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## Exploring the Readiness of African American Churches to Engage in a Community-Engaged Blood Pressure Reduction Research Study: Lessons Learned From the Church Challenge

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### Cover Page Footnote

We would like to acknowledge our community partners: Community Outreach for Family and Youth Center, who assisted with the implementation of this project; and Bridges Into the Future, Inc, who collaborated with the Flint Center for Health Equity and Solutions and Community Based Organizations Partners in the development of this project. We would also like to acknowledge our faith-based community partners who were integral to the development and recruitment of the project. We would like to thank our consultants Dr. Ken Resnicow (academic consultant) and Pastor Todd Yeary (academic and faith leader consultant). We especially want to thank the church leadership and participants, whose efforts made this study possible. Finally, we would like to thank the National Institute on Minority Health and Health Disparities of the National Institutes of Health for providing funding for our study (grant #U54MD011227). Drs. Key, Sneed, and Johnson-Lawrence were also supported by the Michigan Center for Urban African-American Aging Research from the National Institutes of Health (grant P30 AG015281). Dr. Key was also supported by grants from the National Institute of Minority Health and Health Disparities (K01MD015079) and the National Institute on Aging (R24AG065151).

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# Exploring the Readiness of African American Churches to Engage in a Community-Engaged Blood Pressure Reduction Research Study: Lessons Learned From the Church Challenge

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## Abstract

The Transtheoretical Model (TTM) has been used to assess individual readiness for health behavior change. We describe our use of the TTM to assess African American churches' organizational readiness to participate in the Church Challenge (CC) in Flint, Michigan; the processes that moved churches toward readiness for change; and lessons learned. The CC was a faith-based, multilevel intervention intended to reduce chronic disease risk. A community-based participatory approach was used to engage and recruit 70 churches. We used the TTM to capture each church's readiness for change and to track church progress through the model's five stages. By the end of the CC, 35 remained in Stage 1 (precontemplation), 10 remained in Stage 2 (contemplation), three remained in Stage 3 (preparation), five made it to Stage 4 (action), and 17 finished within Stage 5 (maintenance). Churches engaged in several processes of change as they moved through the various stages. Utilizing processes of change, establishing rapport, and having previous participants share success stories helped move churches from stage to stage. However, certain barriers prevented progression, such as scheduling conflicts and burnout/trauma from the Flint water crisis. Faith-based organizational readiness greatly impacted participation in the CC. Researchers should utilize established social capital, build rapport, and remain flexible when working with African American churches. Although traditionally used at the individual level, the TTM works well at the organizational level to assess and monitor church readiness to participate in community-engaged research and health programming to improve health in an African American faith community.

African Americans are disproportionately affected by hypertension (Ferdinand et al., 2020; Heard et al., 2011; Rigsby, 2011), a common chronic condition that can lead to cardiovascular disease, stroke, chronic kidney disease, heart failure, and death (Pickering et al., 2008; Rodriguez et al., 2010; Weber et al., 2014). Numerous studies have shown that physical activity and healthy eating are vital for hypertension prevention and management (Appel et al., 1997, 2003; Lemacks et al., 2013). However, resources that promote physical activity and healthy eating (e.g., parks and full-service grocery stores) are often lacking in African American communities (Lamichhane et al., 2013; Powell et al., 2006). Research has suggested that community-engaged research and health programs implemented within churches can be effective for reducing blood pressure in African American communities (Baskin et al., 2001; Dodani, 2011; Schoenthaler et al., 2018; Wilcox et al., 2010; Zoellner et al., 2011). African American churches,

as influential and trusted organizations within the community (Markens et al., 2002), are invaluable partners in community-engaged research and health programming (Campbell et al., 2007; Baskin et al., 2001). Thus, churches are essential partners in reaching and engaging African Americans to improve their health (Ammerman et al., 2002; Demark-Wahnefried et al., 2000). However, not all churches or organizations are ready to engage in research or intervention implementation.

Successful implementation of new evidence-informed practices within an organization is largely determined by the organization's *readiness*—that is, its willingness to commit to organizational change (De Marco et al., 2011; Weiner, 2020; Weiner et al., 2008). Several published articles have reported the successful implementation of organizational-level interventions after assessing organizational readiness in clinical health care settings (Hamilton et al., 2010; Ober et al., 2017). Although numerous studies have assessed organizational readiness to

change in faith-based institutions (De Marco et al., 2011; Maxwell et al., 2019), little information in the current literature links the assessment of faith-based organizational readiness to the implementation of successful interventions.

