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## Implementing barbershop-based health promotion interventions for Black men: a systematic scoping review

Guillermo M. Wippold<sup>1</sup>, Sarah Grace Frary<sup>1</sup>, Kaylyn A. Garcia<sup>1</sup>, Dawn K. Wilson<sup>1</sup>

<sup>1</sup>Department of Psychology, University of South Carolina

### Abstract

**Objective:** Health promotion efforts among Black men in the United States have been limited in their ability to recruit, retain, and produce meaningful health-related changes. These difficulties have led to Black men being referred to as a “hard-to-reach” population – a designation which places undue blame on these men as opposed to the dissemination and implementation strategies being used by health promotion specialists. Gender- and race-based strategies that align with the lived experiences of these men are likely to circumvent these challenges. Barbershops are cultural institutions for many Black men and are uniquely positioned to promote health among these men. There is little guidance on how to develop, implement, and evaluate barbershop-based efforts. This scoping review seeks to provide this guidance by applying the RE-AIM framework to analyze existing intervention efforts.

**Methods:** Information was identified by searching the following bibliographic databases: PubMed, EMBASE PsycINFO, CINAHL, and Web of Science. A grey literature search was conducted using Web of Science and [ClinicalTrials.gov](https://www.clinicaltrials.gov). Results were uploaded to Rayyan (i.e., a web-based program for screening articles and manuscripts that allows collaborative decision-making). Each article was independently and blindly assessed by two reviewers. A third reviewer blindly resolved any discrepancies. Data were then independently extracted by the two reviewers. Discrepancies were flagged and resolved collaboratively.

**Results:** Results indicate that barbershop-based health promotion efforts that prioritize community engagement and intentional alignment to the gender- and race-based lived experiences of Black men are likely to result in satisfactory recruitment, retention, and health-related changes among these men.

**Conclusions:** More intervention efforts are needed that target young Black adults, rural Black men, mental health outcomes, and which implement peer-to-peer models.

### Abstract

Los esfuerzos de promoción de la salud entre los hombres negros en los Estados Unidos se han visto limitados en su capacidad para reclutar, retener y producir cambios significativos relacionados con la salud. Estas dificultades han llevado a que se haga referencia a los hombres negros como una población “difícil de alcanzar”- una designación que culpa indebidamente a estos hombres en contraposición a las estrategias de difusión e implementación que utilizan los especialistas en

promoción de la salud. Es probable que las estrategias basadas en el género y la raza que se alinean con las experiencias vividas por estos hombres eludan estos desafíos. Las barberías son instituciones culturales para muchos hombres negros y están en una posición única para promover la salud entre estos hombres. Hay poca orientación sobre cómo desarrollar, implementar y evaluar los esfuerzos basados en la barbería. Esta revisión de alcance busca proporcionar esta guía aplicando el marco RE-AIM (Alcance, eficacia, adopción, implementación y mantenimiento) para analizar los esfuerzos de intervención existentes.

La información se identificó mediante búsquedas en las siguientes bases de datos bibliográficas: PubMed, EMBASE PsycINFO, CINAHL y Web of Science. Se realizó una búsqueda de literatura gris utilizando Web of Science y [ClinicalTrials.gov](https://www.clinicaltrials.gov). Los resultados se cargaron en Rayyan (es decir, un programa basado en la web para la selección de artículos y manuscritos que permite la toma de decisiones en colaboración). Cada artículo fue evaluado de forma independiente y ciega por dos revisores. Un tercer revisor resolvió de forma ciega cualquier discrepancia. Luego, los dos revisores extrajeron los datos de forma independiente. Las discrepancias se marcaron y resolvieron en colaboración.

Los resultados indican que los esfuerzos de promoción de la salud basados en la barbería que priorizan la participación comunitaria y la alineación intencional con las experiencias vividas basadas en el género y la raza de los hombres negros probablemente resulten en un reclutamiento satisfactorio, retención y cambios relacionados con la salud entre estos hombres.

Se necesitan más esfuerzos de intervención dirigidos a adultos jóvenes negros, hombres negros rurales, resultados de salud mental y que implementen modelos de igual a igual.

## Keywords

African Americans; male; health promotion; implementation; scoping review

## Keywords

afroamericanos; masculino; promoción de la salud; implementación; revisión de alcance

## Introduction

### Health of Black men

Black men in the United States (U.S.) are incredibly resilient given the historical barriers to health promotion (e.g., discrimination) that they experience (Chae et al., 2021). Research has identified cultural assets that promote health-related resilience and mitigate adverse health outcomes among Black Americans, such as connection with religion (Holt et al., 2014), community support (Wippold et al., 2022), and Black identity (Lewis et al., 2018). However, Black men experience a lower life expectancy than any other racial-gender group in the U.S. (Gilbert et al., 2016). The contributors to this low life expectancy are well-documented and preventable – Black men experience disproportionately high rates of heart disease, malignant neoplasms, and unintentional injury and low rates of health-related quality of life (Gilbert et al., 2016; Kaiser Family; Kaiser Family). Solution-oriented applied efforts that

attend to the biopsychosocial needs of Black men are urgently needed to promote health among these men in order to reduce preventable adverse health outcomes and decrease premature mortality. In order to successfully promote meaningful health-related change, future efforts must avoid common challenges experienced when seeking to promote health among Black men and must also be tailored for Black men.

