# Examining Community Engagement Research Strategies Used in Flint, Michigan: The Church Challenge

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**ABSTRACT**

**Background:** The ways in which researchers may need to adapt traditional community-based participatory research engagement strategies during ongoing community trauma are understudied. We describe our efforts to engage the Flint, Michigan community in community-based participatory research in the aftermath of the Flint Water Crisis.

**Objectives:** This manuscript describes (1) recruitment strategies selected prior to the Flint Water Crisis, (2) engagement lessons learned in the context of the Flint Water Crisis, and (3) barriers and facilitators encountered while engaging African-American churches.

**Methods:** Researchers collaborated with community partners to engage and recruit a traumatized Flint community into the Church Challenge, a multilevel intervention to reduce chronic disease burden.

**Lessons Learned:** Recruitment and engagement strategies must be flexible, innovative, and may require nontraditional methods.

**Conclusions:** Flexibility and adaptability are crucial for engaging with a traumatized community. Community-based participatory research work in traumatized communities must acknowledge and respond to community trauma to be successful.

**KEYWORDS:** Community Engagement, Faith Based, CBPR, Public Health Crisis, Flint Water Crisis

## BACKGROUND

African-American communities are disproportionately affected by chronic health conditions,[1-3] experience high rates of chronic disease comorbidity,[4] and have poorer access to and receipt of high quality health care compared to Whites.[5-7] There are high costs for chronic disease burden[8] as well, including higher medical services utilization, higher costs, and a significant loss of productivity associated with chronic disease management.[9,10] Many public health interventions are designed to address primary and tertiary chronic disease prevention in broad populations, but few are as effective for African-Americans as they are for Whites.[11] Health equity scholars have identified a lack of African-American community engagement in health research compounded by historical distrust in research as key contributors to addressing the appropriateness and effectiveness of health interventions for African-American communities.[12-14] Studies show that utilizing a community-based participatory research approach is effective in engaging African-Americans in health promotion initiatives.[15-17] Although randomized-controlled trials are "the gold standard" for evaluating the effectiveness of health promotion initiatives, they are difficult to implement in community contexts because their rigorous designs are difficult to implement in communities without prior positive exposure to research.[18,19] For African-American communities, specifically, this lack of positive exposure to research has led to historical distrust and underrepresentation in research.[20,21]

Community engagement in health promotion provides opportunities for community residents to identify local concerns and contribute potential solutions for addressing health-related problems in their given context.[22,23] Community-based participatory research approaches emphasize long-term, equitable partnerships between communities and researchers to promote co-learning and facilitate sustainable change through research.[24] With direction from members of

the communities being served, public health and community-engaged researchers have become increasingly invested in multilevel frameworks (e.g., social determinants of health, fundamental causes model).[25] Such frameworks address the community context (including the social, political, and community systems), influencing health and well-being, and soliciting community perspective in the design and implementation of public health interventions.

Churches are a premier entity for dissemination and health promotion[11,12,17] in many African-American communities.[18,26,27] Historically, the African-American church has always been a leader for community social change. While African-American churches are often heavily involved in health promotion[28-30], there are some limitations when using community-based participatory research studies in the faith community during a community public health crisis, such as small sample sizes and lack of rigorous design and control groups.[31,32]

Flint, Michigan, a majority minority city, has a long history of community engaged public health research (CITE) connected with African-American churches. Recently, Flint has been undergoing community recovery and growth after decades of financial, educational, and community hardships, as well as a recent community-wide water crisis. The Flint Water Crisis of 2014-2015 was an environmental disaster that occurred after Flint's water source was replaced by one that was improperly treated with anti-corrosives.[33,34] This resulted in community-wide exposure to lead, a neurotoxin known to cause significant harm to human health,[35] especially the brain and cognitive function.[36,37] Lead is exceedingly harmful to vulnerable populations, including pregnant women and children.[38] This disaster led to significant declines in community trust of government[39] and large systems/institutions like universities as well as university researchers. The Flint Water Crisis shifted residents' perspectives and expectations of organizations universally.[40,41]

The devastating Flint Water Crisis even further expanded the church's role in public health within the Flint community. The events leading up to and during the Flint Water Crisis further increased the mistrust the Flint community, including faith leaders, had for the government and other institutions.[42-44] Consequently, churches became a primary trusted source for health information, which led to pastors and church communities taking on more of a public health role than ever before. The pivot of faith leaders to now support their church members was necessary but also meant they had to refocus their efforts away from activities that did not obviously meet the needs of their members- including research. Research teams, including ours, then had to adapt the ways in which they engaged African-American faith leaders.

