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Identifying Health Conditions, Priorities, and Relevant Multilevel Health Promotion Intervention Strategies in African American Churches: A Faith Community Health Needs Assessment

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INTRODUCTION

African Americans continue to experience a myriad of health disparities, including higher rates of asthma, diabetes, heart disease, stroke, human immunodeficiency virus (HIV), and homicides (Centers for Disease Control and Prevention [CDC], 2013; National Center for Health Statistics [NCHS], 2016). Due to these and other health disparities, African Americans have the shortest life expectancy across all races and ethnicities in the United States (NCHS, 2016). Additionally, many African Americans have limited access to care and a number of barriers, such as lack of insurance, low health literacy, and poor patient provider communication prevent many African Americans from using needed health care services (CDC, 2013; Epping-Jordan, Pruitt, Bengoa, & Wagner, 2004; Heisler, Rust, Pattillo, & Dubois, 2005; NCHS, 2016). Promotion of healthy behaviors across the health care continuum – including prevention, diagnostic, and treatment services, along with improving access to these services is critical to addressing African American health disparities (CDC, 2013; Epping-Jordan, Pruitt, Bengoa, & Wagner et al., 2004). Also, consideration should be given to addressing health disparities with culturally-appropriate community approaches that can promote healthy lifestyles among African Americans.

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The Black Church is a long-standing institution with many strengths that can be tapped to extend the reach of health promotion interventions in African American communities. National studies indicate that over 50% of African Americans attend church services weekly (Pew Research Center, 2009; 2015), suggesting the tremendous potential to reach a large number of African Americans in church settings. Furthermore, most African American churches: a) are led by pastors who can be highly influential (Davis, Bustamante, Brown, Wolde-Tsadik, Savage et al., 1994; Taylor, Chatters, & Levin, 2004); b) are based on common biblical doctrine and religious activities (Lincoln & Mamiya, 1990); c) emphasize taking care of one's body, which is seen as the "temple of God" (Taylor, Chatters, Levin, 2004); d) have outreach ministries (e.g., clothing/food programs, social services; Author et al., 2012; Derose, Mendel, Palar, Kanouse, Bluthenthal et al., 2011) that reach community members who may have health risks and limited access to care; e) have infrastructure capacity (e.g., meeting space, membership management systems, volunteers; Author et al., 2012; Campbell, Hudson, Resnicow, Blakeney, Paxton, 2007); and f) have a history of coordinating health-related activities (e.g., Author et al., 2012; Campbell, Hudson, Resnicow, Blakeney, Paxton, 2007; Derose, Mendel, Palar, Kanouse, Bluthenthal et al., 2011). Also, most churches have weekly, multilevel church activities (e.g., ministry groups, Sunday church services, community programs) that could assist in removing barriers and increasing access to health promotion services for underserved African Americans. Given their reach and influence, Black churches could serve an important role in delivering accessible, scalable health promotion interventions to church members and the community members they serve.

Past studies demonstrate that the Black Church can be a practical setting for health promotion interventions, including interventions focused on fruit/vegetable consumption, physical activity, weight loss, smoking cessation, and health screenings (e.g., Author et al., 2004; Campbell, Hudson, Resnicow, Blakeney, Paxton et al., 2007; Duan, Fox, Derose, & Carson, 2000; Francis & Liverpool, 2009; Resnicow, Jackson, Blissett, Wang, McCarty et al., 2005; Sattin, Williams, Dias, Garvin, Marion et al., 2015). However, reports on church-based health promotion interventions indicate they often are designed by researchers, address a single health issue, usually include only one or two levels of intervention strategies (e.g., group, church services), rarely include community-level intervention strategies, and have had mixed levels of success. Moreover, most have not addressed access to care or the myriad of other overlapping factors that contribute to health problems (e.g., comorbidities, health literacy, unhealthy environments; e.g., Jackson, Perkins, Khandor, Cordwell, Hamann et al., 2006). Furthermore, limited, comprehensive information is available from African American church-populations on their prioritization of health disparity issues and potential church-community solutions to address these issues.

Community Health Needs Assessments

Community health needs assessments (HNAs) have been used as a community-engaged process to identify priority health issues with community members experiencing health concerns (Fawcett, Suarez de Balcazar, Whang-Ramos, Seekins, Bradford et al., 1988; Sharma, Lanum, & Suarez-Balcazaar, 2000). HNAs also engage stakeholders who can leverage their influence and resources to address community health issues collaboratively

with community members. Additionally, HNAs can help identify barriers, facilitators, and community input on the importance and feasibility of potential multisectoral (e.g., churches, schools, businesses) and multilevel intervention strategies (e.g., individual, group, organization, community) to address health issues. HNA benefits can include early community buy-in and commitment to address health issues, better resource allocation through community partnerships, improved validity of procedures, and improved development of culturally-appropriate health promotion intervention strategies that can positively impact health outcomes (Cottler, McCloskey, Aguilar-Gaxiola, Bennett, Strelnick et al., 2013; Fawcett, Suarez de Balcazar, Whang-Ramos, Seekins, Bradford et al., 1988; Lillie-Blanton & Hoffman, 1995; Sharma, Lanum, & Suarez-Balcazaar, 2000; Wright, Williams, & Wilkinson, 1998).

Despite the growing number of African American church-based health promotion studies, to our knowledge only one study has reported on a church health assessment that sought to understand health concerns, conditions, and related behaviors with churchgoers. Whitt-Glover, Porter, Yore, Demons, Goldmon et al. (2014) conducted a church health assessment (N = 887) with participants who were primarily Black (68%) and women (70%). The most prevalent health conditions reported were high blood pressure (40%), diabetes (16%), and asthma (13%). Most participants reported always/most of the time getting regular medical checkups, eating healthy foods, and losing/maintaining their weight. However, this study's health assessment did not provide comprehensive information on other health disparity conditions that burden African Americans, such as violence, mental health, and HIV/STDs, and related health risks. Also, no participant information was provided on potential church-community intervention strategies to address the identified health conditions; nor was information provided on how the faith community was engaged in the survey development planning process, which is central to the development of HNAs.

