

Technical Brief

Addressing Racism in Preventive Services: A Methods Project for the U.S. Preventive Services Task Force

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Chapter 1. Background

In 2020, following the deaths of George Floyd, Ahmaud Arbery, and Breonna Taylor, the U.S. Preventive Services Task Force (USPSTF) established a Race and Racism workgroup. This workgroup quickly issued a values statement for the USPSTF that directly acknowledged that systemic racism prevents many Black, Indigenous, and Latinx people from fully benefiting from their recommended clinical preventive services and also denounced racism in all forms against any group of people.¹ As part of this statement, the USPSTF made commitments to address racism and health equity, and specifically: (1) ensure that the development of its recommendations address racism and contribute to eliminating health inequities, (2) transform its methods to identify when systemic racism contributes to health inequities and to include evidence-based strategies to reverse the negative impact of systemic racism, and (3) create a recommendation process that intentionally focuses on health equity and the effects of social, economic, and structural contexts of disease and its outcomes such that the recommendations are aligned with the needs of populations adversely affected by systemic racism.

In support of these commitments, we have and will continue to work with the USPSTF to support information and evidence needs on racism and health inequities. The aims for this report are: (1) to articulate the definitional and conceptual issues around racism and health inequities and (2) to describe how racism and health inequities are currently being addressed in preventive health.

This report is designed to be a first step in supporting the USPSTF to understand how racism is preventing it from achieving its prevention goals and how to evolve its portfolio to more directly address racism and health inequities by race and/or ethnicity.

Chapter 2. Methods

For this methods project, we worked with the USPSTF members and the Agency for Healthcare Research and Quality (AHRQ) to operationalize the two aims into answerable questions given the timeframe and resources allotted. We ultimately decided on the following questions and methods to address each question:

Aim 1: Definitional and Conceptual Issues

1. What are the key terms and concepts around the discussion of racism and health inequities? And how are these terms and concepts defined and applied (e.g., race, racism, health inequities, social determinants of health [SDH])? And how are these terms interrelated?
2. How does racism produce health inequities? What are the mechanisms of action?

To address Aim 1, we conducted an audit of the published literature identified through a search for papers presenting social frameworks and models or policy and position statements addressing racism (**Appendix A**). The literature search was supplemented by hand searching, bibliography review, and articles recommended by experts.

Aim 2: Racism and Health Inequities in Preventive Health

1. How are racism and health inequities addressed in the current USPSTF portfolio?
2. What types of interventions can reduce health inequities by race in preventive health?
3. What types of interventions directly address racism in healthcare?
4. What work are other health and healthcare institutions/organizations doing to address racism?

To address Aim 2, question 1, we conducted an audit of a subset of the current USPSTF portfolio, focusing on cancer and cardiovascular topics (cardiovascular disease [CVD], diabetes, hypertensive disorders, obesity). This audit included screening, counseling, and chemoprevention topics covering children, adolescents, adults, and pregnant persons. Due to limitations in both time and resources, we focused on these two topic groupings as identified by the USPSTF leads. For each topic, we audited both the recommendation statement and supporting evidence documents (i.e., systematic review, decision analysis). In this audit, we looked for: if race and/or racism was addressed in the document(s); where/how it was addressed; if health disparities are described for the risk factors, disease/condition, and/or morbidity/mortality from disease; if the mechanism for health disparities/inequities is described; if there is any evidence to support differential benefits or harms by race/ethnicity.

To address questions 2 and 3, we conducted searches for recent systematic reviews that would address these questions (**Appendix A**). For question 2, which focused on interventions to reduce health inequities by race in preventive health, we focused on interventions to increase the uptake of cancer and cardiovascular-related preventive services. This narrow focus was intentional to

match the focus of question 1. The searches aimed to identify patient-level interventions (e.g., to increase the uptake of preventive services, to tailor a preventive service to improve its effectiveness) and interventions at the health system level or aimed at clinicians designed to reduce health inequities and/or specifically address racism. In addition, we conducted a targeted search for policy-level interventions specific to expansion of healthcare coverage. We also reviewed the bibliographies in identified articles and conducted hand searches for existing systematic reviews addressing policy-level, healthcare system-level, clinician-level, and patient-level interventions to address racism and/or reduce inequities in the uptake/receipt of services or inequities in health outcomes related to cardiovascular or cancer topics.

To address question 4, we conducted an audit of healthcare and healthcare-relevant professional societies, guideline-making organizations, agencies, and funding bodies to gather information about how they are addressing race, racism, and health equity (e.g., terminology, strategies, methods) (**Appendix B**). This audit primarily focused on entities in the United States and selected high-income countries when relevant. We began this work by refocusing and building out from the organizational audit conducted in the fall of 2019 for a Technical Brief on SDH and social risk screening and intervention.² The websites of 95 agencies, professional medical associations, and other healthcare-relevant organizations were reviewed for race, racism, and health equity content. For organizations that develop guidelines, we also searched for information on the organizations' methods for addressing racism and health inequity in their guidelines by examining their methods/procedures manuals, when available.

We also conducted six key informant (KI) interviews to supplement our knowledge for both Aims 1 and 2. KIs were experts with context expertise in racism in health and healthcare, and in some cases in health inequities in preventive health. These interviews were also conducted with an intention to inform a future expert forum to further discuss how the USPSTF can best address racism in its work. Our Key Informant Interview Guide is included in this report as **Appendix C**. KI interviews were conducted between January 25, 2021, and March 9, 2021.

For consistency, in this report we use the following default terminology:

1. Race and/or ethnicity when referring to race/ethnicity
2. Black and White (in capitals) as descriptors for populations rather than nouns
3. Black persons as opposed to African Americans
4. Latino, Latina, or Latinx persons as opposed to Hispanic persons
5. White persons as opposed to Caucasian persons
6. Health inequities when referring to health disparities resultant from inequities or injustices (and use the term health disparities more generally to refer to differences in health outcomes or determinants of health)

We realize there are no perfect or universally preferred terms for many of these categorizations and concepts; however, we have tried to stay away from terms that are inaccurate or perceived as marginalizing. In select instances, when using nonpreferred terms referenced by the source material, we note this using quotation marks (e.g., “diverse populations”).

Chapter 3. Findings

Aim 1: Definitional and Conceptual Issues

Question 1: What Are the Key Terms and Concepts Around the Discussion of Racism and Health Inequities/Disparities? And How Are These Terms and Concepts Defined and Applied? And How Are These Terms Interrelated?

Race

Race is a complex classification that has been socially, politically, and legally constructed over the past five centuries.³ Although once believed to be rooted in biology, anthropology, and genetics, race is not an accurate representation of human biological variation or of evolutionarily independent lineages.³⁻⁵ Research in gene sequencing demonstrates that the categorization of humans by race cannot be explained through genetic variation in phenotypic traits (e.g., skin pigmentation, hair texture, facial structure).^{3,5,6} And genetic studies have repeatedly demonstrated that there is more (or at least as much) genetic variation within race as there is across races.⁷⁻⁹ In recent years, scientific and medical organizations, such as the American Medical Association (AMA),¹⁰ the American Academy of Physician Assistants,³ and the American Academy of Pediatrics,¹¹ have all issued policy statements recognizing race as a social construct, rather than a biological one. While race as a social category does not have biological underpinnings, it is important to recognize that race—through racism—does have biological consequences, and the two are not easily disentangled.¹²

The concept of race emerged from, and in support of, European colonialism, oppression, exploitation, and discrimination.³ Racial ideology sought to divide and rank people of European, Native American, and African descent by ascribing significance to observable, physical differences and similarities. Classifying humans by race not only served to control land and access to natural resources, but fostered the idea that inequality was innate or natural. With the abolishment of slavery in the 19th century, racial ideology evolved to suppress the social, economic, and political advancement of historically oppressed and subjugated groups. At present, race continues to be a powerful tool shaped by the many ways in which societies alter their sociopolitical objectives and practices of oppression.^{3,13}

Racial Categories in the United States

Due to the expansion of the United States into Alaska and the Pacific Islands along with the influx of non-European immigrants, America's racial system developed into a tri-color system, where racial categories are rank-ordered as White, "honorary white" or "white adjacent" (e.g., Asian American), and "collective Black." In this hierarchy, the White racial group experiences the most social and economic advantages, while groups perceived as "collective Black"

experience the least.¹⁴ There are five racial categories recognized and defined by the United States Office of Management and Budget and adopted by Federal agencies, such as the National Institutes of Health (NIH) (**Table 1**).¹⁵

Ethnicity

Ethnicity refers to a collection of people who share a common ancestry, history, or culture.¹⁶ Ethnicity is a broader social category than race and encompasses a wide range of learned cultural characteristics, including language, religion, traditions, diet, values, and norms as well as memories of migration or colonization;^{17, 18} race can also be considered a facet of ethnicity. Because ethnicity includes a variety of cultural and ancestral characteristics, people can identify as more than one ethnic group (e.g., Cuban American, Black Caribbean, Italian or Roman Jewish). Currently, there are only two ethnic categories recognized and defined by the Office of Management and Budget: people of Hispanic/Latino origin (i.e., a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin), and people not of Hispanic/Latino origin.¹⁹

Race and ethnicity are complex terms that are often used interchangeably with little to no definition.^{17, 18, 20} While they are both socially constructed categories used to distinguish similarities and differences among groups, race and ethnicity carry different meanings and are not entirely synonymous with one another. Ethnicity refers to a shared heritage or cultural origin and provides autonomy, whereas race refers to an ideology that signifies real or perceived physical traits. The conflation of race and ethnicity underscores their complexity, leading to confusion about each concept and hindering progress toward tailored interventions.^{17, 18} Several scientists and researchers today recommend being appropriately specific and sensitive when referring to a racial or ethnic group to avoid the historical legacy of scientific racism.^{17, 18, 21, 22}

Preferred Terminology

The concepts of race and ethnicity evolve over time. As a result, racial and ethnic designations can become outdated and may hold negative connotations.²² The American Psychological Association (APA) Style guidelines and the American Heart Association (AHA) caution that it is important to be specific and sensitive with language to reduce issues of labeling to facilitate reducing bias.^{22, 23} There are discrepancies among publishing guidelines and organizations regarding the current and correct terminology when indicating racial or ethnic groups. Consistent themes from the APA, AHA, AMA,²⁴ and AHRQ²⁵ are noted below:

1. Avoid the use of Black and White as nouns (i.e., Whites). Instead, use Black people or White people, or Black men and White men, etc.
2. There are discrepancies around the use of Hispanic. Err on the side of using Latino, Latina, or Latinx if referring to a gender-neutral population.
3. Avoid non-parallel comparisons (e.g., African American vs. White).
4. Avoid the term Caucasian to indicate White, as it is specific to people from the Caucasus region in Eurasia.

5. Refer to the terminology suggested by APA Style guidelines when describing Asian and Native populations (e.g., Asian American, Alaska Native).

In general, it is preferable to be specific when referring to groups of people. For example, if the meaning is to call out Black and Latinx populations, this should be specified rather than referring to these groups collectively as “diverse” populations. When referring to other than White racial and ethnic groups collectively, using terms such as people of color or racially minoritized is preferable to terms like non-White, minority, or disadvantaged populations.^{22, 24, 26} However, there is no universally agreed upon preferred term, and the terminology in this field continues to evolve.

A brief overview of guidance regarding language preferences for specific racial and ethnic categories is presented in **Table 2**.

Racism

Racism is an organized social system in which the dominant racial group uses its power to devalue, disempower, and differentially allocate valued resources and opportunities to a racial group or racial groups considered inferior.^{27, 28} Racism can manifest in many ways (e.g., beliefs, stereotypes, prejudices, discrimination) and at many levels (e.g., institutional, interpersonal) within a society. Various categorizations have been used to conceptualize different forms of racism; below are a few commonly used types:

- **Structural racism and systemic racism** are interchangeable terms and refer to the totality of ways in which public and private policies, institutional practices, and cultural representations foster, reinforce, and perpetuate racial inequality throughout society.²⁹⁻³¹ A key characteristic of structural racism is that it does not require the actions or intent of racially prejudiced individuals to exist. In the event interpersonal discrimination were to be eliminated, racial inequities would likely remain unchanged due to the persistence and pervasive ideology of structural racism.^{29, 30, 32} Structural racism is thought to be the most important way through which racism affects health.²⁹ For example, residential segregation denies equal access to housing through local, State, and Federal policies (e.g., redlining, mortgage discrimination).^{29, 33} The downstream effects of discriminatory housing practices not only hinder the social mobility of Black and African American people but also create stark racial differences in socioeconomic status (SES) and health outcomes (e.g., educational attainment,³⁴ employment opportunities and level of income,^{34, 35} exposure to toxins and pollutants,^{31, 34} psychological stress,³⁶ preterm birth,³⁶ chronic diseases^{31, 34}).
- **Institutional racism** refers to the individual processes of racism that are embedded in local, State, and Federal laws, policies, and practices of institutions (e.g., government agencies, schools, businesses, religious organizations).^{29, 37, 38} Institutional racism occurs within and between individual institutions that together constitute the larger, interconnected system of structural/systemic racism. The aim of institutional racism is to provide advantages to racial groups deemed superior, while differentially oppressing or neglecting racial groups viewed as inferior.^{29, 37, 38} For example, the Social Security Act of 1935 provided old-age insurance and unemployment insurance. However, the act

excluded occupations mostly held by Black men and women (e.g., agricultural and domestic workers).²⁹ Modern examples of institutional racism include privatization and relocation of hospitals; suspensions and expulsions from school; and criminal convictions and sentencing.^{39, 40}

- **Cultural racism** refers to the instillation of racism in the values, language, imagery, symbols, and unstated assumptions of the larger society.⁴¹ Cultural racism operates within both structural and institutional racism, often acting as a catalyst to more inconspicuous forms of racism, such as implicit bias.^{41, 42} Examples include negative racial stereotypes in advertising, media, and film; intentional erasure of history (e.g., American history textbooks); and racial myths perpetuated through literature.⁴¹
- **Everyday racism** refers to the recurrent and familiar discriminatory practices embedded into society that act to preserve racial inequality. Rather than extreme incidents (e.g., domestic terrorism, hate crimes), everyday racism is the routine discourse that subtly infiltrates both institutional practices and interpersonal interactions, often being viewed as normal and internalized.⁴³ Examples include perceived interactions or experiences of racial discrimination (e.g., being followed by security while shopping); racial expressions, insults, questions, or jokes; and services or systems that racially discriminate in a covert or deniable way.
- **Personally mediated, individual, and interpersonal racism** refer to personal assumptions regarding the abilities, motives, and intents of other people by race.³² Personally mediated racism encompasses both prejudice and discrimination. Prejudice refers to irrational or unjustifiable negative emotions, beliefs, or judgements toward people from other racial groups; it is the primary driver of discriminatory behavior.^{44, 45} Discrimination refers to the differential actions toward an individual based on his or her membership (or perceived membership) in a racial group (see next section for more detail). Examples include stereotypes and generalizations; lack of respect or acknowledgment (e.g., refusal of service, failure to communicate); suspicion (e.g., avoidance of other racial groups, including street crossing, purse clutching); devaluation (e.g., surprise at competence, stifling of aspirations); and dehumanization and physical violence (e.g., police brutality, hate crimes).³²
- **Internalized racism** refers to the conscious or unconscious acceptance of harmful and negative messages by an individual belonging to the stigmatized racial group.³² Internalized racism greatly affects how individuals perceive their own abilities, self-worth, and limitations as well as how they view people of the same racial group. Examples include disengagement, resignation, helplessness, and hopelessness (e.g., engaging in risky health behaviors, dropping out of school, failing to vote); altering physical appearance (e.g., skin whitening); colorism (e.g., social stratification by skin tone within communities of color); and self-devaluation (e.g., rejection of ancestral culture).³²

Discrimination

Discrimination is the most frequently studied domain of racism in the health literature.²⁹

Discrimination can be deliberate or unintentional, and refers to an action that harms individuals and groups that is resultant from prejudicial ideas, attitudes, and beliefs. Healthy People 2020 summarizes structural and individual discrimination as:

- **Structural discrimination:** macro-level conditions that limit “opportunities, resources, and well-being” of less privileged groups.^{13, 46}
- **Individual discrimination:** negative interactions between individuals in their institutional roles (e.g., healthcare provider and patient) or as public or private individuals (e.g., salesperson and customer) based on individual characteristics (e.g., race, gender).⁴⁶

Another commonly used terminology is **self-reported discrimination**, which refers to the recounting of an individual’s experience(s) of being unfairly treated because of their race.^{47, 48} A growing body of evidence indicates that the perception of racial discrimination is associated with adverse health outcomes, including psychological stress,⁴⁷ high blood pressure,⁴⁹ and poor quality of life.⁵⁰

Health Inequities vs. Health Disparities

Differences in health outcomes across populations, generally referred to as health disparities, are not always due to inequity. However, in the United States, the term health disparities is often used synonymously with health inequity to signify important differences in health outcomes and/or health determinants between populations (e.g., by race and/or ethnicity) due to inequity or injustice.⁴ Although there are many circulating definitions of health inequity, they converge on the same concepts:

1. Health equity is a fundamental human right. The World Health Organization (WHO) states that “the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition,”⁵¹ and that “health inequities involve more than inequality with respect to health determinants, access to the resources needed to improve and maintain health or health outcomes; they also entail a failure to avoid or overcome inequalities that infringe on fairness and human rights norms.”⁵¹
2. Differences in health or health determinants are avoidable or remediable. Health inequities are disparities due to plausibly avoidable social, economic, or other disadvantage.⁵² Healthy People 2020 defines “health disparity” as “a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage.”⁵³ According to the WHO Commission on Social Determinants of Health, addressing health inequities requires policies that will not only modify their structural causes, which include health systems, but also extend to income inequalities, social protection, and education policies.⁵⁴
3. Differences in health or health determinants are among groupings defined socially, economically, demographically, and/or geographically. Healthy People 2020 states that “Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; SES; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion.”⁵³
4. Differences in health or health determinants are clinically meaningful. Although only one definition, by AHRQ, includes language around the magnitude of difference (i.e.,

differences among populations that are statistically significant and different from the reference group by at least 10%),⁵² nearly all definitions state or imply that the differences observed are “important.”

Another definition, by Braveman, also uses the word “systematic,” implying that the differences in health or health determinants observed are not unique instances.⁵²

Social Determinants of Health

Race and/or ethnicity (and immigration status), racism (e.g., discrimination, residential segregation), and its downstream consequences (e.g., education, financial strain, health behaviors, healthcare access, incarceration) are often included as SDH. Both Healthy People 2020 and WHO similarly define SDH as conditions in the environments in which people are born, live, work, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.^{51, 55, 56} The uneven distribution of SDH, sometimes referred to as social inequities in health, results in health disparities.

The Healthy People 2020 framework features five topic areas of SDH: (1) Economic Stability, (2) Neighborhood and Built Environment, (3) Health and Health Care, (4) Education, and (5) Social and Community Context.⁵¹ Each domain encompasses several key issues that make up the underlying factors in the arena of SDH (e.g., employment, access to health services, clean water). While race and ethnicity are not explicitly called out in the framework, they are used to highlight underlying factors contributing to disparities within the topic areas, such as enrollment in higher education and housing instability. Racism is addressed as an example of social norms and attitudes (e.g., discrimination, racism, distrust of government) in the “Social and Community Context” domain.

The WHO Commission on SDH has a conceptual framework that illustrates how deeply embedded, structural determinants (institutions, policies, societal values) affect health equity and well-being in a society.⁵⁷ This framework illustrates how race/ethnicity and racism relate to a socioeconomic and political context (conceptualized as structural and social determinants of health inequities) and how this affects intermediary SDH that ultimately result in equity or inequity in health and well-being, which in turn affect the structural determinants and social determinants of health inequities (**Figure 1**).

In this framework, the “socioeconomic and political context” refers to the spectrum of factors in society that cannot be directly measured at the individual level. This broad set of structural, cultural, and functional aspects of a social system exert a powerful formative influence on patterns of social stratification and, thus, on people’s health opportunities. In this context, social and political mechanisms generate, configure, and maintain social hierarchies (e.g., employment/labor market, housing, educational system, political institutions). Structural determinants generate or reinforce social stratification in society and define individual socioeconomic position. These mechanisms configure the health opportunities of social groups based on their placement within hierarchies. Class, power, prestige, and discrimination are all mechanisms of this social hierarchy that shapes one’s socioeconomic position. In this framework, race and/or ethnicity (in addition to social class and gender) is an important stratifier

of socioeconomic position. The framework articulates material circumstances, behavioral and/or biological factors, psychosocial circumstances, and the health system itself as intermediary social determinants that most proximally affect health. Material circumstances include factors such as housing and neighborhood quality, consumption potential (e.g., the financial means to buy healthy food, warm clothing), and the physical work environment. Behavioral and biological factors include nutrition, physical activity, tobacco consumption, and alcohol consumption, which are distributed differently among different social groups. Biological factors also include genetics, epigenetics, and the “biological expressions of racism.” Psychosocial circumstances include psychosocial stressors, stressful living circumstances and relationships, and social support and coping styles (or the lack thereof).

Other Terms Related to Race/Racism

There are many other terms used in the discussion of race/racism and health inequities (**Box 1**).

Question 2: How Does Racism Produce Health Inequities? What Are the Mechanisms of Action?

Racism and Health Inequities

There is a large, and growing, body of evidence that racism creates health inequities. In general, those racially stigmatized populations have worse health than White counterparts as seen across a spectrum of health outcomes, including higher mortality, earlier onset of disease, greater severity and progression of disease, and higher levels of comorbidity and impairment.²⁸ To date, the most studied area on how racism affects health is interpersonal discrimination. A 2015 systematic review by Paradies and colleagues examined the relationship of reported racism and race- and/or ethnicity-based discrimination to health outcomes. Data from 293 studies, mostly conducted in the United States, found that racism (e.g., exposure to discrimination, maltreatment, prejudice, stereotypes, aggression) was associated with both poorer mental health (e.g., depression, anxiety, psychological stress) as well as poorer physical health and measures of overall health.⁵⁸ The patterns were observed over a wide variety of instruments assessing for exposure to racism and discrimination, as well as a wide variety of mental, physical, and overall health outcomes. Although Black Americans were more commonly studied, these health associations were also present in Latinx and Asian Americans.

Racism in Medicine

Racism is built into medicine and healthcare. A 2013 systematic review by Paradies and colleagues examining healthcare provider racism found that in more than two-thirds of the 37 included studies there was evidence of racism among healthcare providers (including having racist beliefs, emotions, behaviors, and practices) toward disadvantaged populations.⁵⁹ Perhaps less recognized, but equally if not more harmful, is the structural and institutional racism in healthcare and the practice of medicine. This aspect of racism goes beyond the obvious effects of

residential segregation on access to quality healthcare. Science and medicine are often thought of as objective, apolitical, and unbiased; however, many outdated and inaccurate ideas about race still inform scientific research and the practice of medicine. One example discussed by Vyas and colleagues is the use of race adjustment in clinical algorithms.⁶⁰ Many race-adjusted algorithms guide clinical decision making in ways that may direct more attention or resources to White patients than to people of color and underrepresented populations. A few of these algorithms highlighted by Vyas and colleagues intersect with the USPSTF portfolio of recommendations:

1. National Cancer Institute's (NCI's) Breast Cancer Risk Assessment Tool, which may be used to guide breast cancer screening and chemoprevention decision making. This tool returns lower risk estimates for Black, Latina, and Asian women, which may inappropriately discourage more aggressive screening or chemoprevention in these populations.
2. Osteoporosis Risk SCORE (Simple Calculated Osteoporosis Risk Estimation) and FRAX® (Fracture Risk Assessment Tool), which are both used in osteoporosis screening and treatment decision making. These tools return a lower risk of osteoporosis scores in Black persons and lower fracture risk in Black, Asian, and Latinx persons (estimates not provided for Native American and multiracial persons). Use of these tools may therefore discourage clinicians from pursuing further evaluation with dual-energy X-ray absorptiometry in Black persons, which may delay diagnosis, and lower risk for Black, Asian, and Latinx persons, which may delay treatment.
3. Pulmonary function tests, which are used to diagnose chronic obstructive pulmonary disease (COPD), as well as other restrictive and obstructive pulmonary disease. These tests use correction factors for Black people and those of Asian ancestry, which may result in the misdiagnosis of COPD or misclassification of COPD severity.

Mechanism of Race and Racism Affecting Health

Understanding the mechanisms by which differences in race and/or ethnicity and racism can affect health, and their determinants, is a prerequisite to finding solutions to achieve greater health equity. These mechanisms producing health inequities are varied, ranging from differences in disease awareness, attitudes, and beliefs (e.g., mistrust, religious/cultural beliefs) to differences in access to the full continuum of care (e.g., primary as well as specialty care), and the quality of care received; and these mechanisms are complex with, for example, numerous other contributing and confounding factors (e.g., SES, literacy, barriers to transportation, language barriers, insurance status). Health inequities, however, persist even when contributing and confounding factors like financial barriers to healthcare are removed (e.g., insurance coverage, income, or factors influencing ability to pay for care).⁶¹ Racism specifically can affect health via several recognized pathways: (1) reduced access to employment, housing, and education and/or increased exposure to risk factors (e.g., occupational or environmental risk); (2) adverse cognitive, psychological, and emotional effects/processes; (3) allostatic load (i.e., cumulative wear and tear on physiologic systems and organs due to adversity/stress) and neurobiological response (e.g., hypothalamic-pituitary-adrenal axis) to chronic stressors; (4) diminished participation in healthy behaviors (e.g., sleep, exercise) and/or increased engagement in unhealthy behaviors (e.g., alcohol consumption) either directly or indirectly resulting from stressors due to racism; and (5) physical injury as a result of racially motivated violence.⁵⁸

Explanatory Frameworks for Racism on Health

Several frameworks have been described to articulate how racism produces health inequities. One conceptual framework by the WHO Commission on SDH, previously described, articulates how race and/or ethnicity and racism relate to other SDH, and ultimately affect health and well-being.⁵⁷ Other frameworks are more singularly focused on race and racism. One of these comprehensive frameworks, by Williams and colleagues, articulates the multiple pathways by which racism can affect health, recognizing that racism is one of several fundamental determinants of health (emphasizing institutional and cultural racism) (**Figure 2**).²⁸ This framework is very structurally similar to the WHO's SDH framework, but provides more detail specific to the effects of racism. This framework emphasizes the importance of distinguishing “basic causes” from surface or intervening causes—labeled “proximal pathways.” This distinction therefore highlights that changes in fundamental causes lead to changes in outcomes, whereas interventions in the intermediate or “proximal pathways,” without corresponding changes in fundamental causes, are unlikely to produce long-term improvements in population health.

This framework demonstrates that race and other “social status” categories such as SES, gender, age, and marital status are created by the larger macro forces in society and are linked to health through several intervening mechanisms. Racism and other fundamental causes operate through multiple mechanisms to affect health, and the pathways through which distal causes affect health can change over time. Institutional and cultural racism can adversely affect health through stigma, stereotypes, prejudice, and racial discrimination. These aspects of racism can lead to differential access to SES and to a broad range of societal resources and opportunities. Racism is not the only determinant of intervening mechanisms but its presence as a fundamental cause in a society can alter and transform other “social factors” and can exacerbate the negative effects of other risk factors for health. For example, stress is posited as one of the intervening pathways between proximal pathways and health, with direct deleterious effects on many biologic systems. Racism creates some types of stressors such as discrimination and historical trauma and also affects the clustering and impact of stressors such as unemployment, neighborhood violence, or physical/chemical exposures in residential and occupational environments.