The adaptations that intervention research teams make to ethically serve underrepresented communities while conducting rigorous research are not consistently discussed in public health intervention research literature, and particularly adaptations developed in response to community behaviors associated with collective historical and ongoing traumatic stressors. This manuscript explores various forms of community engagement and the modifications necessary to conduct a community based randomized controlled trial, the Church Challenge[15], in the African-American faith community in Flint, Michigan after the Flint Water Crisis.

## OBJECTIVES

This manuscript describes (1) our selected recruitment approaches prior to the Flint Water Crisis, (2) the engagement lessons learned in the context of the Flint Water Crisis, and (3) the barriers and facilitators our research team encountered while engaging primarily African-American churches into a randomized-controlled trial.

## METHODS

The Church Challenge is a community-based research project that included community, church, and individual-level health promotion activities. The project was planned prior (late 2015) and funded after (mid 2016) the Flint Water Crisis effects were observable. A central feature of the project was the Church Challenge intervention- a cluster-randomized controlled trial for blood pressure management.

The Church Challenge intervention was structured to serve 576 individuals from at least 24 churches in the Flint area. At the community level, faith leaders would be invited to develop local policy proposals to address healthy eating outlets and community physical activity spaces. At the church level, faith leaders and health ministries of churches participating in the randomized trial would be (1) asked to share and support study participation, (2) asked to provide faith-based supporting materials (scriptures aligned with health and church engagement), and (3) equipped with informational materials and resources to promote healthy eating strategies at church functions and in support of church attendees. At the individual level, randomized trial participants would attend 16 weeks of nutrition, spirituality, cooking and fitness classes hosted by our organizational community partner. The individual level activities would be delivered across 5 waves, each including participants from the 4-6 churches randomized (1:1) to the intervention or control conditions.

As we developed implementation plans through the end of 2016, our lead faith partners described the new expectations placed on their organizations as the burdens of the Flint Water Crisis became evident throughout 2016. From study onset, the research team documented each rising community concern that influenced partner engagement along with church and participant

recruitment. We assessed the financial, scientific, and ethical implications of continuing with the Church Challenge as planned and with modifications.

We began contacting churches to engage in Church Challenge community policy activities in April 2017, but the organizational leaders were already managing the weight of the water crisis. The randomized-trial waves launched in February 2018, May 2018, July 2018, March 2019, and May 2019. A final wave planned for September 2019 was rescheduled to early 2020 after the churches could not start; this wave did not launch. We were able to enroll 22 churches and 265 people entered the Church Challenge randomized trial.

## *Partnerships*

**Table 1.** Community Partners and Their Roles in the Planning (2015-2016) and Implementation (2017-2021) Stages

| Community Partner | Community Partner Role | Planning | | | Implementation | |
|---|---|---|---|---|---|---|
| | | Creation/ Design of the Project | Identifying and Early Engagement of Churches/ Partners | Onboarding and Recruitment | Participant Education | Community Instructor Training |
| Rev. Dr. Bailey[a] | Community principal investigator; Developed the original iteration of the Church Challenge and recruited additional partners | X | X | X | | |
| Bishop Jefferson[b] | Used her extensive community network to recruit churches into the program | | X | X | | |
| COFY[c] | Community partner; Hosted majority of implementation and provided community staff | X | X | X | X | |
| ReCAST[d] | Trained researchers and communities in resiliency; Provided trauma-informed considerations | X | | | X | X |
| Freedom School[e] | Provided course materials, information, and lessons in spirituality, history, health, and nutrition | X | | | X | |
| CBOP/CERB[f] | Community partner; A governing partner in the ethical and moral integrity for the community | X | | | | |
| GFHC[g] | Provided additional resources, materials, and opportunities outside of the program | X | | | X | |
| NKFM[h] | Assisted in development of fitness and exercise activities with considerations for the population | X | | | | X |
| MSU Extension[i] | Assisted in development of food and nutrition activities with considerations for the population | X | | | X | |
| Stroke Ready[j] | Provided courses on how to prepare for and cope with strokes for participants | | | | X | |