### **Problems with recruitment, retention, and health outcomes**

The impact of health promotion efforts among Black men are frequently met with challenges in recruitment and retention. Despite the 1993 National Institutes of Health Revitalization Act that mandated the proportional inclusion of minorities in health research, Black men constitute less than 10% of individuals enrolled in clinical trials (Gansler et al., 2012; Pagoto et al., 2012; Vickers & Fouad, 2014). Common barriers to enrollment include a lack of trust among minoritized communities and researchers, cultural competency of the researchers, and the expected time commitment of potential participation (Fortune et al., 2010; Leech et al., 2019). When these barriers to recruitment and others are circumvented, and Black men are enrolled in health promotion efforts, challenges with retaining Black men arise (Joo & Liu, 2021). Common barriers to retention include lack of transportation to the intervention and duration of intervention (i.e., longer interventions interfering with participants' employment) (Joo & Liu, 2021). Difficulties in recruiting and retaining Black men limit the ability of the effort to produce meaningful health-related changes among these individuals. Additionally, these challenges hinder health promotion specialists from identifying effective strategies to promote health among Black men. The challenges in recruiting and retaining Black men in health promotion efforts have led to this population being designated as "hard-to-reach" (Graham et al., 2018; Wippold et al., 2021a). Hard-to-reach is a term commonly used by researchers to describe minoritized populations that are difficult to access or involve in health research (Sydor, 2013). This designation is unfortunate because it places blame on Black men for their underrepresentation in health research as opposed to the strategies used by those designing and implementing health promotion efforts. Therefore, it is likely that gender and race tailored strategies are needed to promote health among, and in partnership with, Black men.

### **The need for gender-based tailoring of health promotion efforts**

There have been calls for tailored health promotion efforts targeting men (Abshire et al., 2021; Wippold et al., 2021a). The 2001 Madrid Statement by the World Health Organization recommended that health promotion efforts be tailored to address the gender-based differences in health facilitators and barriers (Organization, 2001). Despite this recommendation, few health promotion efforts are tailored for men (Griffith, 2016; Robertson et al., 2008; Treadwell & Young, 2013). This is alarming because there is a large body of literature examining the role of masculinities on health promotion. For example, the Health, Illness, Men, and Masculinities theoretical framework explains how socially-constructed masculine norms influence health and health promoting behaviors among men (Evans et al., 2011). The extent to which men conform to masculine norms has been documented to influence engagement in risk-taking behaviors (e.g., substance abuse) and health-related help-seeking (Gerdes & Levant, 2018). Specifically, research has found that men are less likely to seek health-related help and engage in health promoting behaviors and

more likely to engage in risk taking behaviors (Harris et al., 2006; Teo et al., 2016; Yousaf et al., 2015). Therefore, tailored health-promotion efforts that address harmful masculinity norms may be particularly effective for promoting health among men.

### **The need for race-based tailoring of health promotion efforts**

Race in the United States is a constructed social category based on phenotype (e.g., skin color, facial features) derived from historical racist structures of power (Helms & Talleyrand, 1997). Although race is socially constructed, and not based in biology, factors associated with race (e.g., cultural norms) can impact health outcomes in complex ways. For example, health promotion efforts among racial/ethnic minoritized individuals are often limited in impact. That is because “one-size-fits-all” approaches to health promotion often ignore the role of culture in health promotion (Miniville, 2018). In addition to attending to the unique influences of masculinity on health, those designing and implementing health promotion efforts targeting Black men should align the effort with the cultural values, perspectives, and preferences of Black men (Kumanyika, 2008; Kumanyika et al., 2002; Wippold et al., 2021a), which can be achieved by attending to surface-level and deep-level structures (Resnicow et al., 1999). Surface-level structures (e.g., including an image of a Black man on recruitment materials) increase receptivity of the effort, whereas deep-level structures (e.g., intentionally aligning the effort with the values of Black men) increase cultural salience (Resnicow et al., 1999). A large body of literature has found that health promotion efforts that attend to these structures have been successful in promoting health among non-White individuals (Tucker et al., 2017; Tucker et al.; Tucker et al., 2016).

### **The importance of location – barbershops**

There have been calls from leading health bodies (e.g., World Health Organization, National Academy of Medicine) for place-based health promotion interventions – interventions that address contextual factors in community-based settings (Smedley & Amaro, 2016). Barbershops are a cultural institution for many Black men in the U.S.. Historically, barbershops were one of the only locations, if not the only location, Black men during slavery were allowed to congregate (Mills, 2013). Because of their unique role, barbershops have evolved to be safe spaces for Black men to have difficult conversations, particularly conversations about health (Wippold et al., 2021b). The health promotion academic community has recently focused on the importance of barbershops among many Black men because Black men experience disproportionately high rates of adverse health outcomes, are underrepresented in health promotion efforts, and prefer to receive health-related information from peers (Hudson et al., 2018). Following this recent focus by the academic community, successful health promotion efforts targeting Black men have been designed to be implemented in the barbershop (Hess et al., 2007a; Victor et al., 2018), leading many to conclude that barbershop-based health promotion efforts may play a unique role in reducing health disparities among Black men (Linnan et al., 2014). The potential of barbershop-based health promotion is supported by a recent review that found that many community-based health promotion efforts targeting Black men are successful (Wippold et al., 2021a).

