

Screening Wilmington Communities through the Blood Pressure Ambassador Program

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Abstract

Hypertension (HTN) is the most common chronic disease in the United States; it especially affects the African American community, with black men and women seeing higher rates of morbidity and mortality. A significant opportunity exists to improve the awareness of the dangers of HTN in these communities. Started in 2011, the Blood Pressure Ambassador Program at Christiana Care provides a unique solution, using trained volunteers to conduct blood pressure screenings throughout the Wilmington area. A peer-to-peer model is used to connect trusted individuals from the community to their friends, family, and neighbors. The Blood Pressure Ambassador Program has conducted over 12,000 screenings to date, touching residents in all 12 medically underserved areas of Wilmington. A recent analysis of the Program found that about half of all African Americans screened were found to be hypertensive and one-third did not realize that they had high blood pressure.

Introduction

Hypertension (HTN) is the most common chronic disease in the United States, affecting nearly half of all adults. It particularly is a major problem in the African American community, with black men and women having the highest age-adjusted incidences of HTN in the world (45.0% and 46.3% respectively). This leads to a 4-times greater rate of end-stage kidney disease, a 1.5-times greater rate of death from heart disease, a 2-times greater rate of fatal stroke, and a 1.3-times greater rate of non-fatal stroke when compared to Caucasians. Additionally, African Americans are 2-times more likely than Caucasians to not know they have HTN and for it to go untreated.¹ With the most recent guidelines expanding the definition of HTN (a lowered threshold from 140/90 to 130/80),² there is significant opportunity to improve the awareness of the dangers of hypertension to the public, especially within the African American community.³

The Blood Pressure Ambassador Program at Christiana Care was created in 2011 in order to improve awareness, treatment, and control of blood pressure in the African American community. Initially a small pilot project, the Program recently expanded in 2015, with a team of over 100 highly engaged community Ambassadors. As of August 1, 2018, 12,175 screenings have been conducted in Wilmington and surrounding areas. This outreach program dramatically changes the way community members access healthcare information and resources. Compared to the traditional model where people travel to clinics, the BP Ambassador Program uses a peer-to-peer model to connect trusted individuals from the community to their families, friends, and neighbors. Volunteers serve as Ambassadors to provide education, screening, and referrals to healthcare resources. The goals of the BP Ambassador Program are:

- 1) To increase the awareness of the consequences of untreated high blood pressure in the African American community, focusing on medically underserved neighborhoods in the city of Wilmington and surrounding areas.
- 2) To identify African Americans with undiagnosed or inadequately treated HTN and connect them to care.

Developing a Team of Ambassadors

Ambassadors are recruited through flyers that are passed out community events where BP screenings are taking place. Most of the volunteers have some personal connection to hypertension (either having a diagnosis themselves or having a family member with the condition). However, the most powerful recruiting tool has been by word of mouth from other Ambassadors.

Training

People who would like to become Ambassadors are required to attend one 90-minute training class at Wilmington Hospital and are trained by the program manager. The class is designed to teach Ambassadors how to safely and effectively engage with the community and how to take a proper blood pressure measurement. Each Ambassador receives an evidence-based toolkit during the class, which consists of health promotion resources, documentation forms, and an automatic, noninvasive BP machine. Their health promotion message includes knowing personal BP numbers, the complications of untreated hypertension, risk factors for cardiovascular disease, and how to get connected to healthcare resources. This model allows ambassadors to perform blood pressure screenings independently in their own communities. After completing initial training, the program manager sends Ambassadors monthly updates about screening opportunities at health fairs, clinics, and special events; Ambassadors can also initiate screenings on their own, including where they may worship or live.

Engagement

To keep Ambassadors engaged with the program, the program manager holds quarterly meetings for program updates, teambuilding exercises, and sharing experiences. During the teambuilding meetings, special guests are brought in to train the Ambassadors on new techniques or pertinent updates, and also gather supplies and information to distribute in the community. Teambuilding meetings are great to keep the Ambassadors engaged but also help provide the important linkage between the organization and the community. To ensure that the program is meeting the needs of the community, the Program receives guidance from an Advisory Committee, whose membership consists of clinicians, representatives from community organizations and the state government, and Wilmington residents.