Various instruments and models have been used to assess readiness for change. One well-known model is the Transtheoretical Model of behavior change (TTM), a biopsychosocial framework that uses constructs from several theories to predict an individual's or organization's readiness to change (J. M. Prochaska et al., 2001). The model includes five stages of change:

- precontemplation: no intention of making the desired change in the next 6 months
- contemplation: thinking about making the desired change in the next 6 months
- preparation: preparing to make the desired change in the next 30 days
- action: currently making the desired change for less than 6 months
- maintenance: maintaining the desired change for more than 6 months

When changing a health behavior, regression from the action or maintenance stages to an earlier stage of change is natural (J. O. Prochaska & Velicer,

1997). These stages of change are nonlinear and occur in more of a spiral pattern: A person may relapse multiple times before progression is halted, or they may make progress before relapsing again. This spiral pattern shows the back-and-forth nature of decisional balance. Part of moving through the stages of change is getting to a point where the pros of working to maintain the health behavior outweigh the cons, a process that can be affected by an individual's level of self-efficacy and temptation at each stage (J. O. Prochaska & Velicer, 1997). *Self-efficacy* refers to an individual's confidence in their ability to make a change, while *temptation* refers to the urge to engage in an unhealthy behavior (J. O. Prochaska & Velicer, 1997). The goal is to elevate self-efficacy while depressing temptation.

The traditional stages of change reflect individual-level readiness to change behaviors. However, the parameters of the model have been adapted to reflect organizational readiness, acknowledging the psychology of organizational change in ways that other models may not (Castañeda et al., 2012; J. M. Prochaska et al., 2001). Distinct processes of change can be utilized to move organizations from one stage to the next (J. O. Prochaska et al., 2013), as shown in Table 1.

**Table 1.** Processes to Move Organizations From One Stage of Change to the Next Stage

Stages of change	Processes of change
Precontemplation	Consciousness raising: Becoming more aware of a problem and potential solutions
	Dramatic relief: Emotional arousal, such as fear about failures to change and inspiration for successful change
	Environmental reevaluation: Appreciating that the change will have a positive impact on the social and work environment
Contemplation	Self-reevaluation: Accepting that change is important to one's identity, happiness, and success
Preparation	Self-liberation: Believing a change can succeed and making a commitment to the change
Action	Reinforcement management: Finding intrinsic and extrinsic rewards for new ways of working
	Helping relationships: Seeking and using social support to facilitate change
	Counterconditioning: Substituting the new behaviors and cognition for old ways
	Stimulus control: Restructuring the environment to elicit new behaviors
Maintenance	N/A

*Note.* Stages of change adapted from J.O. Prochaska & Velicer (1997). Processes of change adapted from J.O. Prochaska et al. (2013).

This paper describes the application of the TTM framework in relation to the Church Challenge (CC), a multilevel intervention that integrated community-based participatory research (CBPR) principles and faith-based health programming to reduce blood pressure and improve health among adults attending predominantly African American churches in Flint, Michigan. Our goal was to demonstrate that the TTM could be utilized to assess and improve organizational change. We were specifically interested in determining whether the processes of change described in the TTM could improve organizational readiness among the faith-based institutions involved in the CC program. Here, we describe our use of the TTM to assess organizational readiness, the implementation of the processes to move churches through the stages of change, and the lessons learned from the experience.

## Methods

### *Study Design*

**An Overview of the Church Challenge.** The CC was a multilevel intervention designed to promote health equity and reduce chronic disease risk among the African American community in Flint, Michigan (Johnson-Lawrence et al., 2019). It had three components:

- a community-level component focused on engaging faith leaders in health policy and advocacy work designed to promote health and well-being in the community,
- a church-level intervention that involved training church-based health teams to promote wellness within their congregations, and
- a 16-week randomized controlled trial (RCT) that evaluated the impact of a Physical Activity and Nutrition Program (PANP) intervention relative to a control Health and Wellness Program (HWP) on blood pressure outcomes among individual participants.

Churches had the option of participating in one, two, or all three components. The current paper focuses on our efforts to assess and improve organizational readiness to participate in the 16-week RCT. The PANP involved weekly nutrition and cooking workshops that encouraged participants to read food labels to reduce their sodium intake. Participants were also encouraged to follow the Dietary Approaches to Stop Hypertension diet (Appel et al., 1997), which especially stresses the importance of increasing consumption of fruits

and vegetables and consuming only low-fat dairy products. The physical activity component also included a weekly, 1-hour exercise class that focused on low-impact aerobic activity. The CC was approved by the Michigan State University institutional review board (IRB #17-728).

**Study Setting.** The CC took place in Flint, Michigan, a vulnerable majority-minority community. Decades of divestiture in Flint have worsened the economic and physical well-being of Flint residents. The 2014–2015 man-made Flint water crisis exacerbated the hardships this community was already experiencing (Johnson et al., 2018) and intensified the community's mistrust of government (Morckel & Terzano, 2019) and larger organizations (Cuthbertson et al., 2016; Roy, 2017). This context has made it difficult to successfully implement community-based research activities in Flint.