## Purpose of the Present Review

Previous reviews have been conducted on barbershop-based health promotion efforts (Luque et al., 2014; Palmer et al., 2021). Despite these previous reviews and the unique role of barbershop-based health promotion efforts targeting Black men, there is little guidance from these reviews and other sources on how to develop, implement, and evaluate such an effort. Thus, this scoping review seeks to provide this guidance by analyzing existing efforts using the RE-AIM (i.e., Reach, Effectiveness, Adoption, Implementation, and Maintenance) framework (Glasgow et al., 1999) – a framework from implementation science that is used to understand, plan, and evaluate programs. The RE-AIM framework is often employed in literature reviews because it is an effective framework for identifying strengths and areas of improvement (i.e., gaps in reported RE-AIM dimensions) across existing interventions, and in turn, can inform future recommendations (Allen et al., 2011; Blackman et al., 2013; D’Lima et al., 2022). This review also discusses evidence-based recommendations for the development and implementation of future barbershop-based health promotion efforts targeting Black men.

## Methods

This scoping review was pre-registered with Open Science Framework (Wippold, 2022). It was designed, conducted, and reported in accordance with guidelines outlined in the Preferred Reporting Items for Scoping Review (PRISMA-ScR) statement (Tricco et al., 2018), the methodological framework for scoping reviews by Arksey and O’Malley (Arksey & O’Malley, 2005; Tricco et al., 2018), and the PICOS (i.e., population, intervention, control, outcome, and study type) framework (Petticrew & Roberts, 2008). See Supplemental File 1 for the PRISMA-ScR checklist. Information was identified by searching the following bibliographic databases: PubMed, EMBASE (Ovid), PsycINFO (EBSCO), CINAHL (EBSCO), and Web of Science (Clarivate). A grey literature search (i.e., unpublished reports) was conducted using Web of Science (Clarivate) and [ClinicalTrials.gov](https://www.clinicaltrials.gov). Web of Science allows for a grey literature search across multiple sources (e.g., meeting abstracts, news items, editorial materials, etc.). Results were restricted to those published in English and there were no restrictions on the date published. See Supplemental File 2 for a sample of the search strategy.

A priori inclusion and exclusion criteria were agreed upon by the authors and structured using the PICOS framework. Studies included in the review were restricted to those reporting the outcomes of health promotion interventions taking place in barbershops that sought to improve one or more health indicators among Black American men. There were no regional limitations as part of the inclusion criteria. Any health promotion intervention that sought to improve a health-related indicator among Black American men that was implemented partially or completely in a barbershop was included. Given the limited amount of barbershop-based health promotion efforts targeting Black American men that are documented in the literature, interventions and feasibility trials using a single-group pre-post study, post-test only study, non-randomized controlled trial, and randomized controlled trial (RCT) study design were included. Studies were excluded if they: (1) target men and

women, (2) target men and children, and (3) are not partially or completely implemented within a barbershop.

The original search was conducted in February of 2022. Titles and abstracts were uploaded to Rayyan and duplicates were removed. The remaining titles and abstracts were independently screened by two reviewers (GMW and SGF) and assessed for exclusion. The full text of articles that could not be excluded based on title and abstract were acquired. Exclusion of these articles was then assessed based on the full text. Any disagreements between the two reviewers were flagged by Rayyan and resolved by a third reviewer (KAG). This third reviewer was blind to the identity and selection for inclusion/exclusion of either initial reviewer. See Figure 1 for a PRISMA flow diagram of the study selection.

The two reviewers then independently extracted and managed the data for each of the included studies. The two reviewers read each of these articles and independently inputted data into a data extraction Excel spreadsheet. After each reviewer independently extracted the data, the spreadsheets were compared and discrepancies were highlighted and jointly resolved.

The protocol and data extraction spreadsheet were informed by the RE-AIM framework (Glasgow et al., 1999). The Reach dimension describes the factors impacting the degree to which participants can access the intervention and participant characteristics. The following Reach information was extracted: (1) inclusion criteria, (2) mean of participants, (3) number of participants recruited, and (4) number of participants retained at final timepoint. The Effectiveness dimension describes the impact that the intervention(s) had on behavior. The following Effectiveness information was extracted: (1) was the primary outcome assessed using objective or subjective measures, (2) was there a significant change in the primary outcome, (3) if there was a significant change, what was the direction of the change, and (3) magnitude of change in primary outcome. The Adoption dimension refers to the uptake, acceptability, and suitability of the intervention within a given community or setting. The following Adoption information was extracted: (1) state of intervention, (2) number of barbershops approached, (3) number of barbershops that participated, (4) urban or rural setting of the effort, and (5) community participation in design, implementation, or evaluation. The Implementation dimension describes the characteristics of the intervention carried out. The following Implementation information was extracted: (1) dose of the intervention, (2) frequency of the intervention, (3) who implemented the intervention, (4) components of the intervention implemented in the barbershop, (5) components of the intervention implemented by the barbers, (6) barriers to implementation, (7) training of the implementers, and (8) supervision of the implementers. The Maintenance dimension of the RE-AIM framework describes the measures of longevity of the health behavior change after completion of the health intervention. For the Maintenance dimension the schedule of post-intervention data collection was extracted. The following non-RE-AIM data were extracted: (1) publication year, (2) target primary health concern, and (3) theoretical framework/model of the intervention. It is important to note that not all studies were developed to address every RE-AIM dimension. This is illustrated by “N/A” or “None Listed” in Tables 2–6.