We report on a faith-based HNA conducted to identify health priorities, health conditions and related screenings and behaviors, and relevant multilevel health promotion intervention strategies to address health disparities in African American churches. We also report on our iterative 12-month HNA planning process that fully engaged African American faith leaders and representatives from other community sectors in: a) reviews/identification of health disparity conditions, b) HNA survey planning, c) church recruitment and survey administration, d) feedback of survey findings, and e) intervention design, and f) launch of a multilevel intervention health promotion intervention in African American churches based on HNA findings.

METHODS

Contextual Background

Guided by a community-based participatory research (CBPR) approach, the KC FAITH Initiative Community Action Board (CAB) was engaged in all phases of the HNA process from survey development to dissemination of findings. The CAB is coordinated jointly by the University of Missouri-Kansas City (UMKC) Community Health Research Group and Calvary Community Outreach Network (CCON), a faith-based organization that provides physical activity, nutrition, and health promotion programs. The KC FAITH CAB includes

representatives from over 50 faith, health, community, and academic organizations in the KC urban metropolitan area. Average CAB meeting attendance is about 30 members. The two-hour meetings include lunch and are efficiently structured to include: a) opening prayer; b) a review of previous CAB HNA work and how HNA findings inform the CAB's next steps; c) feedback and discussion of findings from ongoing research studies; d) opportunities for co-learning with faith, health, community, and academic partners sharing information on their relevant activities and projects; e) guided activities using planning worksheets to engage CAB members in survey and health promotion intervention development and problem solving; and f) "shout-outs" on upcoming events within CAB members' organizations. Using this meeting structure, the highly engaged KC FAITH CAB participates in an ongoing iterative HNA process that builds on the many strengths of the African American faith and broader KC community to plan, develop, and implement faith-based health promotion interventions.

Faith Community Health Needs Assessment Process

Beginning with a CAB overview of why and how HNAs are used, the HNA process took place over 12 months and included: a) review/identification of health disparity conditions (month 1); b) HNA survey planning (months 1 – 3); c) church recruitment and survey administration (months 4 – 6); d) feedback of HNA findings with the CAB and faith community (months 6 – 7); e) design of the intervention (months 8 – 11); and f) launch of the multilevel health promotion intervention (month 12), as shown in Figure 1. These HNA steps are described below.

Review/identify health disparity conditions with CAB—In month 1, CAB members reviewed local and national reports on African American health disparities which were gathered from multiple sources (e.g., CDC and NIH reports, published articles, local health department reports, KC health commission reports). Guided by these reports, CAB members initially selected diabetes, heart disease/stroke, homicide, HIV/STDs, mental health, and asthma along with related health screenings as key health disparity conditions to include in the HNA survey. The CAB decided the HNA should focus on health disparities that affect a large proportion of African Americans in faith-based settings. Hence, cancer was excluded since there would be a need to focus on segmented groups (e.g., breast cancer with women, prostate cancer with men, colorectal cancer with older adults) to address cancer disparities.

Plan HNA survey with CAB—CAB members were organized into planning groups focused on each identified disparity condition. Members were asked to organize themselves around their area of interest and to make sure there was representation from each sector (e.g., faith, health, academic, community) in each planning group. Using planning worksheets as a guide, each planning group was tasked with identifying potential health promotion intervention strategies to address their group's disparity condition (diabetes, heart disease/stroke, homicide/violence, HIV/STDs, mental health, and asthma) through multilevel church outlets (individual/interpersonal, group, church, and community levels) based on a socio-ecological framework (Bronfenbrenner, 1979). Identified strategies spanned the healthcare continuum – from prevention and screening to access to care, in order to reduce barriers and increase overlapping church support for church-community

members to engage in and sustain healthy behaviors. CAB members also used the planning worksheets to identify existing resources, support, and infrastructure assets that could be leveraged to implement and maintain the proposed intervention strategies. Next, each CAB disparity planning group shared their proposed intervention strategies with the larger group, thereby providing opportunities for others to suggest additional intervention strategies, resources, support, and citywide infrastructure assets. The research team used the CAB input from this meeting to streamline the intervention strategies. Duplicate strategies were removed and similar strategies were combined to complete the development of the survey first draft.

In discussing the streamlining process and the draft survey with the CAB in month 2, it was noted that many of the proposed health promotion strategies were related to healthcare access (e.g., provide counseling services, link the uninsured to free or low-cost health services). Moreover, several proposed strategies were related to addressing health issues in church services (e.g., distribute health risk checklists to church members, have pastors model receipt of health screenings). Therefore, the CAB added two new categories for potential health promotion strategies to the draft survey: a) health care access and b) addressing health disparities during church services. From the several hundred potential health promotion strategies initially identified by the CAB, a concise list of 110 strategies across the initial six health disparity issues and the two additional sections was developed. The CAB also added mental health/depression to the list of health screenings and diagnoses. Additionally, they added survey items on: receipt of flu vaccinations, experiences with homicide and violence, counseling received from a pastor/religious leader, and self-reported height/weight to assess participants' BMI.

A second draft survey was created and emailed to CAB members in order to receive each member's individual feedback in month 3. A few changes were suggested and were included in the final HNA survey.

Recruit churches and administer HNA survey—In month 3, to begin the CAB discussion on recruitment of churches and their church members to participate in the HNA survey, the research team first reviewed the importance of research ethics and the role and review process of the institutional review board (IRB). CAB members stressed the need to primarily focus on urban KC churches from the Missouri and Kansas metropolitan area. CAB consensus was established on the appropriateness of $10 for participant survey completion and the goal to recruit 10 churches with 45 participants per church, for a total of 450 church members. CAB members provided a list of churches they believed would be interested in participating in the HNA survey.

Eleven churches agreed to participate in the HNA and a provided a letter of support signed by the senior pastor to allow recruitment/surveying of their members (month 4). Faith-based CAB members encouraged their churches to participate in the HNA survey (9 of the 11 participating churches). One church represented by a senior pastor CAB member initially planned to participate, but subsequently did not due to the senior pastor moved to another city prior to survey administration. CAB members from participating churches served as church health liaisons with the research team in planning HNA survey activities and logistics

in their church (e.g., arranging meetings/phone calls with their pastors, identifying church timing/location of survey administration before and after their Sunday services, introducing the research team to make scripted HNA announcements in church services) (months 4–6). CAB members also completed the HNA during this time period.