Screening the Community

Blood Pressure Ambassadors conduct BP screenings in two ways: through scheduled events or self-initiated sessions. The BP Ambassador Program is a long-standing partner with a number of community and health-based events throughout the area, including Dance Your Heart Out, Saving Our Sisters, and Wilmington Community Day. Additionally, Ambassadors conduct BP readings on their own where they work, worship, live, and play.

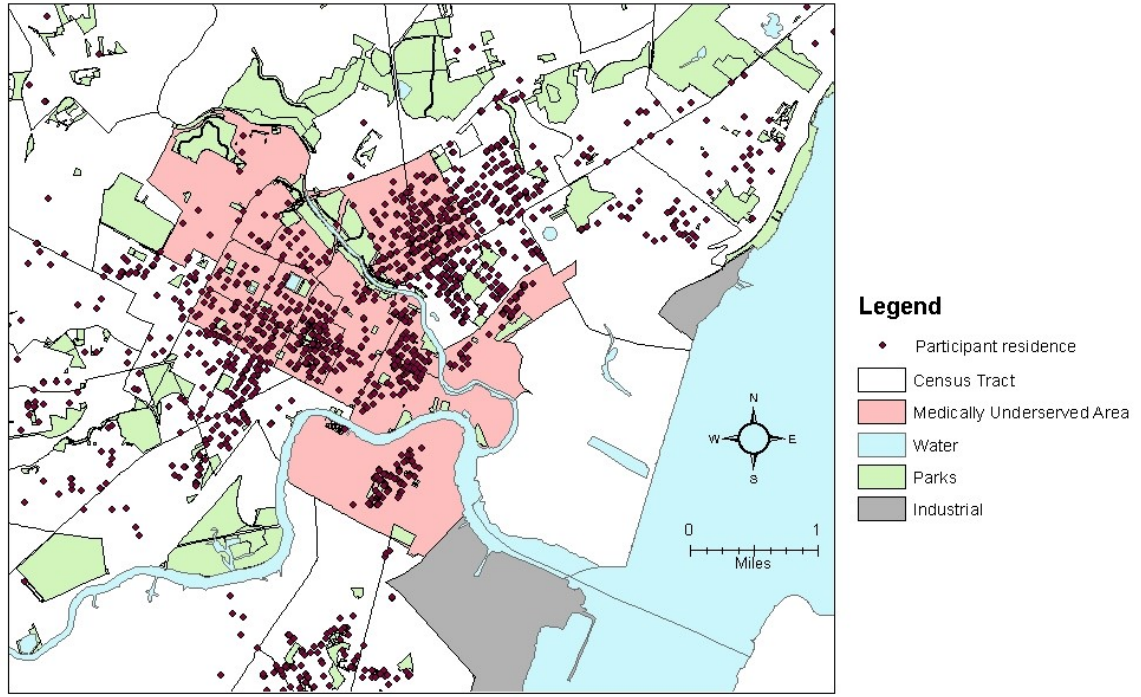
Community members who agree to be screened complete a short information sheet, where demographics are collected. The Ambassador then measures the participant's BP and notes it on the sheet; a BP of 140/90 or greater is currently used as the threshold for high blood pressure. If the values are found to be over 180/110 or if the participant requests it, the BP measurement is repeated. If a participant's BP is found to be actively having a heart attack or stroke, the Ambassador would call 911 and document. The Ambassador also shares information on the importance of 'knowing your numbers', the dangers of high blood pressure, and ways to keep BP under control. All participants who have a measurement of 140/90 or greater are encouraged to follow up with a provider within 1 month. Participants with measurements over 180/110 are encouraged to immediately call their doctor or go to a medical aid unit or emergency department. Any participant without a primary care provider is given information to receive direct assistance navigating available healthcare resources.

Recent Program Impact

In 2015, the Blood Pressure Ambassador Program was enhanced to allow for more detailed data capture, including residential addresses of those who were screened. The US Department of Health and Human Services, Health Resources and Services Administration (HRSA) defines a medically underserved area as a region where there is a shortage of personal health services for residents. The Wilmington area has 12 medically underserved census tracts that were targeted after the 2015 Program expansion; using the address data collected at screenings, the geographical reach of the Program could be mapped. Figure 1 shows the residential locations and density of program participants. This map shows that the BP Ambassador program has successfully reached community members who live in all 12 medically underserved census tracts in the Wilmington area (shaded in red).