One narrative review by Bailey and colleagues on structural racism and health inequities outlines nine distinct pathways, with cited examples, by which structural racism harms health⁶²:

1. Economic injustice and social deprivation: examples include residential, educational, and occupational segregation of marginalized, racialized groups to low-quality neighborhoods, schools, and jobs, reduced salary for the same work, and reduced rates of promotion despite similar performance evaluations.
2. Environmental and occupational health inequities: examples include strategic placement of bus garages and toxic waste sites in or close to neighborhoods where marginalized, racialized groups predominantly reside, selective government failure to prevent lead leaching into drinking water, and disproportionate exposure of workers of color to occupational hazards.

3. Psychosocial trauma: examples include interpersonal racial discrimination, microaggressions, and exposure to racist media coverage, including social media.
4. Targeted marketing of health-harming substances: examples include legal substances such as cigarettes and sugar-sweetened beverages, and illegal substances such as heroin and illicit opioids.
5. Inadequate healthcare: examples include inadequate access to health insurance and healthcare facilities, and substandard medical treatment due to implicit or explicit racial bias or discrimination.
6. State-sanctioned violence and alienation from property and traditional lands: examples include police violence, discriminatory incarceration, forced so-called urban renewal, and the genocide and forced removal of Native Americans.
7. Political exclusion: examples include voter restrictions.
8. Maladaptive coping behaviors: examples include increased tobacco and alcohol consumption on the part of marginalized, racialized groups.
9. Stereotype threats: examples include stigma of inferiority, leading to physiological arousal, and an impaired patient–provider relationship (e.g., mistrust).

The authors also detail how racism leads to adverse health outcomes through the chronic stress pathway.⁶² Research has demonstrated that racism, particularly interpersonal racism, is a social stressor that operates through diverse stress pathways, including physiological, psychological, and behavioral pathways. These social stressors initiate a series of neurobiological and behavioral responses that affect both physical and mental well-being. The examination of how these chronic stressors are linked to biomarkers of disease and well-being, including allostatic load, telomere length, cortisol dysregulation, and inflammatory markers, is a growing field of research. Lastly, Bailey and colleagues also explicitly acknowledge that these exposures can accumulate over a life course and across generations, compounding their effects on an individual's health and well-being. Other frameworks also acknowledge the importance of the life course—that health, development, and aging are products of transitions, turning points, and durations over the changing social contexts of individual lives. The impacts of racism and social stressors are risks that accumulate over time and thus not only represent cumulative disadvantage, but also affect trajectories of health.⁶³

One framework by Sarrazin and colleagues highlights the primacy of residential segregation as a root cause of the impact of racism on health.⁶⁴ This model articulates that the effects of residential segregation on health can occur directly through differential health resources and indirectly through environmental and individual factors such as poor housing conditions, lack of information, health behaviors, and stress.

Aim 2: Racism and Health Inequities/Disparities in Preventive Health

Question 1: How Are Racism and Health Inequities/Disparities Addressed in the Current USPSTF Portfolio?

We conducted an audit of 27 topics that included screening, counseling, and chemoprevention recommendations for cancer and cardiovascular topics (CVD, diabetes, hypertensive disorders, and obesity) (**Appendix D**). This subset of topics included the full range of populations (i.e., children, adolescents, adults, older adults, and pregnant persons). For each topic, we audited both the recommendation statement and any supporting evidence documents (i.e., systematic review, decision analysis). Nineteen of the 27 topics addressed race or ethnicity in the recommendation statement, and 25 of them mentioned race or ethnicity in the evidence review. Of the five topics with accompanying decision analyses, four mentioned race or ethnicity.

Overall, most of the topics addressed racial and/or ethnic health disparities in prevalence and incidence of the disease or condition, risk factors for the disease, and morbidity or mortality from the disease. There was significant variation in how much detail is reported on these disparities. For example, the draft recommendation statement (2020) on Screening for Lung Cancer makes no mention of race or ethnicity, while the systematic review simply states that “Other risk factors for lung cancer include... race/ethnicity...”⁶⁵ In another example, the systematic review on Screening for Preeclampsia (2017) goes into detail on the role of race in pregnancy-related death, gestational hypertension, case fatality rates, and disparities in risk factors, and suggests the possible mechanism of disparities in outcomes in the recommendation statement.⁶⁶ Few topics addressed race or ethnicity regarding current practice or uptake in preventive services, though Screening for Prostate Cancer (2018) notes that differential adherence to diagnostic followup may account for some of the disparities.

In the recommendation statement, this information was most often found under Clinical Considerations. In the systematic reviews, data on race or ethnicity were most often reported in sections on Risk Factors and Prevalence/Burden, with information sometimes listed in Results or mentioned in the Discussion. There was little consistency in where race or ethnicity was mentioned in Decision Analyses.

Only eight topics articulated possible mechanisms for racial and ethnic disparities; five of these were cancer topics, two were maternal topics on Preeclampsia Screening and Preeclampsia Treatment, and one was a pediatric topic on Screening for Obesity (**Appendix D**). Only one topic (Low-Dose Aspirin Use for Preventing Preeclampsia) directly mentioned the role of racism, stating in the evidence review that “systemic racial biases in health care are thought to contribute to the greater risk and worse outcomes of preeclampsia for Black women.”⁶⁷

While many topics included key subquestions specific to differences or variation by race or ethnicity, limited reporting or sparse representation of these populations in included studies prevented any meaningful analysis in most cases. For example, the systematic review on Screening for Obesity in Children and Adolescents (2017) notes that most trials either failed to report the racial breakdown of their sample or reported a predominantly White sample, preventing any conclusions around differential effectiveness.⁶⁸ In a few cases, evidence reviews explicitly reported on this lack of evidence. For example, the draft evidence review on Behavioral Counseling for Healthy Weight and Weight Gain in Pregnancy (2020) noted that 41 percent of studies enrolled more than 20 percent of patients from diverse backgrounds, which includes but is not limited to people of color.⁶⁹ The systematic review on Screening for Gestational Diabetes Mellitus (2012) notes that four of five U.S.-based studies reporting race had diverse study populations.⁷⁰ Despite the lack of available evidence by race and/or ethnicity, only five recommendation statements and five systematic reviews explicitly mentioned the need for more research including specific racial and/or ethnic groups.

We also noted significant variation in the language used for racial and ethnic categories in the recommendation statements and supporting evidence documents (e.g., African American vs. Black people, Native American vs. American Indian people). While some of this variation may be related to the inconsistency in terminology among the primary studies referenced, the differences in terminology may not be intentional, and it is not apparent when and if the variation in terminology is purposeful.

Question 2: What Types of Interventions Can Reduce Health Inequities/Disparities by Race in Preventive Health?

A large and growing body of literature has examined interventions to improve care for people of color or underrepresented populations as well as to address health disparities by race and/or ethnicity.⁷¹⁻⁷³ One very broad umbrella review by Garzon-Orjuela and colleagues identified 98 systematic reviews of interventions that facilitate the reduction of health disparities, published between January 2014 and August 2019.⁷² The authors developed an interactive graph of a selection of the included reviews, available at:

<https://public.tableau.com/profile/bireme#!/vizhome/desigualdades-en-salud-en/evidence-map>.

In this section, we discuss the findings of this review of reviews and additional systematic reviews identified through a targeted search of interventions to reduce health disparities related to screening and prevention of cancer and cardiovascular-related conditions.

The Garzon-Orjuela review of reviews organized the evidence into four domains according to the Effective Practice and Organization Taxonomy.⁷⁴

- **Delivery arrangements:** changes in how, when, and where healthcare is organized and delivered, and who delivers healthcare.
- **Implementation strategies:** changes in healthcare organizations, the behavior of healthcare professionals, or the use of health services by healthcare recipients.

- **Financial arrangements:** changes in how funds are collected, insurance schemes, how services are purchased, and the use of targeted financial incentives or disincentives.
- **Governance arrangements:** changes in rules or processes that affect the way in which powers are exercised, particularly with regard to authority, accountability, openness, participation, and coherence.

The vast majority of evidence in the Garzon-Orjuela review of reviews were categorized as “delivery arrangements” (77 reviews) or “implementation strategies” (62 reviews), with many reviews covering both of these domains. Therefore, we mainly discuss interventions in these two categories followed by a brief summary of the evidence for “financial arrangements” and “governance arrangements.” Details of the included reviews are available in **Appendix E**.

Delivery Arrangements and Implementation Strategies

Overall, the included reviews with evidence on delivery arrangements and implementation strategies covered a wide range of services, settings, and outcomes. Interventions in many of the reviews we identified in the field of cancer and CVD prevention fell into this category. Among those most pertinent to this project were many reviews examining behavioral counseling interventions to improve healthy lifestyle behaviors and disease management (including self-management behaviors). The most commonly reported outcomes were healthcare utilization and broad general health outcomes such as mortality; other outcomes reported included those related to CVD and related conditions (e.g., diabetes, hypertension), infectious disease (e.g., HIV/AIDS, tuberculosis), chronic disease outcomes, mental health, weight and healthy lifestyle (e.g., obesity, diet, physical activity, alcohol consumption, smoking), quality of life, maternal and infant health (e.g., prenatal care, breastfeeding, growth and development), and oral health.

Culturally Targeted and Tailored Healthy Lifestyle and Self-Management Interventions

Several reviews have addressed the evidence for diabetes prevention interventions that support healthy eating and physical activity in people of color and underrepresented populations, typically including randomized, controlled trials (RCTs) along with pre-post evaluations and other non-trial designs. The largest of these reviews identified 34 studies, including 12 RCTs, with the aim of assessing the effectiveness of culturally tailored diabetes prevention interventions in people of color.⁷⁵ This review reported that 25 of the 34 included studies demonstrated an improvement in hemoglobin A1c levels, fasting glucose levels, or weight loss compared with baseline levels or a control group.⁷⁵ These findings were generally supported by reviews targeting Native American and Alaska Native,⁷⁶ “Hispanic,”⁷⁷ and South Asian^{78, 79} populations, which included six to 12 studies each and generally reported positive findings in more than half of the included studies.

A similar body of reviews explored diet and physical activity counseling interventions in general or for CVD prevention (rather than specifically for diabetes prevention), typically including fewer than 20 studies of a variety of designs, with mixed or generally positive findings. The most robust body of evidence was in a broad review focusing on lifestyle counseling among “diverse populations” recruited from primary care settings (29 RCTs).⁸⁰ Other reviews we identified

focused on specific populations, such as Black populations,^{81, 82} Indigenous populations,⁸³⁻⁸⁵ “Hispanic” populations,⁸⁶ South Asian migrants,⁸⁷ older Asian Americans,⁶⁷ and culturally and linguistically diverse older adults.⁸⁸

Related bodies of evidence address weight management^{71, 89-91} and diabetes management in people of color.⁹²⁻⁹⁵ The diabetes management literature is fairly robust. A review of primary care–based quality improvement interventions designed to reduce disparities in diabetes care included 58 RCTs, most conducted in the United States.⁹⁴ This review found that the interventions generally improved diabetes-related outcomes in racially minoritized and underrepresented populations, although they found minimal information on whether these interventions reduced health disparities between populations. The Garzon-Orjuela review of reviews concluded that multicomponent and personally tailored self-management interventions could improve glycemic control in “vulnerable” populations.⁷²

In the area of healthy lifestyle and related interventions, some reviews explored which cultural adaptations, intervention development processes, or recruitment approaches appeared to be associated with greater acceptability, greater participation, or better outcomes. Factors associated with a greater likelihood of success included community input,^{77, 83, 96-99} language adaptations such as bilingual study personnel,^{88, 96, 100} literacy modifications,⁷⁷ close-to-home activities,⁸⁸ culturally familiar activities or culturally relevant intervention content,^{77, 84, 88, 96} and using a group-based format.¹⁰⁰ One review noted that 84 percent of studies that addressed three of four adaptation domains (facilitators, language, location, and messaging) were successful, as were all seven studies that addressed all four domains.⁷⁵ A qualitative review explored people of color’s experiences and preferences with respect to lifestyle interventions for diabetes management.¹⁰¹ They identified five major themes that are important to address: culturally appropriate healthy lifestyle behaviors, knowledge about diabetes care, emotional supports, access to the healthcare system, and family involvement.¹⁰¹

One review exploring the cultural translation process of diabetes prevention interventions noted some important limitations in the 29 studies they examined. It reported that few studies “referenced or followed recommendations for cultural adaptation nor did they justify the content modifications by providing a rationale or evidence.”¹⁰² In another large review of the impact of preventive health interventions to reduce health disparities in people of color and underrepresented populations by Nelson and colleagues, a small number of studies of interventions to increase colorectal cancer screening showed greater benefits in “non-Black” populations than in Black populations, such as print materials alone and print materials with phone counseling.⁷¹ Although these findings were rated as insufficient to low strength of evidence, they highlight the critical importance of testing interventions in specific underserved populations, to avoid exacerbating disparities.

Several reviews strongly emphasized the importance of deep community engagement.^{83, 97, 99, 103} One review found that the most successful programs used at least three different strategies to engage communities, typically at multiple stages in the study or intervention design and implementation process.⁸³ Another review concluded that “participatory action research methods and community ownership of the intervention were essential for project success,”⁹⁷ a sentiment echoed in other reviews of healthy lifestyle and self-management interventions.^{99, 103} Other

factors associated with larger effects in interventions targeting people of color that may not be unique to these populations included higher exposure to the intervention or frequency of contact,⁸⁴ utilization of family or social support,^{77, 84} and employing case management.⁸⁴

Community Health Workers and Patient Navigators

Another commonly evaluated intervention in preventive health is the use of community health workers and patient navigators to improve health outcomes in underserved populations. These interventions were examined in a variety of patient populations, and across a variety of health conditions.¹⁰⁴⁻¹⁰⁷ One review of 37 studies assessing community health workers' involvement in preventive care in primary healthcare found that community health workers had a positive impact on patients' access to healthcare, clinical disease indicators, screening rates, and behavioral change.¹⁰⁴ This review further concluded that cultural and linguistic congruence between the community health worker and the patient enhanced their effectiveness. The review by Nelson and colleagues found low to moderate strength of evidence that community health workers improved cancer screening rates, with the strongest evidence supporting breast cancer screening (examined in four RCTs).⁷¹

In studies of chronic disease management, one review identified the main roles of community health workers, which included health education (48 studies), counseling (36 studies), navigation assistance (21 studies), social support (18 studies), social services (7 studies), and case management (4 studies).¹⁰⁷ This review concluded that community health workers improved the health of “vulnerable” populations and, in some cases, also proved to be cost effective. The greatest benefit was seen when partnering with low-income, underserved, and/or racially minoritized communities.

Another review identified 29 studies that examined the impact of community navigators (who were typically community or lay health workers) on prevention and management of chronic disease, cancer screening, and access to primary care in immigrant and racially minoritized communities.¹⁰⁵ This review reported “substantial improvement in the immigrant and ethnic minority health outcomes” among studies conducted in the United States. Similarly, the Nelson review identified patient navigation as having moderate to high strength of evidence for increasing cancer screening rates across several types of cancer screening.⁷¹

Patient Outreach

The approach with the strongest evidence base for improving cancer screening rates other than patient navigation was patient outreach, such as through telephone, mailed, or in-person reminders, typically along with patient education about cancer screening.⁷¹ However, the Nelson review found that these results were somewhat inconsistent across different types of cancer screening, and a group of five studies of health system–based interventions did not show higher rates of breast cancer screening with outreach interventions.⁷¹

Improved Access to Care

One scoping review examined organizational interventions to improve access to community-based primary care.¹⁰⁸ These interventions, conducted in the United States and other economically developed Western countries, were wide ranging in their specific aims and approaches. The two most widely studied of these approaches were the formal integration of services (i.e., bringing together services across sectors or teams) and the use of case management to promote continuity of care. Interventions that integrated services across the continuum of care often included personnel and processes to connect patients in specialty or inpatient settings with a primary care–based medical home. These interventions often provided a centralized and systematic assessment of medical *and* social needs along with help accessing the needed resources. This review concluded that these types of interventions were associated with improvements in approachability, availability, and affordability of care, and may also reduce hospitalizations, emergency department visits, and unmet healthcare needs.¹⁰⁸ Interventions to promote continuity of care via case management had a somewhat narrower focus than those that addressed integration of services, relying more heavily on the case manager than institutional agreements to facilitate appropriate assessment and services. Most of these studies were focused on older adult populations and appeared to help reduce unmet healthcare needs through improved approachability and availability of care.¹⁰⁸

Other Delivery Arrangement and Implementation Interventions

Two other types of delivery arrangement interventions that were fairly well represented in the literature on health disparities include “the development of care pathways” (26 reviews in the Garzon-Orjuela review of reviews) and “information and communication technology” approaches (16 reviews in the Garzon-Orjuela review of reviews).⁷² Care pathways are complex interventions to support decision making and establish care processes for a well-defined group of patients with the aim of enhancing the consistency and quality of care and optimizing the use of resources. Care pathways addressed a wide range of medical conditions, including cancer, CVD, HIV/AIDS, hypertension, type 2 diabetes, obesity, mental health, and oral health, among others. Examples of technology-based methods to transfer healthcare information and/or support the delivery of care that were shown to be effective included weight loss and mental health interventions delivered through text message, phone, and computer platforms as well as telemedicine approaches.⁷² The Nelson review also identified several studies of technology-based or technology-assisted interventions for cancer screening or obesity management, although they concluded that the strength of evidence was insufficient or low in all cases.⁷¹

Finally, the Garzon-Orjuela review of reviews identified 28 reviews of provider education and training, which they categorized under “interventions targeted at healthcare workers,” including the development of educational materials or courses. Garzon-Orjuela and colleagues noted that one included review found that interventions focused on improving clinician adherence to clinical practice guidelines helped reduce CVD risk in non-urban primary care settings through increased physical activity and small improvements in systolic blood pressure, body mass index, and A1c levels.¹⁰⁹

Financial and Governance Arrangements

We found a smaller number of reviews that addressed “financial arrangements.” The Garzon-Orjuela review of reviews identified seven reviews, most of which examined vouchers schemes for services or for transportation.⁷² Another review of organizational interventions to improve access to primary care identified four studies with a financial reward for performing a specific action (e.g., pay-for-performance) or using a capitated payment model.¹⁰⁸ For example, one study found that a pay-for-performance approach led to greater improvement in hypertension control or appropriate treatment in Black patients (with no difference in patients switching providers, visit frequency, or panel turnover) compared with usual remuneration methods.¹¹⁰ A separate systematic review of reviews examined the impact of healthcare system organizational and financial reforms on health equity.¹¹¹ This review of reviews concluded that private insurance, out-of-pocket payments, and the marketization and privatization of services had either negative or inconclusive effects on health equity. They further concluded that the evidence base on the health equity effects of managed care programs or integrated partnerships between health and social services was inconclusive.

Health Insurance Coverage

We identified two reviews on the effect of Medicaid expansion through the Patient Protection and Affordable Care Act (ACA) on mitigating health disparities. A 2020 systematic review by Moss and colleagues examined the association between Medicaid expansion and outcomes along the cancer care continuum.¹¹² Among the 48 included studies, the most commonly assessed outcomes were the impact of Medicaid expansion on insurance coverage (23% of studies), followed by evaluation of racial and/or socioeconomic disparities (17%) and access to screening (14%). The review found that Medicaid expansion was associated with increases in coverage for cancer patients and survivors as well as reduced racial- and income-related disparities. However, the review noted a lack of studies evaluating outcomes around changes in treatment and access to end-of-life care. An earlier review (2016) by French and colleagues addressed the impact of the key provisions of the ACA on healthcare coverage expansion.¹¹³ This non-systematic review included 96 studies and found that the ACA had substantially decreased the number of uninsured individuals through the dependent coverage provision, Medicaid expansion, health insurance exchanges, availability of subsidies, and other policy changes. However, the authors noted that affordability of health insurance continued to be a concern for many people and disparities persist by geography, race/ethnicity, and income. And although evidence in the first 5 years of the ACA demonstrated improvements in access to and affordability of healthcare, the authors noted that the changes resultant from the ACA’s key provisions were certain to affect State and Federal budgets.

In addition, the Garzon-Orjuela review of reviews identified seven reviews it categorized as governance arrangements, which aimed to improve health conditions, decrease hours and work stress, or directly address health disparities.⁷² This included three reviews of community mobilization and two reviews focused on patients’ rights.

Workforce Diversification

Most initiatives to promote greater diversity of the healthcare workforce have focused on improving the pipeline to medical fields and retention in healthcare education programs. Two major reports were published in the mid-2000s on the importance of diversification in the healthcare workforce that, collectively, issued recommendations covering a wide spectrum of sectors.^{114, 115} Broadly, these reports issued recommendations related to:

- Enhancing the educational pipeline for future healthcare professions
- Lowering economic barriers to education in the health professions
- Increasing the accountability of health systems, health professions schools, government and other stakeholders
- Improving admission policies and practices
- Improving the institutional climate of health professions schools
- Encouraging the formation of broad collaboratives to enhance diversity among health professionals¹¹⁶

Supporting these efforts, the ACA included the following provisions to promote health equity through healthcare workforce diversity:

- “Gathering and assessing comprehensive data in order for the health care workforce to meet the health care needs of individuals, including research on the supply, demand, distribution, diversity, and skills of the health care workforce
- Increasing the supply of a qualified health care workforce to improve access to, and the delivery of, health services for all individuals
- Enhancing health care workforce education and training to improve access to, and the delivery of, health care services for all individuals
- Providing support to the existing health care workforce to improve access to, and the delivery of, health care services for all individuals.” (HR 3590; Section 5001)¹¹⁶

Most efforts to increase racial and ethnic diversity among healthcare workers to date appear to be focused on college or postgraduate education.^{116, 117} We did not find synthesized literature on the effectiveness of interventions to increase race and ethnic diversity among healthcare organizations. One review examined evidence to determine barriers and enablers to retention of Aboriginal workers in the Australian healthcare workforce.¹¹⁸ Although experimental or program evaluation evidence was not available to confirm their effectiveness, this review concluded that potentially valuable workforce retention strategies would include implementing mentoring programs, embedding cultural respect in the workplace (via training), professional development opportunities as well as financial assistance/paid leave for external training and conferences, and flexible working arrangements that allow workers to meet professional and community obligations. These recommendations may be more broadly applicable to other racially minoritized communities.

Question 3: What Types of Interventions Directly Address Racism in Healthcare?

Many of the above interventions aimed at reducing health disparities by race and/or ethnicity, while not designed explicitly to target racism or its effects on health, do address downstream effects of racism directly or indirectly. In addition, we found a body of evidence on the impact of cultural sensitivity (previously referred to as cultural competence) training in health professionals that may reduce interpersonal racism. However, few studies appear to report patient outcomes or objective assessments of cultural sensitivity of providers when interacting with real patients.¹¹⁹⁻¹²² For example, one recent review¹¹⁹ found nine studies that compared the impact of cultural sensitivity interventions for healthcare professionals with a control group. Patient outcomes were only reported in three studies, and only one of these demonstrated a beneficial impact. This study found relatively large effect sizes for patient satisfaction (Cohen's $d=0.94$) and trust (Cohen's $d=0.71$), but no impact on physiological outcomes. Similar findings were reported in a review focused specifically on studies in Indigenous populations in the United States and Australia.¹²³ One review identified 18 cultural sensitivity frameworks, but only 13 studies reported empirical data, suggesting this field is still in the formative stage.¹²⁴ Similarly, a review conducted for the purpose of identifying research needs in this area concluded that much more work is needed to translate theoretically-based research into concrete curricula with evidence-based outcomes.¹²⁵ One important aspect of cultural sensitivity may be nonverbal expressions of empathy, which one review found had an impact on patient satisfaction, affective tone, information exchange, visit length, and expression decoding during cross-cultural clinical encounters.¹²⁶ This review further found that racial discordance, patients' perception of physician racism, and physician implicit bias appear to affect information exchange in clinical encounters.

A review of healthcare system-level approaches to improving cultural sensitivity concluded that the key components included user engagement, organizational readiness, and delivery across multiple sites.¹²⁷ After examining 15 interventions covering a range of healthcare setting types and specific cultural groups, it concluded that two valuable intervention strategies were auditing (e.g., giving clinicians feedback on services they provide or patient satisfaction) and quality improvement approaches and service-level policies or strategies.

Question 4: What Work Are Other Health and Healthcare Institutions/Organizations Doing to Address Racism?

The organizational audit findings can be categorized into three main groups: (1) general statements issued around and after June 2020 (**Appendix F**); (2) more substantial guiding principles or policy statements, with a small subset of organizations that have provided more detailed guidance or frameworks to underpin action steps; and (3) published guidance on incorporating health equity into systematic reviews and/or clinical practice guidelines. In this section we briefly summarize the findings from our audit of organizations in the second and third groups.

Guiding Principles, Policy Statements, and Path-to-Action Frameworks

Organizations' guiding principles, substantial policy statements, frameworks, and other guidance most directly potentially relevant to the USPSTF are described below. We have also included brief sections on both evidence-based remediation efforts—that is, work being done to address systemic racism in primary research—and anti-racism training resources that may be particularly relevant to the USPSTF and its supporting organizations. We have included this and additional information from this audit, with links, in **Appendix B**.

There were common themes in the organizational audit. In general, the organizations that have taken their efforts beyond simple statements of awareness or concern are seeking to take action regarding the importance of terminology; to quote Archbishop Desmond Tutu (1999),¹²⁸ “Language is very powerful, language does not just describe reality, language creates the reality it describes.” These organizations are also highlighting the importance of recognizing race as a social and not a biological construct. Additionally, these organizations are voicing the urgent need to ensure diversity in their leadership and staff, as well as to develop expertise in anti-racism. Lastly, the most promising resources identified recognize that making real progress in improving equity in healthcare requires a foundational, comprehensive approach, with accountability.

Overall, we found that the Proposed USPSTF Actions to Address Racism in Clinical Preventive Services Recommendations outlined in the USPSTF's January 2021 values statement¹ are very thorough and reflect what we observed in our audit. For example, regarding plans to “seek to partner with guideline making bodies, professional societies, policy makers, and patient advocacy organizations”:

- The American Cancer Society's (ACS's) identified Partnerships as one of its three main categories of Health Equity Principles
- The American Gastroenterological Association (AGA) includes a commitment to “coalition building with other organizations who are working toward incorporating anti-racism as a strategy to improve diversity and reduce disparities” within its framework
- The American Society of Clinical Oncology (ASCO) recommends “partnering with local communities and legislatures to support implementation of activities and application of research findings known to improve health equity.”

The USPSTF has also tasked itself with “routinely highlighting evidence gaps related to race and racism for each clinical preventive service” and “calling for additional research for addressing systemic racism to improve delivery of preventive services.” Similarly, in the American College of Physician's (ACP's) policy framework, for example, it is stated that the “ACP believes that more research and data collection related to racial and ethnic health disparities are needed to empower policymakers and stakeholders to better understand and address the problem of disparities.”