Feedback HNA survey findings to CAB and community—In month 6, HNA survey data were analyzed by the research team, and a report on the findings was provided to the CAB and discussed. The CAB used the HNA findings to determine the focus of the health promotion intervention based on highly ranked health disparities (diabetes and heart disease/stroke). To feedback findings to the faith and larger community and to get broader faith community input on the focus of the intervention, the CAB hosted a Community Forum on African American Health Disparities, which included: a) an overview of the findings; b) presentations on health disparities by directors of CCON, the KCMO Health Department, the KC Urban Neighborhood Initiative, and the UMKC chancellor; c) roundtable and full forum audience discussions on HNA findings moderated by CAB members and UMKC students; and d) a prize for the church with the most members in attendance. The Community Forum had over 110 faith, health, community, and academic individuals in attendance, was evaluated by attendees, and was filmed for further dissemination of the forum discussion and HNA findings (month 7).

Design multilevel health promotion intervention—In month 8, the forum evaluation report (e.g., >93% of forum attendees believed their opinions had been heard; >93% believed the forum was a productive use of their time) was shared with CAB members. Also, key themes from the forum roundtables (e.g., need for healthcare navigators, role modeling healthy lifestyles by pastors, and low-cost gym memberships) were discussed. Taking into consideration the HNA findings on highly endorsed feasible/important health promotion strategies and the forum themes, the CAB selected the top intervention strategies that would comprehensively work together to address screening, prevention, and linkage to care in a multilevel diabetes and heart disease/stroke risk reduction intervention in African American church-community settings. They also further identified community resources needed to develop, implement, and sustain the selected intervention strategies.

In month 10, the CAB finalized the intervention design and named the intervention Project Faith Influencing Transformation, or simply Project FIT. The religiously-tailored Project FIT intervention was designed to increase healthy food intake, physical activity, and weight loss. Using a multilevel model, key intervention components included: a) self-help materials (e.g., diabetes/heart disease risk checklists, commitment cards to eat healthy and engage in physical activity) and 90-day personalized linkage to care services at the individual level; b) a weekly church-based weight loss program facilitated by the YMCA with free gym memberships at the group level; c) promotion of healthy eating and physical activity by the pastor and via church bulletins/responsive readings, and provision of health screenings (blood pressure, blood glucose A1C, cholesterol, and BMI) during church services; and d) promotion of healthy behaviors with community members through outreach ministries and motivating text/phone/email messages to promote healthy behaviors at the church-community level.

Launch the intervention in African American churches—By month 12, the Project FIT diabetes/heart disease/stroke risk reduction intervention was launched in six Kansas City, Missouri and Kansas urban churches randomized to Project FIT intervention and an educational comparison arm. The religiously-tailored intervention was implemented by trained church health liaisons through multilevel church-delivery outlets (e.g., individual, group, church services, church-community). A CAB celebration on the year's accomplishments was held after the launch of Project FIT.

The Health Needs Assessment Survey

The primary aim of the HNA survey was to identify: a) priority health disparity issues (e.g., diabetes, asthma, heart disease, homicide/violence, HIV/STDs, mental health), b) conditions and related health screenings, c) lifestyle healthy behaviors, and d) multilevel health promotion strategies that would be important and feasible for implementation in church-community settings to help reduce African Americans health disparities.

Participants and settings

Eleven churches (membership sizes ranged from 50 to 750 adult church members) that primarily served African American congregants in the KC, Missouri and Kansas urban areas participated in the study. Most of the participating churches were represented by church leaders serving on the KC FAITH CAB. Participants from the 11 churches consisted of church members aged ≥ 18 who anonymously completed surveys immediately after church services (e.g., Sunday morning services, midweek Bible study) in church sanctuaries and fellowship halls. Church participants received $10 for completing the survey. CAB members received a meal during survey completion.

Survey measures

Participant demographics and health-related behaviors—Participants provided demographic information (e.g., age, gender, education, insurance coverage, ethnicity, marital status, household income, years of church membership). Four questions asked participants about their personal lifestyle behaviors including their level of physical activity, consumption of fruits and vegetables, previous and current cigarette use, and consumption of alcoholic beverages.

Health screenings and health conditions diagnoses—Participants indicated whether they had received a routine check-up/annual exam and where the check-up/exam was received (e.g., doctor's office, clinic) in the last 12 months. They were also indicated whether they had ever received counseling from their pastor or a religious leader. Participants also indicated disease/health diagnoses (e.g., diabetes, heart disease/stroke, HIV/STDs, asthma, stroke, colon cancer, prostate cancer, breast cancer, depression/other mental illness) and related screenings received in the past 12 months.

Health disparities rankings and importance/feasibility of potential intervention strategies—Participants were asked to rank six health disparity issues (diabetes, heart disease/stroke, homicide, HIV/STDs, mental health, and asthma) in order of importance. Participants were also asked about the degree of importance (1 = very unimportant to 5 =

very important) and feasibility (1 = very unfeasible to 5 = very feasible) regarding 110 health promotion strategies grouped by each health disparity issue along with categories on health care access and church services strategies. Almost all of the strategies were reflective of relevant recommendations based on scientific systematic reviews found in CDC's Guide to Community Preventive Services (CDC, 2017).

Data analysis

Survey findings on demographics, lifestyle behaviors, disease/health conditions, receipt of health screenings, rankings of health disparities, and importance/feasibility of intervention strategies were described using frequencies, means, and standard deviations. We estimated mean differences and rate ratios of number of medical diagnoses associated with body mass index, physical activity, fruit and vegetable intake, insurance status, and health care access using Poisson and generalized linear regression models.