As trusted community organizations, African American churches play an important role in health promotion within the community (Santos et al., 2017; Scheirer et al., 2017). The Flint water crisis further expanded this role. Churches quickly found themselves taking on public health responsibilities such as disseminating health information and setting up water distribution sites and food pantries. This additional work overburdened churches and their overextended faith leaders, who were already serving as community counselors and mentors while also maintaining careers and personal responsibilities outside of the church. These circumstances made it even more difficult for researchers to successfully implement community-based research activities.

The CC was conceptualized in 2012 as part of the Reaching Across the Nation Consortium, a collaboration between the Genesee County Health Department and the Centers for Disease Control and Prevention (CDC) Racial and Ethnic Approaches to Community Health program (CDC, 2022). However, the concept of the CC expanded as a result of the Flint water crisis.

**Church Recruitment.** The first step in our recruitment process was to engage with church faith leaders to seek their approval for church members to participate in the project. To successfully build rapport and obtain full support from faith leaders, the research team optimized CBPR approaches. The research team collaborated with faith-based community partners who were longtime residents and had established relationships with faith leaders in the Flint community. Church recruiters contacted faith leaders and informed them about

the CC. Thereafter, individual meetings were scheduled between the pastor and research team. During the meeting, the research team discussed the project and the faith leader verbally decided on which of the three CC components in which to participate (if any).

**Health Team Recruitment.** Upon verbal agreement to participate in the RCT, faith leaders designated one or two members of their health ministry to be CC health team leaders. Health team leaders were only designated for churches that participated in the RCT. In collaboration with the research team, these leaders assisted with participant recruitment, scheduled and facilitated data collection with study participants, and provided opportunities for church-based conversations regarding practices that study participants found helpful in promoting healthy habits in their daily lives.

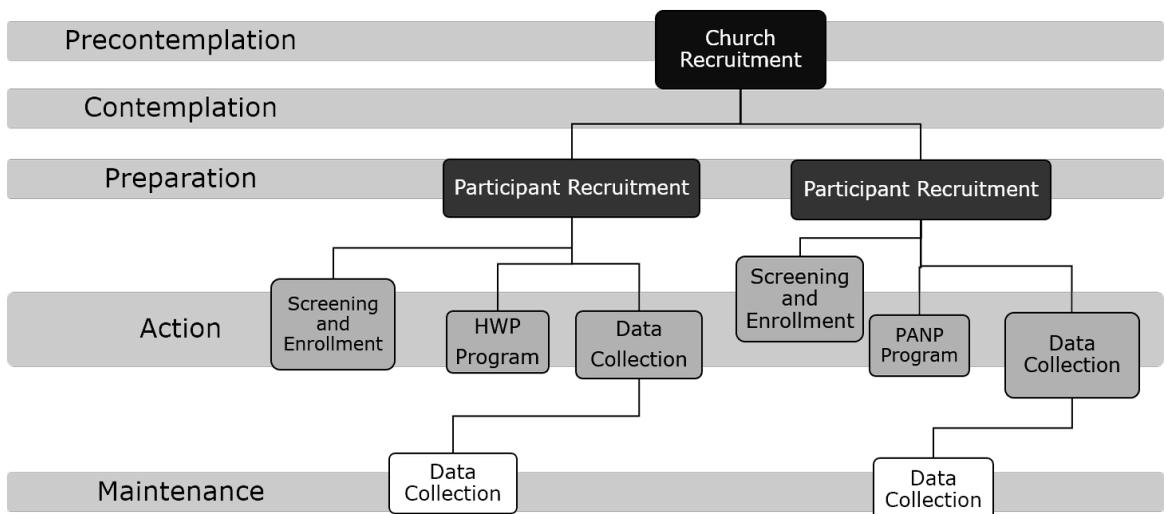
**Participant Recruitment.** Participant recruitment involved collaboration between the church-based health teams and the research team. The research team provided the health teams with recruitment flyers to incorporate into church service itineraries and to place on church bulletin boards. In addition, the health teams coordinated with the research team to schedule visits to each church. The research team attended church services and other activities (e.g., bible study, church events) to promote and discuss the program and to enroll individual church members.

*Assessment of Stages of Change*

Participation in the RCT required partnerships with key individuals within each church, including the faith leader (e.g., pastor, priest, bishop), the church-based health team, and participating church members. Using the TTM, we were able to identify church readiness and track their progress through the stages of change. No instrument was used to appraise readiness. Instead, we assessed organizational readiness based on actions we observed and on faith leaders' verbal expressions of familiarity with the program and intent to participate. Individuals normally go through the processes of change on their own (e.g., a person may raise their own consciousness by seeking out health information). We attempted to move them through the processes of change ourselves.

