

A Community and Technology-Based Approach for Hypertension Self-Management (COACHMAN)

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Background

African Americans with hypertension continue to demonstrate poorer blood pressure (BP) control and have markedly lower rates of hypertension self-management compared to non-African Americans.

Self-managing hypertension is influenced by cognitive-emotional factors linked to general distress of daily life, social and economic circumstances, and inequalities/social disadvantages, increasing African Americans vulnerability to negative emotions and cognitions, as well as maladaptive behaviors.

Innovative and practical solutions such as mHealth technology are promising and can be leverage to promote self-management of hypertension.

Substantial evidence has demonstrated the importance of community support in improving patients' management of chronic illnesses. Unfortunately such programs do not offer technology-based interventions (TBI) as a delivery method.

Purpose



Evaluate the effects of the effectiveness of a community outreach program using a technology-based intervention (TBI) to support self-managing hypertension (COACHMAN) to improve blood pressure control.

Hypotheses

1. Our central hypothesis is that COACHMAN (evidenced-based strategies HTN education, behavioral skills training, and social support) would be more effective than usual care at motivating AA with HTN to improve BP control.
2. A secondary hypothesis is that the COACHMAN will result in improved BP control compared to the enhanced usual care (EUC) group.

Specific Aims

AIM 1

- Identify key content, design, and resources from a community of stakeholders, including determining facilitators and barriers of HTN management among AAs that will inform the development of COACHMAN using qualitative research methods.

AIM 2

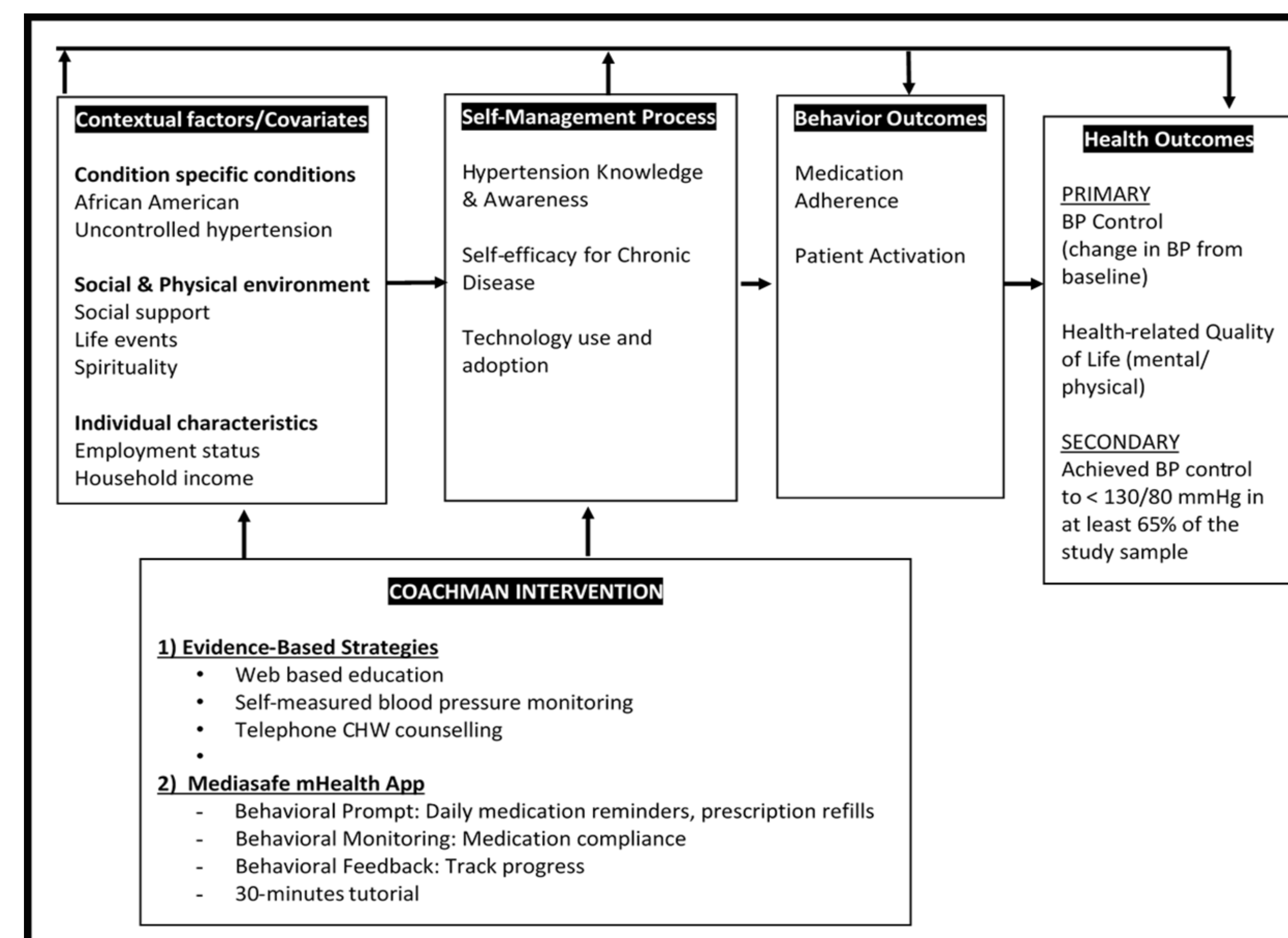
- Evaluate the feasibility and acceptability of COACHMAN to improve BP control.