The USPSTF plans to “develop, integrate, and iteratively refine a health equity framework.” Particularly relevant examples of frameworks from other organizations are the following:

- Institute for Healthcare Improvement (IHI) [Achieving Health Equity: A Guide for Health Care Organizations](#)¹²⁹
- ACP [Policy Framework to Understand and Address Disparities and Discrimination in Health and Health Care](#)¹³⁰
- AGA [From Intention to Action: Operationalizing AGA Diversity Policy to Combat Racism and Health Disparities in Gastroenterology](#)¹³¹

And, similar to other organizations, the USPSTF mentions critical gaps to address. For example, methods “to identify systemic racism as a causal factor for variations in prevalence and outcomes” are in early stages of development. Similarly, identifying “the types of studies needed to address systemic racism,” and “the types of outcomes needed to address racism” is work that is being called for now, including in efforts such as the NIH’s [UNITE](#)¹³² initiative, ACP’s framework, and ASCO’s recommendations.

Below are brief descriptions of organizations’ substantial policy statements, guiding principles, frameworks, and other guidance most directly potentially relevant to the USPSTF:

The ACS has published information on nine [Health Equity Principles](#)¹³³ to guide ACS research, services, policies, and programs, including examples of how these can potentially be incorporated in practice. The ACS principles are organized into three groups (People, Place, and Partnerships) to (1) help people with the greatest need, embrace diversity and inclusion, and collaborate with community members; (2) understand the community’s historical, social, cultural, and economic context, implement sustainable community solutions, and address structural and social determinants of health; and (3) prevent and address unintended consequences, partner with different sectors, and leverage the power of volunteers.

In 2019, the American College of Cardiology adopted [Diversity and Inclusion Strategy and Principles](#)¹³⁴ to guide its actions. It has also established [Anti-Racism](#)¹³⁵ and [Health Equity](#)¹³⁶ resource centers.

On the American College of Obstetricians and Gynecologists [Commitment to Changing the Culture of Medicine—Resources](#)¹³⁷ webpage are both a [Postpartum Toolkit](#)¹³⁸ titled “Racial Disparities in Maternal Mortality in the United States: The Postpartum Period Is a Missed Opportunity for Action,” and, in collaboration with the Alliance for Innovation on Maternal Health, a patient-safety toolkit “bundle,” [Reduction of Peripartum Racial/Ethnic Disparities](#).¹³⁹

The ACP published a [Policy Framework to Understand and Address Disparities and Discrimination in Health and Health Care](#)¹³⁰ in January 2021, which makes 17 high-level recommendations, as well as links to three related publications, including one that aims to make “[recommendations](#)¹⁴⁰ to address disparities in coverage, access, and quality of care for racial and ethnic minorities, including expanding Medicaid and insurance marketplace subsidies, funding translation and patient navigator services, and supporting programs that place physicians in underserved communities.”

To develop “concrete and actionable strategies and tactics,” the AGA has launched an [Equity Project](#)¹⁴¹ and adapted an anti-racism framework established by the National Juvenile Justice Network, as follows:

- “(1) establish organizational readiness through self assessments of its anti-racism activities and anti-racism institutional culture, including an evaluation of the racial diversity of the membership and leadership; audit of resource allocation for prior anti-racism programming and initiatives; and an analysis of the past and ongoing alliances with racially diverse organizations
- (2) develop leaders who receive formal instruction in diversity, equity and inclusion, cultural humility, unconscious bias, and anti-racism
- (3) commit to educating and engaging membership and stakeholders in anti-racism efforts
- (4) commit to coalition building with other organizations who are working toward incorporating anti-racism as a strategy to improve diversity and reduce disparities
- (5) perform a financial and resource audit to identify current resources that can be applied to new initiatives and develop a plan for fundraising for initiatives that cannot be accommodated with current resources
- (6) establish an interval assessment to permit determining how we have done and to assess the need for any calibration of efforts and resource allocation” [From Intention to Action: Operationalizing AGA Diversity Policy to Combat Racism and Health Disparities in Gastroenterology](#)¹³¹

In the fall of 2020, the AMA issued policies on anti-racism, declaring that racism is a public health threat; stating its intention to work to rid healthcare of racial essentialism; and stating its intention to work to end the practice of using race as a proxy for biology or genetics in medical education, research, and clinical practice. The AMA has a [Health Equity](#)¹⁴² webpage with information and resources regarding these efforts. The AMA is currently collaborating with [West Side United](#)¹⁴³ on an effort that seeks to “improve neighborhood health by addressing inequality in healthcare, education, economic vitality and the physical environment using a cross-sector, place-based strategy. Partners include healthcare providers, education providers, the faith community, business, government and others working together to coordinate investments and share outcomes.”

The ASCO published a detailed [Policy Statement](#)¹⁴⁴ in August of 2020, “Recommendations for Promoting Health Equity,” which focuses on actions to be taken in four areas: (1) to ensure equitable access to high-quality care, (2) to ensure equitable research, (3) to address structural barriers, and (4) to increase awareness and action (detailed recommendations available in tabular format).

In 2013 the Centers for Disease Control and Prevention (CDC) published [A Practitioner’s Guide for Advancing Health Equity](#)¹⁴⁵ (2013); the CDC website also maintains a [Health Equity page](#),¹⁴⁶ with “Health Equity Considerations and Racial and Ethnic Minority Groups,” “What We Can Do to Promote Health Equity,” “Health Equity Strategy (Regarding COVID-19),” and “COVID-19 Racial and Ethnic Health Disparities” tabs. As part of the CDC, the Community Preventive Services Task Force (CPSTF) has issued [Recommendations](#)¹⁴⁷ focused on health equity. The CPSTF has a review team dedicated to intervention reviews (programs or policies) aiming to

promote or enhance health equity (primarily through interventions to modify determinants of health), and a subcommittee charged with looking into ways to enhance consideration of health equity across all reviews.

The Centers for Medicare & Medicaid Services has recently published the [CMS Equity Plan for Medicare](#)¹⁴⁸ (January 2021), and has developed a tool, [Incentivizing Excellent Care to At-Risk Groups With a Health Equity Summary Score](#)¹⁴⁹ (November 2019). The “HESS” tool is not yet available for public use, but this is a stated goal for this work.

In November 2020, the Commonwealth Fund’s Task Force on Payment and Delivery System Reform issued [Six Policy Imperatives to Improve Quality, Advance Equity, and Increase Affordability](#)¹⁵⁰: increase health system preparedness, increase health system accountability, strengthen primary care, support patient engagement, reduce administrative burden, and balance regulatory and competitive approaches. In this report, policy imperatives specifically regarding advancing equity are the following:

- Require data by race and ethnicity be collected, publicly reported, and used
- Develop, test, and scale payment and delivery models to reduce disparities
- Encourage health systems to confront and combat racism in their policies and programs, as well as to meaningfully engage and empower the communities they serve
- Expand, diversify, and train the healthcare workforce
- Assess and develop protections against racial bias in healthcare technology

The IHI has a [health equity webpage](#)¹⁵¹ with resources, including a course on Improving Health Equity. The IHI also published a white paper in 2016, [Achieving Health Equity: A Guide for Health Care Organizations](#)¹²⁹, which presents the following “framework, with five key components, for healthcare organizations to improve health equity in the communities they serve:

- Make health equity a strategic priority
- Develop structure and processes to support health equity work
- Deploy specific strategies to address the multiple determinants of health on which health care organizations can have a direct impact
- Decrease institutional racism within the organization
- Develop partnerships with community organizations to improve health and equity”

This white paper also provides “guidance for measuring health equity; a case study of one health care organization that has strategically integrated work to improve health equity throughout their system; and a self-assessment tool for health care organizations to gauge their current focus on and efforts to improve health equity.” The IHI’s [Pursuing Equity Learning and Action Network](#),¹⁵² launched in October 2020, is an initiative that aims to reduce inequities in health and healthcare access, treatment, and outcomes by implementing comprehensive strategies to create and sustain equitable health systems. At the end of the initiative, participating teams will have built knowledge and skills across the five-component framework presented in the 2016 IHI white paper mentioned above, and will be actively working to apply improvement methods to narrow clinical inequities.

The Kaiser Family Foundation [Racial Equity and Health Policy Program](#)¹⁵³ provides “data and policy analysis on health and health care disparities affecting people of color” and on efforts to advance racial equity in healthcare. [Chart Packs](#),¹⁵⁴ which present “facts on health and health care by race and ethnicity (demographics; health coverage, access, and utilization; and health status by race and ethnicity),” are also available.

The Kellogg Foundation has issued a [Truth, Racial Healing & Transformation](#)¹⁵⁵ (TRHT) Framework, with a goal of planning for and bringing about transformational and sustainable change, and addressing the historic and contemporary effects of racism. Kellogg has also developed a [TRHT Implementation Guidebook](#).¹⁵⁶ The TRHT Framework consists of five areas; the first two, Narrative Change and Racial Healing and Relationship Building, are “foundational pillars” for all TRHT work. The remaining three areas are Separation, the Law, and the Economy:

Narrative Change

Examines how to create and distribute new complex and complete narratives in entertainment, journalism, digital and social media, school curricula, museums, monuments and parks, and in the way we communicate that can influence people’s perspectives, perceptions, and behaviors about and toward one another so that we can work more effectively and productively toward community-based change.

Racial Healing and Relationship Building

Focuses on ways for all of us to heal from the wounds of the past, to build mutually respectful relationships across racial and ethnic lines that honor and value each person’s humanity, and to build trusting intergenerational and diverse community relationships that better reflect our common humanity.

Separation

Examines and finds ways to address segregation, colonization, and concentrated poverty in neighborhoods to ultimately ensure equitable access to health, education, and jobs.

Law

Reviews discriminatory civil and criminal laws and the public policies that come from them and recommends solutions that will produce a just application of the law.

Economy

Studies structured inequality and barriers to economic opportunities and recommends approaches that can create an equitable society.

The National Academies of Sciences, Engineering, and Medicine (NASEM) published guidance on Institutionalizing Racial Equity in [Framing the Dialogue on Race and Ethnicity to Advance Health Equity: Proceedings of a Workshop](#)¹⁵⁷ in October 2016. The National Academy of Medicine’s (NAM’s) [Culture of Health Program](#)¹⁵⁸ (funded by the Robert Wood Johnson Foundation [RWJF]) is a multiyear collaborative effort to identify strategies to create and sustain conditions that support equitable good health for everyone in America. The RWJF has a collection of resources on [Racism and Health](#),¹⁵⁹ including a topic page on [Achieving Health](#)

[Equity](#).¹⁶⁰ As part of working on NAM’s “Culture of Health” in collaboration with RAND, the RWJF created a [Culture of Health Action Framework](#)¹⁶¹ that sets a national agenda to improve health, equity, and well-being. The RWJF has also convened an [Achieving Health Equity Learning Collaborative](#)¹⁶² (2019).

The National Association of County & City Health Officials (NACCHO) has developed [The Roots of Health Inequity](#)¹⁶³ training course; a handbook entitled “Advancing Public Narrative for Health Equity and Social Justice,” and a [Health Equity and Social Justice Toolkit](#).¹⁶⁴ NACCHO has also implemented an Open Society Public Health Program with the New York City Department of Health and Mental Hygiene’s Center for Health Equity, convening multidisciplinary experts to share ideas to end health-harming racism and inequalities and published a [summary report](#),¹⁶⁵ entitled “Building Narrative Power for Racial Justice and Health Equity.”

Evidence-Based Remediation

The AHA has very recently published [best practices for scientific manuscripts on racial and ethnic disparities](#).¹⁶⁶ The February 2021 AHA best practices include adherence to the following principles:

- Develop questions and methodological strategies informed by conceptual frameworks
- Explicitly describe rationale and classification for inclusion of racial and ethnic patient populations in the methods section
- Form diverse and inclusive study teams and cite their scholarship
- Contextualize discussion of results within conceptual frameworks and models
- Avoid generalized genetic explanations for racial and ethnic disparities

The NCI’s [Center to Reduce Cancer Health Disparities](#)¹⁶⁷ is “central to NCI’s efforts to reduce the unequal burden of cancer in our society via basic and community research, as well as networks, and to train the next generation of competitive researchers from diverse populations in cancer and cancer health disparities research.”

The National Institute on Minority Health and Health Disparities (NIMHD) led an NIH-wide, two-year science visioning process to chart a [new research course to improve minority health and reduce health disparities](#).¹⁶⁸ The *American Journal of Public Health* [special issue](#),¹⁶⁹ “New Perspectives to Advance Minority Health and Health Disparities Research,” is the culmination of this process, with input from experts to help NIH determine the science needed to address health disparities. Thirty specific research strategies were identified across the three pillars that guided the science visioning: methods and measurement, etiology, and interventions (2019). The NIMHD has also published [The Science of Health Disparities Research textbook](#).¹⁷⁰

[UNITE](#)¹³² is a new NIH effort established to identify and address structural racism within the NIH and scientific community. UNITE comprises five committees “with separate but coordinated objectives on tackling the problem of racism and discrimination in science, while developing methods to promote diversity and inclusion across the biomedical enterprise.” The committees are the following: Committee U, Understanding stakeholder experiences through

listening and learning; Committee N, New research on health disparities, minority health, and health equity; Committee I, Improving the NIH culture and structure for equity, inclusion, and excellence; Committee T, Transparency, communication, and accountability with internal and external stakeholders; and Committee E, Extramural research ecosystem: changing policy, culture, and structure to promote workforce diversity.

In July 2020, *Health Affairs* published a blog about the urgent need to seek fundamental reorientation and improvement of the evidence base: [On Racism: A New Standard for Publishing on Racial Health Inequities](#).¹⁷¹ *Health Affairs* has issued rigorous standards on publishing about health inequities for journals, reviewers, and researchers. Several of our KIs expressed the hope that other journal editors and stakeholders will follow suit, and issue rigorous standards of their own as well as implementing *Health Affairs*' standards.

Training to Consider for the USPSTF, AHRQ, and USPSTF Contractors

While there are many new anti-racism and health equity–focused training efforts both in development and underway, the following appear promising for potential adaptation/customization for the USPSTF and supporting organizations, not least because they seek to be foundational and comprehensive.

The IHI has a [health equity webpage](#),¹⁵¹ which includes a course on “Improving Health Equity” for healthcare organizations. The IHI’s October 2020 [Pursuing Equity Learning and Action Network](#)¹⁵² is an initiative that aims to reduce inequities in health and healthcare access, treatment, and outcomes by implementing comprehensive strategies to create and sustain equitable health systems, and could provide a model for USPSTF training. At the end of this initiative, participating teams will have built knowledge and skills across the five-component framework presented in the 2016 IHI white paper mentioned above, and will be actively working to apply improvement methods to narrow clinical inequities. While this learning collaborative initiative began last year, touching base with the IHI about it as well as regarding future plans and possibilities would have value, and it is possible that the USPSTF could adapt and use existing IHI training materials.

Another promising training resource is NACCHO’s [The Roots of Health Inequity](#)¹⁶³ course and its handbook “Advancing Public Narrative for Health Equity and Social Justice.” The Roots of Health Inequity Learning Collaborative aims for participants to be able to: “explore social processes that produce health inequities in the distribution of disease and illness; strategize more effective ways to act on the root causes of health inequity; and form relationships with other local health departments who are working to ensure health equity.” From the NACCHO Roots of Health Inequity website:

[Roots of Health Inequity](#)¹⁶³ is an online learning collaborative and web-based course designed for the public health workforce. The site offers a starting place for those who want to address systemic differences in health and wellness that are actionable, unfair, and unjust. Based on a social justice framework, the course is an introduction to ground public health practitioners in concepts and strategies for taking action in everyday practice.

Funded by the NIMHD at the NIH in 2011, the course is open free of charge to any professional interested in addressing the root causes of health inequity. The course material is written primarily for local public health department staff at all levels. The interactive site includes five units and features a rich source of case studies, readings, presentations, video, audio, and group-directed discussions.

Participants can also expect to:

- Build a community of peers dedicated to addressing health equity
- Strategize more effective ways to act on the root causes of health inequity
- Lay the foundation for an organizational culture committed to tackling social injustice

This material is, of course, developed and intended for local health departments, but these NACCHO resources could potentially be customized for the USPSTF and its supporting organizations, as the foundational learning is broadly applicable.

Published Guidance on Incorporating Health Equity in Clinical Practice Guidelines and Systematic Reviews

We explicitly searched for any organization’s published guidance on incorporating health equity in clinical practice guidelines and/or systematic reviews. Our audit was limited to major guideline-making organizations. Overall guidance is still quite limited. The most comprehensive and considered existing guidance comes from the Grading of Recommendations Assessment, Development and Evaluation (GRADE) working group. In its Evidence to Decision (EtD) Framework, developed to allow for explicit and transparent articulation of the important criteria that decision makers (i.e., clinicians, guideline developers, and policymakers) use to inform their judgements, GRADE includes one domain called “health equity” that asks, “what would be the impact on health equity” of any given decision/recommendation.¹⁷² To answer this question, the framework articulates a set of questions to be answered:

1. Are there groups or settings that might be disadvantaged in relation to the problem or interventions (options) that are considered?
2. Are there plausible reasons for anticipating differences in the relative effectiveness of the intervention (option) for disadvantaged groups or settings?
3. Are there different baseline conditions across groups or settings that affect the absolute effectiveness of the intervention or the importance of the problem for disadvantaged groups or settings?
4. Are there important considerations that should be made when implementing the intervention (option) to ensure that inequities are reduced, if possible, and that they are not increased?

In addition to its guidance on the EtD Framework, the GRADE working group issued a four-paper series in 2017 that provided additional guidance on how guideline panels should go about incorporating health equity considerations (**Appendix F**).¹⁷³⁻¹⁷⁶ It acknowledged that health equity is important for two main types of guidelines, those “universal interventions” where

health inequity may be of concern, as well as targeted or dedicated interventions aimed at one or more “disadvantaged” populations that have experienced health inequities. In either case, GRADE articulates three possible scenarios that could result from formally assessing for health equity:¹⁷⁴

1. A general recommendation that can be applied across different populations and settings. Assessment of health equity across the criteria may increase the confidence of the panel that a general recommendation is warranted, and that the intervention is applicable for disadvantaged populations and settings.
2. A general recommendation that can be accompanied with subgroup and implementation considerations, to promote health equity or mitigate worsening health inequities.
3. A separate recommendation for a specific disadvantaged population when evidence of meaningfully different effects for a specific setting or subgroup is identified.

To this end, it makes suggestions on how to consider equity at various phases of the guideline process: setting priorities, establishing guideline group membership, identifying target audiences, generating guideline questions, considering the importance of outcomes and interventions, deciding what evidence to include and searching for evidence, summarizing the evidence and considering additional information, wording of recommendations, and evaluating and monitoring use of the recommendation (**Appendix F**).

Older guidance from the Guidelines International Network, the U.K. National Institute for Health and Care Excellence (NICE), and the WHO were considered in developing GRADE guidance. The Guidelines International Network published two resources back in 2011, “[Incorporating Equity Into Developing and Implementing for Evidence-Based Clinical Practice Guidelines](#)”¹⁷⁷ and “[Evidence-Based Clinical Guidelines for Immigrants and Refugees](#).”¹⁷⁸ NICE has published some information about “social value judgments about equity in health and health care,” and related topics. The NICE guidelines procedure manuals currently available are from 2013 and 2014, so it may be that these manuals will be updated soon; if the manuals are updated, they may have relevant information about racism and health inequity. The WHO [Handbook for Guideline Development, 2nd edition \(2014\)](#)¹⁷⁹ contains a section on incorporating equity, human rights, gender, and social determinants into guidelines. This section details eight entry points for integrating equity, human rights, gender, and SDH into WHO guidelines, and describes incorporating equity, human rights, gender, and social determinants into each step in guideline development (planning, development, and publishing and updating). Relevant WHO publications include “[New Methods for Identifying Which Adolescents Are Being Left Behind in Accessing Health Services and Why](#)” (2018).¹⁸⁰

Key Informant Interviews

The information obtained in the KI interviews conducted for this project generally supported the findings from the literature review and organizational audit and provided additional insights into work that healthcare organizations are undertaking to address racism. The below section summarizes overall themes across both Aims; specific findings from each interview are detailed in **Appendix C**.

Aim 1

KIs reiterated definitional issues, including the recognition that this work must begin with understanding both appropriate terminology and the meaning of terms used, as well as how they pertain to day-to-day decision making in healthcare. KIs emphasized the need to engage in this work with “authenticity and accountability.” Interviewees stressed the importance of understanding race and racism as social rather than biological constructs, but also that racism has biological and health consequences. KIs also discussed the different levels of racism (structural, institutional, personal, and internalized) and how racism is embedded in the healthcare system, creating health inequities (e.g., with racism “baked into” the evidence base, and with racism evident in current clinical practice guidelines).

Aim 2

KIs discussed different types of interventions healthcare organizations can undertake to address racism and reduce inequities. Overall, KIs emphasized that organizations need to begin by grounding themselves in this work through self-education, reflecting inward, and understanding how multiple realities and processes are maintaining and exacerbating inequities. KIs also suggested explicitly intertwining quality and safety interventions and assessments with equity, advancing the important foundational concept that you cannot have high-quality care without addressing racism. KIs suggested that taking a trauma-informed approach to healthcare and looking at racism through the lens of adverse childhood experiences can be helpful in this context. The role of medical journals in understanding their biases/harms was also noted by KIs in this context, as there is a potential opportunity for the USPSTF to leverage its relationship to work with medical journal editors and other stakeholders to commit to anti-racist practices to improve the evidence base.

Our KIs for this project did provide some thoughts about interventions directly addressing racism in healthcare, although all expressed the sense that this work is still in very early development. KIs suggested that quality improvement and patient safety projects and tools be used to embed anti-racism and health equity: “Equity is a strategy, and without it you can’t have high quality care.” KIs noted different levels of interventions to address racism in healthcare: “the ACA was one of the biggest interventions to address structural racism by increasing access to care”; “an example of a health systems level intervention would be building into the electronic health record [HIS] strategies for shared decision making that are automatic to help overcome provider and patient bias,” and “local interventions would be projects done through community groups” (e.g., <https://www.sistersworkingitout.org/181>). Specific health systems–level interventions suggested implementing opt-out prompts within electronic health records to force providers to reflect on why they are (or are not) offering a particular service to patients, and creating dashboards based on disaggregated health outcomes data to allow administrators and providers to see where inequities exist. Targeted efforts to involve Black patients in shared decision making (in addition to making health information system changes) were also mentioned, as were reiterating to patients that their medical records belong to *them* and clarifying what should be expected during an appointment with a provider. Roleplaying exercises can also be useful, revealing insecurities and other concerns for both patients and providers.

Despite mentioning these examples, all KIs expressed the sense that interventions directly addressing racism in healthcare are still in very early development, and that much of the current and prior work in this area has been “band-aid”-type solutions that do not address root causes (which are best addressed by comprehensive efforts that include direct community engagement). KIs also noted that there are not yet sufficient, scientifically sound methodologies to assess and better understand the impacts of racism in healthcare. Although some descriptive data are available, there is not enough that tackles the problems of “race” and “ethnicity,” leaving gaps in how racism can be depicted using data. In addition, race is often used in analyses because it is the only variable that comes close to capturing racism; however, it can capture neither an individual’s nor a particular population’s experience. Many organizations, also, are unable to disaggregate data by race.

Chapter 4. Summary

In order to address health equity in the United States, it is critical to continue to use racial and ethnic groupings as categorizations. However, it is imperative that the categorizations are understood as social categorizations with true biological consequences through racism. Racism is both complex and pervasive and operates at multiple interrelated levels. Discrimination is only one aspect of racism, albeit the most studied domain of racism in health literature. Likewise, racism exerts its negative effects on SDH as well as health and well-being through multiple pathways. There are useful frameworks that describe the various mechanisms by which race and racism affect health.

The USPSTF has addressed racial and ethnic disparities and health equity in its portfolio, but not explicitly racism. The recommendation statements and the products that support the recommendation statements have used a wide variation of terminology and likewise have varied in their treatment of health equity. The systematic reviews to support the USPSTF do include interventions that may mitigate health disparities through cultural tailoring of behavioral interventions, but reviews have not explicitly addressed interventions to increase the uptake of preventive services or foster the implementation of preventive services. Commonly studied interventions that address health disparities include the use of community health workers and patient navigators, patient outreach, improving access to care (e.g., through integration of services, or case management), which often included centralized and systematic assessment of medical and social needs, and the use of care pathways. To date, other than interventions to improve cultural sensitivity of clinicians, there are not robustly studied interventions to directly address racism in medicine or healthcare. The effects of important policy-level interventions like workforce diversification on mitigating health inequities have not been robustly studied.

While many organizations have issued recent statements and commitments around racism in healthcare, only a handful have provided substantive guidance on operational steps to address the effects of racism. The “Proposed USPSTF Actions to Address Racism in Clinical Preventive Services Recommendations” outlined in the January 2021 *Journal of the American Medical Association* values statement¹ are largely in line with guidance from the small group of organizations that have articulated plans for meaningful and long-term action on addressing racism in healthcare. Where guidance is unavailable regarding the proposed actions, it is principally because work to achieve them is in very early stages; this was clear from both the organizational audit and the KI interviews. The most directly relevant and immediately useful guidance identified is that from the GRADE working group.

Limitations

This work represents the first systematic effort to understand how race, and more specifically racism, and health inequities in racial and ethnic groups are addressed and can be addressed in the USPSTF portfolio. Given the resources and timeline of this initial work, we needed to focus the scope of Aim 1, Aim 2, and the number of KI interviews conducted. Given that this is a rapidly evolving field, with many new publications, webinars, and ongoing efforts to address

racism in healthcare and health inequities by race and/or ethnicity, this report can only represent a snapshot of the evidence to date.

For Aim 1, we provided a brief background for various important concepts and terms, as well as the mechanism(s) of action through which race and racism result in poorer health, with a lens of primary care and preventive medicine. We did not comprehensively summarize the effect of racism on health or how racism is embedded in medicine and healthcare. We acknowledge in Aim 1 that racism exerts its effect on health through many different pathways, including chronic stress on health, resulting in biologic consequences independent of access and receipt of care. However, we did not comprehensively summarize the growing research on physiologic effects of racism (interpersonal and internalized) as a chronic stressor (e.g., allostatic load, association of racism and biomarkers of disease and well-being, inflammatory markers, hormonal dysregulation). We also did not address the racism experienced by clinicians.