## Results

The database searches identified 347 articles. The use of multiple databases yielded 214 duplicates. These duplicates were removed, thus resulting in 133 unique articles. The abstracts of each of the unique articles were blindly examined by both reviewers to assess exclusion. This preliminary assessment resulted in the further exclusion of 106 articles. Common reasons for the exclusion of articles based on this preliminary search included: (1) interventions that included groups other than Black men, (2) commentaries, (3) trial protocols, and (4) articles only describing the development of health promotion programs. Each article was assessed for inclusion/exclusion. Discrepancies between the two reviewers was settled by a third, blind reviewer. This process culminated in 13 studies included. See Table 1.

### Description of Studies

Of the 13 interventions included in this review, all were published during or after 2007, and over half of the included studies ( $n = 7$ , 53%) were published during or after 2015. Most of the articles indicated that the interventions were based in a specific model or theoretical background ( $n = 9$ ), with the most common being Social Cognitive Theory ( $n = 4$ ). Some interventions were rooted in more than one model and/or theoretical framework. The interventions targeted a range of primary outcomes, with the most common being prostate cancer awareness/prevention ( $n = 5$ ) and hypertension/blood pressure ( $n = 5$ ). Only one intervention targeted a non-physical health outcome (i.e., violence reduction). See Table 1.

### Reach

The inclusion criteria varied, though the majority of interventions were designed for Black American men with some qualifying condition or criteria (e.g., persistent hypertension, engaging in unprotected sex). Few interventions were designed for Black American men in general (i.e., without any qualifying condition or criteria). Of the interventions included, only four had a mean age of participants under 40 years, with the lowest being 20.76 years. Retention rates ranged from 72% to 100%. See Table 2.

### Effectiveness

Eleven (84%) of the included interventions reported significant changes in the primary outcome after the conclusion of the intervention, and all of these changes were in the direction of the desired health outcome (i.e., positive health behavior change). Seven (54%) of the interventions assessed the primary outcome using subjective measures. See Table 3.

### Adoption

All studies took place in the United States of America. The included studies took place in a variety of states in primarily urban locales ( $n = 12$ , 92%), with one intervention taking place in a “semi-rural” area in Georgia. Of the seven studies that described how many barbershops were approached initially to participate in the study, over half of approached barbershops completed the study. Numbers of barbershops participating in studies ranged from 1 to 78 total shops. Six studies (46%) did not describe how many barbershops

were approached to participate in the intervention. Ten studies described some form of community input/participation in the design, implementation, and/or evaluation, ranging from barber's involvement in implementation (n = 7) to focus groups with Black male community members prior to development (n = 5). See Table 4.

## Implementation

The dosage of the interventions varied, with some occurring over only one session (n = 5; 38%), some occurring over multiple sessions whenever men came into the shops for haircuts (n = 5; 38%), and some occurring during structured lessons (n = 1). Components of the interventions carried out in the barbershops also varied from referrals (recruitment; n = 1) to the entirety of the intervention. Seven studies (54%) described barbers having some participation in the administration of the intervention, which could include referring clients to doctors or pharmacists, taking biometric health readings (e.g., blood pressure readings), or providing education related to health topics. Seven studies described some amount of training of barbershop staff and five described some kind of supervision, although detail varied. Barriers to future implementation were discussed by a minority of studies (n = 5); these included cost, limited generalizability of the findings, reliance on pharmacists to collect biometric readings, and poor initial retention. Table 5 displays all extracted Implementation data. See Table 5.

## Maintenance

Five studies (38%) included a post-intervention assessment with no additional follow-up, while eight studies (61%) described at least one post-intervention follow-up at least 2 months after the completion of the intervention. Table 6 displays all extracted Maintenance data. See Table 6.

## Discussion

Black men in the U.S. experience disproportionately high rates of contributors to adverse health that lead to premature mortality. Few efforts to promote health among Black men have produced meaningful health-related improvements. That is because many of these efforts are stymied by difficulties with recruitment and retention. There is a need for a nuanced understanding of science and practice of evidence-based health promotion. Barbershops (i.e., a location of cultural significance) have been praised as a unique location to promote health among Black men. The present scoping review used the RE-AIM Framework to assess the development, implementation, and assessment of barbershop-based health promotion efforts targeting Black men.

There are two notable results when examining the reach of each intervention – (1) only 4 interventions had a mean age of under 40 years-old and (2) retention rates were generally satisfactory. The results of the present review indicate that there have been few barbershop-based interventions targeting young (i.e., < 40 years of age) Black men in the U.S. This is noteworthy because many of the contributors to premature mortality among Black men are preventable and prevention efforts targeting young adults are well-situated to promote longevity because young adulthood is a critical point to begin assuming care for one's



health (Ozer et al., 2012). The results also indicate that retention rates of many of the barbershop-based health promotion efforts were satisfactory. When data were available to calculate retention rates, these rates varied from 72% - 100%. There is a high risk of bias due to attrition when attrition exceeds 20% (Schulz & Grimes, 2002).

With regard to the effectiveness of the barbershop-based health promotion efforts, most of these efforts produced significant health benefits to the participants. It should be noted that most efforts were assessed using subjective, self-report measures – measures that can result in bias due to participants responding favorably to the items given their knowledge of the effort. Many of these health promotion efforts occurred in urban areas. This is concerning given the well-documented health concerns of rural men (Abshire et al., 2021). Additionally, most of these interventions were designed, implemented, and evaluated with some degree of community input, though the degree to which varied significantly. There is evidence from this reviews' assessment of the adoption and effectiveness dimensions that community input can lead to stronger outcomes. Specifically, this review found that the majority of interventions produced significant changes – a finding that is noteworthy given that many health promotion efforts among Black men in the U.S. fail to produce meaningful health-related changes.