[a] Reverend Dr. Sarah Bailey is a co-founder and owner of the Bridges into the Future Program, a non-profit organization that focuses on youth development through before- and after-school programs[33]

[b] Bishop Jefferson is the Bishop for Faith Deliverance Center Church in Flint[34]

[c] Community Outreach for Family and Youth Center (COFY): non-profit community center that provides and hosts health, fitness, and educational events and programs[35]

[d] Resiliency in Communities after Stress and Trauma Program: purpose is to build resiliency and promote equity among community youth and families[36]

[g] The Greater Flint Health Coalition (GFHC): group of Flint and Genesee County leaders whose mission includes improving the health of area residents[39]

[h] National Kidney Foundation of Michigan: statewide organization that provides and assists programs aimed at fighting kidney disease, obesity, diabetes, and hypertension[40]

[i] Michigan State University (MSU) Extension: a division of Michigan State University that uses the knowledge and resources of the university to improve lives[41]

[e] The Freedom School is a program of the African Culture Education Development Center, founded by Mrs. E Hill De Loney.[37]
[f] Community-Based Organizations Partners – Community Ethics Review Board (CBOP/CERB): mission is to facilitate and implement ethical review process that promotes understanding of ethical conduct in research and accountability in Flint and Genesee County[38]
[j] Stroke Ready is a health promotion program to educate and empower Flint communities to better respond to signs of stroke[42]

In the spirit of community-based participatory research, the Church Challenge was led by two investigators, a community Principal Investigator (Dr. Bailey) and an academic Principal Investigator (Dr. Johnson-Lawrence)that began developing relationships in 2013 to address public health and wellness issues in Flint. The lead author of this manuscript, Dr. Key, is a native Flint resident and community researcher, with 20+ year relationships with Dr. Bailey and Bishop Bernadel Jefferson.A local faith-based organization, Community Outreach for Families and Youth, served as the lead community partner, led by Reverend Sanders, participated in the planning and implementation phases of the study. Additionally, community liaisons, faith leaders, a local cultural center (Flint Odyssey House Health Awareness Center), and a local community ethics review board (CBOP-CERB) all played major roles throughout the study (Table 1). The majority of the community partners and partner organizations were included in the planning activities through the grant writing and start-up phases (2015-2016). As the study recruitment activities moved to implementation in early 2017, our team sought additional partnership with Bishop Jefferson, the ReCAST project, and the Stroke Ready projects (Table 1). The community and academic investigators drafted the text of the manuscript after extensive discussion with the community partners, including Pastor Sanders and Bishop Jefferson; they also revised the final document.

Finally, as we continue to emphasize the importance of partnership for addressing research-based health questions, our leading community partner provided their staff members to conduct data collection, program instruction, recruitment, and facilitation using their state-of-the-

art community pantry/kitchen and exercise facilities. All community and academic personnel were certified by Michigan State University's human research protection certification.

Within the context of the Church Challenge, recruitment specifically refers to the steps taken to enroll churches into the study. Engagement describes the interactions between the Church Challenge team and the community. Effective engagement efforts led to an increase in recruitment and subsequent study retention.

*Community*

African-American churches have become the trusted source for public health information and practices in Flint. Before the Flint Water Crisis, faith leaders dealt with the stressors of a declining population due to the divestiture of the automotive industry, which resulted in decreased attendance and financial support.[52] However, during the Flint Water Crisis, faith leaders took on additional roles, including bottled water dissemination, providing health communications, and advocating with local activists against the governmental powers that contributed to the perpetuation of unjust conditions.

*Study Design*

Prior to the Flint Water Crisis, a Genesee County Health Department community health survey showed an increase in community obesity, heart disease, diabetes, hypertension and other chronic conditions caused by a sedentary community lifestyle, due, in part, to the lack of safe outdoor spaces for exercise.[53,54] In response, the research team consulted with faith community partners to identify ways to address these findings. They highlighted dietary and physical activity changes as critical lifestyle practices necessary to support community weight management and chronic disease reduction. Consequently, the research team- including faith community members and academic researchers, developed the Church Challenge, a randomized-controlled trial

focused on engaging Flint area churches in health promotional activities (primarily blood pressure control) at the individual, church, and community levels. The Church Challenge was approved by the Michigan State University Institutional Review Board (IRB #17-728).