For Aim 2, our audit of the USPSTF portfolio and literature on interventions to mitigate health inequities focused on cancer and CVD. While these are two large content areas in the USPSTF portfolio and preventive health, there are other topics in the USPSTF portfolio that are different enough to warrant investigating separately (e.g., mental health and substance abuse, infectious disease). We recognize that interventions to mitigate health disparities may overlap with interventions to address racism in healthcare. We were also limited by examining only systematic reviews, rather than primary studies. And we made an assumption that interventions conducted in low- and middle-income countries are less likely to reflect the experience of people with similar ethnic backgrounds living in the United States. However, we did include studies of interventions targeting Indigenous Peoples conducted in Canada and Australia, who are assumed to have similar cultural dynamics and health inequities to those found in the United States. Two interventions to mitigate health inequities or racism (e.g., healthcare coverage and workforce diversification), although outside the USPSTF scope of interventions, were included at the request of the USPSTF. There are, however, other interventions at the community, public health, and policy levels that we did not examine, nor did we examine medical or other health professional school curricula interventions or interventions to encourage people of color to enter the healthcare field. There are likely interventions from other disciplines within healthcare (e.g., trauma-informed care) that may be applicable to addressing the effects of racism or mitigating health disparities that were not covered. Similarly, there are likely interventions outside the field of medicine (e.g., social sciences, criminal justice) that address racism that would be applicable to healthcare that were not covered. Lastly, we did not include interventions to increase recruitment of underrepresented individuals in clinical research, which we recognize is critical to improving the evidence base to address health equity. A limitation of the search process was restricting the literature search to MEDLINE, a biomedical database. This search process would have benefited from expanding the search into other databases, particularly those with a social science focus.

Similarly, we took a pragmatic approach to identify and audit healthcare and healthcare-relevant professional societies, guideline-making organizations, agencies, and funding bodies, given limited time and resources. Thus, we audited organizations identified through prior work on social determinants and those identified by KIs. Lastly, we conducted a small set of KI interviews, which did not include Native or Indigenous Peoples' representation.

Conclusions

This project was conceptualized as the first step in a longer process of evolving the USPSTF portfolio to better address racism and health equity. We anticipate active areas for future work by the USPSTF include, but are not limited to, engaging with experts and other organizations in their efforts to address racism and health equity, developing and adapting methods and processes relevant to incorporating racism and health equity into the USPSTF portfolio, advancement of methods around evaluating race-aware risk assessment, and advocating for future research needs particular to racism and health equity.

Abbreviations

ACA	Affordable Care Act
ACP	American College of Physicians
ACS	American Cancer Society
AGA	American Gastroenterology Association
AHA	American Heart Association
AHRQ	Agency for Healthcare Research and Quality
AMA	American Medical Association
APA	American Psychological Association
ASCO	American Society of Clinical Oncology
CDC	Centers for Disease Control and Prevention
COPD	Chronic obstructive pulmonary disease
CPSTF	Community Preventive Services Task Force
CVD	Cardiovascular disease
EtD	Evidence to Decision
GRADE	Grading of Recommendations Assessment, Development and Evaluation
IHI	Institute for Healthcare Improvement
KI	Key informant
NACCHO	National Association of County & City Health Officials
NAM	National Academy of Medicine
NIH	National Institutes of Health
NIMHD	National Institute on Minority Health and Health Disparities
RCT	Randomized, controlled trial
RWJF	Robert Wood Johnson Foundation
SDH	Social determinants of health
SES	Socioeconomic status
SRC	Scientific Research Center
TRHT	Truth, Racial Healing & Transformation
USPSTF	U.S. Preventive Services Task Force
WHO	World Health Organization

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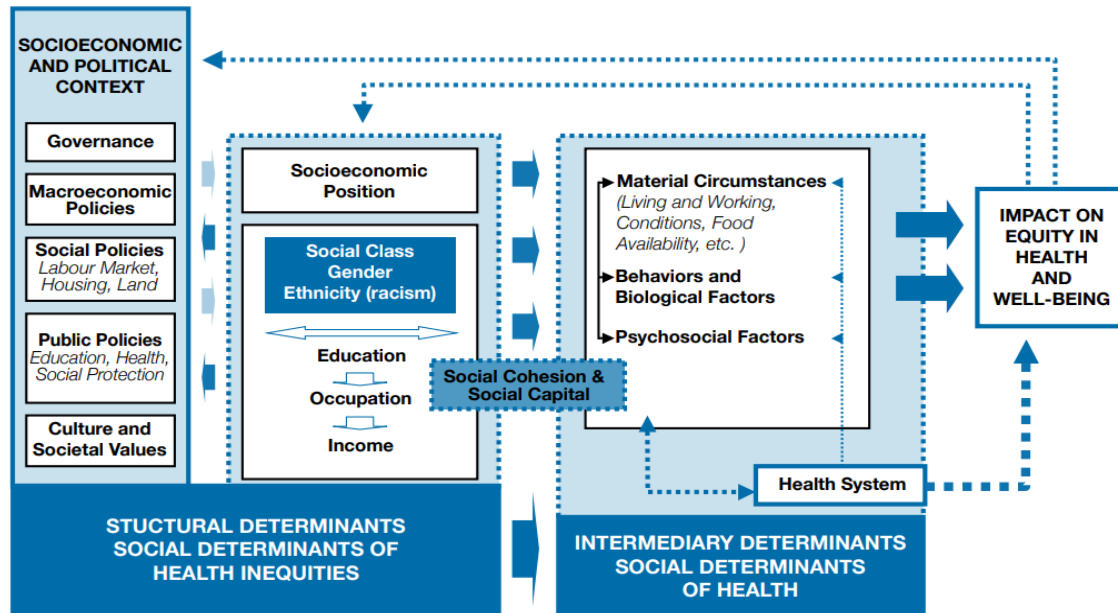
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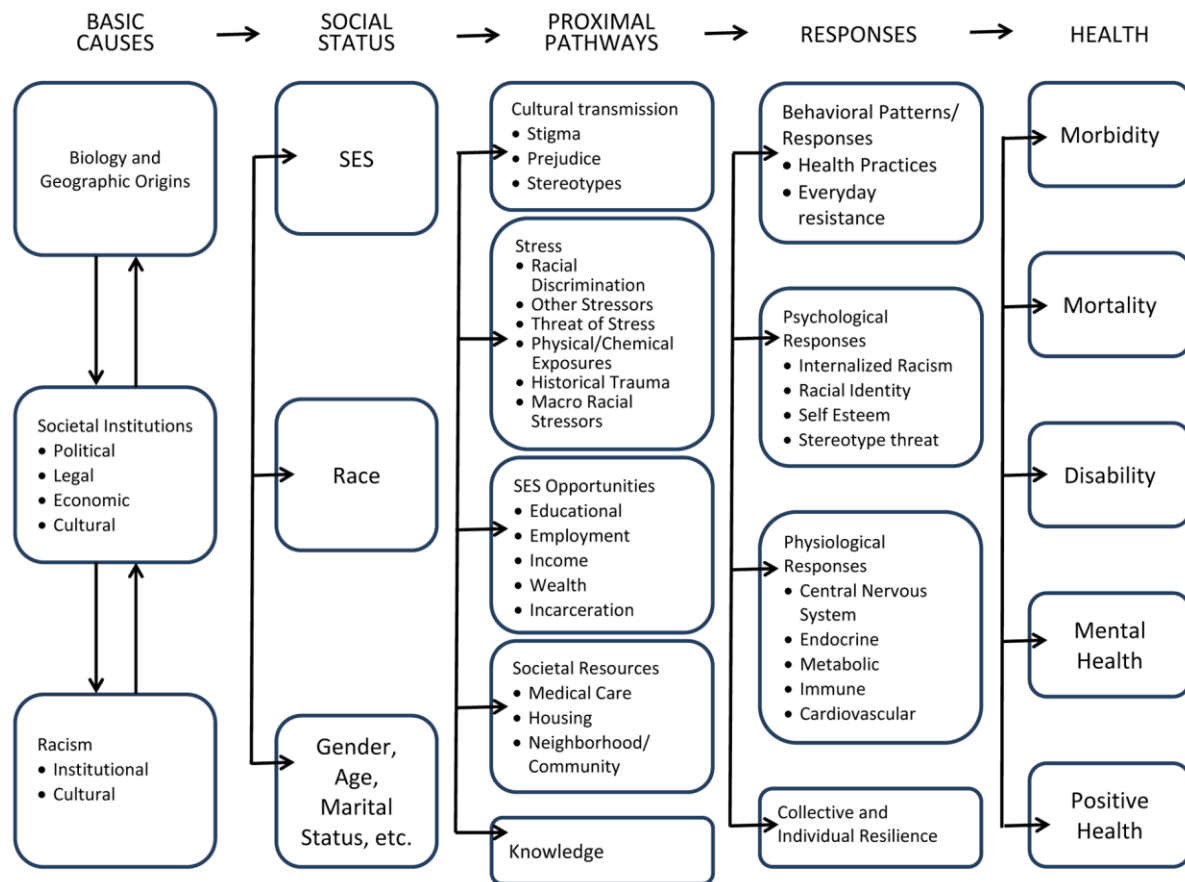
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Figure 1. WHO Commission on Social Determinants of Health Conceptual Framework



Source: Reprinted by Permission of World Health Organization © 2010. Figure A from Solar O, Irwin A. A Conceptual Framework for Action on the Social Determinants of Health. Social Determinants of Health Discussion Paper 2 (Policy and Practice). Geneva: World Health Organization; 2010.⁵⁷

Figure 2. A Framework for the Study of Racism and Health



Source: Reprinted by Permission of SAGE Publications, Inc. © 2013. Figure 1 from Williams DR, Mohammed SA. Racism and health I: pathways and scientific evidence. *Am Behav Sci.* 2013;57(8).²⁸

Box 1. Related and Associated Terms

- **Anti-racism:** An educational and organizing framework that seeks to confront, eradicate, and/or ameliorate racism.¹⁸² Anti-racism is structured around conscious efforts and deliberate actions to provide equitable opportunities for all people on an individual and systemic level.
- **Critical Race Theory:** A set of anti-racist principles, beliefs, and strategies that a group of Black legal scholars in the 1980s organized into a framework to target the subtle and systematic ways racism operates above and beyond any overly racist expressions. It is one way through which to examine racism (and resulting health inequities) and challenge racism.¹⁸³
- **Code switching:** Refers to adopting mannerisms, language, style, dress, or appearance to appear more "acceptable" to the dominant culture.^{184, 185}
- **Explicit or conscious bias:** The awareness of personal prejudices and attitudes that a person has toward another racial group or other racial groups. Explicit or conscious bias in its extreme form is characterized by overt negative behavior that can be expressed through physical and verbal harassment (e.g., racial slurs, hate crimes) or through more subtle means such as exclusion.^{186, 187}
- **Goal-striving stress:** The discrepancy between aspirations and achievement, weighted by the subjective probability of success and the level of disappointment experienced if goals are not reached. The resulting discrepancy between aspirations and achievement can be especially stressful and deleterious to health, contributing to elevated blood pressure and mental distress for both Black women and men in high-status jobs.¹⁸⁸
- **Implicit or unconscious bias:** The subconscious feelings, perceptions, attitudes, and stereotypes that have developed as a result of prior influences and imprints. Implicit or unconscious bias operates outside of a person's awareness and can be in direct contradiction to a person's beliefs and values. Implicit bias can interfere with clinical assessment, decision making, and provider-patient relationships such that the health goals that the provider and patient are seeking are compromised.^{187, 189}
- **Intersectionality:** A term coined by Black feminist and critical race scholar Kimberlé Crenshaw in 1989 that is used to understand and explain how aspects of a person's social and political identities (e.g., race, gender, sex, class, sexuality, religion) combine to create different modes of discrimination and privilege.¹⁹⁰ Intersectionality recognizes that identity markers (e.g., "woman" and "Black") do not exist independently of each other, and that each informs the other, often creating a complex convergence of oppression.^{191, 192}
- **Microaggression:** A term used for brief and commonplace daily verbal, behavioral, or environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative attitudes toward stigmatized or culturally marginalized groups.¹⁹³ Microaggressions are often unconsciously delivered in the form of subtle snubs or dismissive looks, gestures, and tones. Microaggressions have both psychologic and physiologic effects, which can have intergenerational effects.¹⁹⁴
- **Racial trauma/race-based stress (a.k.a. minority stress):** The events of danger related to real or perceived experience of racial discrimination.^{32, 47}
- **Racialization:** The process by which social meanings are attached to a constellation of biological, phenotypic, or otherwise observable features (e.g., skin tone, clothing).^{41, 195}
- **Reflexivity:** The examination of one's own beliefs, judgments, and practices during the research process and how these may have influenced the research.¹⁹⁶
- **Social justice:** A concept of fair and just relations between the individual and society centered around principles of equity, human rights, access to resources, and participation. Those who strive for social justice seek the redistribution of power to enhance the well-being of historically marginalized and stigmatized groups through equal access to healthcare, justice, and economic opportunity.¹⁹⁷
- **Social privilege:** Unearned advantages that one might take for granted while simultaneously not recognizing that others lack them.¹⁸⁴
- **Stereotype threat:** The activation of negative stereotypes among stigmatized groups that creates expectations, anxieties, and reactions that can adversely affect social and psychological functioning.^{28, 198, 199}
- **Stigmatization:** The process by which crude, generalizing stereotypes are attached to racialized groups.⁴¹
- **Tokenism:** The policy or practice of making only a performative or symbolic effort to be inclusive to a member or members of a 'minority', underrepresented, or disadvantaged group.²⁰⁰ Tokenism is often done to avoid criticism, and can occur in spaces where an individual stands apart because of their physical characteristics.²⁹
- **White fragility:** Discomfort and defensiveness on the part of a White person when confronted by information about racial inequality and injustice.¹⁸⁴
- **White privilege:** Refers to the historical status of White people and the contemporary advantages in access to quality education, decent jobs and livable wages, homeownership, retirement benefits, wealth, and so on.^{184, 201}

Table 1. Racial Categories in the United States*¹⁶

Racial category*	Definition
White	A person having origins in any of the original peoples of Europe, North Africa, or the Middle East
Black or African American	A person having origins in any of the Black racial groups of Africa
Native American† or Alaska Native	A person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment
Asian	A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent
Native Hawaiian or Other Pacific Islander	A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands

*Assignment to a racial category in census data is self-reported information.¹⁶

† Term used by US Census Bureau is American Indian.

Table 2. Racial and Ethnic Terminology Guidance Table

Racial and Ethnic Category	Guidance
Black and African American	<p>Guidance publications note that “African American” should not be used as an umbrella term for people of African ancestry worldwide because it obscures other ethnicities or national origins.^{22, 24}</p> <p>Black and African American are not always interchangeable. Some individuals prefer the term Black because they do not identify as African or American.^{22, 24, 202}</p>
Asian	<p>The American Psychological Association (APA) style guide states that, when writing about people of Asian ancestry from Asia, the term “Asian” is appropriate. For people of Asian descent from the United States, the appropriate term is “Asian American.” It is problematic to group “Asian” and “Asian American” as if they are synonymous.²²</p> <p>Given Asia’s size and diversity, the American Heart Association (AHA) states that regional references also may be acceptable. “Southeast Asian” is a common term and encompasses regions south of China, east of the Indian subcontinent, and northwest of Australia. “South Asian” refers to a region defined in geographical and ethno-cultural terms (e.g., Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka). “East Asian” includes China, Japan, Taiwan, Hong Kong, Mongolia, Macao, South Korea, and North Korea.²³</p>
Hispanic and Latinx	<p>There are discrepancies around the use of Hispanic. Hispanic refers to people from Spanish-speaking countries. Latino, Latina, or Latinx is a person of Latin American descent who can be of any background or language. Err on the side of using Latino, Latina, or Latin@ or Latinx if gender neutral.^{22, 202}</p>
Native Populations	<p>In reference to persons indigenous to North America, “American Indian,” “Native American,” and “Indigenous American” are acceptable. Specify the nation or people if possible (e.g., Cherokee, Navajo, Iroquois, Inuit, Samoan, Guamanian).^{22, 24}</p> <p>In Alaska, the Indigenous People may identify as “Alaska Natives.” The Indigenous Peoples in Alaska, Canada, Siberia, and Greenland may identify as a specific nation (e.g., Inuit). Avoid the term “Eskimo” because it may be considered pejorative.²²</p> <p>Some tribes and tribal nations use “member”; others use “citizen.” If in doubt, use “citizen.”²³</p>
White	<p>The use of the term “Caucasian” as an alternative to “White” or “European” is discouraged because it originated as a way of classifying White people as a race to be favorably compared with other races.²⁰³</p> <p>One guidance publication noted that it is important to be sensitive to sociopolitical instances in which the capitalization of “White” could be perceived as inflammatory or inappropriate (e.g., “white supremacy”).²⁴</p>
Biracial, multiracial, and multiethnic populations	<p>The terms “multiracial” and “multiethnic” are acceptable if the specific categories these terms comprise are defined. When possible, provide greater detail about the distribution of multiple race responses.²⁴</p> <p>AHA guidance suggests avoiding the term “mixed race” because the term may be offensive.²³</p> <p>If people belong to multiple racial or ethnic groups, the names of the specific groups are capitalized, but the terms “multiracial,” “biracial,” “multiethnic,” etc. are lowercase.²²</p>
Comparisons	<p>The APA style guide suggests avoiding nonparallel designations (e.g., “African Americans and Whites,” “Asian Americans and Black Americans”) because one group is described by color, whereas the other group is not. Instead, use “African Americans and European Americans” for the former example and “Asian Americans and African Americans” for the latter example.²²</p> <p>The APA style guide suggests avoiding the use of “White Americans and racial minorities.” The rich diversity within racial minorities is minimized when it is compared with the term “White Americans.”²²</p> <p>The American Medical Association style guide suggests avoiding the use of “non-” (e.g., “White and non-White participants”), which is a nonspecific “convenience” grouping and label. Such a “category” may be oversimplified and misleading, even incorrect.²⁰³</p>

Appendix A. Literature Searches

Aim 1 Search

Database: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to September 29, 2020>

Search Strategy:

-
- 1 *Racism/ or (racism or ((race or racial or ethnic\$) and (bias\$ or represent\$ or disparit\$ or imbalance\$))).ti. (8451)
 - 2 (guideline or practice guideline).pt. or clinical protocols/ or critical pathways/ or (standards or guideline or guidelines or position statement* or policy statement* or practice parameter* or best practice* or consensus or care pathway*).ti. or ((critical or clinical or practice) adj2 (path or paths or pathway or pathways or protocol* or parameter*)).ti. (187605)
 - 3 1 and 2 (30)
 - 4 Social theory/ or *Models, Theoretical/ or (define\$ or definition\$ or defining or praxis or framework\$ or theory or theoretical or theories or statement or concept\$ or determinant\$).ti. or underlying theor\$.ti,ab. (428061)
 - 5 1 and 4 (200)
 - 6 limit 5 to english language (199)

Aim 2 Question 2 and 3 Search

Database: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to November 10, 2020>

Search Strategy:

-
- 1 *Racism/ or Minority health/ or exp *Ethnic Groups/ (90188)
 - 2 racism.ti,ab. (3556)
 - 3 (race or racial or ethnic\$ or black\$ or "african american\$" or "native american\$" or indian\$ or hispanic\$ or latin\$ or non-white\$ or nonwhite\$ or asian\$ or islander\$).ti. (186112)
 - 4 (exp Ethnic Groups/ or (race or racial or ethnic\$ or black\$ or "african american\$" or "native american\$" or indian\$ or hispanic\$ or latin\$ or non-white\$ or nonwhite\$ or asian\$ or islander\$).ti,ab.) and (health services accessibility/ or health equity/ or Healthcare Disparities/) (15607)
 - 5 ((race or racial or ethnic\$ or black\$ or "african american\$" or "native american\$" or indian\$ or hispanic\$ or latin\$ or non-white\$ or nonwhite\$ or asian\$ or islander\$) adj4 (bias\$ or represent\$ or disparit\$ or imbalance\$ or equity or equitable or equal\$ or fair or parity or unequal\$ or inequal\$ or inequit\$ or undertreat\$ or under-treat\$ or access\$ or disparit\$ or discriminat\$)).ti,ab. (26814)
 - 6 or/1-5 (245642)
 - 7 Preventive health services/ or mass screening/ or mammography/ or Early detection of cancer/ or health behavior/ or papanicolaou test/ or vaginal smears/ (223278)
 - 8 (prevent\$ or screen\$ or risk assessment\$ or prophylaxis or primary care intervention\$ or behavior or behaviour or risk factor\$ or counsel\$ or supple\$ or healthy or promot\$ or chemoprevent\$).ti. (1213333)
 - 9 "prevention & control".fs. (1303432)
 - 10 or/7-9 (2349796)
 - 11 6 and 10 (31853)
 - 12 limit 11 to (english language and yr="2015 -Current") (9737)
 - 13 limit 12 to (systematic reviews pre 2019 or systematic reviews) (514)

Appendix A. Literature Searches

Aim 2 Question 2 and 3 Search

Database: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to November 24, 2020>

Search Strategy:

-
- 1 *Racism/ or Minority health/ or exp *Ethnic Groups/ (90386)
 - 2 (racism or racist\$.ti,ab. (3995)
 - 3 (race or racial\$ or ethnic\$ or black\$ or "african american\$" or "native american\$" or indian\$ or hispanic\$ or latin\$ or non-white\$ or nonwhite\$ or asian\$ or islander\$ or indigenous).ti. (196690)
 - 4 (exp Ethnic Groups/ or (race or racial\$ or ethnic\$ or black\$ or "african american\$" or "native american\$" or indian\$ or hispanic\$ or latin\$ or non-white\$ or nonwhite\$ or asian\$ or islander\$ or indigenous).ti,ab.) and (health services accessibility/ or health equity/ or Healthcare Disparities/) (16234)
 - 5 ((race or racial\$ or ethnic\$ or black\$ or "african american\$" or "native american\$" or indian\$ or hispanic\$ or latin\$ or non-white\$ or nonwhite\$ or asian\$ or islander\$ or indigenous) adj4 (bias\$ or represent\$ or disparit\$ or imbalance\$ or equity or equitable or equal\$ or fair or parity or unequal\$ or inequal\$ or inequit\$ or undertreat\$ or under-treat\$ or access\$ or discriminat\$ or minorit\$)).ti,ab. (41614)
 - 6 or/1-5 (263165)
 - 7 (exp *health personnel/ or Attitude of Health Personnel/ or "Standard of Care"/ or Culturally Competent Care/) and (exp Personnel Management/ or exp *education/ or exp inservice training/) (126036)
 - 8 ((racism or racist or race or racial\$ or cultural\$ or sensitivity or bias\$ or inclusion or inclusivity or divers\$ or ally\$ or allies or equit\$ or inequit\$ or Antioppression or anti-oppression or multicultural or represent\$ or imbalance\$ or equal\$ or fair or parity or unequal\$ or undertreat\$ or under-treat\$ or access\$ or disparit\$ or discriminat\$) adj2 (train\$ or workshop\$ or work force or workforce or hiring or recruit\$ or retention or mentor\$ or curricul\$ or target\$ or teach\$ or skill\$ or educat\$ or strateg\$ or competenc\$ or praxis or tackl\$ or implement\$ or intervention\$ or approaches or program\$ or polic\$)).ti,ab. (76427)
 - 9 7 or 8 (200389)
 - 10 6 and 9 (8860)
 - 11 ((racism or racist or race or racial\$ or cultural\$ or sensitivity or bias\$ or inclusion or inclusivity or divers\$ or ally\$ or allies or equit\$ or inequit\$ or Antioppression or anti-oppression or multicultural or represent\$ or imbalance\$ or equal\$ or fair or parity or unequal\$ or undertreat\$ or under-treat\$ or access\$ or disparit\$ or discriminat\$) adj2 (train\$ or workshop\$ or work force or workforce or hiring or recruit\$ or retention or mentor\$ or curricul\$ or target\$ or teach\$ or skill\$ or educat\$ or strateg\$ or competenc\$ or praxis or tackl\$ or implement\$ or intervention\$ or approaches or program\$ or polic\$)).ti. (7851)
 - 12 Social Justice/ or Racism/pc or Social Discrimination/pc or Cultural Competency/ed (13448)
 - 13 10 or 11 or 12 (28292)
 - 14 limit 13 to (systematic reviews pre 2019 or systematic reviews) (923)
 - 15 limit 14 to (english language and yr="2015 -Current") (486)
 - 16 Preventive health services/ or mass screening/ or mammography/ or Early detection of cancer/ or health behavior/ or papanicolaou test/ or vaginal smears/ (223747)
 - 17 (prevent\$ or screen\$ or risk assessment\$ or prophylaxis or primary care intervention\$ or behavior or behaviour or risk factor\$ or counsel\$ or supple\$ or healthy or promot\$ or chemoprevent\$).ti. (1218315)
 - 18 "prevention & control".fs. (1305846)

Appendix A. Literature Searches

- 19 or/16-18 (2356794)
- 20 6 and 19 (34595)
- 21 limit 20 to (systematic reviews pre 2019 or systematic reviews) (1237)
- 22 limit 21 to (english language and yr="2015 -Current") (609)
- 23 15 or 22 (1020)
- 24 Torres.ti. or sensory discrimination.ti,ab. (1384)
- 25 23 not 24 (1001)

Appendix B. Professional Organizations' Statements, Frameworks, and Other Resources Related to Racism and Health Equity

Organization	Relevance for Current Report	Addressing Race/Racism/Health Equity
Agency for Healthcare Research and Quality (AHRQ)*		<p>National Healthcare Quality and Disparities Reports²⁰⁴ [2019 is most recent]</p> <p>Framework: Race, Ethnicity, and Language Data: Standardization for Health Care Quality Improvement²⁰⁵ (9/12; Institute of Medicine) [framework²⁰⁵ -- 2009; Public Health Reports]</p> <p>The role of racism as a core patient safety issue²⁰⁶ (Article; 2/5/20; Institute for Healthcare Improvement)</p> <p>The Impact of Skin Color and Ethnicity on Clinical Diagnosis and Research²⁰⁷ (Conference Proceedings; 10-12/20)</p>
American Academy of Family Physicians (AAFP)*		<p>Policy statement: Race Based Medicine²⁰⁸ defines race as a social construct and states that AAFP opposes the use of race as a proxy for biology or genetics in research and clinical evaluation and management.</p> <p>Policy statement: recognizing the impact of institutional racism²⁰⁹ within the U.S. health care delivery system.</p> <p>Bibliography: <i>Annals of Family Medicine</i> has put together a bibliography²¹⁰ of scholarship generated by the family medicine community on the topic of racism in medicine.</p>
American Academy of Pediatrics*		<p>Policy Statement: Evidence-based policy statement on The Impact of Racism on Child and Adolescent Health¹⁴⁶ published in August 2019. Statement includes recommendations for pediatricians and child health professionals.</p> <p>News release²¹¹ from June 1, 2020 with recommendations for having conversations with children.</p> <p>Talking to Children about Racial Bias²¹² resource.</p>
American Cancer Society (ACS)	Aim 2 - Health Equity Principles	<p>Aim 2: Health Equity Principles¹³³ document guiding ACS research, services, policies, and programs.</p> <p>Advancing Health Equity¹⁴² page includes resources as well as specific actions for addressing cancer disparities in the Black community.</p>
American College of Cardiology (ACC)	Aim 2 - Diversity and Inclusion Strategy and Principles	<p>Aim 2: In 2019, adopted Diversity and Inclusion Strategy and Principles¹³⁴ to guide the actions of the ACC.</p> <p>Anti-Racism¹³⁵ and Health Equity¹³⁶ resource centers</p> <p>June 2020 <i>Cardiology Magazine</i> focused on health inequities, including cover story on Health Disparities and SDOH: Time for Action²¹³ and Black Lives Need to Matter: Examining the Inequities within Medicine¹³⁶.</p> <p>ACC published statement¹³⁵ in June 2020 standing with Association of Black Cardiologists and the AHA in denouncing racism and violence.</p>