**Precontemplation.** We assigned churches to the precontemplation stage when/if church leaders did not confirm their intent to participate in the CC. With these churches, our primary research activity was church recruitment. Recruitment occurred in collaboration with faith-based community partners, a method used successfully in past studies (Whitt-Glover et al., 2016). With the assistance of our community partners, we utilized several church recruitment strategies that had previously proved effective (Ceasar et al., 2017; Lemacks et al., 2018; Williams et al., 2013), including hosting interest meetings with and making personal phone calls to faith leaders, sending emails with project informational materials, making phone calls to

**Figure 1.** Church Challenge Research Activities and Stages of Change



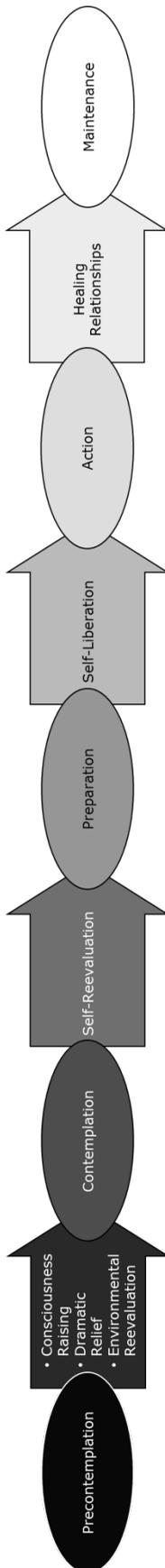
Note. Stages of change adapted from J.O. Prochaska & Velicer (1997).

**Table 2.** Research Activities and Strategies Used at Each Stage of Change

Stage	Research activity	Strategies
<b>Precontemplation</b>	Church recruitment	Hold interest meetings with pastor and/or church leaders
		Hold pastoral/organizational meetings
		Make phone calls and hold in-person meetings
		Raise awareness via word of mouth
		Send emails with informational materials
		Make phone calls to church office
		Host community and church events
		Develop recruitment video
		Run local newspaper advertisement
<b>Contemplation</b>	Identify health team member/s	Appoint existing health team
		Appoint church members who are health care professionals or interested in improving health within the church
		Appoint members who are leading other church activities
<b>Contemplation</b>	Memorandum of understanding (MOU) presentation	Arrange meeting with research team and faith leader to review MOU
<b>Preparation</b>	MOU signature	Meet with faith leader to sign MOU
		Deliver MOU to faith leader via health team
	Health team engagement	Deliver a handbook with vital information to health team
		Meet with health team
	Participant recruitment	Announce during Sunday service
		Post recruitment flyers within the church
		Send text messages to church members
Post recruitment flyers in church bulletins and on bulletin boards		
<b>Preparation</b>	Use sign-up sheets in the back of the church	
<b>Action</b>	Participant screening	Contact potential participants on the phone to complete screening
		Screen at baseline data collection events
		Screen members after Sunday service or bible study
	Participant enrollment	Enroll at baseline data collection events
		Enroll eligible church members after Sunday service or bible study
	Physical activity and nutrition program	Hold weekly physical activity and nutrition workshops in the morning and evening at a local community center
	Health and wellness program	Hold monthly health workshops after church service and church activities
	Data collection	Remind church members in bulletins and during Sunday service
		Hold data collection events after church service and church activities
	Health information dissemination	Disseminate health information at church on Sunday
	<b>Maintenance</b>	Data collection
Hold data collection events after church service and church activities		

Note. Stages of change adapted from J.O. Prochaska & Velicer (1997).

**Figure 2.** Processes of Change Used Between Each Stage of Change



*Note.* Stages of change adapted from J.O. Prochaska & Velicer (1997). Processes of change adapted from J.O. Prochaska et al. (2013).

church offices, attending community and church engagement events, placing advertisements in the local courier newspaper, and raising awareness through word of mouth. We also partnered with faith leaders and church health teams to develop a recruitment video that was disseminated to faith leaders and church representatives for broadcast during Sunday services. The video described the CC design and included live-action footage of intervention activities. It also featured testimonials from church health team leaders about the importance of the project for the local faith community.

**Precontemplation to Contemplation.** We used three processes of change to support the church partners in their progression from precontemplation to contemplation: consciousness raising (increasing awareness about the health behavior change), dramatic relief (arousing positive or negative emotions about the health behavior change), and environmental reevaluation (assessing the effects of personal decisions on the surrounding social environment; J. O. Prochaska & Velicer, 1997). To increase awareness and knowledge of the project and the benefits of participation (Velicer et al., 1998), we shared pertinent informational materials with church leaders. We anchored the need for health behavior change to the central problem of high prevalence of hypertension among African American adults. We also shared information with key participants about the prevalence of hypertension in the Flint community and the benefits of physical activity and healthy nutrition for blood pressure reduction. As a community-based study, it was equally important to clearly identify who and how key people from the community and church settings would be involved. These informational details included the key participants (faith leaders, health teams, and church members), their role in the project, length of participation, locations for all program activities, descriptions of materials to be used during the program, and the benefits of participation (e.g., increased knowledge, improved health, free training, group support and interaction, prizes, and financial incentives). However, it was incumbent upon the health team leaders to raise their consciousness and progress to subsequent stages.