RESULTS

Participant characteristics

The needs assessment survey was completed by 449 respondents from 11 African American churches and 14 representatives from faith, community, health, and academic organizations in the KC metropolitan area. Many of the African American CAB members were also members at the participating churches, and therefore took the survey as a church member. Seven surveys were not included in the analysis due to missing gender responses, resulting in the analysis completed with surveys from 456 participants. As shown in Table 1, survey participants were mostly female (73%) with a mean age of 45 (SD=16; age range 18–93). Church members from four denominations (Baptist, Church of God in Christ, Pentecostal, and Non-denominational) participated in the survey. Nearly 25% of participants reported having no health insurance, and 40% reported a monthly household income less than $2,000. Most participants had an average church membership of 12 years at their church, and 47% had received counseling from a pastor or religious leader.

Health-related behaviors

Overall, the average BMI was 31 (obese; SD = 8). Seventeen percent of participants reported engaging in physical activity ≥ 5 times per week; males reported engaging in physical activity significantly more than females (p = .015), as shown in Table 2. Overall 6% of participants reported > 5 servings of fruits/vegetables daily, with females reporting significantly more fruit/vegetable consumption daily than males (p = .004). Ten percent of participants reported current cigarette use (21% for males an 6% for females), with males reporting significantly greater past/current cigarette use than females (p <.001). Most reported: no alcoholic beverages consumption (72%), that they had lost a family member or friend to violence (52%), and that they had their last routine check-up in a doctor's/HMO office (62%). Few (35%) received a flu shot in the past year.

Health screenings received (past 12 months)

Most participants (76%) reported visiting a doctor for a routine exam. The most frequently reported health screenings over the past 12 months were blood pressure (78%), cholesterol

(63%), and blood glucose (58%). Females reported receipt of cholesterol and blood glucose screenings significantly more than males (p = .002 and p = .010, respectively). Fifty-three percent of females aged ≥ 40 received a mammogram, and 33% of females aged ≥ 21 received a Pap test. Also, 38% of males aged ≥ 40 received a prostate exam. Among all participants aged ≥ 50, 24% received colon cancer screening. Males reported receipt of colon cancer screening significantly more than females (p = .002). Additionally, 23% of study participants reported receipt of HIV/STD screening.

Health condition diagnoses

The most frequently reported diagnoses were high blood pressure (44%), high cholesterol (26%), diabetes (19%), asthma (15%), and depression (11%). Females reported significantly higher rates of depression than males (p = .003). Regarding cancer diagnoses, 6% of females reported a breast cancer diagnosis, 5% of males reported a prostate cancer diagnosis, and 5% of males reported a colon cancer diagnosis. Overall, participants' mean number of diagnoses was 1.3 (SD=1.3), with 35% reporting no diagnosed health condition, 28% with one diagnosis, and 38% with two or more diagnosis. Multiple regression models estimated the association between number of diagnosed health conditions and BMI, physical activity, health insurance, and routine check-ups. Fruit/vegetable intake was not significant in the univariate analysis, and therefore was not included. Number of medical diagnoses were significantly higher for Medicaid (β=0.44, IRR=1.32; p= .04) and Medicare (β=1.08, IRR=1.89; p= <.001) patients and those with a BMI > 30 kg/m^2 (β=0.55, IRR=1.57; p= <.001). Physical activity (1–2 times/month, once/week, 2–4 times/week, 5 or more times/week) was associated with fewer diagnoses, while reporting routine check-ups at a clinic/health center or other place were associated with more diagnoses (see Supplemental Table 1).

Priority health disparities rankings

The health disparity issue ranked as most important to address in the African American faith community was diabetes followed by heart disease and homicide, as shown in Figure 2.

Health promotion intervention strategies

The top five intervention strategies with the highest averages of importance and feasibility per health disparity issue, access to care, and church service strategies are shown in Table 3. Among these 40 strategies, across the eight health promotion categories, nearly 50% (19 of 40 strategies) were education-based/skill based (e.g., hold diabetes prevention and management seminars; train families to incorporate healthy eating in their home meals; educate parents on how to talk to their kids about sex) followed by health services provision-related strategies (25%; 10 of 40 strategies; e.g., diabetes screenings, weight loss programs, asthma clinics, linkage of uninsured persons to health insurance and free health services). Next, 15% (6 of 40 strategies) were related to collaborating with community organizations outside of the church setting (e.g., create church and community sports leagues; advocate for safer streets, trails, and parks for physical activities; partner with anti-violence organizations to implement school-based programs on bullying and teen violence).

DISCUSSION

This study is among the first to report on a faith community HNA with the aim of identifying priority health disparity issues along with important and feasible health promotion intervention strategies to address disparities in the African American faith community. Despite growing numbers of health promotion intervention studies conducted in African American church settings, few have reported on formative work that engaged the faith community in prioritizing the research focus and selecting church-community intervention strategies to motivate and support behavior change with their church populations. In this study, African American faith leaders and representatives from health, community, and academic organizations were engaged in all phases of the HNA process to inform the design of a church-appropriate, multilevel health promotion intervention.

Priority health issues identified and contributing health-related behaviors

Consistent with the top health concerns reported by general population African Americans in a national study (Cottler, McCloskey, Aguilar-Gaxiola, Bennett, Strelnick et al., 2013), diabetes and heart disease were identified as top priority health issues to address with African American churchpopulations. This was not surprising, since the top reported health conditions diagnosed were high blood pressure (44%), high cholesterol (26%), and diabetes (19%), which were similar to findings in the Whitt-Glover, Porter, Yore, Demons, Goldmon et al. study with church members (2014). Accordingly, participants reported lifestyle behaviors that put them at great risk for diabetes and heart disease, including low levels of physical activity and fruit/vegetable consumption. A significantly larger proportion of females reported consuming fruits and vegetables than males, yet females were not as engaged in physical activity as males. Among the widely reported barriers to exercise among African American women including neighborhood safety and time constraints, reports are also emerging on issues of hair maintenance as a key barrier to physical activity for African American women and suggest the need for more research on how to address this issue (e.g., Hall et al., 2013; Versey, 2014). Also, most female participants were obese with a significantly higher BMI on average than males, who were nearly obese, indicating the need for lifestyle interventions that could address fruit/vegetable consumption, physical activity, and weight loss for this African American church population. Although significant differences were not found regarding receipt of routine check-ups between females and males, there were significant differences in their reporting on where they received their routine check-ups. For instance, 15% of males versus 6% of females reported receiving check-ups from hospital outpatient departments, and 36% of males versus 2% of females reported receiving these services in “other places.” These findings suggest that male church populations could tremendously benefit from linkage to care services that find them a “medical home” and connect them to primary care physicians.

