



The Healthy Neighbor Initiative

Presented by A Stroke of Humanity



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The Problem

For many decades, heart disease has been and remains the #1 leading cause of death in the US and worldwide. One person dies every 36 seconds in the United States from cardiovascular disease, and this is one of the top contributing factors for stroke.¹ The main risk factors for developing heart disease and stroke include high blood pressure, hyperlipidemia, and tobacco use; almost one third of heart disease deaths are attributable to smoking and secondhand smoke exposure alone.² Other risk factors include family history of heart disease, physical inactivity, obesity, diabetes, poor diet and excessive alcohol use. On top of that, socioeconomic factors, like education, income, social support, and employment play a major role. Exaggerated cardiovascular reactivity, defined as physiologic responses to a psychological or physical stressor, has been associated in the development of hypertension; and research demonstrates inverse relationships between SES and both blood pressure and cardiovascular health.³ Eastern North Carolina (ENC) is no stranger to these facts given that in 2018 heart disease was the leading cause of death in 26 out of the 29 counties that Vidant services. In some counties, such as Perquimans, heart disease accounts for 33.5% of all deaths. Lifestyle, culture, lack of medical providers & facilities, family history, and so much more go into fueling the heart disease and stroke clusters that exist in ENC.⁴ The problem is evident when you compare the data: people in eastern North Carolina are dying from heart disease at a disproportionately higher rate when compared to other areas in the state and nation.

Our Solution

The Healthy Neighbor Initiative (HNI) is a program based in Perquimans County that trains and equips trusted local community partners like barbershops and churches to adequately screen for blood pressure and diabetes among the individuals that they serve. Upon the identification of high risk patients, this program offers personalized exercise and nutritional counseling within the comfort of a patient's home. Individuals that are able to make successful lifestyle modifications then have the opportunity to receive further training and support to help community members make similar changes. Through strategic partnerships and a community driven approach that utilizes existing medical infrastructure and trusted neighbors, this Initiative strives to create a sustainable and replicable model that ultimately reduces the rates of heart disease in Perquimans county and beyond.

Strategy/Approach

The Healthy Neighbor Initiative (HNI) is a three year program that utilizes key community stakeholders like trusted local businesses and existing medical infrastructure to reach at-risk patient populations. To garner support of stakeholders, the program is built around three key pillars: *accessibility, motivation, and sustainability*.

Initially, the program will hire trained healthcare professionals such as CNAs and RNs to provide three blood pressure and glucose screenings each month at a trusted business location like a churches, barbershops, or community centers. During the second and third screenings, business employees are trained to take blood pressures and are encouraged and incentivized to hold one screening day at least once every 1-2 months. Patients that are identified as at-risk are tracked for close follow up by a licensed health coach. HNI is built to eventually transition into a self sustainable model that utilizes patients who successfully accomplish lifestyle modifications to replace hired health coaches, and local organization leaders that commit to providing blood pressure screenings to replace hired health professionals. Although this may seem like a complex approach, it is the program's central pillars that build the infrastructure for future success and sustainability. A breakdown of how each pillar is applied to all stakeholders is provided below.

Accessibility

- To achieve accessibility for the citizens of Perquimman's county, HNI is strategically launched through community partners; these are small businesses located in populated areas and public

shopping centers that are frequented by local citizens. Through working with community partners, the program is able to build trust and remove any stigma associated with accessing healthcare. For example, an individual who fears going to a physician may trust a local barber or pastor to check their blood pressure instead. Furthermore, at-risk patients are offered free sessions with a health coach that is able to meet with them within the comfort of their own home.

- To ensure accessibility for store owners, the initial health screenings are held at the storefronts to allow for an increase in foot traffic and customers. This allows store owners to provide a screening site that the customers grow to trust and love, which improves brand loyalty for the business. At the same time, there is an ease of access to employee training for any businesses that agree to sign up as a community partner.

Motivation

- HNI encourages community members to participate in the screenings by offering a discount for the products or services within the store that they are visiting. Identified at-risk patients are also offered a free session with a health coach that meets them within their home to provide personalized nutrition and exercise counseling that is uniquely tailored to where they live, what they like to eat, and how they enjoy staying active. The health coach will also be able to provide additional resources like cookbooks and training equipment.
- Achieving buy-in from community partners is a multistep approach. For initial screenings, HNI pays the business owner for the loss accrued through the discounts being offered to community members that participate in screenings. During this period, the healthcare team compiles statistics from the screenings to give to the store owner. If high levels of at-risk patients are identified, this data provides the organization leader with intrinsic motivation to sign up as a community partner. Once the business owner decides to become a community partner, they receive a welcome kit with an electronic blood pressure cuff, iPad, AED, marketing materials for screenings, flyers and posters about stroke and heart disease, and discount coupons for new customers. Once a group of community members is established within Perquimans county, the HNI team provides incentives for the businesses that provide the highest number of screenings. These numbers can easily be tracked through the iPad that connects to the electronic Qardio Blood Pressure cuffs.