Our community partners were essential to the RCT as church recruiters. By sharing their testimonies, they emphasized the significance of the RCT and elicited dramatic relief—a process of change—from faith leaders. The first church recruiter discussed the impact of positive health

behaviors (physical activity and healthy eating) on her own health, emphasizing her experiences of reduced pain and lessened mobility restrictions. The second church recruiter testified to the success of the CC pilot study and to its positive impacts on participating churches. The third recruiter discussed the importance of self-care and described how churches are instrumental in impacting the health of their communities. The fourth recruiter testified to the importance of health within the church and among parishioners. All four shared personal stories that illustrated how health research studies can have positive immediate and future benefits for churches and their communities. Our recruitment video also included powerful testimonies from participants, who were leaders in their faith groups, about the benefits of the program.

Our team promoted environmental reevaluation through direct communication with church leaders, most often during face-to-face meetings. We emphasized the importance of promoting healthy habits among church members—noting, for example, that healthy church members live longer and healthier, which allows them to engage wholeheartedly in church activities. Church leaders acknowledged that promoting health and wellness would be good for church business as well: Faith leaders could spend less time visiting people in the hospital and would conduct fewer funerals associated with the adverse effects of unhealthy behaviors.

**Contemplation.** Churches in the contemplation stage were those whose leaders had expressed their intention to participate in the CC but had not yet officially enrolled. The three research activities in this stage were the appointment of a health team, random assignment into one of the two health programs, and presentation of a memorandum of understanding (MOU). The MOU outlined the expectations for both the researchers and churches with respect to recruiting participants, participating in study workshops, and participating in data collection. During this stage, the first goal was verbal commitment from faith leaders. Once this commitment was secured, each faith leader identified a health team for their institution. Health team members acted as liaisons between the church and the research team, as reported in previous studies (Wilcox et al., 2013). In some churches, there was an existing health ministry. In others, there were church members who were responsible for health activities within the church.

If there was no existing health team ministry, the faith leader appointed a member from the church who was either a health care professional or was involved or interested in other health-related activities. After church leaders identified a health team, the church was randomly assigned to one of the two health programs (intervention or control) and the MOU was reviewed by the faith leader.

**Contemplation to Preparation.** To successfully progress from contemplation to preparation, the faith leaders utilized self-reevaluation. *Self-reevaluation* is described as cognitive reappraisal of how behavior change is part of one's identity (J. O. Prochaska & Velicer, 1997). After persistent, reassuring contact between the community partners and faith leaders, faith leaders and health teams slowly learned and came to appreciate the benefits that would come to their churches and communities as a result of promoting good health and well-being through the program. This led faith leaders to realize that health promotion and improvement were important aspects of the church mission, a development congruent with previous studies (Webb et al., 2013). Additionally, to help promote self-reevaluation, we referred faith leaders to scriptural passages that referenced the importance of physical health (e.g., the body is a temple). Thus, faith leaders found that encouraging people to take care of their bodies could be part of their churches' spiritual mission as well.

**Preparation.** Churches moved to the preparation stage once they completed three activities: signing of an MOU agreeing to participate in the study, hosting of a formal meeting between the health team and research team, and providing contact information to initiate individual participant recruitment. At each church, after the faith leader reviewed the MOU and agreed to participate in the project, representatives from the university and the church provided their signatures. After signing the MOU, the faith leader and research team member identified a health team member to serve as the point of contact for the research team and arranged a meeting with the appointed health team member(s). During this meeting, the research team provided a health team handbook outlining expectations, discussed project details, and provided recruitment flyers. The health team handbook served as a tool for recruiting and retaining participants, thereby improving self-efficacy among the church health teams. After reviewing pertinent material, the health

team planned activities and logistics within the church, which previous studies had identified as an important step (Berkley-Patton et al., 2018).

The first planned research activity with the health team was participant recruitment. Several strategies were implemented to successfully recruit church members to participate in the research project, including Sunday morning announcements during services, recruitment flyers posted within the church, announcements during bible study, text messages sent to church members by church leaders, and announcements in Sunday bulletins and on bulletin boards, similar to previous studies (De Marco et al., 2011).

**Preparation to Action.** To successfully progress from preparation to action, the health teams utilized self-liberation. *Self-liberation* is an individual's belief that they can change, followed by a commitment to pursue that change (J. O. Prochaska & Velicer, 1997). In collaboration with the research team, each church's health team planned activities and logistics for the research activities, similar to previous studies (Berkley-Patton et al., 2018). The research activities included participant screening, participant enrollment, data collection, and health workshops. Other self-liberation activities included faith leaders committing to the goals laid out in the MOU and participants making New Year's resolutions.

