


The SHARED Project: A Novel Approach to Engaging African American Men to Address Lung Cancer Disparities

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Abstract

Black men are disproportionately impacted by lung cancer morbidity and mortality. Low-dose helical computed tomography (LDCT) lung cancer screening has demonstrated benefits for reducing lung cancer deaths by identifying cancers at earlier, more treatable stages. Despite the known benefits, LDCT screening is underutilized in black men. Studies in racially heterogeneous populations have found correlations between screening behaviors and factors such as physician trust, physician referral, and a desire to reduce the uncertainty of not knowing if they had lung cancer; yet little is known about the factors that specifically contribute to screening behaviors in black men. Community engagement strategies are beneficial for understanding barriers to health-care engagement. One community engagement approach is the citizen scientist model. Citizen scientists are lay people who are trained in research methods; they have proven valuable in increasing communities' knowledge of the importance of healthy behaviors such as screening, awareness of research, building trust in research, and improving study design and ethics. This paper proposes an intervention, grounded in community-based participatory research approaches and social network theory, to engage black men as citizen scientists in an effort to increase lung cancer screening in black men. This mixed-methods intervention will examine the attitudes, behaviors, and beliefs of black men related to uptake of evidence-based lung cancer screening.

Keywords

men's health, health behaviors, lung cancer, black men, health disparities

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Cigarette smoking is the leading preventable cause of lung cancer, contributing to 87% of all lung cancer deaths (Lortet-Tieulent et al., 2017). Although smoking rates among U.S. adults are at a 50-year low (14.1%; Wang et al., 2018), they remain elevated among underserved populations. Black men have the second highest smoking rate among U.S. adult males in the country (Drope et al., 2018), following American Indian/Native American men. Although smoking rates for black men fell steadily from 1990 to 2008, they plateaued over the last decade (Drope et al., 2018). This unchanging smoking rate combined with a lower likelihood of quitting contribute to the higher rates of tobacco-related morbidity and mortality observed in black men (National Center for Chronic Disease

Prevention and Health Promotion [US] Office on Smoking and Health, 2014; Stanton et al., 2016) both nationally and in the Chicago area (Illinois Department of Public Health, 2015; Munro et al., 2019).

Improving the uptake of lung cancer screening for early detection has the potential to improve survival outcomes, especially among black men. The National Lung Screening Trial (NLST), the first large-scale randomized controlled trial for lung cancer early-detection screening in the United States, demonstrated that low-dose helical computed tomography (LDCT) lung cancer screening in older smokers reduced lung cancer-specific mortality by 15%–20% due to the detection of treatable lesions (National Lung Screening Trial Research Team, 2011).



Based on these findings, the United States Preventive Services Task Force (USPSTF) gave a B recommendation for LDCT screening, the same recommendation associated with mammography screening for breast cancer. It also recommended annual screening with LDCT in older adults who had a history of smoking (Aldrich et al., 2019; Landy et al., 2019). Since 2015, LDCT screening has been covered by private insurance and Medicare, but the utilization of LDCT screening remains low due to a number of provider- and patient-level factors (Kanodra et al., 2016; Lewis et al., 2015). At the provider level, contributing factors include clinician knowledge (e.g., lack of knowledge about screening guideline components), concerns about screening (e.g., skepticism about evidence base and potential harms), and time constraints (e.g., limited time per patient preventing adequate counseling and shared decision making; Duong et al., 2017; Ersek et al., 2016; Simmons et al., 2017). At the patient level, barriers to lung cancer screening include fear related to lung cancer (Duong et al., 2017), lack of knowledge, negative attitudes about screening, and fears associated with cancer (Cardarelli et al., 2017).

