



Engagement in Heart Health Education and Blood Pressure Control Led by Community Health Workers in an African-American Majority Community: Implications for Medication Adherence

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INTRODUCTION

In Detroit, an African-American majority city, heart disease accounted for 30.6% of all deaths. As a primary risk factor for heart disease, high blood pressure (BP) has a higher prevalence among Detroit residents than the national average. The percentage of antihypertensive medication adherence for Medicaid adult beneficiaries in Detroit was below adherence levels compared to the rest of Michigan. Community health workers (CHW) have been shown to be valuable in supporting chronic disease management.

The goal of the HeartB research is to assess the efficacy of cardiovascular education and lifestyle risk reduction on BP control in an urban African-American adult population.

METHODS

This community heart health pilot was a public health academic-community partnership quasi-experimental intervention study. Detroit African American adults were recruited through community organizations, churches and street outreach by CHW from an urban community-based organization (CBO).

Detroit HeartB Community Outreach 2016-2019

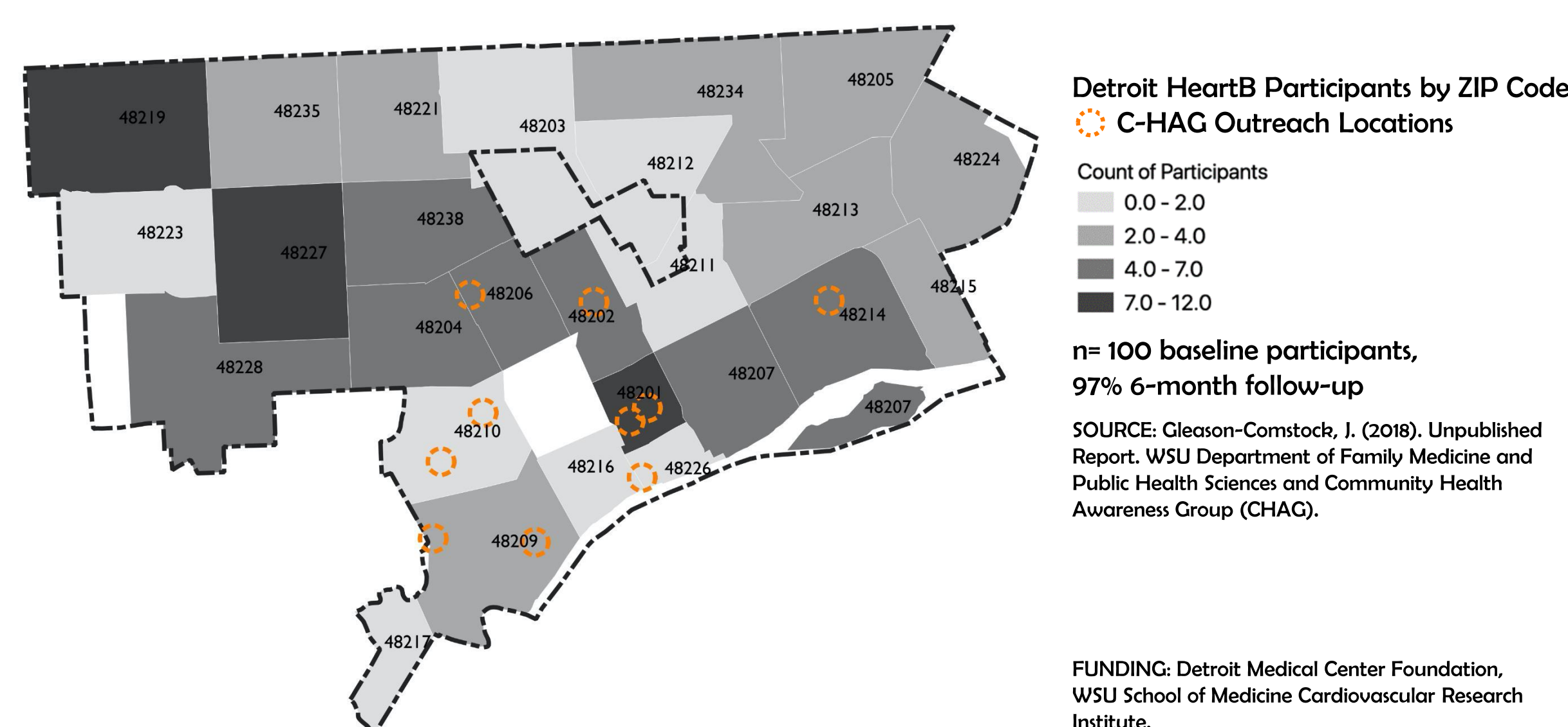


Figure 1. Sample was recruited from 27 zipcodes throughout Detroit

METHODS (Cont')

CHW and a community nurse were cross-trained and completed IRB Human Subjects Behavioral Research Training. The CBO nurse and CHW measured overall cardiovascular disease (CVD) risk, heart health knowledge and BP control at baseline and six months. The project used NHLBI evidence-based heart health education training for CHW and family-focused manuals designed for African-Americans, i.e., "With Every Heartbeat is Life (WEHL)".

RESULTS

Table 1. Demographics

Total Sample	100
Mean Age	44.57 (s.d. = 15.9)
Gender	
Female	55
Male	39
Transgender	6
Total	100

92% had a primary care doctor and 96% reported healthcare coverage (52% on Medicare/Medicaid). One in ten participants had a 30% or higher probability of experiencing CVD in 10 years.

Table 2. Hypertension Stages at Baseline and Six Months

Stage	Baseline	Six Months
Normal (<120/80 mmHg)	24	19
Elevated (120-129/<80 mmHg)	11	7
Hypertension Stage 1 (130-139/80-89 mmHg)	27	42
Hypertension Stage 2 (≥ 140/90 mmHg)	38	28
Missing	0	4
Total	100	100

RESULTS (Cont')

At baseline, 76% of participants averaged BP readings exceeding the Normal range; 65% had BP readings for Stage 1 or Stage 2. 28% of participants, seven of whom were in the Normal BP range, reported currently taking BP medication.

Six month follow-up was completed with 96% of participants. Results showed a statistically significant increase ($p < 0.001$) in heart health knowledge. At six months, there were decreases in Normal, Elevated and Stage 2 readings, however there was an increase in Stage 1.

CONCLUSION AND FUTURE DIRECTION

Although participants increased knowledge, continued elevated BP suggests the need for lifestyle modification and focused medication adherence for participants with follow-up facilitated by CHW. The revised 2020 WEHL for African Americans could provide CHW updated resources to focus on medication adherence.

Public Health Implications

Healthy People 2030 retained "Increase control of high BP in adults" as a Leading Health Indicator, reinforcing the premise for targeted outreach and risk reduction for African-Americans.

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