**Action.** A church was designated as in the action stage when people within that church began to attend CC activities after random assignment to the PANP or HWP arms of the RCT (further described below). The research activities were similar—including participant screening, participant enrollment, data collection, health information dissemination, and participation in workshops—but the programs differed in health content. Participant screening involved obtaining informed consent and asking a series of cognitive and physical health screening questions to determine eligibility. Participant screening interviews were conducted over the phone, after Sunday service or bible study, and/or at arranged data collection events. Once participants provided informed consent and were deemed eligible to participate, they were assigned a subject identification number. Data collection for both programs consisted of a self-administered survey and collection of physical health data (blood pressure, weight, height, waist circumference, and hemoglobin A1c [HbA1c]) by trained data collectors. Data were collected at baseline and at 16 weeks in both the HWP and

PANP arms. Additional data were collected from the PANP participants at 8 weeks.

The 4-month HWP arm consisted of four 1-hour monthly workshops that focused on various health topics (e.g., cancer, dementia, mental health, stroke) identified by each church health team as relevant within their congregation. The workshops were led by health professionals and held at individual churches. The dates and times of the workshops were selected by the churches' health teams.

The 16-week PANP arm included weekly fitness classes, hands-on nutrition education, and cooking workshops. The sessions were led by trained community members and held at the Community Outreach for Family and Youth Center a local community center (Community Outreach for Family and Youth, n.d.). During the program, the church health team members were given health education materials to disseminate within their churches on a monthly basis.

**Action to Maintenance.** In support of the churches maintaining their participation in the RCT activities, it was important to foster bidirectional relationships with each church's health team members. Working together, the church health teams and the RCT research team continued to engage with church participants and to ensure that research activities were completed. The CC was a community-based research study that we implemented because community members saw the added health benefits that supplemented/complimented the research. As a result, the research team helped the health teams remain engaged in the program beyond data collection by maintaining constant communication and support.

**Maintenance.** Churches reached the maintenance stage when they continued to host RCT program activities 6 months after the 16-week data collection was complete, based on the timeframes outlined by J. O. Prochaska and Velicer (1997). During the maintenance stage, the final RCT activity was data collection at 26 weeks after baseline data collection.

The church health teams and the RCT research team held planning meetings to prepare for the 26-week follow-up data collection. To encourage church members to participate, health teams made announcements during Sunday church service and bible study, and the research team made phone calls to participants. Some churches held follow-up data collection events after church service to ensure that most of the participants were in attendance. Other churches scheduled weekday data collection events

on church grounds. The research team followed up individually with the participants who did not attend the church-based data collection events.

The research team facilitated training sessions for church health team members that helped them learn about or collect health resources to support health and wellness within their churches. The research team used social media to disseminate information about local community resources, such as food banks, telemedicine options, and health insurance enrollment. A Facebook page was developed to provide weekly health tips, recipes, and exercises for church members to use at home.

During the COVID-19 pandemic, health and wellness activities incorporated social distancing measures. “Church Chat” support groups were held for health teams to promote self-care during the pandemic. Several churches participated in the support groups. The Church Chats addressed the COVID-19 virus and related health effects, stroke prevention, and back-to-school information during the pandemic. Additionally, the research team hosted “Policy Prep for Pastors,” a webinar series that aimed to help local faith leaders learn more about how to advocate for health and wellness within their own communities.

**Results**

During the project, we reached and engaged with 70 Flint-area churches. The majority of the churches started in the precontemplation or contemplation stage. Ultimately, 22 churches progressed to the action stage, of which 17 reached the maintenance stage. At the end of the RCT phase of the CC, 35 remained in the precontemplation stage, 10 remained in the contemplation stage, and three remained in the preparation stage.

While some churches quickly moved to the preparation stage from the precontemplation and contemplation stages of change, the majority of the churches we reached did not ever progress

to preparation. Some churches progressed to the preparation and action stages but relapsed to earlier stages (precontemplation and contemplation).

**Lessons Learned**

*Precontemplation*

Before the research team-initiated contact, most churches were not considering participation in the CC because they were not aware of the project. The most effective strategies for church recruitment included in-person meetings and phone calls with faith leaders, word of mouth, and church/community events. These strategies would not have been effective without our community partners who served as church recruiters, especially our faith-based community partners, such as pastors. The church recruiters were invaluable during this stage and proved to be critical for recruitment. Because of their previously established relationships and their relatability, the faith leaders trusted the community partners, especially the faith-based community partners, and the information they shared. In addition to providing information about the project, recruiters described the potential benefits of involvement for individuals, the congregation, and the community. These conversations emotionally moved faith leaders and encouraged them to participate.

One method that proved to be ineffective was utilizing contact information from phone books, both in print and online, as many of the phone numbers were outdated. Many were wrong phone numbers, disconnected, and/or no one answered.