Appendix B. Professional Organizations’ Statements, Frameworks, and Other Resources Related to Racism and Health Equity

Organization	Relevance for Current Report	Addressing Race/Racism/Health Equity
American College of Obstetricians and Gynecologists (ACOG)*	Aim 2 - Toolkits; Policy Priorities/Initiatives	<p>Aim 2: Resources¹³⁴ page includes clinical guidance, statements of policy, and clinical resources outlining strategies for combating racism and bias in the delivery of women’s health care, including two toolkits: ACOG Postpartum Toolkit¹³⁸; and ACOG/Alliance for Innovation on Maternal Health (AIM) patient-safety toolkit bundle, Reduction of Peripartum Racial/Ethnic Disparities.²¹⁴</p> <p>Aim 2: Commitment²¹⁵ to Changing the Culture of Medicine and Eliminating Racial Disparities in Women’s Health Outcomes. Policy Priority/Initiatives²¹⁶ to eliminate preventable maternal mortality.</p> <p>Statement²¹⁷ [6/2/20]. Collective action statement [with other organizations] published 8/27/20.²¹⁸</p> <p>Position statement²¹⁹ published May 2020 on Addressing Health Equity During the COVID-19 Pandemic.</p>
American College of Physicians (ACP)*	Aim 2 - Policy Framework and Recommendations	<p>Aim 2: Policy Framework: Understand and Address Disparities and Discrimination in Health and Health Care¹³⁰ (January 2021)</p> <p>Policy Statements: Racism and Health in the U.S.²²⁰ published October 2020; Diversity, Equity, and Inclusion Policy²²¹ published in July 2019.</p> <p>Position paper²²⁰ examining the prevalence of racism and discrimination in the U.S. (6/19/20)</p> <p>Position paper²²² published in May 2010 on Racial and Ethnic Disparities in Health Care.</p>
American Diabetes Association		<p>Health Equity Now²²³ page includes action items and a Health Equity Bill of Rights.</p>
American Gastroenterological Association (AGA)	Aim 2 - Equity Project and Anti-Racism Framework	<p>Aim 2: AGA Equity Project¹⁴¹ – initiative to achieve equity and eradicate disparities in digestive diseases.</p> <p>Aim 2: From Intention to Action: Operationalizing AGA Diversity Policy to Combat Racism and Health Disparities in Gastroenterology¹³¹</p> <p>Statement²²⁴ [6/2/20]</p>
American Heart Association (AHA)	<p>Aim 1 - Structural Racism and Health Equity Language Guide</p> <p>Evidence Base Remediation - Disparities Research Guidelines; Best Practices for Scientific Manuscripts</p>	<p>Aim 1: Structural Racism and Health Equity Language Guide²³ (AHA Office of Health Equity)</p> <p>Evidence Base Remediation: AHA/ASA [American Stroke Association] Disparities Research Guidelines²²⁵ (February 2021) – new instructions for authors performing racial and ethnic disparities research</p> <p>Evidence Base Remediation: Best Practices for Scientific Manuscripts - The Groundwater of Racial and Ethnic Disparities Research²²⁶ (February 2021)</p> <p>Joint statement²²⁷ on health equity, social justice, and civil unrest from the Association of Black Cardiologists, the American Heart Association, and the American College of Cardiology (5/31/20)</p> <p>Published article²²⁸ in July 2020 on new research showing that a lifetime of exposure to the stresses of discrimination may increase the risk of high blood pressure in African Americans</p>

Appendix B. Professional Organizations’ Statements, Frameworks, and Other Resources Related to Racism and Health Equity

Organization	Relevance for Current Report	Addressing Race/Racism/Health Equity
		<p>Statement¹⁶ for healthcare professionals from the American Heart Association/American Stroke Association</p> <p>Structural racism causes poor health, premature death from heart disease and stroke²²⁹ (11/10/20)</p> <p>Structural racism is a driver of health disparities²³⁰ (report; 11/10/20)</p> <p>Want to fix structural racism in health care? Start here, panel says²³¹ (11/14/20)</p> <p>Scientific Sessions 2020 – Structural Racism as a Public Health Crisis²³²</p> <p>Structural racism flowchart²³³</p> <p>Structural racism infographic²³⁴</p> <p>Structural racism flyer²³⁵ [Scientific Session 11/14/20; American Heart Association (AHA)/Association of Black Cardiologists (ABC)]</p> <p>Call to Action²³⁶ (11/10/20; resources at this link too)</p>
American Medical Association (AMA)*	<p>Aim 1 - Reporting Race and Ethnicity in Medical Journals</p> <p>Aim 2 - Collaboration with Community, West Side United</p>	<p>Health Equity¹⁴² page with resources.</p> <p>Aim 1: 2/22/21 JAMA article: The Reporting of Race and Ethnicity in Medical and Science Journals²⁴</p> <p>Aim 2: Collaborating with West Side United,²³⁷ which seeks to “improve neighborhood health by addressing inequality in healthcare, education, economic vitality and the physical environment using a cross-sector, place-based strategy. Partners include healthcare providers, education providers, the faith community, business, government and others working together to coordinate investments and share outcomes.”</p> <p>Policy Statements: Racism is a threat to public health²³⁸ (11/16/20) and recognizing race as a social, not biological, construct¹⁰ (11/16/20)</p> <p>Board of Trustees pledges action²³⁹ against racism, police brutality (6/7/20)</p> <p>Prioritizing Equity video series: The Root Cause²⁴⁰ (6/3/20)</p> <p>Time to tackle hard questions on root causes of health inequities (6/24/20); Special AMA Meeting²⁴¹</p> <p>Why clinical algorithms fall short²⁴² on race (10/8/20)</p> <p>The AMA and the Business Group on Health collaborated on this January 2021 (podcast), The American Medical Association’s Commitment to Confronting Racism and Prioritizing Health Equity.²⁴³</p>
American Medical Informatics Association		<p>Statement²⁴⁴ published on June 3, 2020. Member-led AMIA Diversity, Equity, and Inclusion Task Force.²⁴⁵</p> <p>Digital Health Equity Workshop (11/14/20); https://www.amia.org/amia2020/wish2020</p>
American Osteopathic Association*		<p>Statement²⁴⁶ 6/4/20</p> <p>Recommendations for combatting racism: 5 ways to combat racism²⁴⁷ and be an ally to African Americans in the healthcare setting (6/16/20)</p>

Appendix B. Professional Organizations' Statements, Frameworks, and Other Resources Related to Racism and Health Equity

Organization	Relevance for Current Report	Addressing Race/Racism/Health Equity
American Psychiatric Association	Aim 1 - Task Force on Structural Racism Glossary of Terms	<p>Statement²⁴⁸ published on June 1, 2020, condemning racism. Position statement published in July 2020 on Resolution Against Racism and Racial Discrimination and Their Adverse Impacts on Mental Health.</p> <p>Aim 1: Structural Racism Task Force¹⁸⁴ Glossary of Terms (6/20)</p>
American Psychological Association (APA)*		<p>Statement²⁴⁹ [5/29/20]</p> <p>Policy Statement: Statement²⁵⁰ published in September 2020 announcing that APA is working to dismantle institutional racism both within APA and psychology.</p> <p>Topics page²⁵¹ on race with resources on understanding racism, bias, and discrimination.</p> <p>Civil Rights²⁵² topics page</p> <p>Call for Papers²⁵³ (6/1/21): Anti-Racism and Psychotherapy</p>
American Society for Reproductive Medicine		<p>Task Force: Diversity, Equity, and Inclusion Task Force²⁵⁴ charged with enhancing opportunities to support diversity and equity and reducing/eliminating health disparities in access to reproductive care.</p>
American Society of Clinical Oncology	Aim 2 - Recommendations for Promoting Health Equity	<p>Aim 2: New Policy Statement¹⁴⁴ (published online 8/12/20); Table 1, <i>Recommendations for Promoting Health Equity</i></p> <p>Statement²⁵⁵ [6/3/20]</p> <p>Gastrointestinal Cancers Symposium 2021²⁵⁶ <i>Old Disparities Are New Again</i></p> <p>AMA Delegates Take Action²⁵⁷ on Racism, Home Infusion, and Co-Pay Accumulators (11/24/20)</p> <p>ASCO's Commitment to Equity in Cancer Care²⁵⁸ Reaching Every Patient, Everywhere (1/12/21)</p> <p>National Survey²⁵⁹ Reveals Racial Differences in Perceptions of Inequities in Health Care and Concerning Delays in Cancer Screenings Amid COVID-19 (10/1/20)</p>
America's Health Insurance Plans (AHIP)*		<p>Letter²⁶⁰ to the National Association of Insurance Commissioners outlining AHIP's efforts to take action including creation of a Health Equity Workgroup.</p> <p>AHIP Responds to Final Rule Seeking to Eliminate Nondiscrimination Protections in Health Care²⁶¹ (6/12/20)</p>
Association of American Medical Colleges (AAMC)		<p>Framework for Addressing and Eliminating Racism at the AAMC, in Academic Medicine, and Beyond²⁶² focuses on four levels for action: individual, organization, academic medicine community, and the broader community.</p>

Appendix B. Professional Organizations’ Statements, Frameworks, and Other Resources Related to Racism and Health Equity

Organization	Relevance for Current Report	Addressing Race/Racism/Health Equity
Association of State and Territorial Health Officials (ASTHO)		<p>Policy Statement: Achieving Optimal Health for All by Eliminating Structural Racism²⁶³ proposes actions to promote health equity and optimal health for ASTHO and for state and territorial health agencies in the areas of leadership and capacity building.</p> <p>ASTHO Preventive Health and Health Services Block Grant Guiding Principles²⁶⁴ include mention of health equity as an integral cross cutting factor.</p> <p>Overview²⁶⁵ of state legislation to declare racism a public health crisis and address institutional racism.</p>
The California Endowment		<p>Conducts Diversity, Equity, and Inclusion Audits, including presenting key areas of progress and opportunity. 2017 Audit Report²⁶⁶</p>
Centers for Disease Control and Prevention (CDC)*	<p>Aim 2 - A Practitioner’s Guide for Advancing Health Equity</p>	<p>Aim 2: A Practitioner’s Guide for Advancing Health Equity²⁶⁷ (2013)</p> <p>Health Equity page,²⁶⁸ with Health Equity Considerations and Racial and Ethnic Minority Groups, What We Can Do, Health Equity Strategy (re COVID), and COVID-19 Racial and Ethnic Health Disparities tabs.</p> <p>Health Disparities in HIV/AIDS, Viral Hepatitis, STDs, and TB²⁶⁹ [including brief text re “Defining Health Disparities”]</p> <p>National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) Social Determinants of Health page²⁷⁰</p>
Centers for Medicare & Medicaid Services (CMS)*	<p>Aim 2 - Equity Plan for Medicare; Health Equity Summary Score [HESS; not yet available for public use]</p>	<p>Aim 2: CMS Equity Plan for Medicare¹⁴⁸ [updated Progress Report; January 2021]</p> <p>Aim 2: Incentivizing Excellent Care to At-Risk Groups with a Health Equity Summary Score¹⁴⁹ (November 2019)</p> <p>Advancing Health Equity R&D Plans²⁷¹</p> <p>CMS Office of Minority Health²⁷²</p>
Commonwealth Fund	<p>Aim 2 - Policy Imperatives</p>	<p>Aim 2: Advancing Racial Equity in Health Care²⁷³ brief presents six policy imperatives (November 2020)</p> <p>Statements published in June²⁷⁴ and July²⁷⁵ 2020 standing against racism and creating a Health Equity Fund.</p> <p>Article²⁷⁶ published in 2018 highlighting health systems that are making efforts to identify implicit bias and structural racism in their organizations.</p>

Appendix B. Professional Organizations’ Statements, Frameworks, and Other Resources Related to Racism and Health Equity

Organization	Relevance for Current Report	Addressing Race/Racism/Health Equity
Community Preventive Services Task Force (CPSTF)*	Aim 2 - Health Equity Recommendations	<p>Aim 2: Recommendations¹⁴⁷ focused on health equity.</p> <p>Scientific Resource Center Team met with CPSTF 12/18/20 and will collaborate on ongoing work as much as possible.</p> <ul style="list-style-type: none"> CPSTF review team dedicated to intervention reviews (programs or policies) postulated to promote or enhance health equity (primarily through interventions to modify determinants of health). <p>CPSTF subcommittee charged with looking into ways to enhance our consideration of health equity across all reviews.</p>
Council of Medical Specialty Societies		<p>Issued statement²⁷⁷ on racism in healthcare on June 1, 2020. Resources on Racism, Diversity, Equity, and Inclusion²⁷⁸ collects resources and statements from 45 member societies.</p> <p>Identifies Diversity, Equity, and Inclusion²⁷⁹ as a strategic priority. Website²⁸⁰ lists actions to date.</p>
Department of Defense/ Department of Veterans Affairs*		<p>Health Services Research & Development – Equity Portfolio²⁸¹</p> <p><i>For example:</i> HSR&D Study IR 11-328 Motivating Providers to Reduce Racial Disparities in Their Own Practice²⁸² Diana J. Burgess PhD Minneapolis VA Health Care System, Minneapolis, MN Funding Period: June 2013 - May 2017</p>
Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group	Aim 2 - Health equity in the GRADE methodology	<p>Aim 2: GRADE equity guidelines series¹⁷³ – considers health equity in the GRADE methodology for development of clinical, public health, and health system guidelines.</p>
Guidelines International Network (G-I-N)		<p>Incorporating equity into developing and implementing for evidence-based clinical practice guidelines¹⁷⁷ (2011)</p> <p>Evidence-based clinical guidelines for immigrants and refugees¹⁷⁸ (2011)</p>
Health Resources and Services Administration (HRSA)*		<p>Health Equity Report²⁸³ (2017) presents a comprehensive analysis of HRSA’s program efforts in reducing health disparities and promoting health equity for various populations at the national, state, and local levels.</p> <p>High Value Healthcare and Health Equity²⁸⁴: It Takes a Team (10/2020); section on SDOH [Advisory Committee on Interdisciplinary, Community-Based Linkages report to Department of Health and Human Services Secretary and Congress]</p> <p>Secretary’s Advisory Committee on Infant Mortality (SACIM) Taking Action: Respectful Care of Pregnant and Birthing People²⁸⁵ SACIM [June 2020 presentation to SACIM/HRSA by Dr. Joia Crear-Perry, NBEC]</p>

Appendix B. Professional Organizations’ Statements, Frameworks, and Other Resources Related to Racism and Health Equity

Organization	Relevance for Current Report	Addressing Race/Racism/Health Equity
		<p>Innovations in Primary Care Education and Training Developing Community Partnerships to Improve Population Health²⁸⁶ (10/2020); sections on <i>Implicit Bias, Structural Racism, and Health Outcomes</i> and SDOH [Advisory Committee on Training in Primary Care Medicine and Dentistry report to Department of Health and Human Services Secretary and Congress]</p> <p>Health Equity Workgroup Report¹⁸⁶ (6/2020)</p>
<p>Institute for Healthcare Improvement (IHI)</p>	<p>Aim 2 - Pursuing Equity Learning and Action Network; Framework and Guidance for Healthcare Organizations; Training</p>	<p>Aim 2: [Training] Pursuing Equity Learning and Action Network¹⁵¹ (10/2020) aims to reduce inequities in health and healthcare access, treatment, and outcomes by implementing comprehensive strategies to create and sustain equitable health systems. At the end of the initiative, participating teams will have built knowledge and skills across the five-component framework presented in the 2016 IHI White Paper, <i>Achieving Health Equity: A Guide for Health Care Organizations</i>, and will be actively working to apply improvement methods to narrow clinical inequities.</p> <p>Aim 2: Achieving Health Equity: A Guide for Health Care Organizations¹²⁹ provides guidance on how healthcare organizations can reduce health disparities and a framework, with five key components, for organizations to improve health equity in the communities they serve.</p>
<p>Indian Health Service (IHS)*</p>		<p>Disparities Fact Sheet²⁸⁷ (last updated 10/2019)</p>
<p>Kaiser Family Foundation</p>	<p>Aim 2 - Racial Equity and Health Policy Program</p>	<p>Aim 2: Racial Equity and Health Policy Program¹⁵³ provides data and policy analysis on health and healthcare disparities affecting people of color and efforts to advance racial equity in healthcare.</p> <p>Chart Packs¹⁵⁴ Key Facts on Health and Health Care by Race and Ethnicity (demographics; health coverage, access, and utilization; and health status by race and ethnicity)</p>
<p>W.K. Kellogg Foundation</p>	<p>Aim 2 - Truth, Racial Healing & Transformation Framework and Implementation Guidebook</p>	<p>Aim 2: Truth, Racial Healing & Transformation¹⁵⁵ (TRHT) framework to plan for and bring about transformational and sustainable change, and to address the historic and contemporary effects of racism.</p> <p>Aim 2: Developed TRHT Implementation Guidebook.¹⁵⁵ Framework consists of 5 areas: Narrative Change, Racial Healing and Relationship Building, Separation, Law, and Economy.</p>
<p>National Academies of Sciences, Engineering, and Medicine (NASEM)</p>	<p>Aim 2 - Framework; Culture of Health Program</p>	<p>Aim 2: <i>Institutionalizing Racial Equity</i> in Framing the Dialogue on Race and Ethnicity to Advance Health Equity: Proceedings of a Workshop²⁸⁸. 2016 Oct 5. National Academies Press (US).</p> <p>Aim 2: National Academy of Medicine’s (NAM’s) Culture of Health Program¹⁵⁸ (funded by the Robert Wood Johnson Foundation) is a multiyear collaborative effort to identify strategies to create and sustain conditions that support equitable good health for everyone in America</p> <p>NAM Statement on Racial Equity²⁸⁹ and the Adverse Effects of Racism (6/3/2020)</p> <p>NAM Leadership Consortium Culture and Inclusiveness Action Collaborative Webinar²⁹⁰, including “System and Policy-Level Strategies to Address Health and Health Care Equity” (7/7/2020); meeting highlights²⁹¹</p>

Appendix B. Professional Organizations’ Statements, Frameworks, and Other Resources Related to Racism and Health Equity

Organization	Relevance for Current Report	Addressing Race/Racism/Health Equity
		NAM Discussion Paper (M. Simon et al.), ²⁹² Patient and Family Engaged Care: An Essential Element of Health Equity
National Association of County & City Health Officials (NACCHO)*	Aim 2 - Roots of Health Inequity Training; Health Equity and Social Justice Toolkit	<p>Aim 2: Training: The Roots of Health Inequity²⁹³ course and handbook; “Advancing Public Narrative for Health Equity and Social Justice.”</p> <p>Aim 2: Toolkit: Health Equity and Social Justice Toolkit²⁹⁴</p> <p>Open Society Public Health Program with the New York City Department of Health and Mental Hygiene’s (DOHMH) Center for Health Equity (CHE), convened multidisciplinary experts to share ideas to end health-harming racism and inequalities. Published a summary report.¹⁶⁵ “Building Narrative Power for Racial Justice and Health Equity.”</p>
National Business Group on Health*		<p>The Business Group on Health has a Health Equity page²⁹⁵ on their website; currently it has a podcast and an issue brief there: Overcoming Health Disparities to Achieve Health Equity²⁹⁶ [podcast 10/26/2020] Achieving Optimal Well-Being by Reducing Disparities and Promoting Health Equity²⁹⁷ [issue brief 2/25/2020]</p> <p>The Business Group on Health also has a Social Determinants of Health page²⁹⁸ on its website and an Equity, Diversity, and Inclusion page.²⁹⁹</p> <p>The AMA and the Business Group on Health collaborated on this January 2021 (podcast), The American Medical Association’s Commitment to Confronting Racism and Prioritizing Health Equity.²⁴³</p>
National Cancer Institute (NCI)*	Evidence-Base Remediation	<p>Evidence-Base Remediation/Training [Cancer Research]: The Center to Reduce Cancer Health Disparities (CRCHD)¹⁶⁷ is central to NCI’s efforts to reduce the unequal burden of cancer in our society via basic and community research, as well as networks, and to train the next generation of competitive researchers from diverse populations in cancer and cancer health disparities research.</p> <p>CRCHD Dialogue on Disparities³⁰⁰ Continuing Our Work in the Time of Two Pandemics (7/2020)³⁰¹ Cancer Disparities³⁰²</p> <p>“The Science of Research on Racial/Ethnic Discrimination and Health,”³⁰³ a supplement to the <i>American Journal of Public Health</i> (May 2012; 102(5):930-1034). The theme issue aims to highlight the need for and state of empirical research on racial/ethnic discrimination and its association with the health and healthcare received by racial/ethnic minority populations.</p> <p>Context and Equity in Implementation Science Overview³⁰³ (Implementation Science Consortium in Cancer (ISSC)/NCI Presentation)</p> <p>2020 Division of Cancer Epidemiology and Genetics (DCEG) Fellows’ Symposium Focused on Research in Underrepresented Populations (7/2020)³⁰⁴</p>

Appendix B. Professional Organizations' Statements, Frameworks, and Other Resources Related to Racism and Health Equity

Organization	Relevance for Current Report	Addressing Race/Racism/Health Equity
National Committee for Quality Assurance (NCQA)*		<p>Statement published June 9, 2020.³⁰⁵</p> <p>NCQA awards Distinction in Multicultural Health Care³⁰⁶ to organizations that meet or exceed standards in providing culturally and linguistically appropriate services (CLAS).</p>
National Institute for Health and Care Excellence (NICE)		<p>NICE's "Social Value Judgements about Equity in Health and Health Care"³⁰⁷ 2011 research paper on incorporating equity into guidelines.</p> <p>NICE Social Care Guidance Manual³⁰⁸</p>
National Institutes of Health/National Institute on Minority Health and Disparities*	<p>Evidence-Base Remediation - UNITE [includes promoting workforce diversity]</p>	<p>NIH Minority Health and Health Disparities Strategic Plan³⁰⁹ 2021-2025 The Science of Health Disparities Research textbook³¹⁰</p> <p>The National Institute on Minority Health and Health Disparities (NIMHD)³¹¹ led a National Institutes of Health-wide, two-year science visioning process to chart a new research course to improve minority health and reduce health disparities.¹⁶⁸ The <i>American Journal of Public Health (AJPH)</i> special issue, <i>New Perspectives to Advance Minority Health and Health Disparities Research</i>, is the culmination of this process with input from experts to help NIH determine the science needed to address health disparities. Thirty specific research strategies were identified across the three pillars that guided the science visioning: methods and measurement, etiology, and interventions. [1/31/19]</p> <p>National Institute on Minority Health and Health Disparities hosted a workshop³¹² in 2017 on Structural Racism/Discrimination</p> <p>Evidence-Base Remediation: UNITE (NIH initiative) established to identify and address structural racism within the NIH and scientific community.¹³²</p>
Office of Disease Prevention and Health Promotion*	<p>Aim 1 - terminology [Healthy People 2020]⁴⁶</p>	<p>Aim 1: Healthy People 2030 organizes the social determinants of health into 5 domains: Economic Stability Education Access and Quality Healthcare Access and Quality Neighborhood and Built Environment Social and Community Context Discrimination³¹³ is a key issue in the Social and Community Context domain.</p>
Office of Minority Health (OMH)		<p>Think Cultural Health³¹³ is dedicated to advancing health equity at every point of contact. This website features information, continuing education opportunities, resources, and more for health and healthcare professionals to learn about culturally and linguistically appropriate services, or CLAS. Launched in 2004, Think Cultural Health is sponsored by the Office of Minority Health.</p> <p>National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care³¹⁴</p> <p>Note: <i>Health Equity Timeline (etc.) stops 2016</i></p>

Appendix B. Professional Organizations’ Statements, Frameworks, and Other Resources Related to Racism and Health Equity

Organization	Relevance for Current Report	Addressing Race/Racism/Health Equity
Patient-Centered Outcomes Research Institute (PCORI)*		<p>Racism and Discrimination in Health Care: Raising Our Collective Consciousness³¹⁵ 9/17/2020 – PCORI Annual Meeting, Opening Keynote (Lisa Cooper)</p> <p>PCORI website currently lists 7 projects that have an addressing-racism aspect. Statement³¹⁶ published on June 9, 2020.</p> <p>2016 research project [with final report expected 9/2021] focused on Helping Doctors Understand Racial/Ethnic Minority Patients’ Treatment Preferences to Improve Patients’ Healthcare Experiences.³¹⁷</p>
Pew Research Center		<p>Racism is a Public Health Crisis, Say Cities and Counties³¹⁸ [article, 6/2020]</p> <p>Statement³¹⁹ [6/5/2020]</p> <p>An examination of HIAs’ contribution to improvements in community health outcomes³²⁰ [report, 11/2020]</p> <p>State Courts Seek to Address Racial Disparities in Their Operations³²¹ [article, 1/2021]</p>
Robert Wood Johnson Foundation (RWJF)	Aim 2 - Advancing Health Equity Learning Collaborative	<p>Aim 2: Advancing Health Equity Learning Collaborative¹⁶² (2019)</p> <p>Statement³²² from RWJF President on June 2, 2020.</p> <p>Collection on Racism and Health¹⁵⁹ with links to resources. Topic page on Achieving Health Equity³²³ with links to resources and action items.</p> <p>Working with multiple organizations, including the National Academy of Medicine (NAM), to build a Culture of Health.¹⁶¹ In collaboration with RAND created a Culture of Health Action Framework³²⁴ that sets a national agenda to improve health, equity, and well-being.</p>
Substance Abuse and Mental Health Services Administration (SAMHSA)*		<p>Agency-wide Disparity Impact Strategy³²⁵ (website last updated 11/3/20)</p> <p>The SAMHSA Office of Behavioral Health Equity³²⁶ coordinates SAMHSA’s efforts to reduce disparities in mental and/or substance use disorders across populations.</p> <p>National Network to Eliminate Disparities (NNED)³²⁷ in Behavioral Health has been a multi-agency funded effort with primary funding by SAMHSA. It is managed by SAMHSA’s Office of Behavioral Health Equity, and the NNED National Facilitation Center is operated by Change Matrix.</p> <p>Briefs/reports available at the NNED website,³²⁸ including this: the Office of Behavioral Health Equity responded to a request for information on Trauma, Racism, Chronic Stress and the Health of Black Americans³²⁹ published June 2020.</p>
Urban Institute		<p>Structural Racism in America³³⁰ [projects, resources]</p> <p>Examining how structural racism continues to disproportionately segregate communities of color from access to opportunity and upward mobility by making it more difficult for people of color to secure quality education, jobs, housing, healthcare, and equal treatment in the criminal justice system. Urban Institute researchers have called and are calling attention to the role of race and racism in our public and private</p>

Appendix B. Professional Organizations' Statements, Frameworks, and Other Resources Related to Racism and Health Equity

Organization	Relevance for Current Report	Addressing Race/Racism/Health Equity
		institutions and offer evidence-based solutions for how to address these inequities. Urban Institute scholars will play a crucial role as we continue to elevate the public discourse around race and racism in America.
World Health Organization (WHO)		<p>WHO Handbook for Guideline Development, 2nd ed. (2014)³³¹ contains a section on incorporating equity, human rights, gender and social determinants into guidelines; details eight entry points for integrating equity, human rights, gender and the social determinants of health into WHO guidelines; and describes incorporating equity, human rights, gender and social determinants into each step in guideline development (planning, development, and publishing & updating).</p> <p>SDOH³³² listed as a Health Topic.</p> <p>New methods for identifying which adolescents are being left behind in accessing health services and why (2018)¹⁸⁰</p>

*USPSTF Partner Organizations.

