



Cancer Awareness in Alternative Settings: Lessons Learned and Evaluation of the Barbershop Men's Health Project

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# Cancer Awareness in Alternative Settings: Lessons Learned and Evaluation of the Barbershop Men's Health Project

## Abstract

Prostate and colorectal cancer are two of the leading causes of cancer deaths among African American men. This study describes lessons learned from the development, implementation and evaluation of a culturally appropriate, barbershop-based intervention to improve prostate and colorectal cancer screening awareness among African American men. Working with an Advisory Panel of shop owners, barbers, and cancer survivors, local barbers were recruited and trained as Community Health Advisors to educate, motivate, and assist their clients in becoming more knowledgeable about prostate and colorectal cancer. Survey results reveal increases in prostate and colorectal cancer knowledge and self-reported screening among participants. Lessons learned include the need for adequate project staffing and the appropriate role of the barber as a Community Health Advisor. Findings from this study suggest that barbershops are a promising setting for reaching African American men and could be used to target additional conditions that disproportionately impact this community.

## Keywords

African American men; Cancer – Prevention; Colon (Anatomy) – Cancer; Colorectal cancer; Community Health Advisors; Community health services; Community-based research; Early detection; Prostate – Cancer; Prostate cancer; Rectum – Cancer

## Cover Page Footnote

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### **ABSTRACT**

Prostate and colorectal cancer are two of the leading causes of cancer deaths among African American men. This study describes lessons learned from the development, implementation and evaluation of a culturally appropriate, barbershop-based intervention to improve prostate and colorectal cancer screening awareness among African American men. Working with an Advisory Panel of shop owners, barbers, and cancer survivors, local barbers were recruited and trained as Community Health Advisors to educate, motivate, and assist their clients in becoming more knowledgeable about prostate and colorectal cancer. Survey results reveal increases in prostate and colorectal cancer knowledge and self-reported screening among participants. Lessons learned include the need for adequate project staffing and the appropriate role of the barber as a Community Health Advisor. Findings from this study suggest that barbershops are a promising setting for reaching African American men and could be used to target additional conditions that disproportionately impact this community.

**Key Words:** Colorectal cancer, prostate cancer, early detection, community-based research, Community Health Advisors

## INTRODUCTION

The American Cancer Society (ACS) estimates that approximately 35% of new diagnoses of cancer among males in 2008 will be in the form of prostate or colorectal cancer (American Cancer Society, 2008). Currently, prostate and colorectal cancer are two of the leading causes of cancer deaths among African American males in the United States (American Cancer Society, 2007). The ACS indicates that low rates of screening and diagnoses at later stages of the diseases may account for the significantly lower 5-year survival rate among African Americans relative to Whites (American Cancer Society, 2008). While recent increases in screening rates have been reported, African American men still trail behind their White counterparts in receiving the regular recommended screenings (American Cancer Society, 2008).

### **Alternative settings for reaching African Americans.**

Given the disproportionate rates of prostate and colorectal cancer incidence and mortality among African Americans, researchers have focused on innovative ways to reach this population. Interventions have targeted the African American church, beauty salons, and barbershops to determine whether these are viable settings for health education (Campbell et al., 2007; Cowart, Brown, & Biro, 2004; Hart & Bowen, 2004; Linnan & Ferguson, 2007; Wilson et al., 2008). In the African American community beauty salons and barbershops are more than just a place where a service is received (Hart & Bowen, 2004; Linnan & Ferguson, 2007; Hart et al., 2008). African Americans regularly visit salons and barbershops for networking, socializing, and discussing current events (Lewis, Shain, Quinn, Turner, & Moore, 2002). While few scientific studies have tested the impact and feasibility of these settings for health promotion in the general population, researchers are beginning to consider these settings promising venues for reaching the African American population.