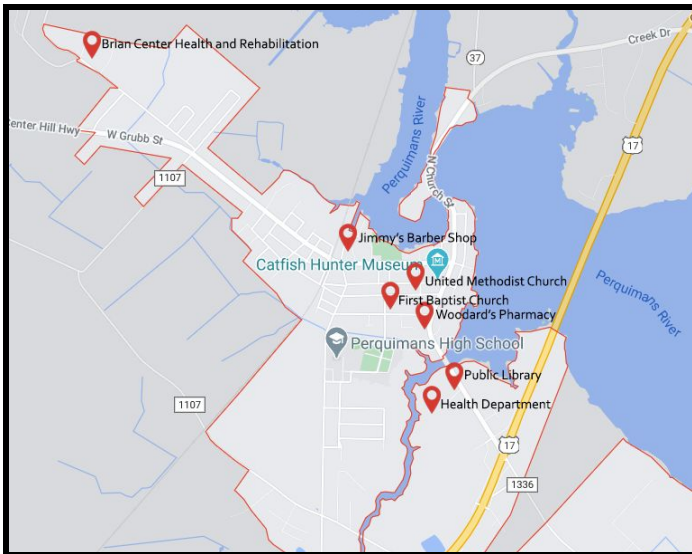
Sustainability

- HNI would not be possible without investment into the community. Creating a community-driven organization would give the citizens of Perquimans County a sense of responsibility toward individual and community health. After the initial screenings conducted by the HNI team, the Initiative will engage community members, whether it is local high schoolers who are volunteering as CNAs to help conduct screenings, or a mother who agrees to a health coach session to improve the lives of herself and her children. Individuals that achieve lifestyle modifications through sessions with the health coach can then receive further training and incentives to support other high risk patients through a similar process. This emphasizes that members of the community are the driving force for the Initiative. The goal of this is to ultimately create a model of neighbors helping neighbors that is sustainable beyond the three-year scope.
- HNI will continue to support all community partners over the three years through providing replacement cuffs, refresher training, and incentives for top performing community partners annually. The HNI team will also share any documented success stories and statistics with community partners. Through these two avenues, HNI hopes to establish a program that is self sustainable. Certain aspects of the program like incentives and central administrative work could easily be transferred to existing medical infrastructure like the county health department or Emergency Services beyond the scope of the program.

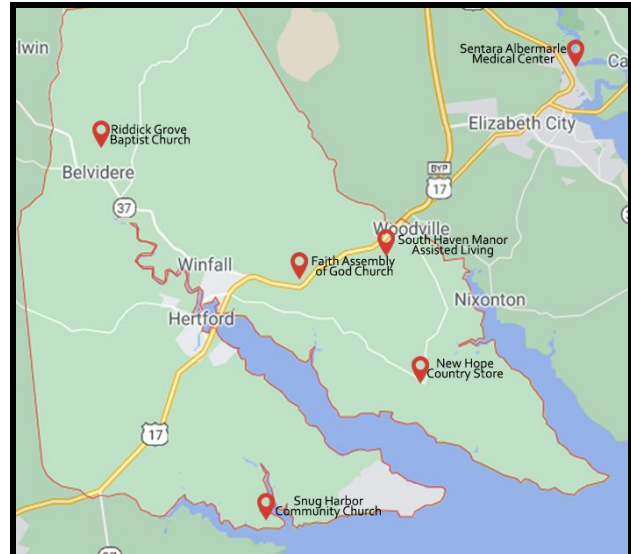
Targeted Partners

Nearly 15 interviews were conducted with potential community partners in Perquimans County including the local library, senior center, health department, EMS department, and local businesses such as barbers. These interviews demonstrated a clear interest in HNI. The health department verified the ability to provide medical personnel to administer the initial blood pressure screenings, and the local library expressed interest in hosting initial screenings. The Initiative will first be executed in the capital, Hertford, as it is the busiest part of the county. In the map below, initial community partners like public facilities and local businesses have been identified. Based upon the success in Hertford, the Initiative will be expanded to the rest of the county with additional partners, such as those noted in the second map.

Potential Partners in Hertford



Potential Partners in Perquimans County



Interprofessional Team

The HNI team has a diverse background of interprofessional experiences and brings together a unique set of skills for the success of this initiative.