Appendix C. Key Informant Interviews

Key Informants

- **Joia Adele Crear-Perry, MD**, Founder and President, National Birth Equity Collaborative, Washington, DC
- **Thomas LaVeist, PhD**, Chair of Public Health Equity, Tulane University, New Orleans, LA
- **Aletha Maybank, MD, MPH**, Chief Health Equity Officer and Senior Vice President, American Medical Association, Chicago, IL
- **Leo Morales, MD, PhD**, Chief Diversity Officer and Director of the Center for Health Equity, Diversity, and Inclusion, University of Washington School of Medicine, Seattle, WA
- **Keith Norris, MD, PhD**, Professor of Medicine, The University of California, Los Angeles, Division of General Internal Medicine and Health Services Research, Los Angeles, CA
- **Monica Peek, MD, MPH**, Associate Professor of Medicine and Associate Director, Chicago Center for Diabetes Translational Research, The University of Chicago Pritzker School of Medicine, Chicago, IL

Interview Guide

**U.S. Preventive Services Task Force (USPSTF)
Agency for Healthcare Research and Quality (AHRQ) Scientific Resource Center (SRC)
Addressing Racism Methods Project
--Key Informant Interviews--**

Introduction

Thank you for joining us today. My name is _____ and I am from Abt Associates, Inc. We work on several projects to help support the work of the U.S. Preventive Services Task Force (USPSTF). The purpose of this project is to work with the USPSTF to support its methodological and evidence needs in seeking to address racism and health inequities and to better understand how racism prevents the achievement of prevention goals. The USPSTF is also aiming to evolve its recommendations portfolio to more directly address racism and health disparities by race/ethnicity. The aims of this project are: 1) to articulate the definitional and conceptual issues around racism and health inequities and 2) to describe how racism and health inequities are currently being addressed in preventive health.

Are you familiar with the work of the USPSTF? [*If not, provide some background here, including regarding 'preventive health.'*]*Do you have any questions before we get started?

We would like to audio-record our discussion so that we can go back and make sure we correctly capture what you told us. We will delete this recording once we are done capturing all of the notes. Is this OK with you? We will not ask any questions that are personal or sensitive; however, if you feel uncomfortable you may stop the interview at any time. It may be the case that we would like to include quotations from these interviews in our final report. Please let us know if this is not OK with you and we will make sure to not attribute any quotations to you.

1. We reached out to you because we understand that you [*INSERT RELEVANT EXPERTISE OR EXPERIENCE HERE*]. Can you give us a brief overview of your expertise and experience as it relates to addressing race and racism in preventive services?

Racism and Health Inequities in Preventive Care

2. What types of interventions directly address racism in healthcare (generally)?
 - a. How do current interventions to mitigate health disparities address or NOT address racism as a direct causal factor?
 - b. What types of interventions can reduce health inequities/disparities by race in preventive health?
3. How are you in your organization addressing racism?
 - a. *Probe: Can you share some examples of this in your current work?*
 - b. [*If relevant:*] Have you participated in developing (or are you aware of) any guidance on incorporating addressing racism into reviews and/or guidelines?

Appendix C. Key Informant Interviews

4. What work are other health and healthcare institutions/organizations doing to address racism?
 - a. *Probe: Can you share some examples?*
5. What are the most challenging aspects of addressing race/racism in preventive services?
 - a. What are the key considerations for addressing race/racism in preventive services?
 - b. What should recommendation/guideline-making organizations be doing to best address these challenges?
 - c. Specifically, what role/s should the USPSTF be taking on to address racism?

Conclusion

6. Are there any articles or other materials you suggest we read, specific experts with whom we should speak, or organizations you recommend that we contact as part of our data-collection efforts?
 - a. Are you aware of any well-developed frameworks illustrating the mechanisms/pathways of action of racism on health outcomes?
7. The current project is planned as ‘version 1.0’ of an ongoing effort. One of the next steps being discussed is the convening of a future expert-panel conference to further discuss how the USPSTF can most effectively and impactfully address racism in its portfolio of work. Would you be interested in participating in a conference like this?
8. Is there anything else you would like to tell us about before we conclude?

* Created in 1984, the U.S. Preventive Services Task Force is an independent, volunteer panel of national experts in prevention and evidence-based medicine. The Task Force works to improve the health of all Americans by making evidence-based recommendations about clinical preventive services such as screenings, counseling services, and preventive medications. All recommendations are published on the Task Force’s website and/or in a peer-reviewed journal. Task Force members come from the fields of preventive medicine and primary care, including internal medicine, family medicine, pediatrics, behavioral health, obstetrics and gynecology, and nursing. Their recommendations are based on a rigorous review of existing peer-reviewed evidence and are intended to help primary care clinicians and patients decide together whether a preventive service is right for a patient's needs.

The Task Force assigns each recommendation a [letter grade](#) (an A, B, C, or D grade or an I statement) based on the strength of the evidence and the balance of benefits and harms of a preventive service. The Task Force does not [consider the costs](#)³³³ of a preventive service when determining a recommendation grade. The recommendations apply only to people who have no signs or symptoms of the specific disease or condition under evaluation, and the recommendations address only services offered in the primary care setting or services referred by a primary care clinician.

Since 1998, the Agency for Healthcare Research and Quality (AHRQ) has been authorized by the U.S. Congress to convene the Task Force and to provide ongoing scientific, administrative, and dissemination support to the Task Force.

Appendix C. Key Informant Interviews

Each year, the Task Force makes a report to Congress that identifies critical evidence gaps in research related to clinical preventive services and recommends priority areas that deserve further examination. More information on these reports is available [here](#).³³⁴
<https://www.uspreventiveservicestaskforce.org/uspstf/about-uspstf>³³⁵

Key Informant Interviews

Interview #1

- *What types of interventions can reduce health inequities by race in preventive health?*
 - To do this work, the USPSTF will need to look internally to understand what health and racial equity means and how it shows up in their work and day-to-day decisions. External engagement will not be authentic unless the USPSTF is grounded in doing this work and understanding it.
 - Proposed the *normalize, organize, operationalize* framework, which involves creating the conditions within organizations to have dialogues and build analyses; identifying infrastructure to reach all with important information/results; and identifying tools to challenge day-to-day decisions.³³⁶
 - Noted importance of building space for people to work on gaps in use of appropriate language/terminology and in conducting needed analyses. Suggested bringing a trauma-informed approach to this work; also emphasized the importance of creating psychological safety as people work through experiences.
- *What types of interventions directly address racism in healthcare?*
 - Methodology is not there yet to understand the impacts of racism.
 - There is existing descriptive data; however, not enough around describing problems, including use of race as a risk factor. There are major gaps to be filled regarding how to best depict racism with data.
 - Starting to build out the evidence base on structural racism as a fundamental cause of health inequities; however, not enough work being done on what to do about it.
 - Opportunity in preventive services to embed equity and anti-racism practices; however, there are currently only limited tools for doing this work.
 - Currently preventive services can be perceived as placing a lot of blame and responsibility on the patient.
 - Quality and safety vehicles can be used to embed quality and racial justice: “Equity is a strategy, and without it you can’t have high quality care.” Once healthcare organizations start collecting data related to race, ethnicity, and gender equity, that data can be used to support quality improvement.
 - Move services upstream by having healthcare organizations invest in the neighborhoods they are serving.
 - Role of medical journals in understanding their biases/harms and integrating a racial justice and equity lens.
 - The evidence from these journals is foundational to the Task Force’s process.
 - *Health Affairs* recently published a commitment to anti-racism; however, changing the power dynamic of what research is prioritized will require more journals to address their biases.³³⁷
- *What work are other health and healthcare institutions/organizations doing to address racism?*
 - American Medical Association (AMA) published three policies on anti-racism in Fall 2020: (1) recognizing racism is a public health threat, (2) ridding health care

Appendix C. Key Informant Interviews

of racial essentialism (the practice of accepting race as a biological construct), and (3) recognizing race as a social construct and ending the practice of using race as a proxy for ancestry, genetics, and biology.²³⁸

- National Association of County & City Health Officials (NACCHO)'s The Roots of Health Inequity course and recently released "Advancing Public Narrative for Health Equity and Social Justice."³³⁸
- Open Society Public Health Program in collaboration with the New York City Department of Health and Mental Hygiene's (DOHMH) Center for Health Equity (CHE) and NACCHO convened multidisciplinary experts to share ideas to end racism and inequalities that harm people's health. Resulting summary report: "Building Narrative Power for Racial Justice and Health Equity."¹⁶⁵
- Institute for Healthcare Improvement's Pursuing Equity Learning and Action Network.¹⁵²

Interview #2

- *What are the key terms and concepts around the discussion of racism and health inequities? And how are these terms and concepts defined and applied (e.g., race, racism, health inequities, social determinants of health)? And how are these terms interrelated?*
 - Using the term 'inequity' [instead of 'disparity'] means you actually have to think about justice, and how inequity was created.... Language *really matters*. Having common definitions *really matters*.
- *How does racism produce health inequities? What are the mechanisms of action?*
 - Understanding of race as biological has been embedded into healthcare because of racism. Need to start unequivocally stating that there is no biological basis for race and that people are being treated differently based on skin color.
- *What types of interventions can reduce health inequities by race in preventive health?*
 - Interventions need to begin with self-education and unlearning what was taught in medical school.
 - Implicit bias and other trainings are important, but have to be tied to the structures they come from and also be coupled with accountability measures at individual and structural levels. For example, providing training to community-based organizations (CBOs) on how to conduct anti-racism training in order to embed local accountability.
 - Once you have leadership buy-in you can begin addressing system issues such as procurement practices.
 - Culture shift is needed to recognize that there is no safety without equity and anti-racism must be included within quality improvement work.
- *What work are other health and healthcare institutions/organizations doing to address racism?*
 - Kellogg Foundation's *Truth, Racial Healing, and Transformation Framework*¹⁵⁵
 - American College of Obstetrics and Gynecology (ACOG) along with the National Birth Equity Collaborative (NBEC) are developing a model for respectful maternity care.³³⁹

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Interview #3

- *What are the key terms and concepts around the discussion of racism and health inequities? And how are these terms and concepts defined and applied (e.g., race, racism, health inequities, social determinants of health)? And how are these terms interrelated?*
 - Disparities in healthcare are group differences that are unjust—disparities are due to structural racism and social determinants of health.
 - Race as a social construct can be used to understand group differences. Race is a risk factor for disparities and racism.
- *What types of interventions can reduce health inequities by race in preventive health?*
 - Society as a whole has not decided to address inequities and racism, so work in this area to date has just been ‘band-aids.’
 - Integrating equity into the research and publication processes is needed, and must be mapped out and implemented with the participation of experts in race/racism.
- *What types of interventions directly address racism in healthcare?*
 - There are different levels of interventions to address racism. For example, the ACA was one of the biggest interventions to address structural racism by increasing access to care. An example of a health systems–level intervention would be building into the EHR strategies for shared decision making that are automatic to help overcome provider and patient bias. Local interventions would be projects done through community groups.
 - Race is used when doing analyses because it is the only variable that comes close to capturing racism; however, it cannot capture an individual’s experience. Methodology field has been driven to try to develop something precise; however, racism is not precise. Methodologists have to take a step back and think about how things can be done differently/better.
 - Work is being done to remove race from the estimated glomerular filtration rate (eGFR) formula to address disparities caused by taking a social construct and applying it as biological.

Interview #4

- *What are the key terms and concepts around the discussion of racism and health inequities? And how are these terms and concepts defined and applied (e.g., race, racism, health inequities, social determinants of health)? And how are these terms interrelated?*
 - Many people falsely conflate racism with individuals’ bigotry, when in fact *structural* racism has a much larger impact on health outcomes.
 - Another contributor is *internalized* racism, wherein people belonging to an oppressed group believe negative stereotypes about themselves, and then behave in ways that reinforce those stereotypes.
- *How does racism produce health inequities? What are the mechanisms of action?*
 - In America’s social security system, some professionals (like domestic workers, who are disproportionately Black and Brown) do not receive certain benefits, even after paying taxes. Meanwhile, racial disparities in life expectancy have financial implications as well: “If you get two people, who are born on the same day of the same year, who go to the same school, and who get the same salary... When it’s time to collect social security benefits, the White person will get more, because they will (statistically) live longer [than the Black person], and thus there will be a racially

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- disparate outcome, even though both people paid the same amount of money into the system.”
- Because of the legacy of [and ongoing] racial segregation, houses in predominantly White neighborhoods rise more in value than those in predominantly Black neighborhoods, which affects the amount of tax dollars that can then support local institutions like public schools.
 - *How are racism and health inequities addressed in the current USPSTF portfolio?*
 - Evidence-based guidelines are crucial for standardizing decision making and consequently reducing health disparities. However, these guidelines can reflect and reproduce racial bias if not thoroughly reviewed. For example, the USPSTF promotes diuretics as the frontline treatment for Black patients with hypertension, even though evidence suggests that Black patients would respond equally well to calcium channel blockers or beta blockers, the preferred treatment for White patients.
 - *What types of interventions directly address racism in healthcare?*
 - One example is interventions from a study analyzing referral rates for coronary angiography with a focus on racial disparities: 1) Producing a histogram showing every physician their own referral rates, and then showing each physician how their treatment pattern compared to that of their colleagues; and 2) Adding a feature into the electronic health record (EHR) chart that would require the physician to explain why they were not making a particular referral, which might reveal and reverse subconscious racial bias.
 - Schools of public health and medicine should consider scholarship programs that increase the diversity of their staff and students.
 - *What work are other health and healthcare institutions/organizations doing to address racism?*
 - The Association of Schools and Programs of Public Health (ASPPH) is collaborating with an accrediting agency to embed anti-racism topics into public health curricula, so that health equity becomes required learning within all accredited schools of public health. This KI explained the importance of teaching *why* health disparities exist, not just *that* they exist: “If you only put out the statistics, and you don’t get into the context, you leave it to each student to draw their own conclusions about why the disparities exist, and often they’ll come to the wrong conclusion.”
 - The New York Academy of Medicine is connecting young researchers interested in health equity with more experienced researchers serving as mentors.
 - The Robert Wood Johnson Foundation (RWJF) is funding a learning collaborative around health equity, in which selected researchers are conducting structured literature reviews to look at best practices and gaps that need to be filled.¹⁶²

Interview #5

- *What are the key terms and concepts around the discussion of racism and health inequities? And how are these terms and concepts defined and applied (e.g., race, racism, health inequities, social determinants of health)? And how are these terms interrelated?*
 - *Race* is a social construct, and yet *racism* enacts biological changes. The process of oppression (based on skin color) changes the physiology “underneath [the] skin,” thus creating biological inequities.

Appendix C. Key Informant Interviews

- Dr. Camara Phyllis Jones’s “The Gardener’s Tale,” published in the *American Journal of Public Health*, explains the three levels of racism—interpersonal, internalized, institutional—in an accessible way.³²
- *How does racism produce health inequities? What are the mechanisms of action?*
 - To this day, banks are disinvesting in Black communities; they are less willing to give Black people personal loans, or they give those loans at higher rates. There’s an NIH report saying that Black scientists are 55% funded compared to White scientists.³⁴⁰⁻³⁴²
 - Black people disproportionately live in crowded housing with poor ventilation, often next to toxic waste, while eating calorie-dense and nutrient-poor food, due to poverty. Race and class are tightly linked, but we cannot think of racism as “just a ‘class’ thing; it’s a *race-induced* class thing. It’s not a coincidence that Black people are poor.”
- *How are racism and health inequities addressed in the current USPSTF portfolio?*
 - It’s important to consider the quality of evidence-based recommendations for marginalized populations, who are often underrepresented in research studies. For instance, “are we generalizing recommendations for Black women, who have a different experience in the healthcare system and are burdened by chronic stressors that increase risk for disease?”
- *What types of interventions can reduce health inequities by race in preventive health?*
 - Preventive medicine should leverage social networks—both in supporting a patient with a particular diagnosis, but also prophylactically communicating with people who are at risk for similar conditions. For example, community-facing public health interventions can leverage platforms like grocery stores, violence-reduction sites, food pantries, or even radio talk shows to do health education and change sociocultural norms around what it means to be healthy. There needs to be “a seamless transition between what’s happening in the clinic and the community.”
 - To combat internalized racism, teachers and parents and others should convey not just “the horrible things that our country has done to Black people,” but also the “fantastic innovation and intellect and courage that lives within Black people.”
- *What types of interventions directly address racism in healthcare?*
 - It’s important to involve Black patients in shared decision making; to reiterate that their medical records belong to *them*; and to tell them what to expect during a doctor’s appointment (e.g., it’s normal for a doctor to touch you during a doctor’s appointment; if they’re not touching you, that’s a bad sign.)
 - Roleplaying exercises can also reveal insecurities among both patients and providers. For example, it may be helpful for physicians to hear audiotapes that were collected (with consent) during patient focus groups recounting clinical interactions.
 - Training around motivational interviewing³⁴³ can help providers deliver care in a way that’s more compassionate and efficient.
- *What work are other health and healthcare institutions/organizations doing to address racism?*
 - “Sisters Working it Out” is a Chicago-based non-profit that trains low-income Black women to be health navigators, with a focus on breast cancer screening and outreach.¹⁸¹

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- The Camden Coalition (Camden, New Jersey), headed by Jeff Brenner, is trying to reallocate United Health funding based on principles of social determinants of health. Mr. Brenner is “trying to be more holistic in thinking about people’s daily needs, like food and shelter, which reflect structural inequities.”

Interview #6

- *What are the key terms and concepts around the discussion of racism and health inequities? And how are these terms and concepts defined and applied (e.g., race, racism, health inequities, social determinants of health)? And how are these terms interrelated?*
 - Racism is baked into our institutions and policies. And yet many people assume racism does not exist if they believe they themselves are not racist.
 - Ancestry is correlated (or maybe confounded) with race, but not directly mapped onto race. Black people do not represent a homogenous population; for example, there are mixed-race Black people and people coming from different regions of the African diaspora.
- *How does racism produce health inequities? What are the mechanisms of action?*
 - The myth that Black people have thicker skin (and are thus less sensitive to pain) is rooted in the 1800s, when some doctors performed experimental surgery on Black women without anesthesia. In a recent survey of medical students, 50% of them believed that Black people have a higher pain threshold.³⁴⁴
 - During the COVID-19 pandemic, racism has manifested in both differential exposure and differential outcomes. One example is the distribution of COVID testing across Seattle, which has a strong history of redlining and residential segregation. When testing first became available, it was centered around north Seattle (with a predominantly White population) even though the highest rates of COVID infection were occurring in south Seattle (predominantly people of color). This disparity occurred partly because the utilization of testing depends on individuals’ health insurance and their relationship with primary care doctors; on the south side of Seattle, most residents do not have a regular provider, so they’re disconnected from the healthcare system. There have been efforts to address this, with pop-up testing, but these solutions are “band-aids at best.” The same patterns are emerging with vaccination, due to lower levels of internet connectivity, medical literacy, and computer literacy among Black residents.
- *What types of interventions can reduce health inequities by race in preventive health?*
 - In an equitable world, resources flow based on need. In order to achieve this, policymakers must first agree upon need, and then take away from some to give to others.
 - It is crucial for policymakers and researchers to build long-term relationships with the communities they’re serving. Interventions should include horizontal capacity-building, which is more likely to create lasting change.
 - Community health workers—lay people from the community who serve as liaisons between patients and providers—are a great way to reach hard-to-reach communities. However, funding these workers is difficult in a fee-for-service world.

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- *What types of interventions directly address racism in health care?*
 - Interpersonal bias can affect healthcare decision making among providers. Implementing opt-out prompts within an EHR can force doctors to reflect on why they are (or are not) offering a particular service to patients.
 - Healthcare organizations can create dashboards based on disaggregated health outcomes data that allow employees to see where inequities exist.

Appendix D. Audit of USPSTF Reviews and Recommendations

Topic Name	Year	Where/how race and/or ethnicity are addressed in the Recommendation Statement (RS)	Where/how race and/or ethnicity are addressed in the Systematic Review (SR) or Decision Analysis (DA)	Where do health disparities occur?	What is the mechanism of health disparities detailed?	Is there evidence of any differences in benefits or harms by race and/or ethnicity?
Aspirin Use to Prevent Cardiovascular Disease³⁴⁵ and Colorectal Cancer³⁴⁶	2016	Risk assessment and cohort equation components, need for further research: "The effect of aspirin use on CRC prevention in subpopulations is also an important research gap. The differential effects of sex, race/ethnicity, age, and genetic factors on risk for CRC and the effect of screening require additional research."	Cancer review, all-cause mortality, and harms DA: Race is considered a risk factor in simulation model and analysis design and listed in breakdown of current risk equations	Disease burden	NR	Too little reporting of race/ethnicity in trials overall. Two trials reporting intermediate outcomes by race and/or ethnicity showed no consistent evidence of effect modification for blood pressure, weight, or incidence of diabetes.
Atrial Fibrillation: Screening with ECG³⁴⁷	2018	Not mentioned	Not mentioned	Prevalence	N/A	NR—too little reporting to accurately calculate
Blood Pressure Screening in Adults³⁴⁸	2015*	Not mentioned	Risk, prevalence, Table 3, study population and characteristics outcomes	Risk, prevalence, treatment control	N/A	Yes, in treatment outcomes, but not enough info in included studies to include R/E subgroups
Blood Pressure Screening in Children and Adolescents³⁴⁹	2020	Practice considerations: Black or Hispanic/Latino race/ethnicity are risk factors; Research gaps: benefits and harms of screening and treatment in Black and Latino populations	Prevalence/burden: Prevalence is also higher in Black and Hispanic children compared with non-Hispanic white children; Results: KQ3—Black participants with history of elevated BP in childhood had higher risk of microalbuminuria in adults. This effect not observed in white participants; CQ1—no difference in association of hypertension with Black or Hispanic subjects compared with white subjects; Limitations: limiting search to English-language studies may have missed studies in Hispanic children with a higher risk for obesity and hypertension	Risk factors, prevalence	N/A	NR

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Topic Name	Year	Where/how race and/or ethnicity are addressed in the Recommendation Statement (RS)	Where/how race and/or ethnicity are addressed in the Systematic Review (SR) or Decision Analysis (DA)	Where do health disparities occur?	What is the mechanism of health disparities detailed?	Is there evidence of any differences in benefits or harms by race and/or ethnicity?
Breast Cancer Screening ³⁵⁰	2016	Clinical Considerations: Black women at higher risk of breast cancer death; Risk factors: race and ethnicity associated with mortality disparities	Etiology/natural history: Black race associated with more invasive disease; Methods: Race is a risk factor; KQ5—lowest rates of false positives and additional imaging among Asian people; summary tables. DA: one screening model includes race-specific utilization of mammography	Health outcomes (mortality)	Unclear, but could be related to biological differences in aggressive and treatment-resistant breast cancer, SES, health system failures, underscreening in Black women	No
Cardiovascular Disease Risk: Screening with ECG ³⁵¹	2018	Assessment of risk	Findings by subgroups sections; summary of evidence table	Race is included in risk assessment models as a risk factor but specific influence on outcomes/ disparities is NR (and it looks like many studies did not report race/ethnicity)	N/A	NR—too little reporting to accurately calculate
Cardiovascular Disease: Risk Assessment With Nontraditional Risk Factors ³⁵²	2018	Prevalence of condition; assessment of risk	As a predictor of CVD risk and in model performance assessment	Net Reclassification Improvement significance	NR	NR—too little reporting to accurately calculate
Carotid Artery Stenosis Screening ³⁵³	2014*	Not mentioned	Prevalence/burden: Native American and white individuals have highest prevalence; Black males and Asian females have lowest.	Prevalence	N/A	NR

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Cervical Cancer Screening ³⁵⁴	2018	Clinical considerations: women from racial/ethnic minority groups may be less likely to be screened. Mortality is more than twice as high in African American women than in white women, despite similar screening rates. AI/AN women have higher mortality rates, could be related to lower screening rates and inadequate followup. Hispanic women have significantly higher incidence and slightly higher mortality rates. Discussion: incidence and mortality disproportionately impacts racial/ethnic minority groups	Etiology/Natural history: Black and Hispanic women have higher incidence; Black and AI/AN women have higher mortality rates. Black and Hispanic race/ethnicity is a risk factor. Not correcting for hysterectomy underestimates disparity in mortality in Black women by 44%. HPV infection prevalence higher in Black women. Current clinical practice: A/PI and AI/AN less likely to be screened Results: No included studies reported data by race and/or ethnicity Not mentioned in DA	Screening rates; Incidence; Mortality	RS: Higher mortality rate in Black women may be attributable to inadequate followup after screening, differences in treatment, higher than average rate of adenocarcinoma. AI/AN women have lower screening rates, inadequate followup. SR: differential access to screening and inadequate followup	NR
Colorectal Cancer Screening ³⁵⁵	2016 Error! Book mark not defined.	Prevalence/burden: Black race associated with increased incidence; increasing in white and Latino but not Black or Asian people; Black people have disproportionately high colorectal cancer mortality; Black people have higher proportion of proximal cancer and lower 5-year survival rates for proximal cancers. Etiology/natural history: role of R/E unknown Current clinical practice: Lower colorectal cancer screening in nonwhite and Hispanic populations	Prevalence/burden: Black race associated with higher incidence, higher prevalence of proximal adenomas, Black women have higher prevalence of large polyps. Results: Data for nonwhite patients was limited for all KQs; Some differences in harms Contextual issues- R/E: No evidence on differential screening by R/E; likely that racial differences in risk of colorectal cancer and colorectal cancer mortality is driven by differences in utilization, race is a social construct and confounded by other risk factors; Future research needs: trials	Incidence, some survival rates	DA: Role is uncertain but likely related to differential screening and subsequent care	Hispanic and Black people had higher risks of bleeding, Black people had higher risk of infection-related hospitalization

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			<p>including higher proportion of difference race/ethnicities and subgroup analyses.</p> <p>DA: differences are driven by differential access to screening and subsequent care. Without screening, model-predicted life expectancy was 2 to 3 years lower for Black patients, risk of colorectal cancer is lower, lifetime risk of dying from colorectal is lower for Black males vs. white males but not for Black females compared to white females. Discussion indicates little advantage to customize screening by race.</p>			
<p>Counseling Pregnant Women for Healthy Weight Gain⁶⁹</p>	<p>2021Er ror! Book mark not define d.‡</p>	<p>Supporting evidence: 41% of studies enrolled more than 20% of patients from diverse backgrounds, including persons who are socioeconomically disadvantaged, racial/ethnic populations, rural populations, or others; Research needs and gaps: The effectiveness of interventions to promote healthy weight gain in populations of women of diverse populations such as non-Hispanic Black, Alaska Native/American Indian, and Hispanic women</p>	<p>Prevalence/burden: Reported rates of overweight and obesity are generally higher among non-Hispanic Black, Alaska Native/American Indian, and Hispanic women, and lower among non-Hispanic white and Asian women; Results: Studies did not report outcomes by R/E; Discussion: Data were too limited to determine differential effects of interventions by race or ethnicity</p>	<p>Prevalence of overweight and obesity</p>	<p>N/A</p>	<p>NR</p>