Several studies have also reported health disparities in LDCT screening between black and white former and current smokers. A retrospective study by Richmond et al. (2020) examined LDCT screening rates at a community health center in North Carolina and found that eligible black patients were less likely to receive LDCT screening than white patients (Richmond et al., 2020). A historical cohort study on lung cancer screening outcomes, including LDCT utilization rates, found that black patients were significantly less likely to receive LDCT compared to white patients, even when lung cancer screening status and neighborhood-level factors such as unemployment, education level, and income level were controlled (Lake et al., 2020). Lung cancer screening using LDCT in a Medicare fee-for-service population was examined in a cross-sectional observational study by Tailor et al. (2020). Black Medicare beneficiaries were screened with significantly less frequency than white

beneficiaries (Tailor et al., 2020). Last, Li et al. (2019) examined eligibility criteria for LDCT screening and found that black current and former smokers were less likely to meet the established eligibility criteria for LDCT screening than whites; this indicated that the current screening criteria did not completely capture those who most were most in need of screening (Li et al., 2019). These findings underscore the importance of improving outcomes in LDCT screening among high-risk black patients.

Since 2015, the Centers for Medicare and Medicaid Services (CMS) have recommended annual LDCT screening among eligible smokers and have required the use of a shared decision-making tool to aid patients in deciding whether to obtain LDCT lung cancer screening ("Lung Cancer Screening," 2016). To support this, the CMS called for the development of patient and provider strategies to reduce barriers to LDCT screening and to increase informed and shared decision-making (Durand et al., 2015; Volk et al., 2013, 2014). In cancer and other health screenings, the concept of shared decision-making is part of standard of care practice to ensure that the patient understands the risks and benefits of screening and that the decision to undergo screening is based on the shared decision of the patient and the provider (Brenner et al., 2018). Tools such as decision aids are used to provide information, background, and context, to help patients and families make an informed decision about a medical screening or procedure (Schrager et al., 2017). Leading government entities such as the Agency for Healthcare Research and Quality have developed evidence-based tools and decision aids to support the bidirectional discussion between patient and provider as part of lung cancer screening. However, tools such as the Agency for Healthcare Research and Quality decision aid were developed with little engagement of black men, and therefore awareness and cultural relevance of these tools remain low (Agency for Healthcare Research and Quality, 2018).

Few outreach or research efforts have focused on LDCT screening among black men despite their high rate

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of lung cancer and low utilization of screening. A large body of literature has described the challenges and opportunities of community engagement efforts with black men (Hawley & Morris, 2017; “Lung Cancer Screening,” 2016; “National Coverage Determination,” 2015; National Lung Screening Trial Research Team, 2011). Research has demonstrated that black men are more responsive to health messages that are specifically targeted to them (Woods et al., 2004). The inclusion of culturally relevant information has been reported to be effective in improving health outcomes but has rarely been included in decision aids (Alden et al., 2014; Covvey et al., 2018; Greene et al., 2018; Hoffman et al., 2015; Hung et al., 2019; Mohkles et al., 2018). These findings indicate that addressing cultural beliefs and barriers is imperative to the successful design, implementation, and effectiveness of decision aids for lung cancer screening. Additionally, previous studies have reported that black men are often negatively perceived by their health-care providers; this negative perception can lead to reduced quality of care (Blair et al., 2013; Hall et al., 2015; Maina et al., 2018; Tailor et al., 2020). By examining the opinions of health-care providers who are providing care to high-risk black men, this information can be used to improve patient-provider interactions. This information can also be used to take both provider and patient opinions into account when adapting lung cancer screening tools such as decision aids.

To address the lack of engagement of black men in lung cancer screening, we propose an innovative community-based outreach intervention engaging black men as citizen scientists to improve uptake of USPSTF lung cancer screening guidelines. This paper describes an intervention that will train black men as citizen scientists to conduct a mixed-methods assessment of the attitudes, behaviors, and beliefs of black men related to the uptake of evidence-based lung cancer screening. Utilizing community-based participatory research and social network theory principles, this intervention will obtain information to help create a culturally targeted decision aid for high-risk black men to increase the intention to screen and the utilization of LDCT lung cancer screening, per USPSTF recommendations.

Methodology

Setting

Mile Square Health Centers. This study will take place at the Mile Square Health Centers in the city of Chicago. Mile Square Health Centers is a group of 14 Federally Qualified Health Centers associated with the University of Illinois Hospital and Health Sciences System at the University of Illinois at Chicago that serves 40,000

patients annually throughout the city of Chicago and Rockford, IL.