AIM 3

- Compare the difference in BP control between Technology-based intervention (TBI) and EUC.

Framework

Ryan and Swain's Individual and Family Self-Management Theory: the role of a technology-based intervention on improving self-management in African Americans with hypertension.

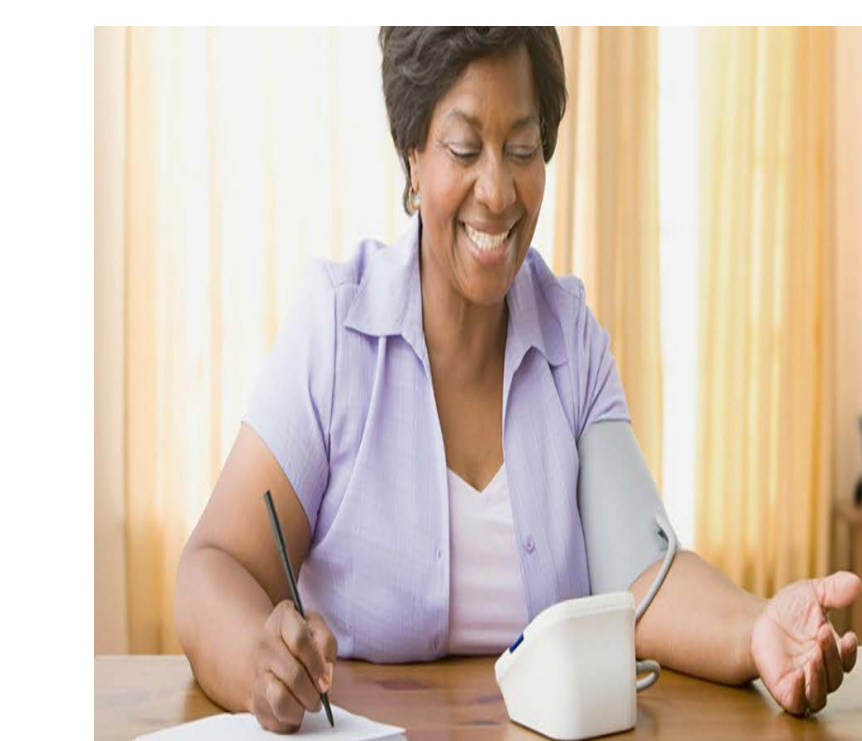
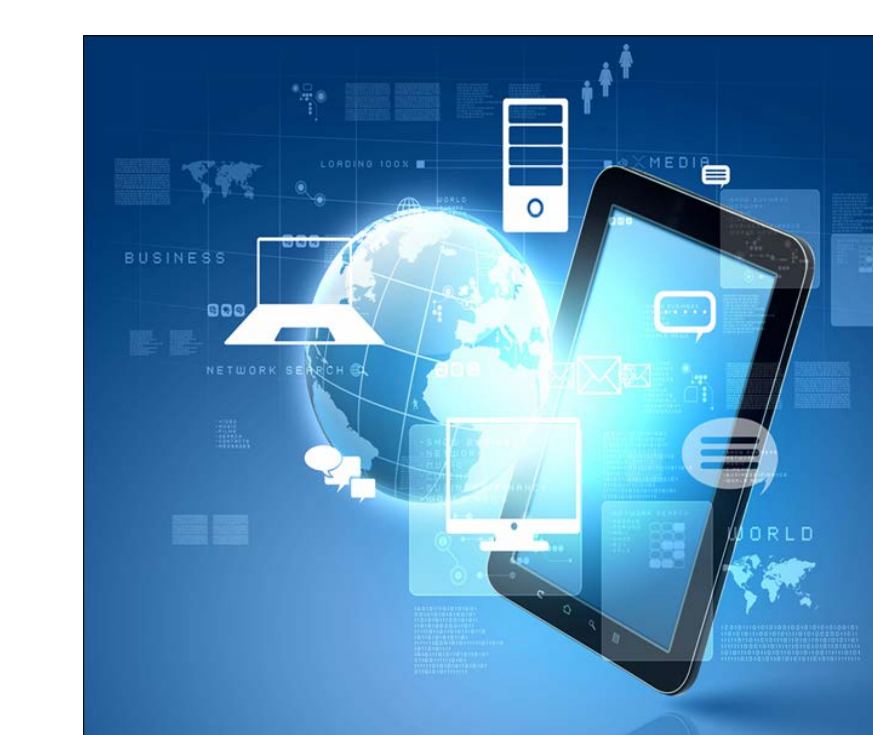