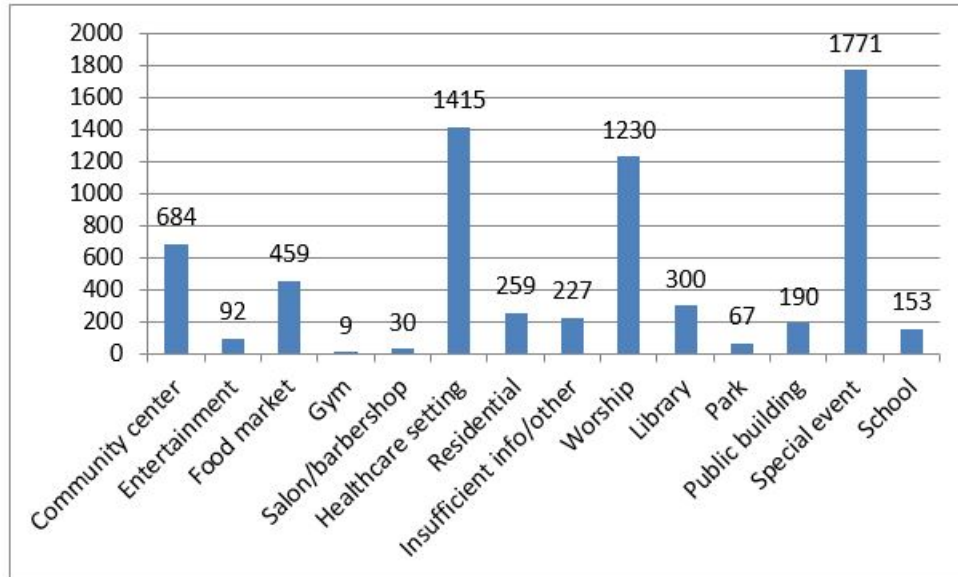
Figure 1. Residential Location of BP Ambassador Participants

Residential Location of Those Screened by Blood Pressure Ambassadors in Wilmington, DE



Additionally, the Program's screenings have taken place at a wide variety of locations across the Wilmington area. Figure 2 shows the frequency of where screenings occurred. The most common places where Ambassadors interact with community members are at special events (i.e. health fairs, fundraisers), healthcare settings (i.e. hospitals, clinics), and places of worship.

Figure 2. Locations of BP Ambassador Screenings



2017 Success Metrics

A prospective observational study was conducted January 2017 –June 2017 to analyze the program’s success in reaching community members unaware of their HTN and connecting them to care. Table 1 shows the demographics of the study sample. A total of 1,018 community members were included for study; the majority of the population was female and African-American and the average age was 54.5 years.

Table 1. BP Ambassador Program Participants, January 2017-June 2017 (N=1018)

Age, mean (SD)	54.5 (15.7)
Female, n (%)	715 (70.6%)
Race, n (%)	651 (64.3%)
African American	206 (20.3%)
White	46 (4.5%)
Other	
Ethnicity, n (%)	34 (3.4%)
Hispanic/Latino	

As the program’s mission is to target the African American population, the metrics of interest for this analysis focused on the 651 African Americans in the study population; Table 2 contains the final results. In comparison to the national prevalence of HTN of 40.3% for African Americans,⁴ nearly half of the convenience sample was found to be hypertensive. Furthermore, while the national estimate of African Americans who are unaware of their HTN is 14.7%,⁵ the sample from the Program was nearly double this at 33.8%. The majority of participants (n = 623) stated they had a primary care provider and health insurance. Of the 28 community members who reported not having a primary care provider and/or health insurance, 26 (93.0%) were connected to healthcare resource navigators.

Table 2. Program Metrics of Success, January 2017-June 2017 African American sample

	N
Measured BP is in HTN range (≥ 140/90)	320 / 651 (49.2%)
Unaware of HTN	104 / 308* (33.8%)
Total qualifying participants connected to healthcare resource navigation	26 / 28 (93.0%)

*12 persons did not respond to this survey question.

Conclusion

The Blood Pressure Ambassador Program has successfully reached Wilmington residents and has conducted over 12,000 screenings in the community, including medically underserved areas. The 2017 analysis showed that there are great opportunities to make improvements in the awareness and control of BP in Wilmington. The BP Ambassador Program is continuing to build on previous successes and lessons learned. Future work will focus on increasing African American male representation in the Ambassador Program and targeted interventions, as black males are the most affected by HTN in the US.

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