Theoretical Frameworks

Tri-Framework Design. The complexity of addressing the multiple determinants of health that impact lung cancer risk in urban black men requires a multilayered approach. It also addresses the question of how to engage black men who are often described as a “hard-to-reach population.” This multilayered framework shifts the narrative on black men being “hard to reach” and provides a means for engaging black men through trusted partnerships such as social networks. This paper proposes a framework that combines elements of community-based participatory research, citizen scientists, and social network theory. This “triad” approach was previously shown to be effective at engaging black men in research (Watson et al., 2019).

Community Based Participatory Research. Community-based participatory research is the principal guiding framework of the project. At its core, community-based participatory research seeks to achieve equitable, meaningful, active community participation in all phases of the research process and highlights community capabilities to accelerate improvements in health. Benefits of a community-engaged approach to research include greater participation rates, increased external validity, increased retention, and the development of individual and community capacity (Bonney et al., 2016; Collier & Danis, 2017; O’Mara-Eves et al., 2013). A community-based approach also further ensures the likelihood that black men will benefit from cancer screening and cancer research innovations, and that they will continue to engage in the research process.

Citizen Scientists. Expanding the principles of community-based participatory research, the intervention strategy involves the training of black men as citizen scientists. Citizen scientist programs are emerging as effective approaches for training community members to actively and meaningfully engage in outreach and research activities. Citizen scientists are laypersons who do not have formal science training but receive training to engage in research efforts responsive to community needs. They are generally volunteers or are paid for their time; they are not formal employees of the institution conducting the research (Guerrini et al., 2018). Citizen scientists differ from community health educators who often have bachelor’s level training in health education and/or special certification, that is, the Certified Health Educator Specialist (CHES) credential (“Health Educators and Community Health Workers,” 2020). They also differ from community

health workers who are hired by medical or research institutions and receive on-the-job training to provide education or collect data in a specific community ("Health Educators and Community Health Workers," 2020). However, like community health educators and community health workers, citizen scientists' mission is to ensure the equitable engagement of the voice of the community, either as staff, educators, or lay citizens.

The engagement of black men as citizen scientists builds upon previous work also rooted in community-based participatory research (Watson et al., 2019). In a previous study, citizen scientists assisted in the recruitment and engagement of healthy black men from their social networks to test a novel biomarker for prostate cancer screening (Watson et al., 2019). In that study, the community stakeholder was intentional in the use of the selected term "citizen" in the choice of a "citizen science" approach to engaging black men in the research projects. The term "citizen," per the community stakeholder, Project Brotherhood, was selected to counteract the often lack of recognition of the civil and social rights of black men in America (Murray et al., 2019). The concept of black men in America "reclaiming" their citizenship and identity as an active voice in research, and engagement is an important step in addressing the historical misgivings of black men and biomedical research. For example, in the pilot study engaging black men as citizen scientists to advance prostate cancer research, the cohort of eight black men engaged as citizen scientists all had elevated medical mistrust, but it was also noted that they welcomed an opportunity to engage with other black men in research (Watson et al., 2019). Engaging black men as citizen scientists may inform USPSTF evidence-based lung cancer screening guidelines and improve screening rates, by engaging black men in all aspects of the lung cancer screening process.

Social Network Theory. The final theoretical framework that underlies the intervention is social network theory. In this triad approach, both community-based participatory research and the engagement of black men as citizen scientists rely upon trusted relationships among black men through their social networks. Social network theory examines and utilizes structured relations among persons who create, disseminate, and utilize knowledge (Dunn, 1983). Previous health-promotion studies that utilize and/or increase the social support of black men have been effective in engaging black men as equitable partners in multiple phases of research (Debnam et al., 2012; Harley et al., 2020; Rogers et al., 2017). A health-promotion intervention targeted at black men that combined social network theory and community-based participatory research led to increased social support and decreased perceived stress in a study by Harley et al.

(2020). Watson et al. demonstrated that understanding and leveraging social ties led to enhanced recruitment, research engagement, and retention in a prostate cancer study with black men (2019).