The implementation of the efforts reviewed varied. First, the dose ranged from 23 minutes and “as needed” to 4-hours with a frequency from once to regularly over 14 months. The degree that the components of the efforts occurred in the barbershop were mixed. Some efforts only recruited participants at the barbershop, whereas other efforts involved all stages (i.e., recruitment to assessment, including development) of the process in the barbershop. Additionally, many of the articles describing the health promotion efforts provided little information on the training and supervision of the implementers, which may be a result of word limit restrictions imposed on authors by journals, though highlights a need for additional text describing the implementation so that efforts can be appropriately evaluated and adapted. This text can be included in supplemental materials, which are increasingly accepted by journals. Finally, the maintenance of the efforts reviewed indicated that while immediately post-intervention was the most common final assessment, some efforts followed participants for up to 12 months.

## Recommendations

In addition to the recommendations derived from the results of the present review (e.g., a need for prevention efforts targeting Black young adults, rural Black men, and short-dosed efforts), there are several literature-derived and evidence-based recommendations that will improve barbershop-based health promotion efforts among Black men. First, future efforts should target multiple health outcomes, including mental health outcomes. There is ample research indicating that Black men tend to have a holistic understanding of health (i.e., one that encompasses physical, psychological, and social functioning) (Griffith et al., 2018; Hankerson et al., 2015). Given this understanding of health, it is surprising that none of the efforts summarized in this review targeted mental and social health outcomes – representing an opportunity for future efforts to do so, especially considering Black men report high levels of stress (Thorpe et al., 2020). Second, it is recommended that future efforts

engage Black men in all aspects of the research process. Research frameworks that engage communities in the research process, such as community-based participatory research, have been identified as best practice for addressing health disparities (Nápoles et al., 2013). Third, it is recommended that future efforts describe their implementation strategies in more detail. While it is acknowledged that authors are often restricted by journal-related word counts, such a description would help future health promotion specialists design, implement, and evaluate barbershop-based efforts – efforts that hold promise yet are far and few between and for which little guidance exists. Fourth, it is recommended that developers attend to the sustainability of the effort. It is unclear how many iterations of the interventions found have been conducted. Sustainability is often an afterthought in intervention development and can be attended to throughout the adaptation phase of intervention development, as outlined by the Dynamic Sustainability Framework (Chambers et al., 2013). Such attention may lead to sustained practice of effective health promotion programs.

### Strengths and limitations

The results and recommendations of this scoping review should be viewed in light of the strengths and limitations. The present review was rigorous in design – the protocol was pre-registered and two reviewers blindly assessed each article for inclusion/exclusion, with a third review blindly resolving any discrepancies. Despite these strengths, there were some noteworthy limitations. First, because this review only searched health-related peer-review journals and sources of academic grey literature, the review included efforts developed by, or in conjunction with, academics. There is rich history of health promotion at the barbershop (Mills, 2013) that is unlikely to be found in the academic literature and/or sources of grey literature. In addition to this limitation, the present review also limited in its ability to make causal inferences. It is recommended that future meta-analyses are conducted.

### Conclusions

The conclusions and recommendations derived from the present review have implications for those interested in advancing the science and practice of evidence-based health promotion and disease prevention among Black men. These men have been designated as a “hard-to-reach” population by the academic health promotion community which is supported by claims by many in this community that it is difficult to recruit and retain Black men in health promotion efforts. These difficulties then complicate the efforts’ ability to produce meaningful health-related change. This designation inadvertently places the blame on Black men for difficulties with recruitment and retention, whereas this review shows that the methods (i.e., strategies that do not align with the values, preferences, and perspectives of these men) used by many academic health promotion specialists are limited. Barbershop-based health promotion efforts may successfully produce meaningful health-related change among Black men because they are likely to be tailored to the gender and race-based preferences of Black men. These efforts are well-positioned to promote mental and physical wellness among Black men.

### Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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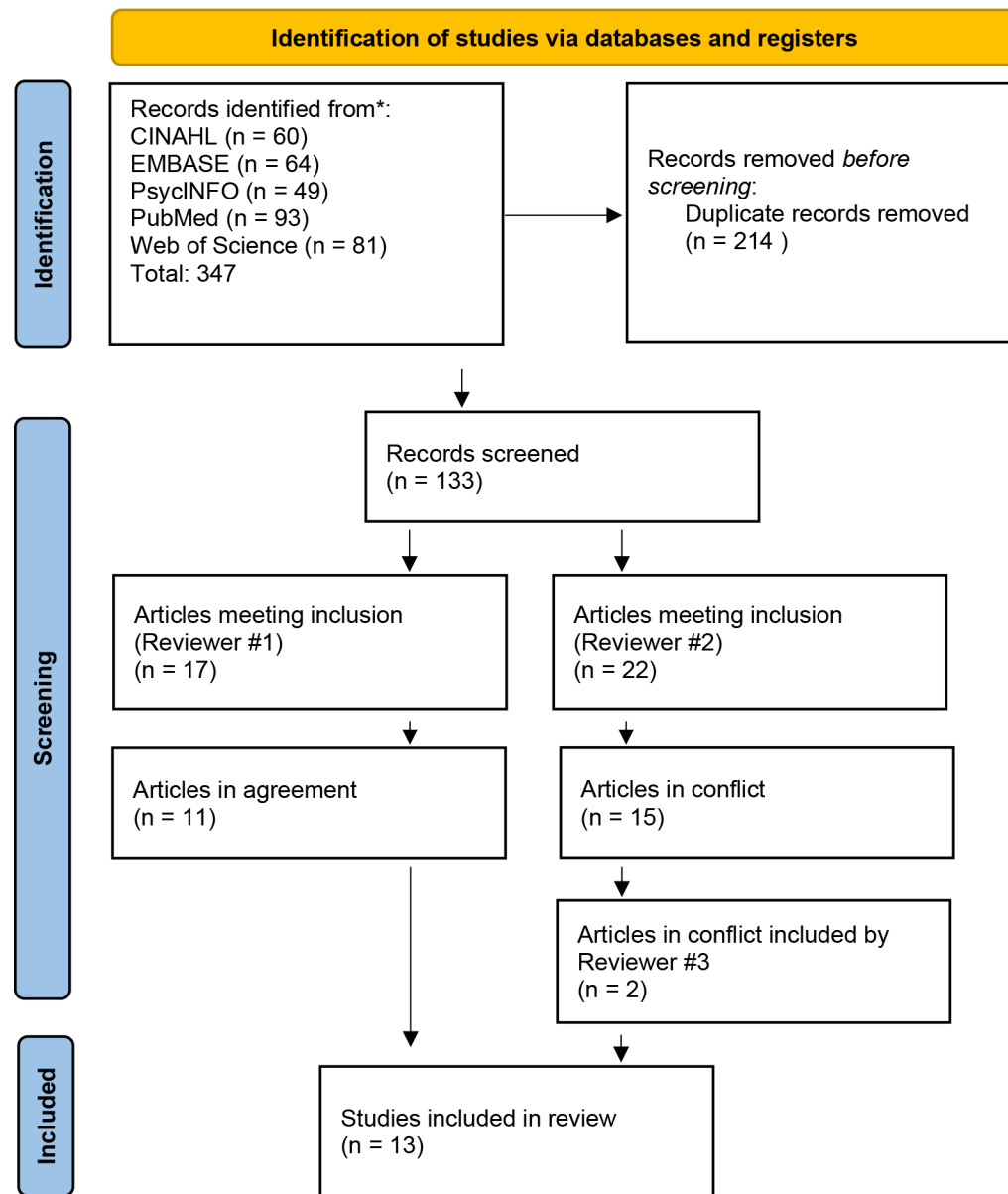
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**Figure 1:**  
PRISMA Flow chart of scoping review process.

Table 1:

Non-RE-AIM Framework data gathered from reviewed articles.

Study	First Publication Year	Target health concern (i.e., primary outcome)	Theoretical framework/model
(Frencher et al., 2016)	2015	Prostate Cancer Screening	None listed
(Hess et al., 2007b) (study 1)	2007	Hypertension	Social cognitive theory
(Hess et al., 2007b) (study 2)	2007	Hypertension	Social cognitive theory
(Luque et al., 2011)	2011	Prostate Cancer Screening	None listed
(Luque et al., 2010)	2010	Prostate Cancer Screening	Principles of Freire's critical pedagogy and <i>Educação Popular</i> (Freire, 1968)
(Luque et al., 2015)	2015	Prostate Cancer Education	None listed
(Stevenson et al., 2021)	2021	Violence reduction	Racial Encounter Coping Appraisal and Socialization Theory
(Victor et al., 2011)	2010	Hypertension	Behavioral change theory (as used in (Wolitski et al., 1999)
(Victor et al., 2019) (study 1)	2018	Blood pressure (systolic)	States intervention is theory-derived, but does not define theory.
(Victor et al., 2018) (study 2)	2018	Blood pressure (systolic)	Behavior theory (peer learning)
(Wilson et al., 2019)	2019	HIV Prevention	Social cognitive theory; community and individual empowerment theory
(Fraser et al., 2009)	2009	Prostate Cancer	None listed
(Wilson et al., 2014)	2014	HIV Risk	Social cognitive theory

**Table 2 –**  
Reach dimension. Overview of Barbershop-based health promotion interventions among Black men.

REACH				
Study	Mean Age in Years <sup>1</sup>	# Recruited intervention group	# Retained intervention group <sup>2</sup>	Inclusion criteria
(Frencher et al., 2016)	40 – 49	60	60	At least 40 years old, Black or African American, no previous diagnosis of prostate cancer.
(study 1)(Hess et al., 2007b)	49	50	36	Long-term customers (>1 year of barbershop patronage) with persistent hypertension after 3 sequential on-site screening visits.
(study 2)(Hess et al., 2007b)	Not listed	321	308	All Adult black male customers were eligible.
(Luque et al., 2011)	53	40	40	African American or Black men aged 40+ that are previous customers of the barbershop, with no history of prostate cancer
(Luque et al., 2010)	50	8	8	(Barbershops included if) servicing a predominantly older, African American clientele with willingness of a pair of barbers at each shop to complete the training and the pilot intervention.
(Luque et al., 2015)	47	6	6	None listed.
(Stevenson et al., 2021)	20.76	299	Not listed	Identify as African American or Black men, 18–24 years of age, resided in Philadelphia and planned to reside in Philadelphia for the next 18 months, and reported having sexual intercourse with a woman at least once in the past 12-months.
(Victor et al., 2011)	49.5	695	539	African American men, 18 years of age or older, who patronize any participating barbershop.
(Victor et al., 2019)	54.4	139	125	Self-identified regular patrons ( 1 haircut every 6 weeks for 6 months), non-Hispanic black men, 35 to 79 years of age, with systolic blood pressure of 140 mm Hg or more on two screening days.
(Victor et al., 2018)	54.4	139	132	Self-identified regular patrons ( 1 haircut every 6 weeks for 6 months) who were non-Hispanic black men, 35 to 79 years of age, with systolic blood pressure of 140 mm Hg or more on two screening days.
(Wilson et al., 2019)	33	436	352	Black or African American men who reported at least 2 sexual partners in the preceding 6 months and at least 1 episode of condomless sex during that time; 18 years or older.
(Fraser et al., 2009)	30 – 39	14	Not listed	Participants were barbers.
(Wilson et al., 2014)	24	80	71	Reported on screening form that they were 18–45 years old, self-identified as an African American or Black man, reported unprotected vaginal or anal intercourse with two or more women in the past 3 months.

