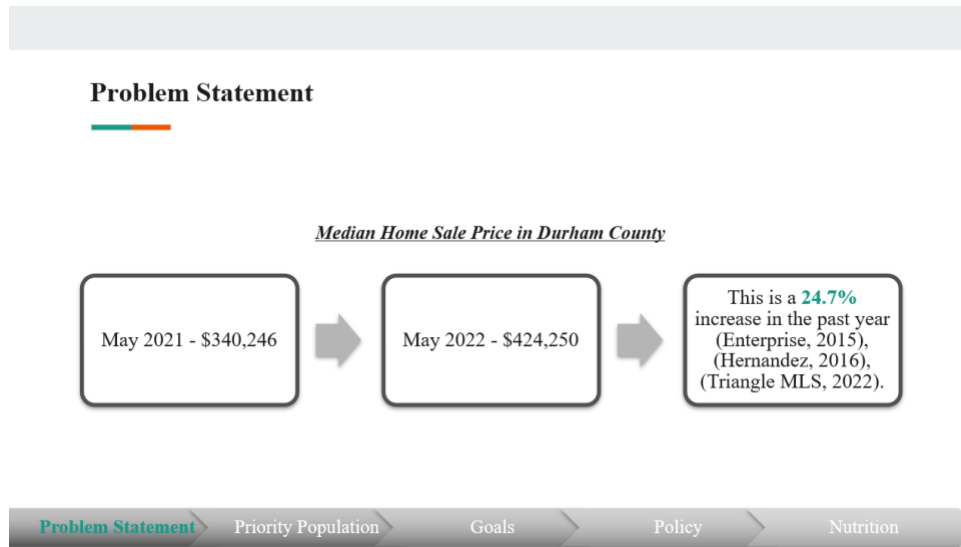
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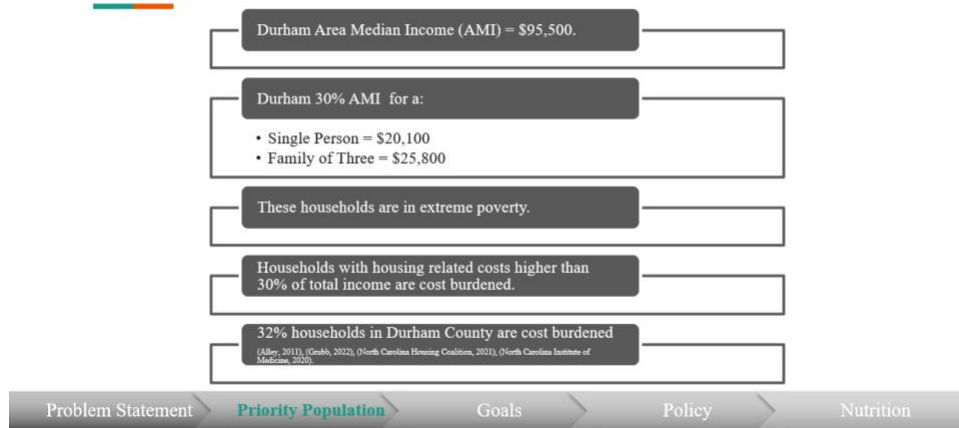
## Appendix C.4: Individual Presentation Slides and Script



Housing is a widely acknowledged social determinant of health because it directly affects living conditions, social support networks, access to healthcare, neighborhood, and socioeconomic status. Durham County has approximately 325,000 residents and is growing faster than most counties in North Carolina, creating a higher demand for housing. Neighborhoods that have historically had affordable housing are experiencing rapid rises in sales, rent prices, and property taxes. There has been a 24.7% increase in the median home sale price in Durham County just in the past year.

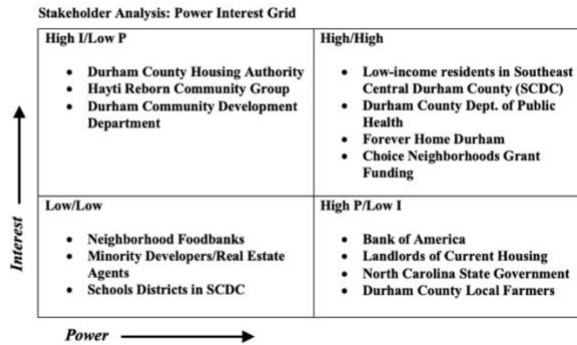


## Priority Population



Racial and ethnic minorities and low-income households are disproportionately impacted by lack of affordable housing. Low-income households earn less than 80% of the Area Median Income, or less than approximately \$95,500 in Durham County. In 2021, 32% of households in Durham County were cost-burdened, meaning they spend more than 30% of their income on housing. Households that are cost-burdened often have limited resources to invest in health which increases the risk for food insecurity and malnutrition.

## Stakeholders



There are many important stakeholders with varying degrees of power and interest in the proposed programs. Forever Home Durham and Choice Neighborhoods Grant Funding are two high power and high interest stakeholders who have similar goals to us. Forever Home Durham is a local project with a \$160 million budget aiming to expand affordable housing throughout the city. One goal is to provide 400 affordable homeownership opportunities for low-income homebuyers by 2025. Other stakeholders such as Durham County Housing Authority and Durham Community Development Department have experience and subject matter knowledge on neighborhood development and revitalization. Bank of America and Durham County Local Farmers are key stakeholders in the success and implementation of these programs, as they will be providing necessary services to the beneficiaries. And low-income and minority residents of Durham will participate in a committee that co-designs and evaluates the programs, spreading power and influence differently in housing decision-making. The shared vision among these stakeholders will increase program support and will make the programs easily implemented and sustainable.

## **APPENDIX D: LAUREN LATTEN'S INDIVIDUAL DELIVERABLES**

### **APPENDIX D.1: Individual Problem Statement**

**Problem:** To increase housing access and affordability for households who rent in Durham County and spend more than 30% of income on housing

#### *Social Determinants of Health*

Social determinants of health are imperative to acknowledge and address in order to close health equity and health disparity gaps. According to the Kaiser Family Foundation (KFF), social determinants of health are defined as “the conditions in which people are born, grow, live, work and age that shape health” and they “include factors like socioeconomic status, education, neighborhood, and physical environment, employment, and social support networks, as well as access to healthcare”(State Report 2022). Many factors can significantly impact health, such as economics, education, healthcare access, and quality, social community, and neighborhood.

Neighborhood is one example of a social determinant of health. Many factors in a community's neighborhood may affect the success of public health intervention and the community's overall health and economic stability. As a result, it is imperative to address and resolve issues pertaining to a community's neighborhood and physical environment to improve health outcomes and reduce health disparities long term. According to Health People 2030, a lot of individuals in the United States “lie in neighborhoods with high rates of violence, unsafe air or water, and other health safety risks” and “racial/ethnic minorities and people with low incomes are more likely to live in places with these risks”, so it is important to implement public health interventions and various policies at all levels in order to promote health and to address “health and quality-of-life risks and outcomes” (Urban Ministries 2022, CDC 2021).