While community-based participatory research, citizen scientists' engagement, and social network theory have all proven utility when deployed individually in the engagement of black men in research, the combined "triad" approach may prove a novel collaborative model that can address the multiple factors that impact the equitable engagement of black men in research. The "triad" model of engagement proved successful in a previous prostate cancer screening project to validate a new biomarker for prostate cancer screening, and has the potential to prove feasible in engaging black men in lung cancer screening (Watson et al., 2019).

Research Design

SHARED Project Overview. The Supporting High Risk AAfrican American Men in Research & Engagement in Decision Making (SHARED) Project will build upon findings of the previously described prostate cancer pilot study to rigorously engage black male citizen scientists to increase cultural targeting, implementation, and evaluation of evidence-based practices for improving lung cancer screening (Watson et al., 2019). The intervention will consist of the following steps: (a) Recruit and train black men as citizen scientists. (b) Engage citizen scientists to examine knowledge, attitudes, barriers, and facilitators related to uptake of USPSTF lung cancer screening guidelines and use of the Agency for Healthcare Research and Quality decision aid for lung cancer screening among high-risk black men and their providers. (c) Engage citizen scientists to refine outreach strategies for engaging black men in lung cancer screening with Mile Square Health Center and adapt the Agency for Healthcare Research and Quality decision aid to cocreate a culturally targeted lung cancer screening decision aid for black male patients and their health-care providers. (d) Engage citizen scientists in a randomized controlled trial comparing the relative efficacy of the culturally targeted citizen-scientist informed decision aid (intervention) versus the standard Agency for Healthcare Research and Quality decision aid (standard care) in increasing the uptake of lung cancer screening among a cohort of black men at the 14 Federally Qualified Health Centers associated with the Mile Square Health Center. (e) Evaluate the effectiveness of citizen scientists in the outreach research process using a mixed-methods approach. Community-based participatory research will be used to help recruit and train the citizen scientists; social network theory will be utilized to help the citizen scientists recruit additional black men for the intervention.

Citizen Scientist Recruitment, Training, and Evaluation

The recruitment and engagement of African American (AA) men as citizen scientists builds upon the established recruitment, training, and engagement from the previous prostate cancer screening trial (Watson et al., 2019).

Eligibility. Citizen scientists recruited for this study will be: a) 30 years of age or older; (b) self-identify as a black man; (c) have a track record of engaging black men; (d) be willing to undergo required training; and (e) be willing to engage their social network, peers, and eligible participants in the research project.

Recruitment. Up to eight citizen scientists will be recruited. Initially, citizen scientists will be recruited from the cohort of citizen scientists trained in the previous prostate cancer study. Several previously trained citizen scientists from that study remain engaged with the research team; additionally, previously trained citizen scientists agreed to be contacted for future research opportunities. These individuals will be contacted and rescreened for eligibility. Citizen scientists will also be recruited from the social networks of the investigators and community stakeholders. Together, these individuals have contact with more than two dozen community-based organization and have previously engaged over 500 black men. Special emphasis will be placed on recruiting citizen scientists who are former or current tobacco users, at least one to two barbers based on their reach and engagement with black men, at least one member from a black male fraternity or civic organization, and at least one representative from a faith-based community—with an intentional focus on identifying lung cancer survivors. Individuals with ties to these particular organizations will be targeted due to previous studies demonstrating their ability to successfully recruit and engage black men (Balls-Berry et al., 2015; Friedman et al., 2012; Li et al., 2011; Murphy et al., 2017; Saunders et al., 2015).

Training. Citizen scientist trainings will be adapted from the established, evidence-based University of Florida Clinical and Translational Science Institute Citizen Scientist Program Curriculum (Brishke et al., 2019; “Citizen Scientists Curriculum,” 2017). Trainings will provide participants with foundational information on the ethical conduct of research, health disparities, human subjects protection in research, as well as expressed needs and desires in knowledge and skill-building. Trainings offered to citizen scientists will combine components of the University of Florida citizen scientist trainings as well as culturally and geographically tailored content adapted from

the original prostate cancer citizen scientists training curriculum. Over a period of 4 weeks, the four initial training modules will be conducted followed by a fifth module as a “booster session” determined by the stated needs of the participants. Individuals who complete the citizen scientist training will be compensated \$250 per session for their time and effort. The training sessions of the citizen scientists will be led by the project investigators and community stakeholder as well as a Community Health Educator.