Additionally, over 60% of participants had at least one health condition diagnosis. These needs assessment findings suggest that African American church populations may be at similar or at even greater risk for negative health conditions that significantly burden the general African American population (e.g., CDC, 2013). As health promotion research in faith-based settings continues to grow, there is a need to address comorbid health conditions

(e.g., diabetes, heart disease) and overlapping related risks (e.g., obesity, sedentary lifestyle, poor nutritional intake, cigarette use among males). There's also a need to understand malleable contributing factors (e.g., access to health screenings and routine preventative physician care, weight loss programs, safe places to exercise) through faith-community derived, multilevel intervention strategies.

Use of a CBPR approach

This study engaged a highly-active CAB inclusive of African American faith leaders and church members. By engaging CAB members in discussing local and national health data specific to African Americans and participating in survey development, they were able to provide unique religiously-tailored, church-based health promotion strategies (e.g., having pastors model receipt of diabetes screening during church-based health screenings, discussing domestic violence during premarital counseling and in ministry groups) that were highly rated as important by participants. CAB members also provided intervention strategies to address health disparity issues rarely addressed with church-based health promotion interventions, such as homicide/violence prevention and health care access. They provided strategies across the continuum of care, including prevention (e.g., train parents to prepare healthy meals at home), screening (e.g., provide church-based health screenings, identify youth at risk for violence,), and linkage to care (e.g., train church members to be community health workers [navigators]), that could be implemented through multilevel church outlets to increase reach and impact.

The early inclusion of representatives from the African American faith community and other relevant organizations created early buy-in, especially among faith-based CAB members. Their participation contributed to the relevance and readability of questions asked and their churches' participation in the survey (8 of the 11 participating churches had CAB representation). This early buy-in also garnered extensive pastoral support to administer the survey as demonstrated by their willingness to allow research team members to share study information and recruit their congregants during church services, encourage their members to participate in the survey, and permit survey administration to occur immediately after services in sanctuaries and fellowship halls to increase their members' participation. The importance of faith leaders' buy-in and their influence on congregants has been noted in church-based health promotion studies (Davis, Bustamante, Brown, Wolde-Tsadik, Savage et al., 1994; Markens, Fox, Taub, & Gilbert, 2002). Also, our HNA survey findings indicated that most participants were long-time church members and had received counseling from their pastor or a religious leader, which further substantiates pastoral influence on members and the importance of early buy-in among church leaders to increase reach of health services among African Americans.

Importance and feasibility of proposed health promotion strategies

Participants' responses on the importance and feasibility of potential health promotion intervention strategies to address health disparities provided important information to guide the design of a health promotion church-community intervention. The large number of highly endorsed items suggests that church members are really interested in receiving help with African American disparity issues and believe the church is an appropriate setting to

address them. Overall, their highly endorsed strategies also suggest the importance of going beyond simple education (e.g., brochures, one-time events) usually provided in community settings. Instead, participants seem to want comprehensive health promotion behavior change strategies inclusive of education that builds health-related skills (e.g., training in preparing healthy meals at home, stress reduction, proper physical activity techniques) and health service provision strategies (e.g., church-based health screenings, weight loss programs, access to gym facilities, linkage to insurance/ healthcare) integrated into their church-community settings, which our current "sick care" health provider and hospital-based systems are not designed to provide. They also indicated the importance of collaborating with other community sectors and organizations to provide health programming in community settings. However, overall feasibility findings were somewhat lower than importance findings, which further highlights the need to engage the faith community in the process of adapting and developing interventions strategies they see as doable. These findings also suggest churches' need for resources and technical assistance to boost their capacity and support empowerment to bring about meaningful health changes in their church-communities.

Despite the alarming rates of health disparities that burden African American communities, rarely are representatives from these communities asked what health conditions are most important to them and what intervention strategies should be used to address priority health issues. Just as rare is their inclusion as full partners in all phases of the research process. CAB faith leaders were encouraged to share their experiential knowledge, their experiences in addressing health with church and community members, and the needs of churches to launch and sustain health promotion programs. Just as important, they identified culturally and religiously relevant intervention strategies to include in the survey that had potential for adoption and acceptability. Also, CAB meetings were structured to promote co-learning by having CAB members discuss their organizations' programming, resources, and shifting policies that could benefit development and sustainability of African American church-community interventions.

Lessons Learned

This HNA process yielded many lessons learned on the engagement of faith leaders and representatives from health, community, and academic organizations. First, the HNA process employed an efficient meeting structure with planned activities to highly engage CAB members in productive use of their time. CAB members frequently commented on how they enjoyed getting things done in meetings, learning how to efficiently conduct community meetings and develop assessments/programming, using what they learned to improve their other meetings, and quickly seeing the products of their contributions. Second, the importance of listening to community voices and feeding back HNA progress and study findings at CAB meetings and the Community Forum on African American Health Disparities was evident. In doing so, the CAB and Community Forum participants contributed to interpreting findings, identifying/leveraging additional resources to address challenges, and recruiting CAB members to provide new insights and access to new organizations. This process also contributed to high meeting and forum attendance since participants wanted to hear results, see products of their efforts, and be a part of planning

next steps. Third, the HNA process led to the identification of African American faith-community priority health issues and potential intervention strategies, such as linkage to health insurance and access to free counseling and health screenings, which went beyond the traditional health education materials. Fourth, using a CBPR-guided approach across the entire HNA process led to early buy-in by CAB members, their pastors, and their church members. Their early buy-in contributed to successful recruitment of churches to participate in the HNA and ultimately the successful launch of the health promotion intervention. Ultimately, the CAB designed a multilevel, diabetes and heart disease/stroke risk reduction intervention (Project FIT), which was launched in six KC urban churches. CAB members designed most of the culturally and religiously-appropriate intervention procedures and print materials/activities (e.g., sermon guides, responsive readings, resource guides, church telephone tree text/email messages), which were packaged in a Project FIT Tool Kit and delivered by trained church health liaisons. They also co-facilitated the weekly weight loss program with the YMCA instructors.