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Diabetes Mellitus (Type 2) Screening in Adults³⁵⁶	2015	Differential effects by subpopulation	Prevalence and burden, risk factors, subgroup analyses, relevance for priority populations	Prevalence and burden, risk factors disproportionately affect R/E minorities	N/A	
Gestational Diabetes Mellitus Screening³⁵⁷	2014*	Clinical considerations: Ethnicity is a risk factor for gestational diabetes mellitus (Hispanic, Native American, South or East Asian, Black, or Pacific Island descent)	Prevalence/burden: Non-white or Hispanic women have had higher increase in prevalence over last 30 years; Risk factors: Asian/API and Hispanic women at highest risk, Native American and Black women also at higher risk than non-Hispanic white women. Results: KQ5: Of 5 US studies reporting race, 4 had diverse study populations; KQ6a: long-term metabolic outcomes similar after adjusting for R/E; one trial compared treatment in Hispanic vs non-Hispanic white women and found no differences in outcomes; Discussion: Evidence on accuracy of effects of treatment based on R/E was limited.	Prevalence	N/A	NR
Healthful Diet and Physical Activity for Cardiovascular Disease Prevention in Adults with Cardiovascular Risk Factors³⁵⁸	2020	Not mentioned	Risk (explanation of cohort equations), outcomes	Prevalence, risk factors	Potentially race mediated by low SES: "...almost all trials with high race/ethnic minority representation were in economically disadvantaged populations, so we	No difference by race and/or ethnicity in changes to healthy eating index scores. Most trials examining interactions by race or ethnicity reported no differential effectiveness; however, one trial reported a larger effect for weight loss in white

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					were unable to disentangle these effects and instead focused on SES."	participants than Black participants.
Healthful Diet and Physical Activity for Cardiovascular Disease Prevention in Adults ³⁵⁹	2017	As a risk factor for CVD screening and prevention practices	As a subpopulation; in the study characteristics table; outcomes	Disease burden: "Hispanic and Black adults are less likely than white adults and other racial/ethnic groups to have measures of cardiovascular health at ideal levels."	NR	NR—too little reporting to accurately calculate. Two trials reporting intermediate outcomes by race/ethnicity showed no consistent evidence of effect modification for blood pressure, weight, or incidence of diabetes.
Lipid Disorders Screening in Children and Adolescents ^{360, 361}	2016	Discussion: Effectiveness of early detection and treatment: In trials reporting race/ethnicity, the majority of trial participants were white	Familial Hypocholesterolemia-Results: KQ3: Participants of included studies were 93.2% white; Future research needs: More pharmacotherapy studies should be conducted in racially/ethnically diverse U.S. populations. Multifactorial Dyslipidemia-Condition definition: In the United States, dyslipidemia is experienced disproportionately by adults with Hispanic ethnicity and those of Asian ancestry; Results: reports R/E of included studies; Discussion: Screening-Evidence gaps: lack of data on prevalence and diagnostic yield in racially/ethnically diverse populations of children; Conclusions: Long-term follow	Prevalence (Multifactorial Dyslipidemia SR)	N/A	NR

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			up studies that include racially/ethnically diverse populations are needed			
Lung Cancer Screening ^{65, 362}	2021 [‡]	Not mentioned	SR: R/E listed as a risk factor (not specific); Prevalence/burden: Black men have highest incidence followed by white, API, AI/AN, Hispanic men. White women have highest incidence followed by Black, AI/AN, API, Hispanic women; Results: One trial found no significant difference in lung cancer mortality by R/E; most did not report data by R/E DA—Discussion: expanding eligibility to include ever smokers 20 to 29 years old would reduce disparities in eligibility by race and/or ethnicity; limitations include screening update and adherence likely to vary by race and/or ethnicity and other risk factors.	Not mentioned	N/A	NR
Obesity Screening and Counseling in Children and Adolescents ³⁶³	2017	Rationale: Obesity rates rising for Black girls and Hispanic boys; Clinical considerations: Mechanism of R/E differences; Variations in prevalence by sex and R/E; Discussion: Subgroup analyses by R/E sparsely reported in trials, resulting in an inability to draw conclusions about differential effectiveness	Prevalence: Higher among Hispanic and Black children; though rates have stabilized overall, obesity rates continue to increase in Hispanic males and Black girls, exacerbating R/E disparities; Results: KQ4: Most trials either failed to report the race/ethnicity breakdown of their sample or had a predominantly white sample, with some exceptions, leading us to draw no	Prevalence	RS: racial/ethnic differences in obesity prevalence are likely a result of both genetic and nongenetic factors (e.g., SES, intake of sugar-sweetened beverages and fast food, and having a television	Some differences in benefit of pharmacologic interventions by racial/ethnic group, mostly not statistically significant

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			conclusion on differential effectiveness; some trials found no subgroup differences by R/E		in the bedroom); SR: Racial/ethnic differences in both nongenetic and genetic risk factors likely contribute to disparities in obesity prevalence, with SES being one of the strongest factors, other factors may play a role; non-Hispanic Black children have lower levels of body fat at a given BMI than Mexican American and white children	
Peripheral Artery Disease and CVD in Adults: Screening and Risk Assessment with Ankle Brachial Index ³⁶⁴	2018	Prevalence: Black people have the highest age-adjusted prevalence of a low ankle brachial index	As a predictor of risk, as possible moderator in KQs	Prevalence	NR	NR—too little reporting to accurately calculate
Preeclampsia - Low-Dose Aspirin Use for the Prevention of Morbidity and Mortality ³⁶⁵	2014†	Research gaps: future trials should recruit adequate numbers of racial/ethnic populations at disproportionate risk, such as Black women; Discussion: Burden of disease: non-Hispanic Black women are at greater risk and bear greater burden of maternal and infant morbidity and perinatal mortality. Disparities in risk	Prevalence/burden: non-Hispanic Black women have highest risk of preeclampsia and related serious morbidity/mortality. Rates are double and more likely to be serious. Overall maternal mortality ratios and contribution of preeclampsia/eclampsia to maternal mortality higher for Black women.	Prevalence, morbidity, mortality	SR: Disparities in overall health, chronic health conditions, health care access, psychosocial stress, and systemic racial biases in health care are thought to contribute to the greater risk and	NR—too little reporting to accurately calculate

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		factors, limited access to early prenatal care, and obstetric interventions may account for some difference in prevalence and outcomes.	Risk factors: non-Hispanic Black race Results: Only three trials reported majority Black populations; one trial found no difference in effectiveness by race; Discussion: Majority of participants were White, limiting generalizability to racially and ethnically diverse populations at risk for preeclampsia; this is problematic given greater morbidity experienced by Black women; more research is urgently needed to address this evidence gap.		worse outcomes of preeclampsia for Black women§	
Preeclampsia Screening⁶⁶	2017	Clinical considerations: Black race is a risk factor. Black women have higher prevalence, case fatality rates, and mortality rates. Could be related to disproportionate risk factors, inequalities in access to prenatal care.	Prevalence/burden: Preeclampsia is a major driver of pregnancy-related death (4x higher in Black women), gestational hypertension is more common and increasing over time in non-Hispanic Black women. Case fatality rates are 2x higher among Black women than white women. Disparities in risk factors contribute to higher prevalence among Black women, and inadequate prenatal care contributes to higher case-fatality rates; Risk factors: Black race is a moderate-level risk factor.	Risk factors, prevalence, case-fatality rates, mortality	RS: Disproportionately affected by risk factors, inequalities in access to prenatal care, though disparities persist even in populations provided with early prenatal care	NR

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Prostate Cancer Screening ³⁶⁶	2018	Rationale: Black men have higher lifetime risk than other races; Clinical considerations: Black men have higher incidence and mortality.	Risk factors; Discussion notes lack of evidence on differential benefit of screening for Black men	Prevalence, mortality	Higher mortality among Black men attributable partly to earlier age at onset, more advanced cancer at diagnosis, higher rates of more aggressive cancer. Could also be related to lower quality of care.	Higher risk of infectious complications in biopsy in Black men vs “non-Black men,” lower risk of incontinence in “Black vs white men” post-EBRT, higher risk of complications in radical prostatectomy in “non-white race.”
Screening for Abdominal Aortic Aneurysm ³⁶⁷	2019	Assessment of risk; results (but discusses lack of analyses by race in included studies)	Findings by subgroup sections, discussion, summary of evidence, and limitations sections	Prevalence, advanced disease prevalence, hospital mortalities	N/A	NR—too little reporting to accurately calculate
Skin Cancer Counseling ³⁶⁸	2018	Not mentioned	Not mentioned	Not mentioned	N/A	NR—most trials included only participants with fair skin
Skin Cancer Screening ³⁶⁹	2016	Not mentioned	Prevalence/burden: white people have higher incidence of melanoma and higher melanoma mortality rates, but 5-year survival is lower in Black people than white people. Discussion: Most existing algorithms have been developed only for white people.	Incidence and mortality (higher for white people), 5-year survival (lower for Black people)	SR: For survival disparity, Black people are more likely to be diagnosed with distant or unknown stage than white people.	NR—most trials included only participants with fair skin
Statin Use for the Primary Prevention of Cardiovascular Disease in Adults ³⁷⁰	2016	Risk assessment and number of CVD events prevented by subpopulation	Prevalence and burden; evidence review section, KQ summaries, contextual question section, study characteristics table	Prevalence	N/A	Where results were reported by race and ethnicity, no differential effect of statins. Among 13 trials that reported race/ethnicity, white participants made up the majority of study participants in 12 of the trials

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Vitamin Supplementation to Prevent Cancer and CVD³⁷¹	2014	Not mentioned	Risk, prevalence, Tables 5-7 (data on this), included studies characteristics table	Risk, prevalence, mortality	N/A	NR—too little reporting to accurately calculate
Weight Loss to Prevent Obesity-Related Morbidity and Mortality in Adults: Behavioral Interventions³⁷²	2018	Prevalence and risk	Outcomes; risk assessment; prevalence/burden of disease; applicability of findings; limitations and future research	Prevalence	N/A	The effect of race/ethnicity on the effectiveness of weight loss interventions was examined in seven trials; six of these analyses were prespecified. There was a trend toward greater weight loss among white participants than Black or Hispanic participants.

Abbreviations: AAA=abdominal aortic aneurysm; AI/AN=American Indian/Alaskan Native; API=Asian/Pacific Islander; BMI=body mass index; CVD=cardiovascular disease; DA=decision analysis; EPC=evidence-based practice center; GDM=gestational diabetes mellitus; HPV=human papillomavirus; KQ=key question; N/A=not applicable; NR=not reported; NRI=net reclassification index; PI=Pacific Islander; R/E=race/ethnicity; RS=recommendation statement; SES=socioeconomic status; SR=systematic review.

*2020 draft SR and 2015 RS audited.

†2020 draft SR and 2014 RS audited.

‡2020 draft materials audited.

§ This was the only topic to explicitly mention racism in the report: "...systemic racial biases in health care are thought to contribute to the greater risk and worse outcomes of preeclampsia for Black women."

|| Considerations by race and/or ethnicity were not included in any documents for this topic.

Appendix E. Reviews of Interventions to Address Health Inequities and Racism

Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
Community Health Worker-patient navigator	Early, 2016 ¹⁰⁶		Latino/a CHWs ("promotores")	Promotora/es-led interventions	Disease prevention, disease management, physical activity, mental health, nutrition, diabetes, addiction, environmental health, maternal & child health, CVD risk, cancer risk, HIV prevention, sexual health	Eight categories emerged from the literature: (1) factors that motivate individuals to become promotora/es, (2) descriptive characteristics of promotores and their settings for practice, (3) health issues most commonly addressed by promotores, (4) the effectiveness of programs involving promotores and lay health models, (5) the effect of lay health work on self-efficacy, (6) the role of promotores in community health advocacy, (7) occupational challenges and potential barriers to practice, and (8) best practices for training and supporting promotores as contributors to community health and healthcare systems.
Community Health Worker-patient navigator	Sharma, 2019 ¹⁰⁴	37	CHWs	CHW-led interventions in primary care	Clinical disease indicators, screening rates, behavioral change	Education-focused interventions were more effective in improving patient behavior, whereas navigation interventions were most effective in improving access to services. Implementation was enhanced by cultural and linguistic congruence and specific training of CHWs in the intervention but reduced by short duration interventions, dropouts, and poor adherence of patients. The evidence generated from this systematic scoping review demonstrates the contribution of CHWs to improving access to preventive care for patients from CALD and disadvantaged backgrounds by providing both education and navigational interventions.
Community Health Worker-patient navigator	Shommu, 2016 ¹⁰⁵	30	Immigrant and ethnic minority groups in Canada and the US	Community navigator-led interventions to address barriers to healthcare	Chronic disease management, primary care access measures	The studies reported substantial improvement in the immigrant and ethnic minority health outcomes in the United States. The single Canadian study also reported positive outcome of navigators among immigrant women.
Chronic disease management	Huang, 2020 ³⁷³	10 (8 interventions)	Chinese Americans with chronic disease	Self-management interventions	Satisfaction, retention	Culturally-tailored interventions that incorporate surface and deep structural elements of culture are sensitive and generally effective for Chinese Americans to improve access to health care, disease awareness, social environment, and participants' ability to practice self-management skills.
Chronic disease management	Joo, 2020 ³³	8 SRs	Ethnic minorities	Culturally tailored interventions for chronic disease	Disease knowledge, objective clinical outcomes, satisfaction, access	Our findings suggest that culturally tailored interventions can contribute to the improvement of ethnic minorities' health care outcomes and especially improve patients' satisfaction with care. However, results overall are mixed.

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Chronic disease management	Kim, 2016 ¹⁰⁷	61	Vulnerable populations	CHW-led interventions in chronic disease management and care	Cancer prevention, CVD risk reduction, cost effectiveness	The 2 most common areas for CHW interventions were cancer prevention (n=30) and cardiovascular disease risk reduction (n=26). The roles assumed by CHWs included health education (n=48), counseling (n=36), navigation assistance (n=21), case management (n=4), social services (n=7), and social support (n=18). Fifty-three studies provided information regarding CHW training, yet CHW competency evaluation (n=9) and supervision procedures (n=24) were largely underreported. The length and duration of CHW training ranged from 4 hours to 240 hours with an average of 41.3 hours (median: 16.5 hours) in 24 studies that reported length of training. Eight studies reported the frequency of supervision, which ranged from weekly to monthly. There was a trend toward improvements in cancer prevention (n=21) and cardiovascular risk reduction (n=16). Eight articles documented cost analyses and found that integrating CHWs into the health care delivery system was associated with cost-effective and sustainable care. Interventions by CHWs appear to be effective when compared with alternatives and also cost-effective for certain health conditions, particularly when partnering with low-income, underserved, and racial and ethnic minority communities.
Chronic disease management	Moore, 2019 ³⁷⁴	7	Aboriginal and Torres Strait Islander peoples	Self-management interventions	Program quality,	Despite the significant focus on chronic condition self-management programs to help address the burden of disease for Aboriginal and Torres Strait Islander Peoples, few studies exist that have been properly evaluated. The Closing the Gap Principles developed by the Australian Institute of Health and Welfare offer important guidance for how to proceed to maximize engagement, cultural appropriateness, and ownership of program initiatives.
Provider training	Alizadeh, 2016 ¹²⁴	31	Providers/caregivers	Cultural competence	Definitions and dimensions of cultural competence	The overarching themes of the review were centered around the challenges faced by the healthcare sector in many countries due to growing cultural diversity, but lack of cultural competence, leading to predicaments that arise during intercultural interactions between patients and clinicians.

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Provider training	Chae, 2020 ¹¹⁹	11	Health professionals	Cultural competence education	Professional outcomes, patient outcomes (i.e., patient satisfaction, trust), patient psychological outcomes	Cultural competence educational interventions had a positive effect on health professional outcomes. There is a considerable lack of research assessing patient outcomes, and there is limited evidence on whether interventions can change patient outcomes.
Provider training	Clifford, 2015 ¹²³	16	Health professionals caring for Indigenous peoples	Cultural competency	Health professionals' confidence, patient satisfaction	16 published evaluations of interventions to improve cultural competency in health care for Indigenous peoples were identified: 11 for Indigenous peoples of the USA and 5 for Indigenous Australians. The main types of intervention strategies were education and training of the health workforce, culturally specific health programs and recruitment of an Indigenous health workforce. Main positive outcomes reported were improvements in health professionals' confidence, and patients' satisfaction with and access to health care. The methodological quality of evaluations and the reporting of key methodological criteria were variable. Particular problems included weak study designs, low or no reporting of consent rates, confounding and non-validated measurement instruments. Conclusion: There is a lack of evidence from rigorous evaluations on the effectiveness of interventions for improving cultural competency in health care for Indigenous peoples. Future evaluations should employ more rigorous study designs and extend their measurement of outcomes beyond those relating to health professionals, to those relating to the health of Indigenous peoples.
Provider training	Filmer, 2018 ¹²¹	34	Health professionals	Cross-cultural competencies	Patient satisfaction, knowledge improvement	31 of 34 identified studies described cross-cultural competency interventions to be effective in terms of participants' satisfaction with the interventions and self-rated knowledge improvement. Nineteen studies relied exclusively on subjective assessment methods. Most of them reported significant findings, whereas results from five studies with independent ratings or objective assessments were mostly not significant. Many studies lacked in providing sufficient data on intervention descriptions. Discussion: Cross-cultural competency interventions seem to be effective-according to self-ratings by participants. However, the definitions of cultural competency, the objectiveness of measurements,

Appendix E. Reviews of Interventions to Address Health Inequities and Racism

Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
						and the types of study outcomes were varied. To evaluate the success of cross-cultural competency interventions, more evidence from objective, behavioral assessments is needed.
Provider training	Jongen, 2018 ¹²⁰	16	Health workforce	Cultural competency or professional development (e.g., training, mentoring)	Practitioner knowledge, skills, attitudes/beliefs	Although healthcare (6/16) and health (2/16) outcomes were reported in some studies there was very limited evidence of positive intervention impacts. Only four studies utilized existing validated measurement tools to assess intervention outcomes.
Provider training	Lorie, 2017 ¹²⁶	16	Clinicians	N/A (patient-provider interactions)	Patient satisfaction, affective tone, information exchange, visit length, expression decoding	Nonverbal expressions of empathy varied across cultural groups and impacted the quality of communication and care. Some nonverbal behaviors appeared universally desired and others, culturally specific. Findings revealed the impact of nonverbal communication on patient satisfaction, affective tone, information exchange, visit length, and expression decoding during cross-cultural clinical encounters. Racial discordance, patients' perception of physician racism, and physician implicit bias are among factors that appear to influence information exchange in clinical encounters.
Provider training	Oikarainen, 2019 ¹²²	6	Health professionals	Cultural competence education	Cultural competence	Studies used a quasi-experimental study design (n=5) and a randomized controlled trial (n=1). The participants (n=334) were mainly nurses and interventions were conducted in various healthcare settings. Cultural competence education was offered through traditional contact teaching (n=5) or web-based modules (n=1) and ranged from one to 17 hours in length. Learning was enhanced through lectures, group discussions, case studies, reflective exercises and simulations. In two studies, following cultural competence interventions, participants in the intervention group had statistically significantly increased levels of competence in culture-related outcomes when compared to the control group. The four remaining studies did not include control group comparisons. Effect sizes (Cohen's d) of the studies varied from small (d=0.22) to very large (d=1.47).

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Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
Diet + Physical Activity or CVD prevention	Ali, 2020 ⁷⁸	8	South Asian Americans	Lifestyle intervention for diabetes prevention	Diabetes indicators (e.g., A1c, fasting blood glucose)	Of the eight studies included in the final synthesis, four interventions focused on cultural and linguistic adaptations of past chronic disease prevention curricula using group-based modalities to deliver the intervention. Hemoglobin A1c (A1c) was the most common outcome indicator measured across the interventions. Three of the five studies observed improvements in indicators post-intervention. Based on these findings, this review recommends 1) greater exploration of community-based lifestyle interventions with high quality diabetes indicators (such as fasting blood glucose) in ethnic SAA communities, 2) expanding beyond traditional modalities of group-based lifestyle interventions and exploring the use of technology and interventions integrated with passive, active, and individualized components, and 3) development of research on diabetes prevention among second generation SAAs
Diet + Physical Activity or CVD prevention	Banna, 2018 ⁸³	49	Indigenous US population	Diet-related	Knowledge/behavior	Overall, interventions were successful in producing changes in knowledge, behavior, or health (79%). Interventions mostly targeted adults in the Western region and used a pre-test, post-test design. Involvement of communities in intervention design, implementation, and evaluation varied from not at all to involvement at all stages. Of programs reporting significant changes in outcomes, more than half used at least three strategies to engage communities. However, formative research to inform the evaluation was not performed to a great degree, and fewer than half of the programs identified described involvement of the local food system.
Diet + Physical Activity or CVD prevention	Coughlin, 2017 ⁸¹	16	African American children and adults	CBPR studies on healthy diet, nutrition, and weight management	N/A (evaluates CBPR components)	The studies identified in this review indicate that CBPR approaches can be effective for promoting healthy diet, nutrition, and weight management among African American adults, but there is a need for additional studies with rigorous study designs that overcome methodologic limitations of many existing studies. There is only limited evidence for the effectiveness of CBPR approaches for promoting healthy eating and weight control among African American children and adolescents.

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Diet + Physical Activity or CVD prevention	El Masri, 2019 ⁹⁶	19	Culturally and linguistically diverse populations	Physical activity interventions	Physical activity outcomes	A total of 19 articles were included in this review, comprising 15 unique studies. Most studies targeted Latino populations, published in the United States, and targeted women. An array of recruitment strategies were used, such as recruiting from religious establishments or religious and cultural events, and community organizations and events. The majority of studies made cultural adaptations to their intervention to suit the CALD population of interest, however, the level of detail of reported adjustments was limited. Successful interventions were those that generally included community consultation to inform their intervention, language adjustments, community health workers/bilingual/bicultural personnel for intervention delivery, recruitment, and data-collection, and using culturally relevant intervention material.
Diet + Physical Activity or CVD prevention	Hall, 2016 ¹⁰⁰	89	Ethnic minorities	Translated lifestyle intervention	N/A (evaluates ethnic translation)	Of 89 papers found, only 6 described ethnic translations of the DPP in the United States and were included in this review. Translations of the DPP to African American, Hispanic/Latino, Native Hawaiian and Other Pacific Islander, Arab American, and American Indian and Native Alaskan communities were identified and reviewed. The most common translation strategies included group-based delivery and use of bilingual study personnel.
Diet + Physical Activity or CVD prevention	Horne, 2019 ⁹⁹	15	South Asian adults	Physical activity	Physical activity, exercise	Fifteen trials/programs (16 articles) met the review criteria. The findings show that involving the target community in developing culturally appropriate interventions appears to be important in their acceptability, delivery, and uptake. Using community-based participation in intervention planning, evaluation, and research appears to produce culturally and linguistically tailored interventions that address core values, attitudes, beliefs and norms, and encourage participation in PA. Furthermore, the use of community health workers and underpinning the interventions with a psychological theory show promise in increasing PA uptake.

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Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
Diet + Physical Activity or CVD prevention	Jenkins, 2017 ⁸²	32	African American women	Physical activity promotion	Physical activity	Mixed findings (both significant and nonsignificant) were identified. Interventions included faith-based, group-based, and individually focused programs. All studies (n=32) included measures of PA; among the studies, self-report was the predominant method for obtaining information. Half of the 32 studies focused on PA, and the remaining studies focused on PA and nutrition. Most studies reported an increase in PA or adherence to PA. This review reveals promising strategies for promoting PA.
Diet + Physical Activity or CVD prevention	Jenum, 2018 ⁷⁹	6	South Asians	Lifestyle modification (diet and/or physical activity)	Incident diabetes, fasting glucose, 2-hr glucose, weight, waist circumference	Incident diabetes was observed in 12.6% of participants in the intervention groups and in 20.0% of participants in the control groups. The pooled HR for diabetes incidence was 0.65 (95% CI, 0.51 to 0.81; $I^2=0\%$) in intervention compared with control groups. The absolute risk reduction was 7.4% (95% CI, 4.0 to 10.2), with no interactions for the pre-specified subgroups (sex, BMI, age, study duration and region where studies were performed). The quality of evidence was rated as moderate. Mean difference for lifestyle modification vs. control groups for 2-hr glucose was -0.34 mmol/l (95% CI, -0.62 to -0.07; $I^2=50\%$); for weight -0.75 kg (95% CI, -1.34 to -0.17; $I^2=71\%$) and for waist -1.16 cm (95% CI, -2.16 to -0.16; $I^2=75\%$). No effect was found for fasting glucose. Findings were similar across subgroups, except for weight for European vs. Indian studies (-1.10 kg vs. -0.08 kg; $p=0.02$ for interaction).
Diet + Physical Activity or CVD prevention	Katigbak, 2018 ⁶⁷	9	Older Asian Americans	Physical activity	Physical activity	Nine studies met the review's inclusion criteria. Community-based recruitment approaches were widely used, and all studies employed cultural adaptation to varying degrees. Most studies reported improvements in PA outcomes, focused on Chinese Americans, and relied on self-reports of PA, while few aimed to increase PA using a multicomponent approach.
Diet + Physical Activity or CVD prevention	Lagisetty, 2017 ⁷⁵	34	Minority populations	Culturally tailored diabetes prevention interventions	A1c, fasting glucose, weight loss	Twelve studies were RCTs, and 22 were QE trials. Twenty-five out of 34 studies (74%) that used cultural tailoring demonstrated significantly improved A1c, fasting glucose, and/or weight loss. Reviewers determine which of four domains were tailored in each study: facilitators, language, location, and

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Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
						messaging. Of the 25 successful interventions, 21 (84%) incorporated at least 3 of 4 culturally targeted domains. Seven studies used all 4 domains and were all successful. The least utilized domain was delivery (4/34) of the intervention’s key educational message. Conclusions: Culturally tailoring interventions across the 4 domains of facilitators, language, location, and messaging can be effective in improving risk factors for progression to diabetes among ethnic minority groups.
Diet + Physical Activity or CVD prevention	Martin, 2020 ⁸⁷	7	South Asian migrants	Lifestyle interventions for metabolic syndrome	Waist circumference, blood pressure, fasting plasma glucose, HDL, triglycerides	A total of seven studies were identified, of which six focused on educational advice and the seventh on intensive exercise intervention. Four studies were randomized controlled trials, of which two studies reported significant reductions in waist circumference. One of these studies focused on home-based education with cooperation of the home cook (adjusted waist reduction of 1.9 cm [95% CI, 0.52 to 3.3 cm]; p=0.007) and the other entailed an intensive physical activity program (adjusted waist reduction 3.4 cm [95% CI, 2.0 to 4.7 cm]). The evidence whether lifestyle intervention studies in South Asians can improve components of the metabolic system is not clear. Further lifestyle interventions for South Asians should be culturally adapted, involve friends and family, especially those with cooking responsibilities.
Diet + Physical Activity or CVD prevention	McCurley, 2015 ⁷⁷	12	Hispanic adults	Diabetes prevention	Weight, glucose regulation, adaptations	Interventions varied substantially in length, rigor, and tailoring strategies. Five of 12 studies were RCTs. Eight studies included entirely or largely (>70%) female samples. All studies were delivered in Spanish and took place in community settings. Nine studies reported significant reductions in weight, and two in glucose regulation, post-intervention or when compared with controls. Effect sizes were small to moderate, study quality was moderate, and attrition was high in most trials. Interventions with the largest effect sizes included one or more of the following adaptations: literacy modification, Hispanic foods/recipes, cultural diabetes beliefs, family/friend participation, structured community input, and innovative experiential learning.