The Church Challenge was conceptualized before the Flint Water Crisis impacts were evident (late 2015). The Church Challenge was framed within the socioecological model

**Figure 1**. The Socioecological Model


(Figure 1),[15] a multilevel model that recognizes various individual, social, and community structures and the potential impacts on health and well-being. The socioecological model is used to frame the opportunities and challenges of examining the effectiveness of evidence-based practices in vulnerable contexts,[55] while also exploring benefits from the connectedness at individual, interpersonal, organizational (e.g. church), community, and societal/public policy levels (see Figure 1) across faith organizations and networks.[44] The planned study also used community-based participatory research principles to incorporate new community- and academically-driven ideas that allowed churches to be at the forefront of health and wellness in their communities,[45] using the constructs of the socioecological model to identify community, church, and individual levers for changing health behaviors in the community context (Table 2).

**Table 2.** Principles of Community-Based Participatory Research, Implementation, and Level within the Socioecological Model

| Community-Based Participatory Research Principle | Implementation | Socioecological Level |
|---|---|---|
| 1 – Unit of Identity | A community Principal Investigator was identified to ensure the values, opinions, and culture of the community were respected and protected. | Community |
| 2 – Builds on Resources within the Community | The academic and community Principal Investigators had a personal relationship, a history of partnering, and were members of an umbrella community organization. | Individual<br>Interpersonal |
| 3 – Equitable Collaboration | The academic and community Principal Investigators came to consensus decisions on research, study design, strategy, budget, and other relevant decisions. | Organizational<br>Community<br>Public Policy |
| 4 – Knowledge and Action Integration Beneficial for Partners | Academic partners strengthened their social network and improved adaptability during crises. Community partners were given access to nutrition education, fitness training, and other information and resources requested. | Individual<br>Interpersonal<br>Community<br>Organizational<br>Public Policy |
| 5 – Cyclical and Iterative Process | There were ongoing meetings with community partners to discuss and make changes to engagement strategies as needed. | Interpersonal<br>Community<br>Organizational |
| 6 – Positive and Ecological Perspectives of Health | Both individual and contextual systems were addressed in the program. For example, the randomized-control trial focused on changing individual health behaviors, while the community-level policy work focused on changing community-level factors that impact chronic disease burden. | Individual<br>Interpersonal<br>Community<br>Organizational |
| 7 – Dissemination of Findings and Knowledge Gained to All Partners | As is the custom in Flint, the Church Challenge will host a final dissemination event in the community. During this event, the results and data of the study will be shared. Community dialogue will be initiated so the community will better understand the data and will drive local programming and funding priorities for the Flint community. | Individual<br>Interpersonal<br>Community<br>Organizational<br>Public Policy |

| | | |
|---|---|---|
| 8 – Long-term Commitment by All Partners | Partners committed to a year-long health education and physical activity program, as well as policy trainings for 4 months thereafter, in which they were encouraged to continue to work together to advocate for the community beyond the prescribed program. | Individual<br>Interpersonal<br>Community<br>Organizational<br>Public Policy |
| 9 – Promotes a Co-Learning and Empowering Process | Various expertise was recognized on our team and with our partners, encouraging all to expand their program roles, branch into other roles, and develop new roles. | Individual<br>Interpersonal |
| 10 – Attends to Social Inequalities/ Health Disparities | This program was developed with the original intention of addressing comorbidities within the African American community, and further expanded to address and ameliorate the effects of the Flint Water Crisis. | Individual<br>Community |

The study activities that were most notably influenced by the Flint Water Crisis were the partnerships and recruitment activities with local faith organizations. The originally planned faith organization engagement activities relied on the existing social connections of contact efforts (calls, in person visits, meetings) of the community investigator (Dr. Bailey) and staff from the lead partner agency (COFY). These efforts included Dr. Bailey's participation in the All Faith and Health Alliance, attending faith leader and organizational meetings, and calls to more than 150 primarily African American churches/organizations, and sharing project information with health ministries and leaders of local faith organizations. These partners used these approaches from November 2016 through May 2017. While these efforts did build awareness of the Church Challenge project with area faith organizations, common feedback was a lack of capacity or time to engage in new activities that required direct attention from faith leaders, and no churches/faith organizations committed to participate in the project activities. In response, we revisited and shifted our activities and expectations.