Affordable housing is a type of neighborhood social determinant of health. In Durham County, there is housing access and affordability is decreasing. The impact of this social determinant of health can be short or long-term. Short-term impacts include adverse health outcomes, such as physical and mental health exacerbations. Examples include economic burden, which could lead ultimately to increases in

obesity and chronic conditions due to reduced nutrition and decreased exercise. Long-term impacts include expanding health equity, health disparity, and the wealth gap.

Therefore, increasing housing access and affordability for households below 50% area median income (AMI) who rent in Durham County will significantly improve the community and will address the short and long-term implications of reduced housing access.

### *Geographic and Historical Context*

Durham county is located in North Carolina and encompasses deep history and various cities including Durham. Durham was established in April 1869 after being settled by English, Scottish, and Irish settlers and was known globally for manufacturing tobacco (Durham County 2022). Tobacco was successful and contributed significantly to the economic prosperity of the city and surrounding regions. Durham County was formed in April 1881 after political division from Orange County (Durham County 2022).

According to the 2022 North Carolina State Report, Durham is ranked 7 out of 100 ranked North Carolina counties for health outcomes and 9 out of 100 for health factors (County Health 2022). This attributes to Durham county's culture and because Durham County is very diverse and home to multiple colleges, universities, and health systems. Although Durham County is diverse, it currently experiences significant disparities pertaining to the neighborhood SDOH.

According to the County Health Rankings, 13% of the population experience a severe housing cost burden in comparison to an average of 12% for the state of North Carolina (Healthy People 2022). The tables below provide more data pertaining to Durham County demographics.

**Table 1: Demographics (KFF 2022)**

	County	State
Population	327,306	10,600,823
% below 18 years of age	20.1%	21.8%
% 65 and older	14.1%	17.1%
% Non-Hispanic Black	35.0%	21.3%
% American Indian & Alaska Native	0.9%	1.6%
% Asian	5.7%	3.3%
% Native Hawaiian/Other Pacific Islander	0.1%	0.1%
% Hispanic	13.7%	9.9%
% Non-Hispanic White	43.3%	62.3%
% not proficient in English	5%	2%
% Females	52.4%	51.4%
% Rural	5.6%	33.9%

**Table 2: Health Demographics (KFF 2022)**

	County	State
Poor physical health days	3.5	3.7
Physical Inactivity	27%	26%
Uninsured	14%	13%
Children in single parent households	31%	27%
Gender Pay Gap	0.92	0.84
Severe housing problems	17%	15%
Homeownership	55%	66%
Severe Housing Cost Burden	13%	12%

*Priority population*

There is vast opportunity to reduce housing disparities in Durham County. Homeownership is less than the state average. The population includes renters and homeowners. According to the United States Census, Durham has a diverse population. Table 3 provides additional data pertaining to housing.

**Table 3: Housing Demographics (Census 2022)**

Demographic	Durham County
Housing units, July 2021	149,204
Owner-occupied housing unit rate, 2016-2020	\$241,800
Median value of owner-occupied housing units, 2016-2020	\$1,457
Median selected monthly owner costs -without a mortgage, 2016-2020	\$496
Median gross rent, 2016-2020	\$1,103
Building Permits, 2021	3,518
Households, 2016 -2020	130,126
Persons per Household, 2016 - 2020	80.9%

*Measures of the Problem Scope*

The housing cost burden is more than average, which is defined as “spending more than 30% of total income on housing” and “according to the NC Housing Coalition, 31% of Durham County residents (39,582) are cost burdened; 49% of renters (28,917) and 16% of homeowners (10,665) (Census 2022).

*Rationale/Importance*

Addressing affordable housing is important because this social determinant of health has significant short- and long-term impacts. Households that are economically burdened are impacted financially, emotionally, and physically. If more resources are being attributed to housing, then fewer resources are available for nutrition, exercise, and additional health services. This can cause a reduction in nutrition and decrease an individual’s quality of life and overall health outcomes. It is imperative to make

housing more affordable so that we can ensure that Durham County's health outcomes and additional factors, such as economics, do not exacerbate.

### *Disciplinary Critique*

Social determinants of health have various impacts on a community. To successfully address these factors, it is important to create a multi professional team that consists of a health policy professional and additional members and stakeholders of the community. The policy is essential for change and the only way to improve the current circumstances is by proposing new policy and legislative changes. The policy takes time and is not the quickest process, but health policy professionals are trained to speak with the appropriate stakeholders so that they can provide innovative and cost-effective solutions that can and will improve the current status of citizens in a multitude of areas such as Durham County.



## REFERENCES

- 2022 State Report: North Carolina. (n.d.). Retrieved September 20, 2022, from 5.  
[https://www.countyhealthrankings.org/sites/default/files/media/document/CHR2022\\_NC\\_0.pdf](https://www.countyhealthrankings.org/sites/default/files/media/document/CHR2022_NC_0.pdf)
- Affordable housing: Living on the edge in Durham.* Urban Ministries of Durham. (n.d.). Retrieved September 25, 2022, from <https://umdurham.org/handoutsforhelpingout/2019/11/04/affordable-housing-living-on-the-edge-in-durham/>
- Beyond health care: The role of Social Determinants in promoting health and health equity.* KFF. Retrieved September 25, 2022, from [https://www.kff.org/racial-equity-and-health-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/#:~:text=Determinants%20of%20Health%3F-,Social%20determinants%20of%20health%20are%20the%20conditions%20in%20which%20people,health%20care%20\(Figure%201\)](https://www.kff.org/racial-equity-and-health-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/#:~:text=Determinants%20of%20Health%3F-,Social%20determinants%20of%20health%20are%20the%20conditions%20in%20which%20people,health%20care%20(Figure%201))
- Centers for Disease Control and Prevention. (2021, September 30). *Social Determinants of Health*. Centers for Disease Control and Prevention. Retrieved September 25, 2022, from <https://www.cdc.gov/socialdeterminants/index.htm>
- Durham County.* Home. (n.d.). Retrieved September 25, 2022, from <https://www.dconc.gov/>
- How healthy is your county?: County Health Rankings.* County Health Rankings & Roadmaps. (n.d.). Retrieved September 25, 2022, from <https://www.countyhealthrankings.org/>
- Priority areas.* Priority Areas - Healthy People 2030. (n.d.). Retrieved September 25, 2022, from <https://health.gov/healthypeople/priority-areas>
- U.S. Census Bureau quickfacts: United States.* (n.d.). Retrieved September 25, 2022, from <https://www.census.gov/quickfacts/fact/table/US/PST045221>