HNA findings continue to guide the CAB in addressing other African American health disparities, including the design of a multilevel screening, prevention, and linkage to care mental health church-based intervention. The findings have also been used in the development of grant applications by CAB members within their own organizations.

Limitations

Yet, several limitations existed in this study. The HNA did not include cancer as a health disparity condition, nor did it include potential cancer-related prevention, screening, and linkage to care intervention strategies. Although major African American cancer-related health disparities exist (e.g., prostate cancer, breast cancer late stage diagnosis and mortality, colorectal cancer screening), the CAB's rationale for this intended omission was driven by their desire to design interventions for the general church-community population and to not focus on specific gender or age-related conditions. Also, HNA participants were largely made up of African American middle-aged women. This is not surprising, since women tend to attend church more frequently than men (Pew Research Center, 2009; 2015). Other African American church-based studies have found similar overrepresentation (e.g., Author et al., 2016; Sattin, Williams, Dias, Garvin, Marion et al., 2015; Whitt-Glover, Porter, Yore, Demons, Goldmon et al., 2014). The underrepresentation of African American men may leave the findings lacking on input regarding the unique needs and considerations in addressing men's health, particularly in church-community interventions. There is certainly a need for future HNAs with strong representation of church-based African American men, a group for which there have been multiple calls for health science studies due to their underrepresentation in research, limited use of health systems, and significant health disparities. Lastly, inclusion of more non-church stakeholders may be important, particularly when attempting to understand church-community capacity in leveraging community resources to implement intervention strategies.

CONCLUSIONS

Using the HNA findings, the CAB developed a culturally and religiously-appropriate, multilevel health promotion intervention in African American churches focused on diabetes and heart disease/stroke risk reduction. The intervention employed most of the highly-rated important and feasible intervention strategies identified in the HNA process, including risk checklists, health screenings during church services, free weight loss classes and gym memberships, and linkage to health care services – along with many church-appropriate materials (e.g., sermons guides, responsive readings, church bulletins). Future research and practice is needed to determine the actual feasibility, cost of delivery, and impact of CBPR-guided HNA planning processes on addressing community-selected health disparity issues of importance using the selected scalable, intervention strategies. As challenges in addressing competing health disparity issues remain and resources to effectively address them are few, CBPR-guided HNAs can be an early buy-in approach that engages faith community members in identifying priority health issues and potentially impactful intervention strategies to address disparities in settings of influence and reach, such as African American churches.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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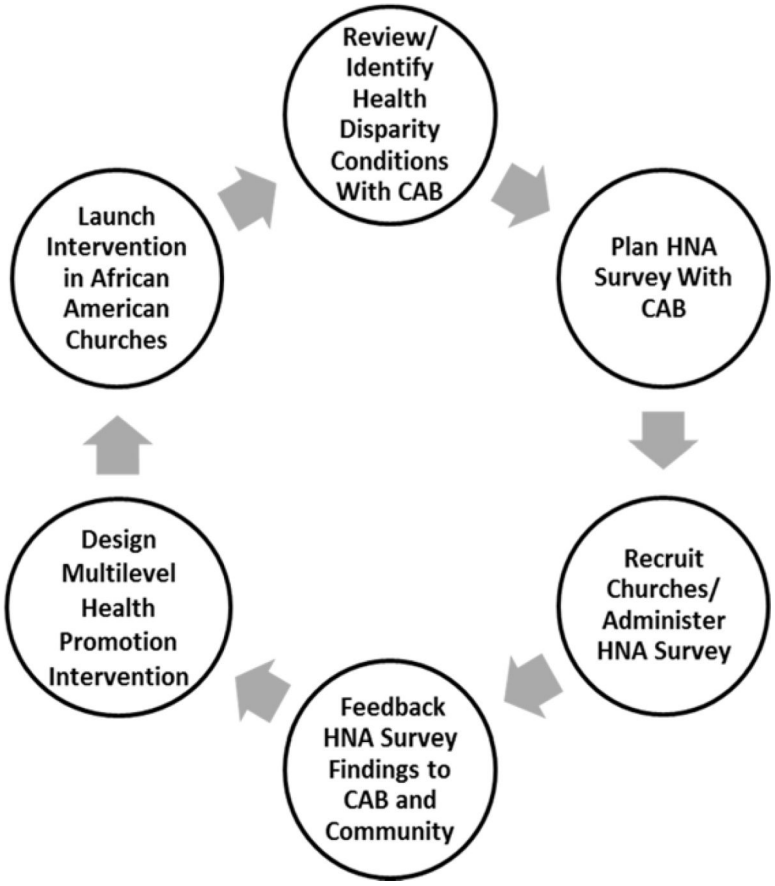