Evaluation. A pre-training survey assessment will be conducted prior to the initial session to identify the engaged cohort’s training needs and baseline knowledge related to tobacco cessation and lung cancer screening. A post-training individual survey will be conducted at the end of each training to assess quality of training and quality improvement needs of the program in general, adapted from instruments developed from the team’s completed pilot project. Surveys assessing pre/post changes in knowledge and awareness of research, trust in scientific research, and research design and ethics will be administered by trained research personnel using a structured interview guide (Kallio et al., 2016).

Development of a Culturally Targeted Decision Aid for Lung Cancer Screening

Overview. Engaged, black male citizen scientists will collaborate on recruitment, data collection, analysis, and interpretation of results. Through a mixed-method approach, the smoking behaviors of black men and knowledge and practices of primary care providers to refer and assist in the tobacco cessation needs of the black men will be assessed. A culturally targeted lung cancer screening tool for black men will be developed via the following stages:

Stage 1: Information Gathering. Citizen scientists will support the research team in examining attitudes, knowledge, behaviors, and beliefs of black men who are at elevated risk for lung cancer and primary care providers who engage high-risk black men for lung cancer screening. Members of the research team will work with the citizen scientists to identify black men from their social networks who are from community areas with elevated tobacco and lung cancer burdens to participate in focus groups. Citizen scientist-led focus group and interview data will be used to adapt the decision aid in terms of health literacy, language, beliefs, barriers, culture, and message content. Focus groups will be conducted according to standardized methodology including using a moderator’s guide, post-session debriefings, and review of transcribed audiotapes (Krueger & Casey, 2014).

Stage 2: Preliminary Adaption Design. Beliefs, attitudes, cultural factors (i.e., mistrust), and smoking behaviors applicable to the adaptation of the Agency for Healthcare Research and Quality decision aid for LDCT screening will be drawn from a mixed-method research approach. Cultural targeting will be based on utilizing Kreuter's methods: (a) peripheral (images, etc., salient to black men); (b) evidential (cancer rates specific to black men); (c) linguistic (language and terms used by black men); (d) constituent-involving (involving black male citizen scientists); and (e) sociocultural (including cultural beliefs; Kreuter et al., 2003).

Stages 3 and 4: Preliminary Adaptation Testing and Refinement. In these stages, the decision aids will be refined and tested. The research team will conduct iterative usability testing on the culturally targeted Agency for Healthcare Research and Quality lung cancer screening decision aid for black men cocreated by citizen scientists. Both black male participants and providers will answer questions about the acceptability and usability of the decision aid.

Stage 5: Cultural Adaptation Trial Testing via Randomized Control Trial. A randomized control trial will be conducted to test the effectiveness of the culturally targeted lung cancer screening decision aid versus the original Agency for Healthcare Research and Quality decision aid in lung cancer screening uptake among black men. The randomized control trial will be conducted at the Mile Square Health Clinic in Chicago. Between-group differences in the intention to screen and uptake of lung cancer screening per the USPSTF recommendation will be evaluated based on type of decision aid received as the primary study outcomes. Posttest study measures will be taken after the shared decision-making session with a trained health-care provider. Posttest assessments collected by the SHARED research assistant will include screening intentions, knowledge, attitudes, and beliefs for lung cancer screening.

Mixed-Methods Evaluation of Citizen Scientist Outreach Strategies. An assessment of citizen scientist outreach strategies for recruitment of black men will provide crucial insight into the findings from focus groups described in Stage 2, the iterative usability testing in Stage 3, and the pilot RCT in Stage 5. The effectiveness of citizen scientists in the outreach and research process will be evaluated using a mixed-methods approach (qualitative interviews, process evaluation) to assess engagement, implementation, and barriers/facilitators. Taken together, this information can then be used to evaluate the effectiveness of the culturally targeted decision aid as well as provide further data on the citizen science/community-based

participatory research/social network theory approach for future studies recruiting and engaging black men.