In an attempt to reach African American men, studies are beginning to test the feasibility of partnering with African American barbershops to provide health education (Hart & Bowen, 2004; Hart et al., 2008). Hypertension was targeted in a barbershop-based intervention (Hess et al., 2007). Intervention results showed that barbershops are an effective center for hypertension detection, referral, and follow-up for African American men. The Barbershop Program in upstate New York also showed promise in educating African American men about prostate cancer (Cowart et al., 2004). Qualitative findings indicated that prostate cancer awareness was raised and myths and fears about prostate cancer were dispelled among barbershop patrons.

### **Community-based participatory approaches in the barbershop.**

The projects described above suggest that alternative settings, such as barbershops and beauty salons, may be a feasible and effective venue for reaching African Americans. The most successful barbershop- and salon-based interventions included cosmetologists and barbers in the education process (Wilson et al., 2008; Hess et al., 2007; Linnan et al., 2005). This method of working in partnership with the priority community is the basis of community-based participatory research (CBPR; Israel, Schulz, Parker, & Becker, 1998). CBPR emphasizes partnering with community members to identify health education needs, appropriate implementation methods and strategies, understanding the results, and supporting community ownership and empowerment (Israel, Eng, Schulz, & Parker, 2005). In the case of barbershop-based interventions, CBPR would suggest that members of the barbershop community are involved in every aspect of intervention development, implementation, analysis of results, and dissemination of findings. Application of CBPR principles included developing a Community Advisory Panel to oversee the intervention and recruiting barbers to act as "natural helpers" or lay health advisors trained to convey health information to their clients (Wilson et al., 2008; Holt et al., 2009). The prostate.net initiative demonstrates how local community members can partner together using CBPR methods to promote prostate cancer education among

African American men ([www.prostate-online.org](http://www.prostate-online.org)). The local barbers involved in the prostate.net initiative are recruited and trained by the community partnership to act as lay health advisors for their clients. The barbers provide general health and prostate cancer information as part of their natural interactions with clients while in the barbershop.

### **The Present Study.**

Previous research has documented the success of using a CBPR approach to design a culturally appropriate intervention for African American men. The Barbershop Men's Health Project incorporated these principles to educate African American men about prostate and colorectal cancer. A Community Advisory Panel was formed to oversee all aspects of the project from the intervention development to evaluation. Local barbers were trained as Community Health Advisors (CHA) to deliver the intervention messages to their clients. The Barbershop Men's Health Project was conducted between 2006 and 2007 in Birmingham, AL with a goal to increase prostate and colorectal cancer knowledge and informed decision making for cancer screening. This paper will present the lessons learned and main findings from this barbershop-based intervention. The findings and lessons learned are reported by each phase of the project: intervention development, implementation, and evaluation.

### **Intervention Development.**

A detailed description of the formative research conducted to develop the intervention approach and materials are discussed elsewhere (Holt et al., 2009). In summary, a Community Advisory Panel consisting of prominent local barbers, shop owners, and cancer survivors partnered in the development of the intervention strategies and materials. Focus groups and cognitive response testing were conducted with the priority population to pilot test the intervention materials. Based on guidance and help received from the Advisory Panel, local barbershops were recruited and barbers were trained as CHAs to recruit study participants and deliver the health messages to their clients.

*Lesson 1: Community Advisory Panels are a vital aspect of the community-based participatory research model because they are knowledgeable of the priority population and sensitive to their needs. Without the help of the Community Advisory Panel, this project would not have been possible. During the grant writing process, local barbers, shop patrons, and cancer survivors, were approached about the project and recruited to serve on the Advisory Panel. There were eight members of the Advisory Panel, each from diverse backgrounds (Holt et al., 2009). They varied in age from 35 to 74 years and in education with 4 having a high school diploma and the remaining four a college degree or higher. Three Advisory Panel members were also cancer survivors and all but one member had been screened for prostate cancer. The panel contributed a wealth of knowledge and resources for reaching local barbers and their clients. However, researchers should be aware that Advisory Panel members may not always be reflective of the greater community. Our Advisory Panel was made up of a group of "stars", meaning that these were exceptionally committed men who were passionate about the project and about fighting prostate and colorectal cancer in the African American community. Monthly meetings were held where the Advisory Panel provided detailed information and input for the project from the time that the grant application was developed, through intervention development, implementation, and evaluation. Their input was particularly helpful with regard to feasibility issues and the approach to be used for the intervention implementation and evaluation. However, their projections of feasibility were based on their own high levels of commitment and the commitment in their own shops, which was exemplary. What was feasible in their shops was not necessarily feasible in a "non Advisory Panel shop".*