Methods

Two-group randomized control trial

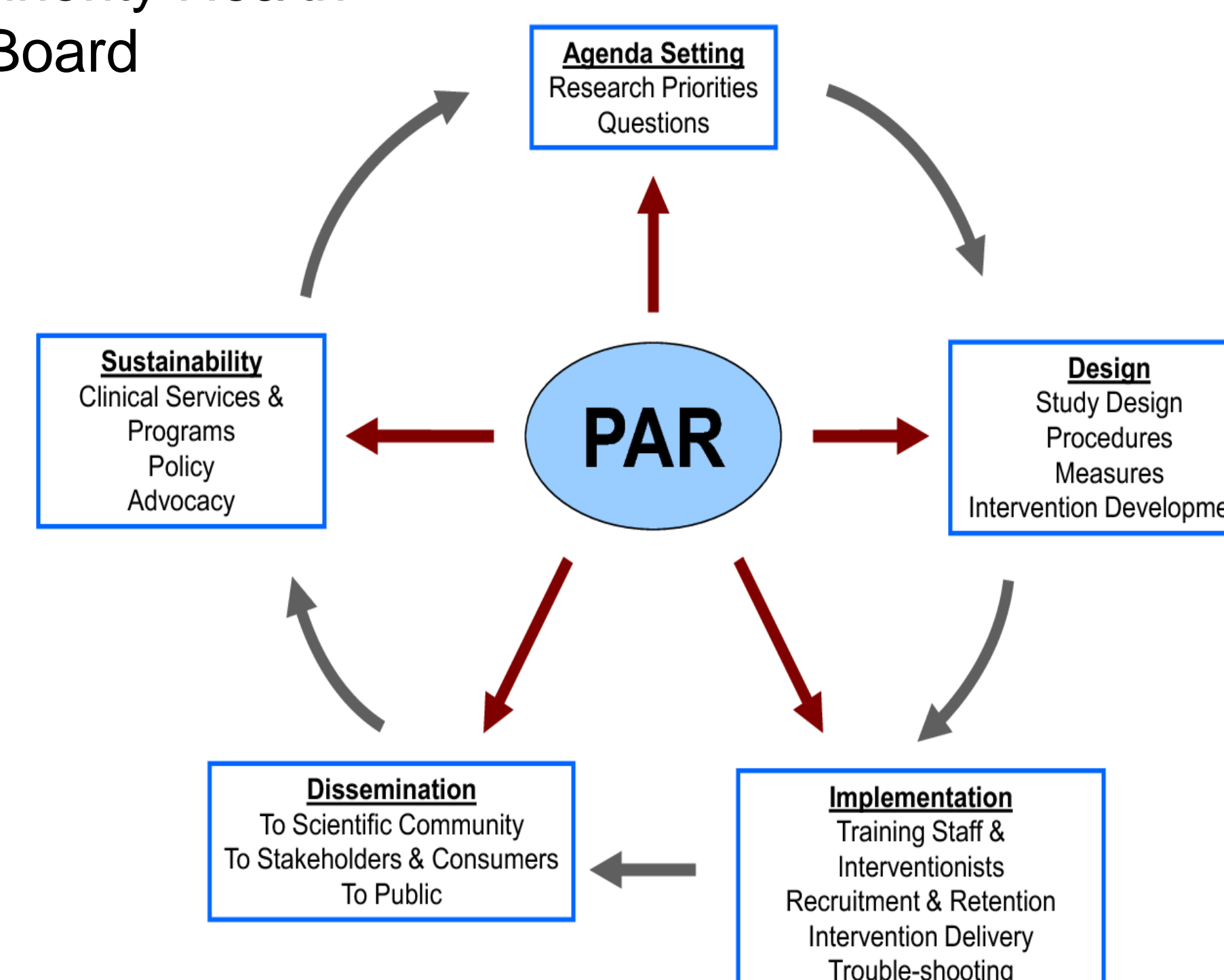
Study Conditions:

1. Enhance Usual Care (control group) will receive one education session on SMBP and printed materials from the American Health Association (AHA) "Facts about blood pressure" and dash diet. All participants will receive study provided automated home BP monitors (Omron 10 Series).
2. TechSupPorT (intervention group) includes the three Technology-based component:
 - Web-based modules focused on improving AAs' knowledge
 - Medication adherence support through smartphone application, *Mediasafe*
 - Self-monitoring BP with study provided BP monitor
 - Nurse counseling (up to four sessions)



Community Partnerships

- American Heart Association Multicultural Initiative Leaders
- Cleveland Council of Black Nurses
- Cleveland Office of Minority Health
- Coachman Advisory Board



Model of Community Participatory Research

Sample

Convenience sample of 40 African Americans with hypertension randomly assigned to *Coachman* ($n = 20$) or *Enhanced Usual Care* ($n = 20$).

Inclusion Criteria: Age 30 years and older; self-identify as African American, diagnosed with hypertension and a BP >130/80 mmHg; prescribed at least one antihypertensive drug; own a smartphone; and able to read/understand English.

Recruitment: Community partners, Clinics affiliated with University Hospitals Cleveland Medical Center, community centers, clinician referrals, and targeted advertisements (Research Match.org, Facebook).

Measures

- Three points: baseline, 8 and 12 weeks
- Data collection via RedCap using several valid and reliable measures
- Participation in two 90-minute focus group sessions

Analysis

- Mixed Methods Approach
- Primary analysis will use a repeated measures ANCOVA model adjusting for treatment arms and level of the outcomes variables at 8 weeks and 12 weeks

Acknowledgements

- NIH/National Institutes on Minority Health and Health Disparities Grant 5U54MD002265-12 (Sehgal, Ashwini)
- Community Partners: American Heart Association, Cleveland Council of Black Nurses, and Cleveland Office of Minority Health
- University Hospitals Cleveland Medical Center and the Clinical and Translational Science Collaborative of Cleveland, 4UL1TR000439 from the National Center for Advancing Translational Sciences (NCATS) component of the National Institutes of Health and NIH roadmap for Medical Research.