## **APPENDIX D.2: Policy Analysis**

### ***Background Information***

Health expenditure is one of many factors that are associated with health outcomes. As the United States transitions from fee-for-service to value-based care, the focus has also shifted from payments and financials to health outcomes, healthcare quality, and social determinants of health (SDOH). According to the World Health Organization (WHO), “social determinants of health are the non-medical factors that influence health outcomes [and] they are the conditions in which people are born, grow, work, live, and, and the wider set of forces and systems shaping the conditions of daily life” (WHO 2022). Social determinants of health play a direct role in an individual’s health outcomes and quality of life. It is imperative to address social determinants of health by providing innovative solutions that align with a community’s goals and budget. Healthy People 2030 further segments social determinants of health into 5 categories: economic stability, education access, and quality, healthcare access and quality, social and community context, and neighborhood and built environment (Healthy People 2022).

All the aforementioned factors influence and impact health outcomes, especially in the neighborhood that people live in. Disparities increase exposure to risks and exacerbate health inequities. Housing insecurity is an example of neighborhood social determinants of health because housing plays a significant role in various factors such as health, socioeconomic, and overall quality of life. The increasing housing costs puts a financial burden on individuals in the United States. Due to the economy and recent inflation, a multitude of cities in the United States have experienced increased housing costs for both homeowners and renters. As a result, there has also been a subsequent rise in individuals experiencing housing cost burdens. According to the United States Department of Housing and Urban Development, housing insecurity “encompasses several dimensions of housing problems people may experience, including affordability, safety, quality, insecurity, and loss of housing” and defines house cost burden as individuals who spend more than 30% of their income on housing costs (Bank of America 2022).

### ***Policy & Program Description***

The 2022-2023 City of Durham and Durham Consortium Annual Action Plan details that “communities of color have been disproportionately impacted” by housing changes (Johnson 2022). As a result it is imperative to eliminate housing disparities by increasing housing access and decreasing the quantity of house cost burden individuals in Southeast Durham, formerly known as the Hayti community. Health policy and public health programs play a significant role in spearheading long-term change. Two programs that have been shown to address housing insecurity are the Bank of America “No Down Payment Program for Home Loans” and the Atlanta Neighborhood Development (ANDP) program. I am proposing a hybrid program in Durham that provides the same services that the ANDP offers in conjunction with the components of the Bank of America Program.

Bank of America launched an initiative entitled the “No Down Payment Program for Home Loans” that aims to close racial disparity gaps in home ownership. The purpose of this program is to address wealth disparities and “to combat raising rates” (2022). The Atlanta Neighborhood Development (ANDP) was created “to address the diminishing supply of affordable housing in the Metropolitan Atlanta region as well as to help reclaim declining neighborhoods in its core. Throughout its history, ANDP has supported the creation of more than 11,000 units of housing for people of low-to-moderate incomes” (ANDP 2022).

### ***Evaluating Criteria***

The evaluation criteria include cost burden to the city of Durham, impact, feasibility, equity, community engagement, and advocacy. The cost burden criteria will assess the financial implications and budget needed in order to implement the program. The impact criteria analyze the quantitative and qualitative effects of the program. Feasibility assesses whether the program would work and the potential chances of success. Addressing equity is an important criterion that determines if the program targets a specific disparity or inequity. Community engagement evaluates opportunities available for members of Southeast Durham to get involved with the program and to actively participate and advocate for health policies that could positively impact the community.

## *Analysis*

The purpose of the Bank of America No-Down Payment Mortgage for Minority Communities Program is to help increase first-time Black and Hispanic home buyers by offering affordable loans. Bank of America offers this program, which does not require a down payment, a minimum credit score, or closing costs. It was piloted in Black and Hispanic communities in Charlotte, Dallas, Detroit, Los Angeles, and Miami and the program is based on income and location.<sup>5,6</sup> The goals of the program are to help Black and Hispanic families build wealth over time and revitalize minority communities, decrease racial gaps in homeownership rates, and increase minority home ownership (Bank of America 2022, Good Morning America 2022). This goal will impact the housing insecurity problem by increasing affordable housing access for minority and low-income families. This program has effectively improved access to homeownership for the Black and Hispanic communities in Charlotte, Dallas, Detroit, Los Angeles, and Miami.

Housing insecurity is a growing issue in Georgia, so to address it partnerships were created. There was a \$2.5M investment by CareSource, the state's only nonprofit Medicaid provider, to preserve seventy five single-family rentals (ANDP 2022). ANDP partners with local Black brokerage and real estate agency companies to help the non-profit identify homes (ANDP 2022). ANDP utilizes federal grants and other government funding to provide affordable homes (ANDP 2022). ANDP is significantly impacting Atlanta and “in 2020, ANDP launched the Closing the Gap plan to develop or preserve 2,000 affordable housing units by 2025” and “ANDP’s vision for racial equity motivates and informs every phase of its work: its development, policy, and lending capacities; the geographic focus of neighborhoods served; the selection of contractors and partners; and the makeup of its staff and Board of Directors” and “ANDP estimates more than \$50 million will be invested in Black-owned businesses in the form of partnership investments, direct contracts, and low-cost loans” (ANDP 2022). I am proposing that the county commissioner invests funds and resources into developing a program that is a hybrid of the aforementioned programs.

## REFERENCES

- Down payment grants and loan assistance programs for first-time homebuyers. Bank of America. (n.d.). Retrieved October 14, 2022, from <https://www.bankofamerica.com/mortgage/affordable-housing-programs/>
- Home. andpi. (n.d.). Retrieved October 16, 2022, from <https://www.andpi.org/>
- Johnson, R. J. (2020, June 30). *City of durham and Durham Consortium Draft FY 2022-2023 annual action plan*. Retrieved October 15, 2022, from [https://www.durhamnc.gov/DocumentCenter/View/43594/Draft-2022-2023-AAP\\_3102022?bidId=](https://www.durhamnc.gov/DocumentCenter/View/43594/Draft-2022-2023-AAP_3102022?bidId=)
- Major Banks now offering no down payments on home loans*. Good Morning America. (2022, September 22). Retrieved October 13, 2022, from <https://www.goodmorningamerica.com/news/video/major-banks-now-offering-payments-home-loans-90315444>
- Measuring housing insecurity in the American Housing Survey: HUD USER. Measuring Housing Insecurity in the American Housing Survey | HUD USER. (n.d.). Retrieved October 14, 2022, from <https://www.huduser.gov/portal/pdredge/pdr-edge-frm-asst-sec-111918.html>
- Neighborhood and built environment. Neighborhood and Built Environment - Healthy People 2030. (n.d.). Retrieved October 13, 2022, from <https://health.gov/healthypeople/objectives-and-data/browse-objectives/neighborhood-and-built-environment>
- World Health Organization. (n.d.). Social Determinants of Health. World Health Organization. Retrieved October 13, 2022, from [https://www.who.int/health-topics/social-determinants-of-health#tab=tab\\_1](https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1)