*Lesson 2: It is important to provide experiential training to the Community Health Advisors (CHAs).* During the course of intervention development, the Advisory Panel informed the training process for the CHAs. It was mutually agreed upon that given the barbers' work schedule, the training would take place on one day. Twenty six barbers in eight shops were guided through colorectal and prostate cancer education training modules and given strategies for helping their clients make informed decisions about screening. CHAs were asked to acquire a great amount of knowledge about these health topics in a short amount of time. Despite barbers' naturally hectic schedule and the suggestions we received from the Advisory Panel, future studies may want to consider offering regular "refresher" sessions on health content for CHAs. It may also be helpful to incorporate experiential training on how to actually implement the intervention in addition to training on the health content.

## METHODS

### Implementation.

This study received approval from the Institutional Review Board of the University of Alabama at Birmingham (#X05004003). Participants were recruited in eight barbershops in Birmingham, Alabama. Study staff and barbers, the latter of whom were trained as CHAs, approached men in the shops while waiting for services. Potential participants were told about the project and asked if they were interested in being screened for eligibility. Eligibility criteria included being an African American man, age 45 or older, with no history of prostate or colorectal cancer, hypertension or diabetes, and able to complete a self-administered survey. Those with hypertension or diabetes were not eligible because the comparison intervention focused on hypertension and diabetes. Potential participants completed a brief eligibility screener. Those who were eligible were given standard informed consent information in a written disclosure form and a baseline survey. Upon completion of the survey participants were provided with a \$14 gift card and were instructed that their barber had some information for them. CHAs were instructed to review intervention materials with the client during future visits to the shop over the following three months and talk with them about their risk factors, options, and barriers to screening.

*Lesson 3: Use recruitment estimates as a guide but be prepared to be flexible.* To develop recruitment targets, shop owners or barbers were asked to provide estimates of the number of study-eligible men who were clients at their shops. Study staff discovered that the estimates provided on traffic flow in the barbershop were too optimistic to achieve study recruitment goals. The greatest participant pool could be found on Friday evenings and early Saturday mornings, when project staff resources were likely to be most limited.

*Lesson 4: Trained staff are needed to obtain written informed consent from participants.* This lesson relates to the ability not only to recruit but to retain study participants. We were not able to obtain written informed consent from study participants because this would have required the CHAs to become certified in human subjects protections. This would have caused undue burden on the barbers and was not feasible. Instead, we used a passive assent process and did not collect participant identifiers. This enabled CHAs to enroll study participants, however it hindered the collection of follow-up data. Without having participant contact information, we were unable to conduct retention activities such as telephoning. To match participant baseline to follow-up data, we used a "challenge question" system similar to what is used when one forgets an online password. The matching was only partially successful. It was evident that in recruiting for the follow-up survey, some individuals completed the follow-up who had never completed the baseline. These challenges highlight the importance of having trained study staff complete participant recruitment, enrollment, and data collection activities. While CHAs possess natural skills in areas such as intervention delivery and project promotion, study staff were needed for recruitment and retention activities.