Mona Amin is a current M2 and LINC Scholar at the Brody School of Medicine. She received her B.S. in Biology at ECU in 2017 and spent two years post graduation working as Co-Founder of Freshspire Inc., a tech startup that connects local farmers to suppliers and distributors to increase access to local food.

Grace Krell is a junior at ECU majoring in General Engineering with double concentrations in Biomedical and Industrial & Systems. She serves as president of the Society of Women Engineers and is the owner and founder of SweetSip, LLC, a small business that aims to reduce the plastic in the environment.

Atif Mahmood is a current M2 and LINC Scholar at the Brody School of Medicine. He graduated in 2019 as a double-major in Biochemistry and Human Biology from NC State, where he was heavily involved as a student leader and volunteer.

Israel Mendez is a current 3rd year Physician Assistant (PA) Student in the College of Allied Health Sciences. He serves as class president and was recently awarded the Scholarship for Excellence from the Association of Schools Advancing Health Professions (ASAHP). His special interests are smoking cessation, migrant farmworker health, and diabetes prevention.

Arvind Rajan is a junior in a dual-degree B.S. Biochemistry and MPH program on a pre-med track. He is an EMT-Basic at Eastern Pines and the President/Founder of the Pre-Surgical Society at ECU

References

1. Heart Disease Facts. (2020, September 08). Retrieved October 28, 2020, from <https://www.cdc.gov/heartdisease/facts.htm>
2. Bailar J. C., 3rd (1999). Passive smoking, coronary heart disease, and meta-analysis. *The New England journal of medicine*, 340(12), 958–959. <https://doi.org/10.1056/NEJM199903253401211>
3. Albus C. (2010). Psychological and social factors in coronary heart disease. *Annals of medicine*, 42(7), 487–494. <https://doi.org/10.3109/07853890.2010.515605>
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Budget Page 6

3-Year Budget - Healthy Neighbor Initiative (HNI)

Starting balance: \$1,000,000

Assumptions	3 HNI Screening/Training Events per month (1 month per potential partner)	108 HNI Events across 3 years	
	20 screenings per HNI Event	2,160 screenings at HNI Events across 3 years	
	10 partners elect to join HNI every year	30 partners across 3 years	
	500 screenings per partner per year	30,000 screenings by partners across 3 years	
	32,160 TOTAL SCREENINGS ACROSS 3 YEARS		
	Item	Estimated Cost (3 years)	Cost Breakdown/Notes
Personnel	Director	\$225,000	\$60k/yr + benefits beginning Year 1
	Total:		
	\$452,850		
Direct Costs <small>(108 HNI Screening Events)</small>	Health Coach Equipment & Materials	\$75,000	Exercise equipment, cookbooks, ingredients, etc.
	Marketing for our screening events	\$12,000	\$4,000 per year; TV, radio, newspaper, flyers, web
	Discounts/Coupons for patients	\$10,800	\$5 coupon per patient per screening
	12 Accu-Chek Glucometers + 2400 test strips	\$1,650	\$550 per 4 glucometers & 800 strips per year
	3 iPad Minis + cases	\$1,500	\$500/unit, 1 iPad per year
	4 Qardio BP Cuffs	\$1,350	\$100 per cuff; 4 cuffs per year
	Total:		
	\$104,800		
	Transportation/Gas reimbursement	\$1,200	160mi round trip from Greenville x 36 Events
	Sanitizing equipment for cuffs & workstation	\$900	\$300 per year
6 Chairs & 2 Folding tables	\$250	Purchased in Year 1	
1 Tent/Canopy	\$150	Purchased in Year 1	
Direct Costs <small>(Materials & incentives for 30 partners)</small>	Discounts/Coupons for patients	\$300,000	Up to \$10,000 in coupons per partner
	1 AED per partner	\$45,000	\$1,500 per AED
	Training Incentive	\$21,600	\$200 per session (12/year)
	Yearly replacement of BP Cuffs & iPads for each partner	\$18,000	\$6,000 in Year 2 + \$12,000 in Year 3
	1 iPad Mini + case per partner	\$13,500	\$450 per iPad + case
	1 Qardio BP Cuff per partner	\$3,000	\$100 per cuff
	Total:		
	\$406,200		
	End-of-Year Partner Incentives	\$3,000	\$1,000 for partner w/ most screenings each yr
Stroke/Heart Disease information flyers	\$1,500		
1 Stroke/Heart Disease poster per partner	\$600		
Unexpected Costs	Allowance for contingencies	\$36,150	

Ending Balance: \$0