**APPENDIX D.2.a: Policy Analysis Figures and Tables**

**Evaluation Comparison**

	<b>Cost Burden</b>	<b>Impact</b>	<b>Feasibility</b>	<b>Addresses Equity</b>	<b>Community Engagement</b>	<b>Advocacy</b>
Affordable Home Loan Funding for Minorities	Low Burden on private investors	Increase in homeowners	Very	Yes Racial Economic	Low	Low
ANDP	Low (Utilizes federal grants and private investors)	Increase in homeowners, homes, community investments/development, financing for low/middle and minority individuals, and increase in wealth	Medium	Yes Racial and economic	High Educational events for community members, and training  And events	High Non-profits have long history of addressing policy
Winner	Indifferent	ANDP	B of A	ANDP	ANDP	ANDP

### APPENDIX D.3: Budget

Durham Minority Homeownership Development Program				
2023 Budget				
REVENUE		Year 1	Year 2	Year 3
Grants	Coca-Cola Foundation	\$0.00	\$100,000.00	\$100,000.00
Grants	North Carolina Department of Commerce: Community Development Block Grant - Neighborhood Revitalization	\$0.00	\$500,000.00	\$500,000.00
Grants	US Bank: Community Possible Grant Program: Play, Work, & Home Grants	\$0.00	\$500,000.00	\$500,000.00
Grants	Draper Richards Kaplan Foundation	\$0.00	\$150,000.00	\$150,000.00
Grants	Department of Housing and Urban Development	\$0.00	\$25,000.00	\$250,000.00
Grants	Other Grants	\$0.00	\$500,000.00	\$500,000.00
Loans	County Commissioner Request	\$100,000.00	\$350,000.00	\$500,000.00
Additional Funding	Fundraisers & Events	\$55,000.00	\$67,500.00	\$105,000.00
Additional Funding	Private Investments/Partnerships	\$250,000.00	\$500,000.00	\$1,000,000.00
Additional Funding	Individual Contributions	\$5,000.00	\$10,000.00	\$250,000.00
Additional Funding	Investment Income	\$0.00	\$15,000.00	\$15,750.00
Additional Funding	Miscellaneous	\$3,000.00	\$12,000.00	\$49,200.00
Investment Revenue	Real Estate	\$0.00	\$250,000.00	\$500,000.00
<b>TOTAL REVENUE</b>		<b>\$413,000</b>	<b>\$2,979,500.00</b>	<b>\$4,419,950.00</b>
EXPENSES		Year 1	Year 2	Year 3
Staffing	Chief Executive Officer	\$0.00	\$150,000.00	\$157,500.00
Staffing	Executive Director	\$60,000.00	\$0.00	\$0.00
Staffing	Chief Operations Officer	\$0.00	\$100,000.00	\$103,000.00
Staffing	Director of Partnerships	\$75,000.00	\$77,250.00	\$79,567.50
Staffing	Vice President of Real Estate & Development	\$0.00	\$125,000.00	\$128,750.00
Staffing	Director of Community Engagement & Advocacy	\$40,000.00	\$60,000.00	\$61,800.00
Staffing	Fundraiser & Grant Coordinator (Part Time)	\$30,000.00	\$30,900.00	\$31,827.00
Staffing	Fundraiser & Grant Coordinator	\$0.00	\$60,000.00	\$61,800.00
Staffing	Program Director	\$0.00	\$75,000.00	\$76,500.00
Staffing	Marketing Manager	\$0.00	\$75,000.00	\$77,250.00
Staffing	Volunteer Coordinator	\$55,000.00	\$57,750.00	\$60,637.50
Staffing	Volunteers	\$0.00	\$0.00	\$0.00
Staffing	Interns	\$0.00	\$20,800.00	\$41,600.00
<b>Total Staffing</b>		<b>\$260,000.00</b>	<b>\$831,700.00</b>	<b>\$880,232.00</b>
Direct Costs				
	Staffing/Labor	\$260,000.00	\$831,700.00	\$880,232.00
	Fringe	\$59,904.00	\$109,824.00	\$109,824.00
	Operating	\$25,000.00	\$80,000.00	\$88,000.00
	Other	\$10,000.00	\$75,000.00	\$20,000.00
	Investments	\$0.00	\$1,500,000.00	\$3,000,000.00
<b>Total Direct Costs</b>		<b>\$354,904.00</b>	<b>\$2,596,524.00</b>	<b>\$4,098,056.00</b>
Indirect Costs		Year 1	Year 2	Year 3
	Business Permits	\$3,000.00	\$5,000.00	\$10,000.00
	Rent: Flexible Office Space	\$17,100.00	\$0.00	\$0.00
	Rent: Office Space	\$0.00	\$60,000.00	\$60,000.00
	Program Costs	\$25,000.00	\$50,000.00	\$100,000.00
	Investments	\$0.00		
	Miscellaneous	\$10,000.00	\$20,000.00	\$40,000.00
<b>Total Indirect Costs</b>		<b>\$55,100.00</b>	<b>\$135,000.00</b>	<b>\$210,000.00</b>
<b>TOTAL EXPENSES</b>		<b>\$ 410,004.00</b>	<b>\$2,731,524.00</b>	<b>\$4,308,056.00</b>
<b>TOTAL FUND BALANCE</b>		<b>\$ 2,996.00</b>	<b>\$247,976.00</b>	<b>\$111,894.00</b>

## APPENDIX D.4. Individual Presentation Slides and Script

### Policy and Programmatic Changes: Community Development Non-Profit

- Who: Low-income and minority households in Southeast Central Durham
- What: Community Development Non-Profit that offers services such as:
  - No down payment/closing cost home loans
  - Educational webinars
  - Mentorship and Financial Coaching
  - Advocacy and Community Engagement
- Why:
  - To increase access to affordable housing and homeownership
  - To improve homeownership equity
  - To decrease the generational wealth gap among minorities

Problem Statement

Priority Population

Goals

Policy

Nutrition

There is a multitude of disparities that are evident in the United States and specifically Southeast Durham pertaining to affordable housing and homeownership. These disparities are confounding factors that affect other areas of an individual's life such as quality of life, overall health, socioeconomics, and future generation wealth. The programmatic change that we recommend implementing is a community development non-profit that offers services such as a No Down Payment and No Closing Costs Home Loans and educational webinars. Applicant's eligibility will not be considered solely on credit but based on factors such as borrower income and history of making timely payments. Services include partnering with minority-owned companies along with additional private investments in order to provide no down payment/closing cost home loans, education webinars, mentorship, financial coaching, advocacy events, and community engagement programs. This program aims to increase access to affordable housing and homeownership, improve homeownership equity, and decrease the generational wealth gap amongst minority individuals.