## RESULTS

### Evaluation.

At the end of the three-month intervention period, study staff and CHAs began recruiting for the follow-up survey. Posters were displayed in the shops, prompting clients who had completed a baseline survey to talk to their CHA or a member of the study staff about completing a follow-up survey. Of the 163 eligible participants who completed a baseline survey, 63 completed a follow-up survey. Of those 63, 26 were able to be matched to baseline data using the previously described “challenge question” method. Due to limited statistical power, group and pre-post differences were largely non-significant when subject to inferential testing using traditional methods. Tables 1-4 show the outcomes by study group and from baseline to follow-up. Percentages in bold suggest where the intervention appeared to have an impact. For example, the intervention may have resulted in increases in self-reported receipt of a prostate specific antigen (PSA) test and in preparations for testing for PSA and digital rectal examination (DRE) (see Table 1). It appears that there were some pre-post increases in colorectal cancer knowledge in the intervention group relative to the comparison group, however there are also some increases reported in the comparison group as well (see Table 2). It also appears that there may have been some pre-post changes in perceived barriers to and benefits of colorectal cancer screening in the intervention group relative to the comparison group (see Table 3). Finally, with regard to colorectal cancer screening, there may have been some intervention effects for flexible sigmoidoscopy, in which the intervention group reported consistent greater pre-post increases in awareness, screening, and preparation for screening, relative to the comparison group (see Table 4). This pattern was not exhibited for the other screening modalities. These findings should be interpreted with caution due to the descriptive nature of the data and sporadic pattern of findings.

**Table 1. Pre-post and group differences in self-report PSA and DRE screening\***

Variable	% Yes Baseline Comparison N=14	% Yes Follow-up Comparison N=14	Difference	% Yes Baseline Intervention N=12	% Yes Follow-up Intervention N=12	Difference
Ever had PSA	78.6	71.4	-7.2	41.7	66.7	<b>25</b>
PSA in past 12 months	78.6	50.0	-28.6	36.4	54.5	<b>18.1</b>
Thinking about PSA	90.9	76.9	-14	66.7	75.0	<b>8.3</b>
Appointment for PSA	33.3	23.1	-10.2	9.1	25.0	<b>15.9</b>
Ever had DRE	78.6	78.6	0	100.0	75.0	-25
DRE in past 12 months	14.3	57.1	42.8	8.3	41.7	33.4
Thinking about DRE	72.7	58.3	-14.4	33.3	66.7	<b>33.4</b>
Appointment for DRE	41.7	25.0	-16.7	0	16.7	<b>16.7</b>

\*PSA=prostate specific antigen

DRE=digital rectal examination

**Table 2. Pre-post and group differences in colorectal cancer knowledge.**

Variable	% Correct Baseline Comparison N=14	% Correct Follow-up Comparison N=13	Difference	% Correct Baseline Intervention N=12	% Correct Follow-up Intervention N=12	Difference
*CRC is cancer of the colon or rectum.	85.7	92.3	6.6	66.7	100.0	<b>33.3</b>
CRC is the leading cause of cancer death.	28.6	23.1	-5.5	16.7	25.0	<b>8.3</b>
CRC affects only older White men.	71.4	84.6	13.2	83.3	91.7	8.4
CRC is the third most common cancer.	42.9	46.2	3.3	33.3	41.7	<b>8.4</b>
Risk of CRC becomes greater as a person gets older.	76.9	53.8	-23.1	66.7	91.7	<b>25</b>
Both men and women are at risk for CRC.	78.6	69.2	-9.4	75.0	83.3	<b>8.3</b>
There are no known causes of CRC.	28.6	46.2	17.6	25.0	16.7	-8.3
CRC is usually fatal.	42.9	61.5	18.6	50.0	66.7	16.7
CRC has several screening tests.	57.1	92.3	35.2	50.0	66.7	16.7
CRC screening begins after age 50.	50.0	46.2	-3.8	33.3	8.3	-25
CRC screening is not necessary if there are no symptoms.	85.7	92.3	6.6	66.7	91.7	<b>25</b>
CRC screening is not covered by insurance.	64.3	69.2	4.9	66.7	83.3	<b>16.6</b>
CRC can be found early if screening is done.	92.9	100.0	7.1	83.3	100.0	<b>16.7</b>
Treatment is not as bad if screening is done.	53.8	69.2	15.4	50.0	58.3	8.3
CRC begins as a growth in the colon or rectum.	78.6	76.9	-1.7	66.7	83.3	<b>16.6</b>
Bleeding is a symptom to report.	92.9	92.3	-0.6	100.0	91.7	-8.3
Change in bowel habits is a symptom to report.	71.4	76.9	5.5	100.0	90.9	-9.1
There is nothing you can do to prevent CRC.	57.1	69.2	12.1	75.0	83.3	8.3
The best way to find smaller cancer is by screening.	92.9	100.0	7.1	91.7	100.0	8.3
Screening decreases the chance of dying from CRC.	85.7	92.3	6.6	83.3	90.9	7.6
Finding CRC early will save your life.	92.9	76.9	-16	75.0	72.7	-2.3
The treatment for CRC may not be as bad if the cancer is found early.	85.7	84.6	-1.1	75.0	72.7	-2.3