The processes of change (consciousness raising and dramatic relief) in the precontemplation stage were effective together in moving churches to the contemplation stage. However, some churches did not move on for various reasons, such as burnout/trauma from the ongoing Flint water crisis, lack of trust in research/academic institutions, participation in other conflicting research studies and health programs, scheduling conflicts with existing church activities, and inability of church recruiters to contact and reach faith leaders, all of which echoed findings from previous journal articles and studies (Corbie-Smith et al., 1999; Cuthbertson et al., 2016; Gamble, 1997; Lancaster et al., 2014; Masten et al., 2016; Scharff et al., 2010). Additionally, some churches planned on participating but experienced a loss of or change in church leadership. The summer months were also a difficult time for some churches to participate due to summer church activities that conflicted with the scheduling of program activities.

**Table 3.** Number of Churches Within Each Stage of Change by the End of the Program

Stage of change	Number of churches
Precontemplation	35
Contemplation	10
Preparation	3
Action	5
Maintenance	17

**Table 4.** Lessons Learned

Stage of change	Effective research activities	Processes of change	Why churches did not move to the next stage
Precontemplation	The most effective church recruitment strategies included in-person meetings with faith leaders, word of mouth, and church/community events.	Consciousness raising and dramatic relief together proved to be the most effective in moving churches from precontemplation to contemplation.	<ul style="list-style-type: none"> <li>• Lack of trust in research/academic institutions</li> <li>• Involvement in other church activities and/or other research studies</li> <li>• Inability to contact and reach faith leaders on the phone</li> <li>• Overwhelmed/burnout from ongoing water crisis</li> </ul>
Contemplation	Appointing a health team was easier for churches that already had an existing health team.	Self-reevaluation was important in this stage. If faith leaders viewed health as a priority and had a health team, then they were likely to move from contemplation to preparation.	<ul style="list-style-type: none"> <li>• Inability to identify health team to commit to the project</li> <li>• Uncertainty about the project and the required level of commitment</li> <li>• Inability of health teams to commit due to other commitments</li> <li>• Lack of interest in the programs they were randomly assigned to</li> </ul>
Preparation	Successful health team engagement and commitment was instrumental in this stage.	If churches did not successfully implement self-liberation, they either stayed in this stage or moved back to contemplation.	<ul style="list-style-type: none"> <li>• Inability of health teams to meet, resulting in missed meetings</li> <li>• Lack of participant recruitment</li> <li>• Scheduling conflicts</li> </ul>
Action	Highly motivated health teams were helpful in encouraging participants and ensuring that research activities (screening, enrollment, data collection, health program workshops) were seamlessly completed.	Helping relationships were necessary and helped churches (health team and participants) continue in the action stage and reach the maintenance stage.	<ul style="list-style-type: none"> <li>• Inability or unwillingness of participants to participate in research activities</li> <li>• Lack of communication with health team</li> <li>• Conflicting church activities and scheduling</li> </ul>
Maintenance	Strong communication and collaboration between the research team and health teams helped maintain church engagement in research activities.	N/A	N/A

### *Contemplation*

Churches were more likely to think about participating if they were aware of the project, if they were moved emotionally, and/or if they already had an existing health team. In churches that did not have health teams, the most effective strategy for appointing a team was to identify congregants who were leading other church activities or who had a background or interest in health care (e.g., nurses, social workers). Some churches remained in the contemplation stage longer than others, most often due to the difficulty of identifying health team members in churches with no existing health ministry.

Self-reevaluation was important in moving churches from the contemplation stage to the preparation stage. However, some churches did not leave the contemplation stage for various reasons including the inability to identify and appoint a health team that would participate in the project, uncertainty about the church's required commitment and involvement in the project, competing church activities, and lack of control and interest in the arm of the program they were assigned to, which again echoed findings from prior papers and studies (George et al., 2014; Lancaster et al., 2014). Random assignment was difficult for certain churches, especially those that preferred to participate in one arm of the program over the other. Unfortunately, churches were unable to select the HWP or PANP because of the design of the study, and this kept some from progressing to the next stage. Churches with older members were more interested in participating in the HWP over the PANP. Older members were not interested in attending weekly meetings offsite, which was required for the PANP arm of the program. Instead, they preferred to meet once a month at their own church, which was required for the HWP arm of the program. In addition, some churches did not like the idea of participating in the PANP arm since it was not being held at their church, especially if they had the resources to host it.

### *Preparation*

Churches were more likely to prepare to participate if they viewed health as an important factor and had a committed health team. In this stage, health team commitment and engagement were critical. Successful planning meetings with health teams—in which they utilized self-liberation—played a huge role in moving churches to the action stage.