## Community Development Non-Profit Budget

### Budget

- Total Revenue: \$413,000 - \$4.4M
- Total Expenses: \$410,000 - \$4.3M
  - Total Direct Costs: \$355,000 - \$4.1M
  - Total Indirect Costs: \$55,100 - \$210,000
- Total Fund Balance: \$3,000 - \$112,000

### Impact Forecast: Programming

- Year 1: \$25,000; 1,200-2,400 individuals
- Year 2: \$50,000; 2,500 - 5,000
- Year 3: \$100,000; 10,000 -15,000

### Impact Forecast: Homebuying

- Predict 50-500 families will buy a home depending on interest in the program

Problem Statement

Priority Population

Goals

Policy

Nutrition

This is the budget for our recommended programmatic change. We recommended start a community development non-profit, which focuses on providing resources and increasing housing access and affordability in Southeast Durham. This budget portrays Year 1-3. A huge portion of our funding depends on grants and our \$100,000 request from the County Commissioner office. Grants take time to receive, so most of those will be received during Year 2. To account for those funds arriving in Year 2, we begin with an Executive Director who will transition to CEO in Year 2. We also increase hiring in year 2 due to increased funding. Our total revenue ranges from \$413,000 to \$4.4M in Year 3 as a result of fundraising and investments, such as real estate. The total fund balance for Year 1-3 is \$3,000 - \$12,000. As time increases, so will revenue which means we will be able to impact more families. The programming budget for year 1 is \$25,000 and will gradually increase, subsequently to \$50,000 in year 2 and then \$100,000 in year 3. This budget will fund 24 programs in the 1st year, which will impact an estimated 1,200-2,400 depending on an estimated 50-100 participants. The 2nd year the budget will fund 48-50 programs, with an estimated impact of 2,500-5,000 participants and the third year the budget will fund at least 100 programs with an estimated impact of 10,000-15,000 people.

## APPENDIX E: NICOLE MCDONALD’S INDIVIDUAL DELIVERABLES

### **Appendix E.1: Individual Problem Statement**

Neighborhood & Build Environment: Access to adequate, affordable housing

#### **Social Determinants of Health**

The very definition of social determinants of health (SDoH) are “the conditions in the environments where people are born, live, learn, work, play, and age that affect health, functioning, and quality-of-life”, and no other SDoH fits in all these categories such as housing does. Where a person lives will inevitably play a vital role in determining health outcomes, both physically and mentally, and will have a lasting impact for generations.

When the access to adequate housing, which constitutes more than just four walls and a roof, is unavailable – health problems in individuals can range from respiratory illnesses and lead poisoning to food insecurity. The use of the word “adequate” is heavily implied here due to the fact that just because there is a structure when someone is dwelling, does not mean the housing is meeting the needs of the people living there. It indicates that there is a barrier preventing a population from thriving.

#### **Geographical and Historical Context**

Durham County, North Carolina lies at the northeast corner of North Carolina with the central and southern parts of the county being highly urban. As of July 2021, Durham County has 326,126 residents, with the demographics being 54.5% White, 35.9% Black or African American, and 13.8% representing Hispanic or Latino. The county holds 14 colleges resulting in 1 college per 21,490 of its residents, with 45.8% of the population not obtaining a college degree.

Durham County was a major player in the tobacco industry; after plantations were largely shuttered after the War Between the States ended, black and white farmers found how easy it was to grow tobacco in the area. And while tobacco farming is not as profitable as it once was, the county finds a boost in its economy with innovative businesses as well as in the medical arena. In the 2020 census the

median family income in Durham County was \$62,812, which falls close to the national average of \$67,521.

### **Priority Population**

For this problem the focus will be on low-income minority families. In Durham County, 14.1% of the residents live below the poverty line and minorities representing 86% of those individuals with the breakdown listed as: 16% Native American, 19% Asian, 20% Black, and 31% Hispanic or Latino. To narrow the priority population down further looking at families, in 2019 10.1% of families had income that fell below the poverty level in Durham County; with Black families representing 16.2% and Hispanic families at 22.4% of those families.

Targeting this population gives an opportunity to begin changing status quo for current and future generations.

### **Measures of Problem Scope**

A summary done for the city of Durham determined that “for every 100 very low-income households, there are only 79 rental units affordable to them”. According to a 2021 survey, Durham Resident Satisfaction Survey, 29.6% were spending more than 30% of their monthly income on rent or mortgage. Another question showed that only 12% of residents surveyed stated they were satisfied with the availability of affordable housing in Durham, down from 31.6% in the last survey done in 2015. The issue with adequate housing is a problem that is not going away, it is, in fact, only growing bigger and more detrimental to the population of families that live in Durham County.

### **Rationale**

Inadequate housing creates a domino effect of health issues. For example, in 2020 the McDougald Terrace housing complex was completely evacuated due to high carbon monoxide exposure to the residents. This resulted in 270 families being displaced. This means that there are adults and children that will not have a place to sleep before work or school leading to poor performances and stress on the body. They will not have access to a kitchen to prepare meals or even keep food stored leading to deficiencies in their bodies. These issues will not only take a physical toll on them but a mental toll as

well; parents worrying about where they're going to go, or kids worried about what their friends think or just fearing the unknown.

### **Disciplinary Critique**

The numbers show that there is a disproportionate burden on families of minorities when it comes to available, adequate housing. The statistics above prove that this has become cyclical and continuing without an intervention will only cause poor health outcomes to increase, which means that there will be an increasing demand for healthcare and a larger need for aid. By making a change, the cycle can begin to unravel and create more opportunity for thriving families in Durham County.