<sup>1</sup>When mean age was not reported in original manuscript, grouping with most participants is presented

<sup>2</sup>Number represents the retention number at the final follow-up conducted; IG = intervention group; CG = comparison group;

**Table 3–**  
Effectiveness/Efficacy dimension. Overview of Barbershop-based health promotion interventions among Black men.

EFFECTIVENESS					
Study	Objective or subjective measure of primary outcome	Sig. change in primary outcome	Direction of change for IG	Magnitude of change	
(Frencher et al., 2016)	Subjective	Y	Increased knowledge and intention; Greater effect than CG.	The median difference in knowledge scores from the pre- to post-test for the IG group showed an increase of 2 points, compared to 1.5 points for CG.	
(study 1)(Hess et al., 2007b)	Objective	Y	Decreased BP.	BP decrease by 16±3/9±2 mm Hg.	
(study 2)(Hess et al., 2007b)	Objective	Y	HTN control increased with increasing exposure to intervention.	Increase of 51.9% in those with maximum intervention exposure.	
(Luque et al., 2011)	Subjective	Y	Increase in self-reported CaP knowledge and likelihood of discussing PCS with provider	75% of participants reported being either “somewhat likely” or “very likely” to discuss CaP with their health care provider, but after the educational encounter, the proportion increased to 85%.	
(Luque et al., 2010)	Subjective	Y	Increase CaP knowledge.	Posttest increase from 60% to 79% correct answers; 2- months increase from 60% to 78% correct answers.	
(Luque et al., 2015)	Subjective	Y	Increase CaP knowledge.	Increase from 72% to 89% in correct answers. Regarding ability to educate their customers, five out of the six barbers felt “very confident” about delivering prostate cancer education to their customers after receiving the training.	
(Stevenson et al., 2021)	Subjective	N	N/A	Not listed.	
(Victor et al., 2011)	Objective	Y	Greater HTN control rate among IG group.	Hypertension control rate change percentage for IG was 19.9 versus 11.1 for CG.	
(Victor et al., 2019)	Objective	Y	Reduction in systolic BP greater in IG.	Change of –28.6	
(Victor et al., 2018)	Objective	Y	Reduction in systolic BP greater in IG.	Change of –27.0	
(Wilson et al., 2019)	Subjective	Y	Greater likelihood of decreased or no condomless sex	Intervention exposure was associated with a greater likelihood of no condomless sex (64.4%) than control group participation (54.1%; adjusted odds ratio = 1.61; 95% confidence interval = 1.05, 2.47).	
(Fraser et al., 2009)	Subjective	Y	Barber knowledge of CaP increased.	Scores on knowledge assessment were on average 51.4 at baseline, 75.7 in post-training, and 60 at follow-up.	
(Wilson et al., 2014)	Subjective	Y	No unprotected sex in the past 3 months increased. Unprotected sex with two or more women in the past 3 months declined.	Proportion of men who reported not having engaged in any unprotected sex in the past 3 months increased from 25% to 41%. The proportion of men who reported having unprotected sex with two or more women in the past 3 months declined from 46% to 17%.	

**Note:** CaP = prostate cancer; IG = intervention group; CG = control group; BP = blood pressure.

\* = no significant differences between intervention group and comparison group.

**Table 4 –**  
Adoption dimension. Overview of Barbershop-based health promotion interventions among Black men.

ADOPTION						
Study	State of intervention	# of barbershops approached	# of barbershops that participated	Urban or rural	Community participation in design, implementation, or evaluation	
(Frencher et al., 2016)	California	N/A	50	Urban	Intervention created based on focus group data with AA men	
(study 1)(Hess et al., 2007b)	Texas	N/A	3	Urban	No information	
(study 2)(Hess et al., 2007b)	Texas	N/A	1	Urban	Barber implementation	
(Luque et al., 2011)	Florida	N/A	4	Urban	Verification with AA men of previously adapted tools.	
(Luque et al., 2010)	Florida	Unknown	4	Urban	No information	
(Luque et al., 2015)	Georgia	16–18	12	Semi-Rural	No information	
(Stevenson et al., 2021)	Pennsylvania	53	48	Urban	Design involved CAB and formative research. Barber implemented.	
(Victor et al., 2011)	Texas	18	15	Urban	Developed as a result of a community-level needs assessment	
(Victor et al., 2019)	California	No information	52	Urban	Barber implementation	
(Victor et al., 2018)	California	125	78	Urban	Partial barber implementation	
(Wilson et al., 2019)	New York	62 agreed to participate	53	Urban	Program implementation and evaluation activities	
(Fraser et al., 2009)	New York	50	Unclear	Urban	Formative work including focus groups with community members	
(Wilson et al., 2014)	New York	11	10	Urban	Barbershop observations and barber focus groups, brief behavioral risk assessments of men in barbershops, and focus groups and individual interviews.	