\*CRC=colorectal cancer



**Table 3. Pre-post and group differences in CRC screening perceived barriers and benefits.**

Variable	% SA+A* Baseline Comparison N=13	% SA+A* Follow-up Comparison N=14	Difference	% SA+A* Baseline Intervention N=12	% SA+A* Follow-up Intervention N=11	Difference
A FOBT will help find CRC early.	46.2	92.8	46.6	66.7	81.9	15.2
A FOBT will decrease your chances of dying from CRC.	61.6	100	38.4	58.3	72.8	14.5
A FOBT will help you not worry as much about CRC.	61.5	84.6	23.1	63.7	81.8	18.1
You are afraid to have a FOBT because you might find out something is wrong.	7.7	0	-7.7	8.3	18.2	9.9
A FOBT is embarrassing.	0	0	0	16.7	9.1	<b>-7.6</b>
You do not have time to do a FOBT.	0	0	0	8.3	18.2	9.9
The cost would keep you from having a FOBT.	8.3	0	-8.3	8.3	10.0	1.7
You do not need to do a FOBT because you have no problems.	0	0	0	25.0	18.2	<b>-6.8</b>
You do not know how to do a FOBT.	16.7	30.8	14.1	41.7	9.1	<b>-32.6</b>
You do not have the privacy to do a FOBT.	8.3	15.4	7.1	8.3	0	<b>-8.3</b>
Collecting a stool sample to do a FOBT is unpleasant for you.	0	0	0	16.6	27.3	10.7
A CS will help find CRC early.	92.8	100	7.2	100.0	100.0	0
A CS will decrease your chances of dying from CRC.	78.5	92.3	13.8	75.0	81.9	6.9
A CS will help you not worry as much about CRC.	85.7	92.3	6.6	66.7	91.0	<b>24.3</b>
You are afraid to have a CS because I might find out something is wrong.	28.5	15.4	-13.1	16.7	9.1	-7.6
A CS is embarrassing.	0	7.7	7.7	16.6	9.1	<b>-7.5</b>
You do not have time to do a CS.	7.1	7.7	0.6	9.1	9.1	0
The cost would keep you from having a CS.	7.1	0	-7.1	0	18.2	18.2
You do not need to do a CS because you have no problems.	0	0	0	16.7	0	<b>-16.7</b>
You feel anxious about having a CS because you don't really understand what will be done.	7.1	0	-7.1	8.3	8.3	0
Having a CS is painful.	21.4	14.2	-7.2	25.0	0	<b>-25</b>
Having to follow a special diet and take a laxative or enema would keep you from having a CS.	7.1	14.2	7.1	0	16.6	16.6
You are afraid to have a CS because of the possibility there may be bleeding or tearing of the colon.	0	7.7	7.7	16.6	0	<b>-16.6</b>
Transportation problems would keep you from having a CS.	0	0	0	0	8.3	8.3