To recruit local churches, we first engaged the broader community as a mode of investment in the community. Our community co-investigator, trusted community liaison, and lead community partner each provided strategies and recommendations for successful broader community engagement. These recommendations included: 1) a strong engagement strategy to build trust and familiarity amongst residents and 2) consistent and recognizable Church Challenge physical presence in the community to improve staff visibility. Table 3 provides examples of how Church Challenge community and academic research team members disseminated study information and engaged with community members and other local stakeholders. Attendance at these events was crucial for establishing relationships that would facilitate smooth study implementation.

**Table 3.** Researcher and Community Liaison Engagement via the Socioecological Model

| Level | Activity | Researcher Engagement | Partner Engagement |
|---|---|---|---|
| Individual | Workshops and Presentations (Water Warriors,[a] CRM[b] Training) | Co-led or Supported Community-Driven Workshops | Identified Partners to Increase Workshop Options/Availability |
| Community | Events (Prayer Breakfasts, Family and Prayer Day) | Shared and Attended Local Event Opportunities. Promoted Programs and Collaborations | |
| | Health Fair (Community Oral Health Fair) | Coordinated and Provided Information for and about Health Fairs | Promoted and Recruited Participants |
| | Luncheons (Holiday Luncheons) | Sponsored and/or Participated, Networking | Hosted and/or Marketed |
| Organization | Partnership and Sponsorship Meetings (Crim Foundation,[c] GFHC[d]) | Advocated for Program and Negotiated Opportunities for Possible Integration and Collaboration | |
| | Spiritual Conferences (Women in Ministry) | Attended and Promoted Programs/Research | Invited Researcher and Academics |
| | Academic Conferences (HFRCC[e] Conference, APHA[f] Conference) | Invited Community Partners and Liaisons | Advocated for Community Outreach Opportunities |

| | | | |
|---|---|---|---|
| | Faith Leaders Meetings (COGIC[g] Alliance, All Faith and Health Alliance) | Research Advocacy and Program Pitches | Organized and/or Attended Faith Leader Meetings |
| Interpersonal | Church Interest Meetings | Research/Program Advocacy and Marketing | Church Recruitment and Marketing |

[a]Water Warriors: a local group of activists fighting for justice for the Flint community after the Flint Water Crisis[56]
[b]Community Resiliency Model (CRM): goal is to help create trauma-informed and resiliency-focused communities[57]
[c]Crim Fitness Foundation: non-profit organization that leads initiatives to improve community health[58]
[d]Greater Flint Health Coalition (GFHC): collaboration between Flint and Genesee County's leadership[59]
[e]Healthy Flint Research Coordinating Committee (HFRCC): collaboration of Flint community partners to establish equitable relationships between the community and academia[60]
[f]American Public Health Association (APHA)[61]
[g]Church of God in Christ

The traumatic effects of the Flint Water Crisis required us to substantially review and revise our approaches and our recruitment/engagement strategies to acknowledge the increasing need for support, sensitivity, and sustainable resources and intervention/programming to ensure that the intended benefits of the Church Challenge were accessible to the overburdened and fatigued Flint residents. We deliberatively engaged in activities that would help us avoid retraumatizing residents or minimizing the impact of this public health disaster. Church Challenge team members, including staff and faith leaders, participated and sought certification in the use of best practices for interacting with traumatized communities. Flint Resiliency in Communities After Stress and Trauma (ReCAST), a resilience and equity program,[36] was concurrently initiated in response to the trauma of the Flint Water Crisis (Grant #SM063521). Further, churches and pastors attended standalone ReCAST workshops to learn how to help their traumatized congregations. Our team needed to be cognizant of the burden that this environmental injustice placed on the community and modify our methods of engagement to a) establish trust and consistency and b) increase sensitivity, patience, and understanding in order to resolve doubts and concerns present in each congregation.