Figure 1.
Faith Community Health Needs Assessment Process

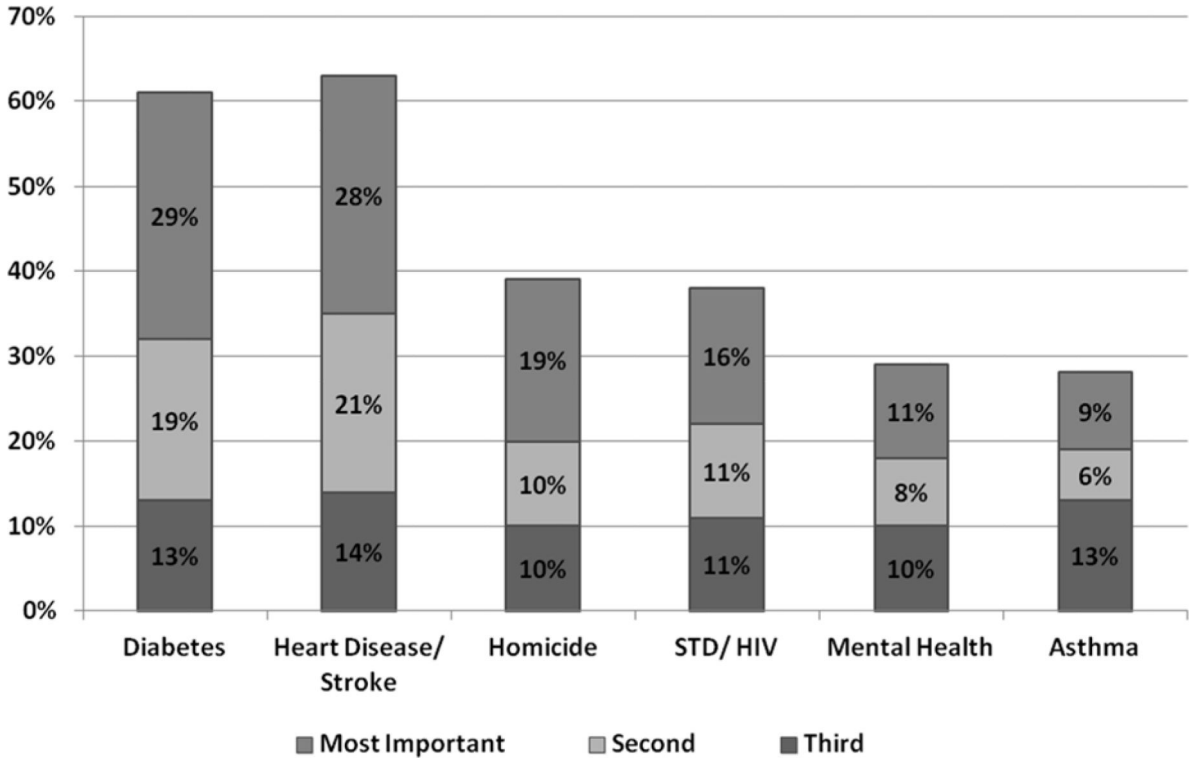

Figure 2.
Participants' Health Disparity Rankings

Table 1

Participant Characteristics (N = 456)

Participant Characteristic Variables	% (n) or Mean ± SD
Gender	
Female	73.2% (334)
Male	26.8% (122)
Age (mean ± SD)	45.3 ± 16.35
Race	
Black/African American/Mixed Race with African American	96.7% (436)
Other	3.3% (15)
Marital status	
Single/Separated/Divorce/Widowed	59.5% (275)
Married/ Living with partner	40% (185)
Education	
Less than high school degree	6.0% (27)
High school degree/GED	23.5% (106)
Post high school technical training	34.4% (155)
Some college	13.7% (62)
College degree or higher	22.4% (101)
Health coverage* (categories not mutually exclusive)	
Medicare	18.1% (83)
Medicaid	10.7% (49)
Private Insurance	49.2% (226)
Other Health Care	10.5% (48)
No Insurance	22.9% (105)
Don’t Know	2.4% (11)
Average monthly income	
$0–$1000	18.2% (83)
$1001–$2000	21.9% (100)
$2001–$3000	24.3% (111)
More than $3000	29.2% (133)
Don’t Know	4.8% (22)
Church Membership (months; mean ± SD)	146.3 ± 179.4

Table 2

Participants' BMI, Health-Related Behaviors, Health Screenings, and Health Conditions (N = 456)

Variables	Overall (%)	Females (%)	Males (%)	P-value
BMI and Health-Related Behaviors				
Body Mass Index (BMI; n=423)				
Normal (18.5–<25 kg/m^2)	20.1	18.8	23.5	.080
Overweight (25–<30 kg/m^2)	28.4	26.3	33.9	
Obese (30 kg/m^2 or higher)	51.5	54.9	42.6	
Mean BMI (SD)	31.4 (7.6)	32.0 (8.0)	29.6 (6.3)	.003
Physical Activity				
Never	5.1	5.7	3.3	.015
1–3 times a month	20.8	23.6	13.2	
Once a week	14.3	14.2	14.1	
2–4 times a week	35.8	35.7	36.4	
5 times a week or more	17.3	13.6	27.3	
Unable to do vigorous activity	2.7	3.0	1.7	
Refused/Don't know/Missing	4.2	4.2	4.1	
Fruit/Vegetable Intake (daily)				
0 servings	3.7	2.7	6.6	.004
1–2 servings	63.7	64.2	62.3	
3–4 servings	23.4	23.8	22.1	
5 or more servings	6.4	7.8	2.5	
Refused/Don't know/Missing	2.9	1.5	6.6	
Cigarette Use				
No, never	64.0	68.2	52.5	<.001
Yes, previously	26.3	26.1	27.1	
Yes, currently	9.7	5.8	20.5	
Mean cigarettes per day (M+SD)	11.9 ± 7.1	8.9 ± 6.2	14.2 ± 6.9	
Alcoholic Beverages (per week)				
None, I don't drink	72.4	74.0	68.0	.056
1–3 drinks	16.5	16.8	15.6	
4–6 drinks	2.9	1.8	5.7	
7 or more drinks	2.0	1.2	4.1	
Refused/Don't know	6.4	6.3	6.6	
Lost a family member or friend to homicide/violence	51.5	48.5	59.8	.100
Last routine check-up				.279
Past 12 months	75.9	77.5	71.3	.279
Past 13–24 months	8.6	8.7	8.2	
More than 2 years ago	12.1	11.1	14.8	
Refused/Don't know/Missing	3.5	2.7	5.7	
Location of routine check up				
No routine medical care	6.6	4.8	11.5	<.001