\* SA = strongly agree; A = agree

CRC = colorectal cancer; FOBT = fecal occult blood test; CS = colonoscopy

**Table 4. Pre-post and group differences in self-report colorectal cancer screening.**

Variable	% Yes Baseline Comparison N=14	% Yes Follow-up Comparison N=14	Difference	% Yes Baseline Intervention N=12	% Yes Follow-up Intervention N=12	Difference
Ever heard of FOBT	85.7	92.9	7.2	75.0	83.3	8.3
Ever had FOBT	42.9	35.7	-7.2	25.0	33.3	<b>8.3</b>
FOBT in last 12 mos	33.3	15.4	-17.9	11.1	9.1	-2
Thinking about FOBT	50.0	41.7	-8.3	41.7	33.3	-8.4
Recommendation for FOBT	21.4	15.4	-6	16.7	9.1	-7.6
Appointment for FOBT	28.6	8.3	-20.3	9.1	0	-9.1
Ever heard of FS	76.9	78.6	1.7	33.3	54.5	<b>21.2</b>
Ever had FS	38.5	21.4	-17.1	16.7	18.2	<b>1.5</b>
FS in last 5 yr	62.5	16.7	-45.8	25.0	33.3	<b>8.3</b>
Thinking about FS	15.4	15.4	0	18.2	27.3	<b>9.1</b>
Recommendation for FS	0	7.7	7.7	33.3	27.3	-6
Appointment for FS	0	0	0	14.3	0	-14.3
Ever heard of CS	92.9	92.9	0	100.0	100.0	0
Ever had CS	42.9	42.9	0	50.0	45.5	-4.5
CS in last 10 yr	70.0	41.7	-28.3	60.0	50.0	-10
Thinking about CS	28.6	38.5	9.9	36.4	36.4	0
Recommendation for CS	7.1	7.7	0.6	58.3	27.3	-31
Appointment for CS	0	7.7	7.7	8.3	0	-8.3

FOBT = fecal occult blood test; CS = colonoscopy

*Lesson 5: Men will complete relatively lengthy survey instruments when provided with incentives and staff support.* Although there were the usual complaints about the length of the surveys, the study participants would complete them if provided with an incentive and with encouragement from the CHA and study staff. Though men may have initially balked at the survey due to its “weight”, when they realized it was in 14-point font this helped allay concerns about survey length. We have found that using 14-point font helps with readability particularly for participants who are older, though it can make for somewhat of an initial “shock” due to perceived additional page length. Surveys took on average 20 minutes to complete.

*Lesson 6: Implementation fidelity measures should be incorporated into the project’s evaluation plan.* Because the intervention relied on community volunteer CHAs, a treatment fidelity evaluation (process evaluation) would have provided useful information. Some CHAs followed the study protocol very carefully and diligently and others followed it minimally. The investigative team had no way to track other than informal updates at the CHA maintenance meetings who was following protocol and who was not. Use of a process evaluation that included CHA interviews or questionnaires to collect adherence to study protocol would have provided useful information about treatment fidelity and insights with regard to feasibility.

We also found that study-related posters and print materials were easily accepted in the shops, however study-related videos received very little “airtime” on shop televisions. This was the case even when each shop was provided a DVD player on which to play the study DVDs. We found that health educational DVDs simply could not compete with the draw of “real” television. Educational materials such as study-related posters and print materials did not have to compete because there were many posters and print materials in the shops, and providing these health materials did not preclude the availability of “mainstream” magazines and posters. A comprehensive process evaluation could have

provided detailed information about the frequency of use of all intervention materials.