Given the level of community engagement provided by community-based participatory research, advice proffered from community partners, advisors, and investigators was readily

available to the research team. Partners advised that the members of the Church Challenge research study team (academic and community together) needed more visibility to improve study familiarity in the community. Partners also suggested that the Church Challenge team members volunteer and participate in local events to establish trust and deinstitutionalize the visage of the Church Challenge and its sponsors. In response, the Church Challenge team redesigned recruitment and engagement efforts to include more follow-up calls, participation in church sponsored events, in-person visits, and email correspondences to (1) build trust and familiarity with pastors and their congregations and (2) secure final commitments to enroll into the project.

s. The Church Challenge team leveraged relationships to connect with multiple community pastors and churches, many of which were implicitly supporting public health through their efforts to respond to the Flint Water Crisis. The Church Challenge team was able to provide additional apolitical and distilled public health information and resources to the churches and pastors in support of their work, and at the intersection of diet and physical activity efforts of the Church Challenge study. As a result, the public health communication networks within churches across the community grew and we observed greater resource sharing across faith organizations. These newly created networks of faith-based public health professionals (1) became an important vehicle for public health messaging within individual congregations and their broader communities, (2) increased church capacity to address immediate information needs, and (3) were able to disseminate information within their churches and help individuals address immediate material needs. As the Church Challenge team contributed value to the churches, church members and leaders could more easily recognize the benefits of the Church Challenge intervention and recruitment became less difficult.

The Flint Water Crisis added many unique barriers in addition to already existing barriers for recruitment. Pastors, church leadership, and staff were experiencing burnout and increased burden of care for congregants due to the water crisis. Economic strain amplified the burden of the water crisis and contributed to an exodus of residents, congregants, and church leadership alike. Given these external factors, many churches required additional support to overcome preexisting barriers prior to program introduction (e.g., scheduling conflicts, church staffing issues, competing demands). Many of these barriers were addressed by additional engagement or finding suitable replacement or compromises with pastors and researchers. These solutions also assisted churches in building their own capacity for future research participation.

## LESSONS LEARNED

There is no one prescriptive mode to engage communities in evidence-based interventions. While collaborating with communities in crisis, we recognized the importance of addressing their immediate needs and identify opportunities to integrate an intervention or innovation into community-partnered efforts. The Flint Water Crisis brought additional obstacles and stressors to an already traumatized Flint community. Before, during, and after project implementation, the research team met weekly to discuss and document project facilitators, barriers and potential solutions. The team also met with community partners (based on their expertise) to discuss strategies for handling barriers. At the end of the implementation period, the research team continued regular meetings to reflect on barriers, facilitators, and lessons learned. Consequently, engagement strategies needed to be constantly modified and reimplemented to maintain effectiveness in a constantly changing community. See Table 4 for a summary of key modifications and strategies implemented.

**Table 4.** Summary of Key Modifications and Community Engagement Strategies

| Modifications and Strategies | Examples |
|---|---|
| 1. Leveraged social capital | Connected key community leaders to disseminate public health information and resources throughout the community |
| 2. Supported faith leaders with their existing programs to reduce overall faith leader burden | Assisted with church-based water distribution activities, health fairs, etc. |
| 3. Reinforced trusting relationships | Provided additional communications and meetings to provide project transparency |
| 4. Restructured intervention classes to better suit the churches' schedules | Offered classes in evenings and brought instruction to individual churches as needed |
| 5. Reduced the sample size requirement to include smaller churches | Allowed smaller churches to participate even if they did not meet initial sample size requirements for study |
| 6. Provided faith community with technical assistance on addressing community trauma | Project staff trained and certified to conduct community trauma trainings; Standalone workshops on addressing community trauma offered to faith leaders, health team members, and congregations |

*Recruitment Approaches Selected in the Context of the Socioecological Model Prior to the Flint Water Crisis*

Recruitment and engagement strategies selected prior to public knowledge of the Flint Water Crisis were no longer relevant, effective, or trauma-sensitive in the context of the Flint Water Crisis. Consequently, we revisited the socioecological model to address Flint Water Crisis-related barriers prior to recruiting churches into the Church Challenge. Our team leveraged pre-existing relationships at the personal and interpersonal levels within the community. We assisted churches and faith leaders in building wide-reaching social networks at the organizational and community levels. Ultimately, this series of relationships were used to disseminate Flint Water Crisis-relevant public health information and community resources (e.g.

dates/locations of water distribution, education materials about the adverse effects of lead and lead exposure mitigation strategies).