Discussion

Promoting Black Men's Health Equity: Making the Invisible Man Visible

The main goal of this research project is to address the growing inequities in lung cancer outcomes that disproportionately impact black men. The study design proposes a theoretical research framework that can begin to disentangle the complex biological and social factors that lead to inequities in tobacco use among black men and subsequent poor lung health outcomes. A key feature of the SHARED project is its deliberate embrace of a framework that directly addresses health equity and the lack of inclusion of black men in the research process from design to implementation to participation. The SHARED Project seeks to refine and evaluate the engagement of black men as citizen scientists as an outreach strategy for lung cancer screening. This engagement of black men as citizen scientists helps to address the "invisibility" of black men in biomedical research (Pettit, 2012). The NLST study, which shaped current lung cancer screening guidelines, had a lack of representation of racial and ethnic minorities with only 4.4% of the 53,456 participants being black (The National Lung Screening Trial Research Team Writing committee, 2010). This "invisibility" of representation in the data, due to the lack of participation of blacks in the NLST study, grossly underestimates the generalizability of the study findings, and negates factors associated with those who are most impacted by the disease. Compounding the "invisibility" of blacks in research is the persistent lack of research conducted by racial/ethnic minorities who carry a similar lived experience as those impacted by the focus of the research.

Improving Health Equity in Screening

Another way this proposed study advances health equity is through inclusive screening. This project represents one of the first attempts to engage black men in all aspects of research efforts to improve lung cancer screening, including the cultural targeting of decision aids to improve screening compliance. Despite advances in the knowledge and utility of decision aids in lung cancer screening, few to none focus on black men. Previous studies, such as the one conducted by Lau et al., focused on the impact of culturally tailored decision aids but recommended that future research have an intentional focus on high-risk populations that are often difficult to engage in research (2015). A study by O'Conner et al. had a more diverse patient population engaged in decision aids for cancer screening

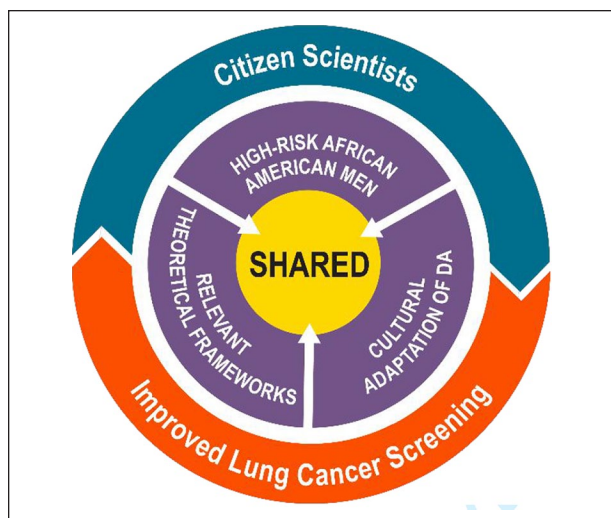


Figure 1. Engagement Model of Utilizing High-Risk Black Men as Citizen Scientists for Improved Lung Cancer Screening.

but lacked a specific focus on lung cancer (1999). Figure 1 depicts the SHARED Project’s three key areas of innovation: (a) intentionally targeting black men as the population with the highest risk of lung cancer disparities, (b) engaging black male citizen scientists as an emerging community engagement model, and (c) integrating multiple theoretical frameworks. Citizen scientists will use the Integrated Model of Stages in the Cultural Adaption of Evidence-Based Intervention to adapt the Agency for Healthcare Research and Quality LDCT decision aid to the informational, language, and cultural needs of black men at an elevated risk of lung cancer (Carter-Harris & Gould, 2017; McDonnell et al., 2018).