Although self-liberation helped some churches move to action, other churches stayed in the preparation stage. Churches did not leave preparation for a few reasons, including an inability to successfully contact and meet with health teams to plan activities (similar to previous studies, e.g., Lancaster et al., 2014), scheduling conflicts, and lack of sufficient participant recruitment. Participant recruitment in several churches proved to be difficult for various reasons, including small congregation size, lack of trust in research/academic institutions, burnout from daily stressors (e.g., the Flint water crisis) and busy schedules, and lack of time and commitment, findings that were all similar to those in prior studies (McNeill et al., 2018).

### *Action*

Highly motivated health teams were instrumental in encouraging participants and ensuring that project activities were seamlessly completed in the action stage. Most of the research activities were successful thanks to the planning and coordination of the health teams working in concert with the CC team. During this stage, most of the participants enjoyed some research activities (i.e., health program workshops) but did not enjoy others (i.e., data collection).

Helping relationships, one of the processes of change, was an important component in supporting churches as they moved through the action stage and continued on to the maintenance stage. However, even with helping relationships, some churches did not make it to the maintenance stage. Some reasons included lack of effective research team communication with the health team, internal scheduling conflicts that prevented research activities, and participant dropout rates. Many participants initially signed up to participate but were not interested in committing to data collection and/or participation in one of the two study arms. In addition, some members would sign up and drop out for different reasons, such as bereavement, lack of transportation, lack of time, and conflicting work schedules.

### *Maintenance*

Strong communication and collaboration between the research team and health teams helped churches move into the maintenance stage. Establishing good rapport was the driving force for effective collaborations between the research team and the churches. Rapport also facilitated participant follow-up, but even so,

the follow-up stage proved to be difficult and required a lot of time and effort from both the research and health teams.

### Discussion

Churches are valuable partners in the effort to reduce blood pressure among African Americans. However, these efforts rely on each church's readiness for implementation, especially amid community-wide traumatic experiences like the Flint water crisis. We found that faith-based organizational readiness greatly impacted engagement in CBPR and health programming to reduce blood pressure among congregants. Readiness was an important factor in predicting church participation in the CC. If churches were not ready to participate, they did not. However, if they were ready, they participated and completed all the CC research activities. The TTM was an appropriate framework for illustrating the relationship between church readiness and engagement in the CC. The model effectively captured the churches' progress through the stages of change. Several churches progressed through all five stages of change and successfully completed the CC. However, we found that many churches did not progress through the final stages for various reasons, including lack of trust in research/academic institutions, individuals feeling overwhelmed (whether faith leaders, health teams, and/or church members), internal scheduling conflicts, and church activities that superseded the research activities.

When working within an African American community, it is essential to tap into social capital and utilize established trusted relationships. This is especially true for relationships with faith leaders since they are an integral part of their churches and surrounding communities. Researchers should build rapport and have flexible schedules when working with African American churches. It may be necessary to meet and hold workshops outside of standard business hours (e.g., during evenings and on weekends). African American churches are overstretched with ongoing church and community activities, especially in vulnerable or marginalized communities such as Flint, making it difficult to restructure schedules to fit into standard business hours. Additionally, it is important, when possible, to host research activities at the home churches, where participants feel more comfortable and are closer in proximity.

A novel aspect of the CC was implementing the multilevel intervention in a vulnerable and marginalized community actively dealing with an

ongoing water crisis. Several churches, including the leaders, members, and nonmember attendees, were overwhelmed with the stress from this crisis, which distracted them from focusing on their own health. However, through perseverance and dedication on the part of the research team, faith leaders, health teams, and community partners, the CC was successfully implemented.

Another important aspect of this project was the CBPR approach to the RCT, illustrating the success of integrating both methods. Current literature suggests that incorporating CBPR approaches within components of an RCT helps to improve recruitment and retention (Andrews et al., 2017) and leads to successful RCT implementation (Rink et al., 2020). Additionally, because we had an academic primary investigator (PI) along with a community PI, we were able to promote equity in leadership and decision-making relative to CBPR processes.

This study is not without its limitations. First, there was no validated tool or instrument used to measure the readiness of the churches. Readiness was measured by evaluating and monitoring church progression through the five stages of change within the TTM. Additionally, we did not examine the preparedness level of church members and leaders to fully assess organizational readiness, nor did we fully capture how the work of church leaders increased and adapted in response to the Flint water crisis. If we had, we might have identified and addressed some of the barriers to progression (e.g., lack of support or willingness to travel) earlier on, thereby increasing the number of churches who might have progressed to the maintenance stage and completed the program. We found that individual readiness greatly impacted organizational readiness and should be considered when attempting to promote organizational change.

### Conclusion

Although the TTM has traditionally been used at the individual level, we utilized it at the organizational level to assess and monitor church readiness and engagement in CBPR and health programming to improve health in an African American community. By tapping into previously established social capital, building rapport, having flexible schedules, and hosting research activities at home churches, recruiting and retaining participants from African American churches within vulnerable communities may be improved, leading to enhanced community engagement and more robust research.

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