*Engagement in the Context of the Flint Water Crisis*

Using traditional community-based engagement approaches in the midst of a public health crisis was not enough to adequately engage with the community. We found it difficult to engage faith leaders initially, as other community concerns took higher priority. Thus, they had little time to spare for our activities, which many of them deemed to be "extracurricular" engagement. Many faith leaders were overextended and exhausted from addressing the needs of an already a divested community in the context of the Flint Water Crisis.

Realizing that immediate needs were more pressing for community partners, the Church Challenge team worked to support faith leaders in their existing programs. Team members helped with food pantries, a local oral health fair, water giveaways, and many more programs meant to address the community's immediate Flint Water Crisis-related needs. This nontraditional form of community engagement greatly increased the credibility of the Church Challenge team among community members, contributing to improved recruitment.

*Barriers and Facilitators for Engaging Primarily African American Churches*

Although leveraging previously established relationships proved to be our greatest asset, some of these relationships required reinforcement. Initially, we thought that the community at large would trust us simply because they already knew us from prior activities and engagements. However, despite established trusting relationships with many faith leaders, reinforcement of that trust was necessary. With the devastating Flint Water Crisis in the background, some faith leaders and community members were slow to trust the relationships that were previously formed with members of the Church Challenge team. Some simply needed more information

about the program, which required additional communications and meetings with faith leaders. Others needed reassurance that the program was meant to assist those on the frontlines of the Flint Water Crisis to improve their own health so that they would, in turn, be able to effectively help improve the health of their surrounding communities. Once this trust was reinforced, for example by securing certification opportunities to build credibility and capacity among the church partners, our previously established relationships proved to be instrumental in addressing immediate community needs and improving study recruitment efforts.

As discussed earlier, the research team encountered multiple barriers when recruiting faith leaders and their churches. One barrier was church scheduling and time constraints. Instead of excluding churches based on time constraints, the Church Challenge team instead restructured intervention classes to better suit the churches' schedules. Another barrier was that many churches were not able to recruit 24 church members to participate in the study (a recruitment requirement in our initial cluster study design).[15] Instead of excluding churches because of small sample sizes, we reduced the sample size requirement, allowing multiple smaller churches with similar demographic profiles to group together to match the sample size of a larger church.

## CONCLUSION

Engagement and recruitment within a predominantly African-American community has its own challenges. Those challenges are further exacerbated when that community experiences significant community trauma. In the wake of collective historical and ongoing traumatic stressors, the research team must remain flexible and adaptable, keeping the community's more immediate needs in the forefront of all engagement and recruitment endeavors. Traditional community-based participatory research strategies may be unsuccessful in such a context without

first utilizing engagement approaches that address the community's traumas and corresponding immediate needs.

By tapping into, reinforcing, and connecting pre-existing relationships within the community, we built a wide-reaching social network to address immediate needs while serving as a platform for continuation of resource and communication sharing between community members long after the research team has gone. In Flint, this newly-formed social network proved to be a significant resource in the wake of the COVID-19 pandemic that appeared a few years later. Communities within Flint were better equipped to disseminate public health announcements and disperse resources to hard-to-reach areas because of these pre-established relationships.

To protect vulnerable communities, research institutions and governing bodies within the community may need to adapt their policies. Before implementing any type of intervention or research strategy within a vulnerable community, the research team should explicitly identify how they will plan to address the community's immediate needs before and during the implementation of their research. In Flint, this is accomplished through the Community Ethics Review Board (CERB) that reviews all community-based research projects to ensure that community benefit and harm are adequately addressed.[38] In most instances, researchers seek approval of a community ethics review board at the beginning of their project. However, partnership with the community ethics review board should be ongoing, especially in a constantly changing and evolving community. It cannot be enough for researchers to simply show up, implement their project, and then leave, especially in this context. Not only might this be detrimental to the health and well-being of the community, but it might further degrade the trust the community has for researchers, making it more difficult to perform important research

in the future. This is especially true for traumatized African-American communities such as Flint.

One limitation of our work is that we did not collect qualitative data from our community liaisons regarding our modified recruitment and engagement strategies/processes. This would have provided great insight on the successes and challenges of our work from their perspectives. Perhaps this could be a next step in the ongoing teamwork put forth by the study team or in a future community engagement endeavor within the Flint community.

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