Addressing Inequities in Black Men’s Smoking Behavior

Research examining the impact of lung cancer among black men cannot ignore the leading cause of lung cancer morbidity and mortality in the United States: tobacco use (Amos et al., 2010). Within the context of lung cancer and tobacco use among blacks in the United States, there is the widely accepted AA smoking paradox, which acknowledges the unexplained tobacco-related outcomes among blacks despite variances in tobacco use and smoking patterns and habits. For example, the paradox acknowledges that compared to whites, blacks: (a) begin smoking later in life, (b) have similar smoking rates (among black and white men, smoking rates are similar), but greater morbidity and mortality associated with tobacco use, and (c) have lower smoking intensity and frequency (Alexander et al., 2016). Woven into the complex web of tobacco use among black men is the concept

of what black men smoke. Studies that examine lung cancer disparities have taken a deep dive into smoking intensity and frequency, but have taken a more shallow approach into what certain groups smoke and how this impacts health outcomes. For example, black men have higher utilization of menthol cigarettes compared to white men (Alexander et al., 2016). Smokers of menthol cigarettes have lower rates of quitting success compared to non-menthol smokers and increased lung cancer rates (Blot et al., 2011). Nevertheless, there is a paucity of research that examines what and how black men smoke and how it leads to increased lung cancer morbidity and mortality.

The use of menthol cigarettes by the black community is not by chance. It is documented that race-based marketing of menthol cigarettes to black communities plays a key role in the elevated use of menthol cigarettes among blacks and women (Cubbin et al., 2010). There are some known addictive properties to menthol cigarettes that lend clues as to “why” more blacks prefer menthol cigarettes including: (a) the cooling sensation provided by menthol; (b) the subsequent feeling of relaxation as a result of the menthol; and (c) the unknown masking of side effects of smoking due to menthol (Cubbin et al., 2010). The SHARED research team proposes that one of the largest areas of exploration into the AA smoking paradox and lung cancer outcomes may be related to the fact of “smoking while black.” One study showed that compared to white, non-Hispanic populations, black men were less likely to be advised to quit smoking and less likely to be provided evidence-based support for tobacco cessation (Trinidad et al., 2011). Studies also examined the initiation, frequency, and type of tobacco used based on psychosocial factors such as stress, racism, poverty, and burdens of misplaced hyper-masculinity that black men face at an unequal burden compared to non-black men (Bailey et al., 2015; Hicks & Kogan, 2020; Parker et al., 2017). They found that factors such as simply being a black man in America, and the subsequent increased burden of racial and social injustices, may have lent itself to increased tobacco use. Despite the known linkage between stressful stimuli and the use of tobacco, there is little research to examine the intersection of being a black man in America and smoking behavior. The SHARED Project has the ability to address how and why black men smoke, and to address how health-care providers can play a pivotal role in assisting black men in quitting smoking and thereby reducing their risk of lung cancer.

Next Steps and Conclusion

The SHARED project seeks to engage black men as equitable partners in research to develop decision aids in lung cancer screening that are tailored to address the multiple

factors that impact tobacco use and subsequent lung cancer screening among high-risk black men. The broader goal is to develop, evaluate, and disseminate citizen scientist-informed interventions to improve cancer outcomes among underserved populations. The ability to disseminate the findings from this research project to diverse stakeholders is one of the strengths of the multidisciplinary team as well as a strength of the social network of the investigators. Strengths of the study include citizen scientists' systematic adaptation and testing of an existing lung cancer screening decision aid, an interdisciplinary team, consideration of theoretically driven processes, the research setting within a group of Federally Qualified Health Centers, and the fact that the research team is led by black men and people of color who are often underrepresented in biomedical research (Oh et al., 2015). Limitations of this study are the relatively small sample size and the fact that currently the study is only being conducted in Chicago. Future studies may deploy a multiregional approach to identify and engage black men both as citizen scientists and study participants. Deploying these methods with a more widespread cohort of men may increase the possibility of addressing more geographical contextual factors that impact lung health outcomes among black men. This paper highlights a recommendation to utilize this multi-theoretical framework as a model to engage black men in research.


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