## REFERENCES

- Colleges - Durham County, NC (admissions, Degrees & Financial Aid)*. County Office. (n.d.). Retrieved September 2022, from <https://www.countyoffice.org/nc-durham-county-colleges/>
- DeMarco, A., & Hunt, H. (2018). *Racial Inequality, Poverty and Gentrification in Durham, North Carolina*. UNC - Frank Porter Graham Child Development Institute.
- Durham County Public Health, Duke Health, and Partnership for a Healthy Durham. (2021, March). *Partnership for a healthy Durham*. Retrieved September 2022, from <https://healthydurham.org/cms/wp-content/uploads/2021/03/2020-CHA-Final-Draft-1.pdf>
- Enterprise. (2016). *City of Durham Affordable Housing Goals 2016-2021*. Retrieved September 2022, from <https://www.durhamnc.gov/DocumentCenter/View/28819/Affordable-Housing-Goals>
- Martin, J. (2016, March 16). *Durham County (1881)*. North Carolina History Project. Retrieved September 26, 2022, from <https://northcarolinahistory.org/encyclopedia/durham-county-1881/#:~:text=Durham%20is%20home%20to%20Duke,was%20located%20in%20Randolph%20County.>
- Price, C. (2022, February 25). *Durham resident survey sheds light on growing need for affordable housing*. CBS17.com. Retrieved September 2022, from <https://www.cbs17.com/news/local-news/durham-county-news/durham-resident-survey-sheds-light-on-growing-need-for-affordable-housing/>
- U.S. Census Bureau quickfacts: *Durham County, North Carolina; United States*. (n.d.). Retrieved September 27, 2022, from <https://www.census.gov/quickfacts/fact/table/durhamcountynorthcarolina,US/POP010210>

## **Appendix E.2: Stakeholder Analysis**

### *Neighborhood & Build Environment*

#### **Problem Statement and Program Transformation:**

Low-income families in Durham County find themselves burdened by having to choose between paying their rent or mortgage and purchasing healthy food. We look to improve the health status and health outcomes of residents in the southeast central Durham community by focusing on improving access to both affordable housing and healthy foods. To achieve this goal, the implementation plan will center around a Community-Supported Agriculture (CSA) program, a program that provides direct access to fresh produce grown by local farmers to the community. Typically, CSA program participants will pay the farmer in advance and in return receive a weekly share of the farmer's produce – helping participants obtain fresh, nutritious produce at a lower price. However, the pre-pay model is often not accessible for low-income families. Subsidized CSA programs can lower these financial barriers for low-income families and help improve their food access, thus freeing up funds that can be put towards safe, adequate housing.

#### **Stakeholder Analysis: Power Interest Grid**

Utilizing the Power/Interest Grid for our stakeholder analysis allows us to create an organized framework and provides a map of sorts to plan accordingly for what approaches we may use for our stakeholder engagement plans. It also gives us insight on where we may need to focus more of our efforts of influence and those who would play a supportive, advising, or advocacy role. Given the nature of a community dynamic, there is the potential for many new stakeholders to present themselves as well as stakeholders having the ability to move grids within the matrix. Our objective is to target specific partners to get the CSA program up and running.

#### **High Interest/High Power Stakeholders**

For this Social Determinant of Health (SDoH) the Durham government has a heavy hand in deciding how funds are distributed as they provide the subsidies, this positions them as one of the most

powerful stakeholders. Other local government would have a high interest due to the issues surrounding the southeast central Durham neighborhood where residents are being pushed out due to the cost-burden to their families. This should also be a priority because of this issue being a key finding in the 2020 Durham County Community Needs Assessment, linking housing issues to lack of access to health foods for residents.

The Choice Neighborhoods Implementation Grant is currently focused on working with the southeast central Durham community making it an opportune time to team up with them to address our plan. They also have the ability to fund any additional resources we would need to get the CSA program up and running.

### **High Interest/Low Power Stakeholders**

Residents of the SCDC community and Durham County will obviously have a very high interest in this issue as they are at the center of determinant. Anything that comes from this program will have a direct impact on the, whether it be negative or positive. But by engaging with the community and teaching them how to advocate for themselves, we can hope that the program becomes sustainable.

The Hayti Reborn Community group would be a huge asset in progressing the movement and providing knowledge on the area and the residents in SCDC. They are a coalition with their focus centered around inclusiveness and having resident's voices heard regarding their own welfare. While this community group has a large interest in this program, they unfortunately have low power in the housing decisions made.

The Durham County Housing Authority is tasked with aiding the community in finding reliable housing, but also to ensure that the housing is adequate. With the influx of individuals and families moving to Durham they will be interested in how we can help with cost burden. As far as power, though, they fall under the direction of the government.

### **Low Interest/High Power**

While the North Carolina state government should have a vested interest in the safety of their residents, the housing access issues in Durham County may not be at the top of their list on program and/or policy change.

Landlords and developers have the ability to directly change the trajectory of adequate housing given their power over decisions regarding property, who lives there, and the cost of housing. The interest is low on this issue for them due to their bottom line being their main focus.

The local farmers would play an integral part as they are also at the center of the CSA program. They have the power to choose to participate and at what capacity as suppliers for the community and they may not have any interest at all depending on their stance regarding product. Working with them would be a key component and if able to garner support, they could move to the High Interest/High Power portion of the grid.



### **Low Interest/Low Power**

Foodbanks are a vital part of the community and have a hand in getting residents access to healthy foods, but they may not be a major player in this program. With their experience in the community though, they would be a great asset for the program to use as a type of advisory team. Grocery stores would also fall along the same lines as foodbanks, having a vested interest in the community but not the CSA program.

The school district directly feels the effects of this SDoH having an impact on student's day-to-day lives as well as their performance in school. They are a part of this community and know the families and the environment well. They would be able to give us direction and advice but will have little room in their time to address the issues of housing and food access.



Appendix E.2.a: Stakeholder Analysis Figures and Tables

<b>Interest</b> 	<b>High I/Low P</b> <ul style="list-style-type: none"> <li>• Low-income residents in Southeast Central Durham County (SCDC)</li> <li>• Durham County Housing Authority</li> <li>• <u>Hayti Reborn Community Group</u></li> </ul>	<b>High/High</b> <ul style="list-style-type: none"> <li>• City of Durham</li> <li>• Durham County Policy Makers</li> <li>• Choice Neighborhoods Grant Funding</li> </ul>
	<b>Low/Low</b> <ul style="list-style-type: none"> <li>• Neighborhood Foodbanks</li> <li>• Local Grocery Stores</li> <li>• Schools Districts in SCDC</li> </ul>	<b>High P/Low I</b> <ul style="list-style-type: none"> <li>• Landlords of Current Housing</li> <li>• North Carolina State Government</li> <li>• Durham County Local Farmers</li> </ul>
	<b>Power</b> 	

## **Appendix E.3: Engagement and Accountability Plan**

### *Neighborhood & Build Environment*

#### **Part I**

##### **Statement of Purpose:**

The goal of this project is to promote a healthy lifestyle among low-income residents in Southeast Central Durham County. Our approach is to start at the basics of housing and food access these social determinants of health are very often linked. We feel that by creating the foundation with these efforts, we can put in place a sustainable program that will last without the direct involvement of many of these stakeholders in the near future.