*Lesson 7: The role of barbers as CHAs must be designed based on their strengths and in consideration of role limitations.* Barbers can not, and should not, be expected to function as research staff. However, they do possess unique strengths and skills that can be applied to health promotion. Specifically, volunteer barbers as CHAs may not typically be expected to complete human subjects training and certification, screen study participants, obtain informed consent, or handle accounting and administration of study incentives. Barbers as CHAs may be expected to promote the project in their shop and community, prompt a discussion with their clients about health-related issues, and support the project through posting of study-related materials in the shops.

*Lesson 8: Adequate project staffing is mandatory for a rigorous evaluation in alternative settings.* We learned that having one full-time staff member on the project was a significant underestimation of the staff power that would be needed to reach recruitment and retention goals. Based on discussions with our Advisory Panel, we originally planned for the CHAs to do the participant recruitment and enrollment efforts and felt that it may be too disruptive to have a study staff member “hanging out” in the barber shops collecting data. We found, however, that it was not disruptive, it was actually necessary, to have staff in the shops to help meet recruitment goals and facilitate survey completion.

## DISCUSSION

A number of important lessons were learned in conducting the Barbershop Men’s Health Project. The methods and materials used in this project were developed specifically for this population using a community-based participatory research model. Barbershops may be a promising setting for increasing prostate and colorectal cancer awareness, however the most important overall lesson learned was to remain flexible in planning, implementing, and evaluating interventions in this setting. Research protocols can impose a burden on community participants. Most barbers in the study were understandably not prepared to interrupt the flow of business for recruitment and evaluation activities.

The lessons learned in this project are not necessarily unique, however they call attention to the factors that should be addressed when working in the barbershop setting and with African American men, areas in which there is little guidance in the way of previous research. We found that having knowledgeable and influential Community Advisory Panel members was crucial to the project’s success. In addition, we saw that the CHAs possessed a natural skill that enabled them to talk honestly and openly to their clients about health topics. Despite a lack of implementation fidelity measures, we observed that several of the barbers were a natural good fit for this role and excelled in these activities.

Previous research has also shown that barbershops are a natural setting for reaching African American men. Cowart and colleagues (2004) used community-based participatory research principles to recruit barbershops and develop culturally appropriate health messages about prostate cancer. Similar to the current study, the inclusion of community members in the development of the study was vital. Hess and colleagues (2007) conducted a study in which health messages were transmitted in a barbershop setting. In contrast, the Barbershop Men’s Health Project differs in that it offered colorectal and prostate cancer information, while Hess and colleagues used barbershops to detect and monitor clients’ hypertension. Additionally, the barbershops in the Hess study were not randomized, while the Barbershop Men’s Health Project used a randomized controlled trial design and incorporated hypertension and diabetes health content for control group. Hess and colleagues were able to conduct a rigorous evaluation by using study staff to collect baseline and follow-up data at the barbershops.

## Limitations

There are some limitations that need to be considered in developing future barbershop-based studies. Many of these are described in detail as lessons learned from the project. First, because we were unable to collect complete contact information for study participants, it was difficult to match baseline and follow-up data. A relatively small percentage of data was successfully matched. Second, a lack of implementation fidelity measures prevented monitoring of the dosage of the intervention that clients received at each barbershop. Some barbershops may have been more active in delivering the health messages than other shops. Barbers were also not provided with ongoing training in the health topic areas or refreshed in the study protocol. Doing so could have increased treatment fidelity. Finally, as a result of inadequate staffing we could not provide barbers with needed support for enrolling participants, screening them for eligibility, and navigating clients through the study questionnaires. It is likely that with more staffing we would have been able to enroll more clients and increase retention activities.

## Future Research

Future research is encouraged using this community-based intervention strategy. The Barbershop Men's Health Project was successfully able to establish a community partnership and grassroots network that could be applied to other areas of cancer control among underserved populations. The CHA approach could also be used in similar settings targeting additional conditions or diseases that disproportionately impact the African American community, such as heart disease or obesity for African American women. However, as was learned in the current project, if a rigorous evaluation is expected, flexibility and adequate staffing resources will be needed in order to achieve success.

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