**Table 5 –** Implementation dimension. Overview of Barbershop-based health promotion interventions among Black men.

IMPLEMENTATION									
Study	Dose of intervention	Frequency of intervention	Who implemented the intervention	Components of the intervention implemented in barbershop	Components implemented by barbers	Barriers to implementation	Training components of implementers	Supervision components of implementers	
(Frener et al., 2016)	23 minutes	Once	Video	Watching of the video	None listed	None listed	None listed	None listed	
(study 1)(Hess et al., 2007b)	As needed	Regularly for 8 months	Black research assistants and medical/premedical students	Recruitment, intervention, and measurement of BP	None listed.	Attrition and early recruitment concerns.	N/A	Supervised by a Black nurse.	
(study 2)(Hess et al., 2007b)	As needed	Regularly for 14 months	Barbers	Measurement of BP	BP measurement and recording.	Cost-effectiveness; stakeholder buy-in.	Initial four-hour training session that included BP measurement technique, BP interpretation, informed consent, and utilization of written project materials.	Monthly one-hour motivational booster sessions on intervention protocol fidelity.	
(Luque et al., 2011)	Not listed	Once	Barbers	Recruitment, implementation, and assessment	Full intervention	None listed	10 hours of training to administer intervention materials and consisted of didactic instruction, interactive group exercises, and team building	Not listed	
(Luque et al., 2010)	2 workshops totaling 10 hours	Unclear	A urologist, a health educator, a community organization leader, and members of the research team	Recruitment, intervention, and assessment	None: barbers were participants	None listed	N/A	None listed.	
(Luque et al., 2015)	4-hour Training delivered over multiple sessions.	Delivered over multiple sessions	Unclear	Unclear	None	Reaching older target populations with younger-serving barbershops	N/A	None listed.	
(Stevenson et al., 2021)	4 30-minute modules	2 sessions within 3 weeks	Barbers	Recruitment, implementation, and assessment	Full intervention	None listed	1 day six-hour training with manualized training materials, covering the study, cultural considerations,	None listed.	

IMPLEMENTATION									
Study	Dose of intervention	Frequency of intervention	Who implemented the intervention	Components of the intervention implemented in barbershop	Components implemented by barbers	Barriers to implementation	Training components of implementers	Supervision components of implementers	
(Victor et al., 2011)	During haircuts	Delivered over 10 months as needed	Barbers	BP checks, role model stories, encounter forms, referral to physician	BP measurements, deliver the main intervention message	Lack of full barber participation; recruitment challenges	intervention details and practice.	None listed.	
(Victor et al., 2019)	As needed	Delivered over 6 months	Barbers; two doctoral-level pharmacists.	Health education and BP screening and consultation	Barbers in intervention encouraged pharmacist follow-up and measured BP	None listed.	Pharmacists received clinical training and ASH certification*; barbers were trained to encourage pharmacist follow-up and to measure BP.	Pharmacists regularly reviewed each participant's progress with physician hypertension specialists	
(Victor et al., 2018)	When receiving haircuts	Delivered over 6 months	Barbers; pharmacists	BP screenings; meeting with pharmacists; prescription medication; health education	Some barbers measured participants' blood pressure.	Consistency in intervention across barbers; difficulties in referral to primary care	Pharmacists certified as hypertension clinicians; trained in ethics and cultural competency; participation in health and research modules.	Barbers supervised by pharmacists for one week; monthly role-play sessions; pharmacists supervised by research team.	
(Wilson et al., 2019)	Single session	Single session	Facilitators for the project were Black men, most of whom lived or worked in the prioritized geographic area	Recruitment	Barbers referred and introduced clients to study staff.	None listed	Initial training by research team including module focusing on strategies to promote referral of customers to the program.	Review of audiotapes of sessions; provision of ongoing individualized feedback.	
(Fraser et al., 2009)	2.5 hours	Single session	Unclear	Formative focus groups; referring customers to interviewers.	Barbers were participants in needs assessment	None listed	Not listed	Not listed	
(Wilson et al., 2014)	Less than 2 hours	Single session	Barbers	Recruitment; implementation		None listed	On-site trainings with participating barbers and other barbershop personnel, consisting of project overview, participation in intervention, and training on methods to encourage their clients' participation in the program.	Not listed	

\* ASH certification: American Society for Hypertension Specialists Certification Program.

Maintenance dimension. Overview of Barbershop-based health promotion interventions among Black men.

Table 6 -

Maintenance	
Study	Schedule of post-intervention data collection
(Frencher et al., 2016)	Post-intervention
(study 1)(Hess et al., 2007b)	Post-intervention
(study 2)(Hess et al., 2007b)	Post-intervention
(Luque et al., 2011)	Post-intervention
(Luque et al., 2010)	Immediately at post-training, and after the 2-month intervention
(Luque et al., 2015)	Post-intervention
(Stevenson et al., 2021)	Post-intervention, 3-months, 6-months, and 12-months
(Victor et al., 2011)	Check within 10 weeks of ending the intervention period
(Victor et al., 2019)	6-months and 12 months post-baseline
(Victor et al., 2018)	6-months post enrollment
(Wilson et al., 2019)	6 months post-intervention
(Fraser et al., 2009)	Post intervention and 3 months post intervention
(Wilson et al., 2014)	3 months post intervention