The focus of our engagement plan will center around a subsidized Community Supported Agriculture (CSA) program working with local farmers to create a mutually beneficial system and collaborating with minority owned brokers to make available affordable loans as well as housing financial education. Implementing the subsidized CSA programs can lower financial burdens and free up funds that can be put towards loans on safe, adequate housing.

##### **Summary and Rationale:**

The residents of Southeast Central Durham County are going to be our main priority in regard to engaging stakeholders. Without their insight and feedback, the plans are not likely to survive and thrive in the community. We also think it is vital they have a voice in collaborating with the other stakeholders. Due to the scope of this program and the many different stakeholders, we thought best practice would be to create an advisory board consisting of individuals from each stakeholder group. Having this type of group can give perspective while also having a sort of checks-and-balances system in place.

##### **Engagement Methods:**

Community focus groups (Individual) – Holding in-person community meetings and utilizing trusted community members, leaders, and establishments to create spaces for meetings among residents of Southeast Central Durham County. This will be our ongoing task of talking with residents, gaining

understanding from their perspective, what they’re hoping will come of this program, and eventually feedback regarding our programs. This also gives us the opportunity to begin getting community members involved in positions with the program to increase sustainability.

Institute advisory board (Group) – Creating an advisory that consists of at least one member representing each stakeholder group will not only aid in dynamic collaboration but also allow for a checks and balances of sorts. An advisory board gives us the opportunity to see the policies and programs from all aspects to ensure that everyone is being represented and the project does not head down a path that is not plausible or sustainable.

Durham County Department of Public Health (Group) – Data and the Community Health Needs Assessment (CHNA) from Durham County DPH will be our source for measuring impact and outcomes. The resources and collection means already in place for us to create a baseline for measuring our outcomes but can give us future data regarding the residents of a specific community. The CHNA will provide input from stakeholders that are not in our scope and if/where there may be any gaps. The department of public health would be a strong resource and partner for this ongoing program.

**Engagement Logic Model:**

Table 1

Stakeholder Logic Model for CSA & Affordable Loan Programs					
<i>Overarching Goal: To improve the health status and health outcomes of residents in the southeast central Durham community by focusing on improving access to both affordable housing and healthy foods</i>					
Stakeholder	Goal	Input	Output	Outcome – Short term	Outcome – Long term
Low-income residents in Southeast Central Durham	Convey perspective, needs, and feedback to the program as a whole and to become an integral part of the program	Time, energy, insight	1:1 meetings, questionnaires, and follow up discussions	Initial discussions on expectations and functionality	Detailed guidelines on expectations from the community and direction for outcome measurement
Durham County Department of Public Health	Provide a continuous relationship with this program and provide data and guidance.	Data, research, insight on this specific public health topic	Access to information regarding the health of our targeted population	Partnering to learn baseline and creating measures	Continued relationship and ongoing monitoring of community health and equity

<b>Advisory Board</b>	To act as a collaborative entity for strategic and structured oversight	Strategies, insight, time	Monthly meetings with a representative from each stakeholder group	Assemble the board and create guidelines and expectations	A rotating board that continuously monitors and evaluates best practices
<b>The GLEN Group</b>	The project management team to ensure that all goals and expectations are being met	Time, research, organization and planning	Regular updates via email, phone correspondence and meetings	Getting the initial implementation established and monitoring outputs and feedback	Creating a successful, sustainable program

We will adapt the Getting to Outcomes: 10 accountability questions (Wandersman, 2000) so that they are aligned with our outcomes. The questions in Table 1 will be at the forefront of every advisory board meeting as well as a constant reference along the steps of implementation.

Table 2

<b>Getting to Outcomes (GTO): 10 accountability questions (Wandersman, 2000)</b>
<ol style="list-style-type: none"> <li><b>1. What are the underlying needs and conditions that must be addressed?</b></li> <li><b>2. What are the goals, target populations, and objectives (i.e., desired outcomes)?</b></li> <li><b>3. Which models and programs can be useful reaching our goals?</b></li> <li><b>4. What actions need to be taken so the selected program fits the community context?</b></li> <li><b>5. What organizational capacities are needed to implement the program?</b></li> <li><b>6. What is the plan for this program?</b></li> <li><b>7. How will the quality of program/initiative implementation be assessed?</b></li> <li><b>8. How well is/did the program work?</b></li> <li><b>9. How will continuous quality improvement strategies be incorporated?</b></li> <li><b>10. If the program is successful, how will it be sustained?</b></li> </ol>

## **Part II**

### **Accountability:**

#### **Memorandum of Understanding**

**Between**

**The GLEN Group Project Team**

**and**

**Southeast Central Durham County CSA and Affordable Loan Advisory Board**

This Memorandum of Understanding (MOU) sets for the terms and understanding between the GLEN Group Project Team and the Southeast Central Durham County CSA and Affordable Loan Advisory Board, (henceforth referred as Advisory Board) to collaborate regarding program implementation and share data regarding the subsidized Community Supported Agriculture (CSA) program and residential affordable loans project.

#### **Background**

Low-income families in Southeast Central Durham face a multitude of barriers and inequities regarding health and socioeconomic factors, at the core of these issues we find that the cost burden of housing plays a major role in impact and outcomes.

#### **Purpose**

This MOU will set in place a foundation for stakeholders and serve as a resource for reassessment as they will need to continually foster as much collaboration and collective agreement within the working group as possible, all while ensuring that residents Southeast Central Durham County have agency in the process. Leaders will need to practice cultural humility and work to understand the thoughts, concerns, and priorities of the people who live in in this community. They should also ensure residents are informed of the results of the change.

The above goals will be accomplished by undertaking the following activities:

Along with the below listed individual stakeholder activities, all stakeholders will attend monthly meetings for the first year of the initiative. Stakeholders may send a representative in their place if they cannot attend but must notify the group. The GLEN Group project team will be tasked with the planning and organization of these meetings. Correspondence will happen throughout the process with communications being done via email or phone conversation; all conversations must be noted and saved for future reference. The GLEN Group project team will be tasked with the writing, editing, and dissemination of any group correspondence.

Individual Stakeholder activities:

**The GLEN Group Project Team:** Create the program to affordable access to health, local food and affordable loans for residents utilizing minority brokers. Team members will supply time and act as a research base for ongoing information. Organize and plan stakeholder meetings, facilitating the ongoing process, revising along the way, and continued development of the program.

**Advisory Board:** Help to keep program steps moving accordingly and quality assurance that the systems put in place are creating a positive impact. Provide insight and support as well as working with media, spreading awareness, and delivering the message during public meetings.

### **Reporting**

The GLEN Group Project Team will assume responsibility of evaluating effectiveness and adherence to the agreement by collecting, collating, and submitting data and feedback per the project target output and outcomes.

### **Funding**

This MOU is not a commitment of funds, it is to be considered a non-financial collaboration with partnering organizations.