Variables	Overall (%)	Females (%)	Males (%)	P-value
Hospital outpatient department	8.1	5.7	14.8	
Clinic or health center	18.0	19.5	13.9	
Doctor's office or HMO office	62.1	65.6	52.5	
Other place	2.9	1.5	36.6	
Refused/Don't Know/Missing	2.4	3.0	0.8	
Flu vaccine in past year	34.7	37.0	26.4	
Health Screenings Received (past 12 months)				
Blood Pressure	77.9	79.3	73.8	.205
Cholesterol	62.5	66.8	50.8	.002
Blood glucose	57.5	61.1	47.5	.010
STIs/HIV	23.0	21.9	26.2	.326
Asthma	14.0	14.1	13.9	.970
Heart Disease/Stroke	20.4	20.4	20.5	.975
Colon Cancer (aged ≥50; n = 204)	24.0	19.3	41.9	.002
Prostate Cancer (males aged ≥40) (n = 66)	--	--	37.9	
Breast Cancer (females aged ≥40) (n= 220)	--	53.2	--	
Cervical Cancer (females ≥21) (n=319)	--	32.9	--	
Depression	9.2	9.9	7.4	
Health Conditions Diagnosed (Ever)				
High Blood Pressure	43.9	44.3	42.6	.748
High Cholesterol	26.4	26.3	26.2	.980
Diabetes	18.9	19.2	18.0	.785
STIs/HIV	3.1	3.0	3.3	.876
Asthma	15.1	15.6	13.9	.666
Heart Disease	5.3	4.8	6.6	.454
Stroke	1.8	1.5	2.5	.489
Colon Cancer (aged ≥50; n = 204)	2.0	1.2	4.7	.152
Prostate Cancer (males aged ≥40) (n = 66)	--	--	4.6	
Breast Cancer (females aged ≥40) (n= 220)	--	5.5	--	
Cervical Cancer (females ≥21) (n=319)	--	2.5	--	
Depression/mental health condition	11.4	14.1	4.1	.003

Table 3

Highest Ratings on Importance and Feasibility of Proposed Health Promotion Intervention Strategies by Health Disparity Issue

Proposed Health Promotion Strategies by Health Disparity Issue[1]	Importance[2] (Average)	Feasibility[3] (Average)
Diabetes		
1. Coordinate diabetes prevention and management seminars in African American churches in collaboration with local diabetes organizations.	4.1	4.0
2. Offer church-based diabetes health screenings, including pastors modeling receipt of diabetes screening (blood sugar testing, foot checks).	4.1	3.9
3. Promote/create church and community sports leagues for church and community youth and adults to encourage regular exercise.	4.1	3.9
4. Provide educational games in church settings that promote physical activity, healthy eating, and diabetes care.	4.1	3.9
5. Provide seminars on proper physical activity techniques and form (e.g., weight training, jogging, yoga).	4.0	3.9
Heart Disease/Stroke		
1. Train families to incorporate healthy eating into their home meals and family exercise in their daily lives.	4.2	3.9
2. Promote and coordinate price reduced memberships to YMCA, local gyms, and other exercise facilities.	4.2	3.9
3. Provide free counseling services to help church and community members quit smoking.	4.2	3.9
4. Advocate for safer streets, trails, and parks for walking, bicycling, and other physical activities.	4.2	3.9
5. Offer church-based weight loss programs for church and community members.	4.1	4.0
Homicide and Violence		
1. Discuss domestic violence during premarital counseling and ministry groups.	4.3	4.1
2. Provide parenting classes to improve child academic success and build family relationships.	4.3	4.0
3. Develop personal success plans with youth to support their academic success, character building, and exploration of future careers.	4.2	4.1
4. Partner with anti-violence organizations to implement school-based programs on bullying, teen violence, dating violence, and conflict resolution.	4.2	4.1
5. Identify at-risk youth and provide them with tutoring and social services.	4.2	4.0
HIV/Sexually Transmitted Diseases		
1. Educate parents on how to effectively talk to their kids about sex and making healthy decisions.	4.3	4.1
2. Provide religious and age appropriate sex education for youth.	4.2	4.0
3. Encourage churches to participate in citywide initiatives focused on HIV/STDs and African Americans.	4.2	4.0
4. Hold an annual church-community health ministry conference on HIV/STDIs and sexual health.	4.1	3.9
5. Provide sexual health seminars for women, men, and outreach groups during ministry meetings and outreach service events.	4.1	3.9
Mental Health		
1. Offer classes on how to strengthen family relationships and communication.	4.2	4.0
2. Provide education on coping and stress reduction skills for youth and adults.	4.1	4.0
3. Provide church-based counseling services for individuals and families.	4.1	3.9
4. Assist families who are helping family and friends living with a mental illness.	4.1	3.9
5. Offer classes to reduce stress and express emotions like drawing, music, yoga, meditative prayer classes.	4.1	3.9
Asthma		
1. Provide education on asthma prevention and management with community groups (schools, daycares, housing projects).	3.9	3.7
2. Offer a parent education workshop on asthma management and medications.	3.8	3.7

Proposed Health Promotion Strategies by Health Disparity Issue[1]	Importance[2] (Average)	Feasibility[3] (Average)
3. Host free monthly asthma clinics and asthma-related services for church and community members in local churches.	3.7	3.6
4. Provide education on how to make informed decisions when purchasing allergen-free and low-allergen products.	3.6	3.6
5. Create a youth ministry group to highlight asthma/allergy triggers and provide buddy programs for kids with asthma.	3.6	3.5
Health Care Access		
1. Link uninsured persons to low-cost health insurance and free health services.	4.2	3.9
2. Provide churches with procedures and checklists to easily organize church-based health fairs, health screenings, and immunization events.	4.1	3.9
3. Provide training/support for churches to develop/sustain health ministries.	4.1	3.9
4. Use social media and other communication strategies (phone/text/email messages, church announcements) to encourage African Americans to seek regular health screenings, get immunizations, and engage in healthy behaviors.	4.0	3.9
5. Train church members to be community health workers to assist others with their health care needs (e.g., provide health referrals, coach on health behaviors, attend doctor appointments, provide emotional support).	4.0	3.8
Strategies to Address Health Disparity Issues during Church Services		
1. Provide free health screenings (e.g., blood pressure, cholesterol, blood glucose [sugar], HIV/STDs, BMI) and risk assessments.	4.2	4.1
2. Use church websites to host health disparity information and videos.	4.1	3.9
3. Distribute risk checklists to church and community members to determine their level of risk for each health issue that burdens African Americans.	4.1	3.9
4. Distribute directories with lists of resources for each health disparity issue.	4.0	3.9
5. Distribute church bulletins, brochures, fact sheets, and posters on each health disparity issue.	4.0	3.9

[1] Top five for each category.

[2] All items had importance and feasibility response items ranging from 1 to 5; 5 = very important/feasible.