**Duration**

This MOU is at-will and may be modified by mutual consent of authorized officials from the GLEN Group Project Team and the Advisory Board. This MOU shall become effective upon signature by the authorized officials from the GLEN Group Project Team and the Advisory Board and will remain in effect until modified or terminated by any one of the partners by mutual consent. In the absence of mutual agreement by the authorized officials, this MOU shall end on December 31, 2025.

\_\_\_\_\_ *Date:*  
*(Partner signature)*  
*(Nicole McDonald, GLEN Group project team, Project Manager)*

\_\_\_\_\_ *Date:*  
*(Partner signature)*  
*(Partner name, Advisory Board, position)*

## REFERENCES

- Wandersman, A., Imm, P., Chinman, M., & Kaftarian, S. (2000).  
Getting to outcomes: A results-based approach to accountability. *Evaluation and program  
planning*, 23(3), 389-395.



## Appendix E.3.a: Engagement and Accountability Plan Figures and Tables

### RASCI Matrix:

Table 2

Stakeholder RASCI Matrix for CSA & Affordable Loan Programs		
Who is...	Policy/Program Transformation	Rationale For Partner Participation
Responsible: owns the problem/project	GLEN Group	- GLEN Group has planned the program, and will help implement and evaluate program
Accountable: ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those responsible	Advisory Board City of Durham, NC	- This committee will be responsible for determining if the goals are being met and questions answered.  - City officials should be held accountable for the health & well-being of the residents in their community.
Supportive: can provide resources or can play a supporting role in implementation	Durham Housing Authority Bank of America South Wind Produce Choice Neighborhoods Grant Funding Non-profit Housing Organization	- Works in partnership with other stakeholders to determine program qualifications and benefactors  - Provides funding options to participants  - This farm stand will provide the produce for the subsidized CSA program.  - Provides funding to support the program  - Partners with investors and provides resources that improve housing access and home loan funding
Consulted: has information and/or capability necessary to complete the work	Low-income Residents in Southeast Central Durham County (SCDC) Durham County Dept. of Public Health Forever Home, Durham Hayti Reborn Community Group	- This is our priority population, so they must be consulted to ensure our policy/program is effectively addressing the targeted issues.  - DPH can provide information and data to us regarding the impact, as well as their CHNA  - Will provide further funding for program; have similar goals  - This community revitalization project is a trusted community resource that we can work with to identify participants.

**Informed: must be notified of results, process, and methods but need not be consulted**

School Districts in SCDC  
Neighborhood Food banks  
Durham Community Development Department  
Minority Real Estate Agents/Brokers

- The effect that food access has on the students and families in the district.
- Food banks are a vital resource for food insecure individuals, so they should be aware of other programs working to address this issue.
- Representatives will be involved in designating eligible housing for program
- Representatives will guide minority homeowners to homes; help with neighborhood stabilization

## Appendix E.4: Individual Presentation Slides and Script



# **Reducing the Impact of Housing Cost Burden on Low-Income Households in Southeast Central Durham**

Helen G. Bryant, Elizabeth Johnston, Lauren Latten, and Nicole McDonald

### Introduction:

Good evening, thank you all for coming. We are representatives from the GLEN group focusing on the conditions of health regarding neighborhood and built environment. Tonight, we are going to talk through the health equity impacts of affordable housing and food access on our residents of Southeast Central Durham County.

## Agenda



Agenda:

As you can see by our agenda, we will begin with our problem statement and priority population, then we will walk you through our main goals and our vision on how to reach these goals with nutrition programs and housing policy.

## Goals

<i>Eliminate</i>	Eliminate the burden of having to choose between paying for housing and paying for healthy food
<i>Create</i>	Create affordable housing for residents in Southeast Central Durham
<i>Implement</i>	Implement a subsidized community-supported agriculture (CSA) program
<i>Leverage</i>	Leverage residents' voices to create sustainable change
<i>Decrease</i>	Decrease potential health risks for our target population

### Goals:

To combat this inequity in our priority population we have determined these overarching goals for our program and policy. First and foremost, the foundation for our health determinant is to eliminate the burden on residents having to choose between paying for either their housing or making healthy food choices. To accomplish this, we plan to create options for affordable housing and implementing a subsidized community-supported agriculture program, also called CSA. To increase awareness and engagement, we are going to leverage our residents as our primary stakeholders and use their voices for a sustainable change, and permanently decrease the health risks for this population in Southeast Central Durham County.

## Engagement and Accountability Plan

Stakeholder Logic Model for CSA & Affordable Loan Programs					
<i>Overarching Goal: To improve the health status and health outcomes of residents in the southeast central Durham community by focusing on improving access to both affordable housing and healthy foods</i>					
Stakeholder	Goal	Input	Output	Outcome – Short term	Outcome – Long term
Low-income residents in Southeast Central Durham	Convey perspective, needs, and feedback to the program as a whole and to become an integral part of the program	Time, energy, insight	1:1 meetings, questionnaires, and follow up discussions	Initial discussions on expectations and functionality	Detailed guidelines on expectations from the community and direction for outcome measurement
Durham County Department of Public Health	Provide a continuous relationship with this program and provide data and guidance.	Data, research, insight on this specific public health topic	Access to information regarding the health of our targeted population	Partnering to learn baseline and creating measures	Continued relationship and ongoing monitoring of community health and equity
Advisory Board	To act as a collaborative entity for strategic and structured oversight	Strategies, insight, time	Monthly meetings with a representative from each stakeholder group	Assemble the board and create guidelines and expectations	A rotating board that continuously monitors and evaluates best practices
The GLEN Group	The project management team to ensure that all goals and expectations are being met	Time, research, organization and planning	Regular updates via email, phone correspondence and meetings	Getting the initial implementation established and monitoring outputs and feedback	Creating a successful, sustainable program

### Engagement & Accountability:

To foster this shared vision, we will instate a project timeline as well as a memorandum of understanding among our stakeholders. This is just a condensed list of our stakeholders here, and as you can see, we have put in place what each stakeholders input, and output will be as well as our expectations for short term and long-term outcomes. We plan to work with the Durham County Dept. of Health to gain insight and information regarding population health data and operate our project team as a means to ensure this project is moving forward successfully.

At the center of the engagement plan we will utilize an advisory board and the residents of Southeast Central Durham County. The board will be made up of representatives from each stakeholder group committing to recurring meetings and other collaborations as needed, this will encourage ongoing discussions and continued participation throughout the planning, implementation, and evaluation stages. We will have regular in-person meetings, discussions, and feedback resources with the residents to make certain we are staying on track with what their visions are while also staying in line with our goals. Thank you for your time and consideration. If you have any questions, we are happy to answer them now.