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Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
Diet + Physical Activity or CVD prevention	Melvin, 2017 ⁸⁰	29	Diverse patient populations, African American, Hispanic/ Mexican American/ Latino	Lifestyle and behavioral change	Weight and physical activity related outcomes, diet modification	Significant and consistent findings among diverse populations showed that weight and physical activity related outcomes were more amenable to change via lifestyle and behavioral counseling interventions than those associated with diet modification. Evidence to support specific interventions for racial and ethnic minorities was promising, but insufficient based on the small number of studies.
Diet + Physical Activity or CVD prevention	Merone, 2020 ⁸⁵	19	Indigenous Australians	CVD prevention	CVD risk factors (e.g., smoking, plasma glucose, LDL, HDL, eating behaviors, HbA1) or CVD outcomes (e.g., CVD event)	The initial search produced 37 publications; 19 met the inclusion criteria and were incorporated into a comparative table. Most were descriptive, mixed-methods, audit or intervention studies. Heterogeneity of study design prevented statistical analysis. Conclusion: Addressing CVD risk in minority Indigenous populations is a multifactorial challenge; there is substantial room for improvement in routine risk assessment and management. Holistic approaches need to embrace local cultural perceptions of health and wellbeing.
Diet + Physical Activity or CVD prevention	Montayre, 2020 ⁸⁸	7	Culturally and linguistically diverse older adults	Physical activity interventions	Physical activity outcomes	Effective community-based exercise or physical activity programs for CALD populations commonly featured close-to-home delivery, native language instruction and adaptations of culturally familiar activities.
Diet + Physical Activity or CVD prevention	Nava, 2016 ⁸⁴	19	Navajo	Nutrition	BMI, BP, triglycerides, HDL, fasting blood glucose	Out of 19 studies included in this systematic review, 11 interventions were identified to be effective at improving at least one measure of metabolic syndrome. Level of exposure to the intervention, frequency of intervention activities, family and social support, cultural adaptation and case management were identified as factors that may improve the efficacy of an intervention. Conclusion: Multiple nutrition-based interventions have been found to be effective in populations similar to the Navajo.
Diet + Physical Activity or CVD prevention	Rice, 2016 ⁹⁷	17	Indigenous children and adults	Prevention and management of type 2 diabetes, obesity-related chronic disease	BMI, waist circumference, BP, cholesterol, blood glucose levels, knowledge, self-efficacy, physical activity	We identified 17 publications, comprising 13 evaluated interventions. Of them, 7 were school-based programs focused on children, 5 focused on adults, and 1 included both adults and children. Most interventions aimed at encouraging behavior change, especially dietary change, but did little to address the underlying context of systemic

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Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
						marginalization and colonialism experienced in many Indigenous communities. Interventions focused on improving fitness were more effective than those aimed at dietary change. Overall, we found a range of successes among these interventions. Those that met with limited success reported that complex social issues and poverty presented challenges to effective intervention work in these communities. Participatory action research methods and community ownership of the intervention were found to be essential for project success.
Diet + Physical Activity or CVD prevention	Rodrigues, 2016 ¹⁰⁹	25	Non-urban communities	CVD and type 2 diabetes prevention programs	Blood pressure, body mass index (BMI), blood lipid and glucose, diet, lifestyle, knowledge	Multiple strategies within interventions focusing on health behavior change effectively reduced cardio-metabolic risk in non-urban individuals. Pre-/post-test design studies showed more favorable improvements generally, while RCTs showed greater improvements in physical activity and disease and risk knowledge. Short-term programs were more effective than long-term programs and in pre-/post-test designs reduced systolic blood pressure by 4.02 mm Hg (95% CI, -6.25 to -1.79) vs. 3.63 mm Hg (95% CI, -7.34 to 0.08) in long-term programs. Community-based programs achieved good results for most risk factors except BMI and (glycated hemoglobin) HbA1c.
Diet + Physical Activity or CVD prevention	Sanders Thompson, 2015 ¹⁰²	29	African Americans, American Indians/Alaska Natives, Asian Americans/ Pacific Islanders, and Latinos	Diabetes prevention	N/A (evaluates cultural adaptations)	Few adaptations referenced or followed recommendations for cultural adaptation, nor did they justify the content modifications by providing a rationale or evidence. Cultural elements unique to racial/ethnic populations were not assessed.
Diet + Physical Activity or CVD prevention	Sushames, 2016 ¹⁰³	13	Indigenous Australian and New Zealanders	Physical activity	Physical activity, weight, BMI, fitness test, blood pressure, clinical markers	There was no clear evidence for an effect of physical activity interventions on activity levels, however, there were positive effects on activity related fitness and health outcomes.

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Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
Diet + Physical Activity or CVD prevention	Viramontes, 2017 ⁸⁶	110	Latinos	CVD prevention	BP, cholesterol, LDL, HDL, BMI	All the studies used promotoras (Hispanic/Latino community member with training that provides basic health education in the community without being a professional healthcare worker) to deliver culturally appropriate interventions that combined nutritional and physical activity classes, walking routes, and/or support groups. One study reported statistically significant reductions in systolic blood pressure and an increase in physical activity. One study reported reductions in cholesterol levels compared to the control group. Two studies did not have significant intervention effects. Most studies demonstrated no significant changes in LDL, HDL, or BMI. Methodological limitations include issues related to sample sizes, study durations, and analytic methods.
Diet + Physical Activity or CVD prevention	Yue, 2016 ⁷⁶	9	Native Americans	Lifestyle-based diabetes prevention	hypertension, diabetes, obesity, hypercholesterolemia, no leisure-time physical activity, and smoking	Among the nine articles reviewed, six articles showed significant changes of physiological indicators. Three of the studies only targeted the female population. Most of the programs lasted between 6 to 12 months. A major limitation among intervention or prevention programs was an inadequate use of a theoretical behavior change model. Conclusion: Overall, it was found that physical activities and diet-based methods have the potential for diabetes prevention and intervention programs among American Indian and Alaska Native populations.
Adult weight	Brown, 2015 ⁹¹	29	South Asian children and adults	Diet and physical activity interventions		Meta-analysis of a limited number of controlled trials found an unclear picture of the effects of interventions on body mass index for South Asian children. Meta-analyses of a limited number of controlled trials showed significant improvement in weight for adults but no significant differences in body mass index and waist circumference. One high quality study in South Asian children found that a school-based physical activity intervention that was delivered within the normal school day which was culturally sensitive, was effective. There is also evidence of culturally appropriate approaches to, and characteristics of, effective interventions in

Appendix E. Reviews of Interventions to Address Health Inequities and Racism

Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
						adults which we believe could be transferred and used to develop effective interventions in children.
Adult weight	Burton, 2017 ⁹⁰	9	African Americans	Culturally tailored obesity interventions	BMI, physical activity, others (no meta-analysis)	The interventions focused on individual-level change and most included a primarily female sample. Faith-based settings appear to be an ideal setting. Given the small amount of studies conducted over the past decade, there is a need for more interventions that use culturally appropriate strategies.
Adult weight	Corona, 2016 ⁸⁹	9	Latinos	Obesity lifestyle interventions	Weight loss, BMI	Two of the nine studies reported significant between-group differences in BMI. Significant barriers between studies include small sample size, low retention rate, enrollment, low adherence, differences in control group activities, and differences in outcomes measured. We recommend that future obesity interventions select and report BMI, raw weight, and body fat percentage as outcome variables and that multiple measurements over multiple days be recorded for pre- and post-intervention data points.
Adult weight	Garcia, 2019 ³⁷⁵	9	Hispanic women	Weight behavior	Weight-related behavior	Seven studies were found to be successful in maintaining behavior change, although their retention rates at followup completion had either wide-ranging variations or were not specified. The findings are discussed, and recommendations are made so future efforts may successfully employ weight-related intervention strategies for behavior maintenance in Hispanic women.
Diabetes	Creamer, 2018 ⁹²	33	Ethnic minorities	Culturally appropriate diabetes health education	HbA1c, diabetes knowledge	Research activity in this field has increased considerably over the past 6 years, with culturally appropriate diabetes education showing consistent benefits over conventional care in terms of glycemic control and diabetes knowledge, sustained in the short- to mid-term. Further research is needed to determine the clinical significance of these improvements and their cost-effectiveness
Diabetes	Ferdinand, 2019 ³⁷⁶	NR	African American, Hispanic, Asian populations	Diabetes treatment	Medication efficacy	Overall, the majority of publications that fit our search criteria pertained to native Asian patient populations (i.e., Asian patients in Asian countries). Sulfonylureas; the α -glucosidase inhibitor, miglitol; the biguanide, metformin; and the thiazolidinedione, rosiglitazone have been evaluated in African American and Hispanic populations, as well as in

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Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
						Asians. The literature on other glucose-lowering drugs in non-white races/ethnicities is more limited.
Diabetes	Gutierrez, 2020 ³⁷⁷	15	Latino adults	Diabetes self-management	Emotional distress (e.g., depression symptoms), health-specific emotional stress (e.g., diabetes distress)	There is an absence of strong evidence to support that DSME programs tailored for Latino adults with T2DM are beneficial for improving emotional distress. Methodologically robust studies are needed.
Diabetes	Han, 2017 ⁹³	29	Community health center patients	Diabetes care	A1c	Overall, we found that CHC interventions were in general effective in improving glucose control when using face-to-face interactions in low-income, underserved, and racial and ethnic minority patients with diabetes. Evidence was limited, however, in regards to other outcomes which suggests the need for continued evaluations of CHC intervention models.
Diabetes	Heitkemper, 2017 ⁹⁵	13	Medically underserved patients	Diabetes self-management	A1c	Findings suggest that medically underserved patients with diabetes achieve glycemic benefit following HIT DSME interventions, with dissipating but significant effects at 12 months. Telemedicine/telehealth interventions were the most successful HIT type because they incorporated interaction with educators similar to in-person DSME.
Diabetes	Hildebrand, 2017 ³⁷⁸	223	Latino adults	Diabetes self-management	A1C	Meta-analysis results showed that culturally tailored DSME interventions significantly reduce A1c in Latinos with T2DM despite the heterogeneity across the studies.
Diabetes	Joo, 2015 ¹⁰¹	5	Ethnic minorities	Diabetes treatment	Behavior, knowledge, healthcare access, family involvement, emotional supports	Five themes were identified as experiences of culturally tailored diabetes interventions: culturally appropriate healthy lifestyle behaviors, knowledge about diabetes care, emotional supports, access to the healthcare system, and family involvement. The findings of this review can be utilized as resources for improving diabetes care for ethnic minorities.
Diabetes	McCurley, 2017 ⁷⁷	12	Hispanic adults	Diabetes prevention	Type 2 diabetes, weight, glucose regulation	All studies were delivered in Spanish and took place in community settings. Nine studies reported significant reductions in weight, and two in glucose regulation, post-intervention or when compared with controls. Effect sizes were small to moderate, study quality was moderate, and attrition was high in most trials. Interventions with the largest effect sizes included one or more of the following adaptations: literacy modification, Hispanic foods/recipes, cultural

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Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
						diabetes beliefs, family/friend participation, structured community input, and innovative experiential learning.
Diabetes	Morone, 2019 ³⁷⁹	28	Adolescents	Diabetes behavior	N/A (evaluates study characteristics, cultural responsiveness)	T1D intervention researchers must increase targeted recruitment and sampling methods to include more high-risk pediatric T1D groups, expand sociodemographic reporting, and increase the use of culturally responsive recruitment and sampling methods, such as those used in community-based participatory research. Such efforts have the potential to reduce T1D disparities by making interventions more relevant to the unique needs, goals, and priorities of highest risk groups.
Diabetes	Navodia, 2017 ³⁸⁰	4	Migrant South Asians	Diabetes self-management education, diabetes self-management support	A1c	Overall, most (75%) of the DSME and DSMS interventions were not effective in reducing A1c levels. Specific to cultural congruity of the interventions, all studies delivered the intervention based on the participant's preferred language and incorporated culturally sensitive dietary information primarily by persons of the same cultural and ethnic background. However, little information was presented on the provision and integration of culturally congruent care.
Diabetes	Rice, 2016 ⁹⁷	17	Indigenous children and adults	Prevention and management of type 2 diabetes, obesity-related chronic disease	BMI, waist circumference, BP, cholesterol, blood glucose levels, knowledge, self-efficacy, physical activity	We identified 17 publications, comprising 13 evaluated interventions. Of them, 7 were school-based programs focused on children, 5 focused on adults, and 1 included both adults and children. Most interventions aimed at encouraging behavior change, especially dietary change, but did little to address the underlying context of systemic marginalization and colonialism experienced in many Indigenous communities. Interventions focused on improving fitness were more effective than those aimed at dietary change. Overall, we found a range of successes among these interventions. Those that met with limited success reported that complex social issues and poverty presented challenges to effective intervention work in these communities. Participatory action research methods and community ownership of the intervention were found to be essential for project success.

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Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
Diabetes	Ruffin, 2019 ³⁸¹	9	African American adults	Health coaching	Glycemic control	Eight out of nine studies showed significantly improved diabetes control using health-coaching interventions.
Diabetes	Scarton, 2016 ³⁸²	20	American Indians and Alaska Natives	Psychosocial/behavioral diabetes	Adherence, depression, physical activity, psychosocial barriers, social support, stress	Tribal affiliations among the studies were broad with the number of AI/AN participants in each study ranging from 30 to 23,529 participants. Emotional and behavioral topics found in the literature were adherence (n=2), depression (n=9), physical activity (n=3), psychosocial barriers (n=1), social support (n=3), and stress (n=2). Relatively few studies were identified using AI/AN populations over a 27-year period.
Diabetes	Terens, 2018 ⁹⁴	58	Diabetics	Diabetes care improvement	HbA1c, BMI, BP, cholesterol, process measures, diet, physical activity, medication adherence, diabetes complications, hospital admissions	This review provides evidence that QI interventions for people with diabetes is feasible to implement and highly acceptable. However, more research is needed to understand their effective components as well as the adoption of an equity-oriented approach in conducting primary studies. Moreover, a wider variety of socio-economic characteristics such as social capital, place of residence, occupation, education, and religion should be addressed.
Diabetes	Tremblay, 2019 ³⁸³	7	indigenous populations (Canada, New Zealand, Australia, US)	Cultural safety in diabetes care	HbA1c, patient satisfaction, patient access to health care, health service utilization, providers' satisfaction, health professionals' confidence, patient self-efficacy	Although based on a small number of studies, this review establishes moderate evidence that interventions to improve cultural safety can have positive effects on treatment of diabetes in Indigenous populations. Further research with stronger study designs should be conducted to further validate our conclusions.
Diabetes	Yue, 2016 ⁷⁶	9	Native Americans	Lifestyle-based diabetes prevention	Hypertension, diabetes, obesity, hypercholesterolemia, no leisure-time physical activity, and smoking	Among the nine articles reviewed, six articles showed significant changes of physiological indicators. Three of the studies only targeted the female population. Most of the programs lasted from 6 to 12 months. A major limitation among intervention or prevention programs was an inadequate use of a theoretical behavior change model. Conclusion: Overall, it was found that physical activities and diet-based methods have the potential for diabetes prevention and intervention programs among American Indian and Alaska Native populations.

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Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
Smoking cessation	Gould, 2017 ³⁸⁴	2	Indigenous pregnant women	Behavioral counseling, w/ or w/o nicotine replacement therapy	Tobacco cessation rates	Only two randomized trials were conducted among Indigenous women: neither found a statistically significant difference in cessation rates between the treatment and comparison arms. Considerations should be given to (1) whole life course approaches to reduce tobacco use in Indigenous women, (2) prohibiting tobacco promotion and reducing access to alcohol for minors to prevent smoking initiation in Indigenous youth, and (3) training healthcare professionals in culturally appropriate smoking cessation care to improve access to services.
Smoking cessation	Nelson, 2019 ⁷¹	120	Populations adversely affected by disparities	Preventive services for cancer, cardiovascular disease, and diabetes	N/A (evaluates health equity indicators)	In populations adversely affected by disparities, evidence is strongest for patient navigation to increase colorectal, breast, and cervical cancer screening; telephone calls and prompts to increase colorectal cancer screening; and reminders, including lay health workers encouraging breast cancer screening. Evidence is low or insufficient to determine effects of barriers or effectiveness of other interventions because of lack of studies and methodological limitations of existing studies.
Multiple	Garzón-Orjuela, 2020 ⁷²	97 ESRs	General, race/ethnic minority, and vulnerable	Interventions that facilitate the reduction of health inequalities	Any	Most of the studies included focused on the general population, vulnerable populations and minority populations. The subjects of general health and healthy lifestyles were the most commonly addressed. According to the classification of the type of intervention, the domain covered most was the delivery arrangements, followed by the domain of implementation strategies. The most frequent group of outcomes was the reported outcome in (clinical) patients, followed by social outcomes. Conclusion: The strategies that facilitate the reduction of health inequalities must be intersectoral and multidisciplinary in nature, including all sectors of the health system. It is essential to continue generating interventions focused on strengthening health systems in order to achieve adequate universal health coverage, with a process of comprehensive and quality care.

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Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
Multiple	Yadee, 2019 ⁷³	49 ESRs	Migrant	Interventions measuring equity outcomes	Any	Thirteen out of 381 experimental studies (3.41%) were found to include equity attributes as part of their outcome measurement. However, although some associations were found, none of the included studies demonstrated the effect of the intervention on reducing inequity. All studies were conducted in high-income countries. The interventions included individual directed, community education, and peer navigator-related interventions.
Access to care	Khanassov, 2016 ¹⁰⁸	39	Vulnerable populations	Organizational interventions improving access to community-based primary health care	Avoidable hospitalization, emergency department admission, or unmet health care needs	Results of 10 studies on interventions classified as "Formal integration of services" suggested that these interventions were associated with three dimensions of access (approachability, availability and affordability) and reduction of hospitalizations (4/4 studies), emergency department admissions (6/6 studies), and unmet healthcare needs (5/6 studies). These 10 studies included seven non-randomized studies, one randomized controlled trial, one quantitative descriptive study, and one mixed methods study.
Financial/governance	Bambra, 2014 ¹¹¹	9 ESRs	High-income countries	Health care system organizational and financial reforms	Equity in health care access and/or health status	Private insurance and out-of-pocket payments as well as the marketization and privatization of services have either negative or inconclusive equity effects. The evidence base on the health equity effects of managed care programs or integrated partnerships between health and social services is inconclusive. There were no relevant studies located that related to resource allocation reforms.
Financial/governance	French, 2016 ¹¹³	96	US healthcare patients	ACA provisions to increase health insurance coverage	Health insurance coverage and related outcomes.	The ACA has substantially decreased the number of uninsured individuals through the dependent coverage provision, Medicaid expansion, health insurance exchanges, availability of subsidies, and other policy changes. Affordability of health insurance continues to be a concern for many people and disparities persist by geography, race/ethnicity, and income. Early evidence also indicates improvements in access to and affordability of health care. All of these changes are certain to ultimately impact state and federal budgets.

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Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
Financial/governance	Moss, 2020 ¹¹²	48	US cancer care patients	Medicaid expansion	Outcomes along the cancer care continuum	The most common outcomes assessed were the impact of Medicaid expansion on insurance coverage (23.4% of studies), followed by evaluation of racial and/or socioeconomic disparities (17.4%), and access to screening (14.5%). Medicaid expansion was associated with increases in coverage for cancer patients and survivors as well as reduced racial- and income-related disparities.
Financial/governance	Petersen, 2017 ¹¹⁰	1 RCT	US healthcare systems	Pay-for-Performance	Quality of hypertension care for Black patients	The proportion of black patients who achieved blood pressure control or received an appropriate response to uncontrolled blood pressure in the final period was 6.3% (95% CI, 0.8% to 11.7%) greater for physicians who received an incentive than for controls. There was no difference between intervention and controls in the proportion of patients who switched providers, visit frequency, or panel turnover.
Workforce diversification	Gilliss, 2010 ¹¹⁷	NR	US nursing workforce	Approaches that have been successful in diversifying the nursing workforce	Impact of a diverse workforce on patient outcomes and delivery services, recruitment, and retention of diverse nursing workforce	There is a lack of data on the impact of a diverse workforce on patient outcomes and delivery of services. The authors conclude with recommendations for research and policies, including best practices, for enhancing recruitment and retention of a diverse nursing workforce.
Workforce diversification	Lai, 2018 ¹¹⁸	15	Australian healthcare professionals	Identification of enablers and barriers to the retention of Indigenous Australians within the health workforce, strategies to assist with development and retention of Indigenous health professionals after qualification	Retention of Indigenous healthcare professionals	Important factors affecting the retention of Indigenous health professionals included work environment, heavy workloads, poorly documented/understood roles and responsibilities, low salary and a perception of salary disparity, and the influence of community as both a strong personal motivator and source of stress when work/life boundaries could not be maintained. Evidence suggests that retention of Indigenous health professionals will be improved through building supportive and culturally safe workplaces; clearly documenting and communicating roles, scope of practice, and responsibilities; and ensuring that employees are appropriately supported and remunerated. The absence of intervention studies highlights the need for deliberative interventions that rigorously evaluate all aspects of implementation of relevant workforce, health service policy, and practice change.

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Condition or Intervention	Author	Studies included	Population(s)	Type of interventions	Outcomes	Overall conclusion(s)
Workforce diversification	Mittman, 2011 ¹¹⁶	NR	US genetic counseling workforce	Initiatives to remedy lack of racial diversity among genetic counseling clinicians	Workforce diversity	This paper reviews new findings on issues impacting health workforce diversity in the nation, presents a case study of a national best practice to diversify the health workforce and illuminates actions that can be taken by the genetic counseling profession. The Sullivan Alliance to Diversify the Health Professions is a culmination of two historic initiatives for addressing the dearth of minority health professionals and is a national catalyst for increasing diversity within the health professions by forging state collaborations among institutions of higher education, health professions schools, and other key stakeholders.
Provider training	McCalman, 2017 ¹²⁷	15	Healthcare professionals in Canada, US, Australia, and New Zealand	System-level cultural competence	Cultural competence and measurement of cultural competence	Key principles for implementing systems approaches were: user engagement, organizational readiness, and delivery across multiple sites. Two key types of intervention strategies to embed cultural competence within health systems were: audit and quality improvement approaches and service-level policies or strategies. Outcomes were found for organizational systems, the client/practitioner encounter, health, and at national policy level.
Provider training	Quist, 2006 ¹²⁵	NR	Health professionals	Cultural competency	NR	First, key points representing opportunities for intervening in promotion of cultural competent health care are discussed. Following is a review of existing literature with a focus on identifying next steps for future research. Recommendations for licensing, education, and continuing education requirements suggest developing educational research establishing course content and delivery strategies that have measurable impact on improving cultural competency. In addition, existing initiatives need to be evaluated regarding effectiveness in recruiting, retaining, and preparing a diverse workforce. Patient care recommendations focus on further developing an understanding of the factors impacting health outcomes for culturally diverse patients.

Abbreviations: ACA = Affordable Care Act, AI = American Indian, AN = Alaska Native, BMI = body mass index, BP = blood pressure, CALD = culturally and linguistically diverse adults, CBPR = community-based participatory research, CHC = community health center, CHW = community health worker, CVD = cardiovascular disease, DPP = Diabetes Prevention Program, DSME = diabetes self-management education, HDL = high-density lipoprotein, HRQOL = health-related quality of life, LDL = low-density lipoprotein, N/A = not applicable, PA = physical activity, PYD = positive youth development, QE = quasi-experimental trials, QI = quality improvement, RCT = randomized controlled trial, SAA = South Asian American, SES = socioeconomic status, T1D = type 1 diabetes, T2DM = type 2 diabetes mellitus.

Appendix F. Organizations With Recent General Statements on Racism

[American Academy of Allergy, Asthma & Immunology³⁸⁵](#)
[American Academy of Dermatology³⁸⁶](#)
[American Academy of Hospice and Palliative Medicine³⁸⁷](#)
[American Academy of Neurology³⁸⁸](#)
[American Academy of Ophthalmology³⁸⁹](#)
[American Academy of Physical Medicine and Rehabilitation³⁹⁰](#)
[American Academy of Physician Assistants \(AAPA\)³⁹¹](#)
[American Association for Geriatric Psychiatry³⁹²](#)
[American Association of Nurse Practitioners³⁹³](#)
[American Association of Retired Persons \(AARP\)³⁹⁴](#)
[American College of Emergency Physicians³⁹⁵](#)
[American College of Medical Genetics and Genomics³⁹⁶](#)
[American College of Preventive Medicine³⁹⁷](#)
[American College of Radiology³⁹⁸](#)
[American College of Rheumatology³⁹⁹](#)
[American College of Surgeons⁴⁰⁰](#)
[American Epilepsy Society⁴⁰¹](#)
[American Geriatrics Society⁴⁰²](#)
[American Pediatric Society/Society for Pediatric Research⁴⁰³](#)
[American Society of Anesthesiologists⁴⁰⁴](#)
[American Society for Clinical Pathology⁴⁰⁵](#)
[American Society of Colon and Rectal Surgeons⁴⁰⁶](#)
[American Society of Hematology⁴⁰⁷](#)
[American Society of Nephrology⁴⁰⁸](#)
[American Society for Radiation Oncology⁴⁰⁹](#)
[American Urological Association⁴¹⁰](#)
[Association of Schools of Public Health in the European Region \(ASPHER\)⁴¹¹](#)
[Eastern Association for the Surgery of Trauma \(EAST\)⁴¹²](#)
[Infectious Diseases Society of America⁴¹³](#)
[Neuropsychopharmacology \(NPP; journal of the American College of Neuropsychopharmacology \(\[ACNP\]\)⁴¹⁴](#)
[Society of Critical Care Medicine⁴¹⁵](#)
[Society of Gynecologic Oncology⁴¹⁶](#)
[Society of Hospital Medicine³⁹³](#)
[Society of Thoracic Surgeons⁴¹⁷](#)

Appendix G. GRADE Working Group Recommendations and Relevance to the USPSTF

GRADE's proposed guidance ¹⁷⁴	Relevance to USPSTF
<p><u>Setting priorities</u> -Consider dedicating part or a whole guideline (as opposed to no part) to the care of disadvantaged populations</p>	<p>-Can develop health equity specific topics as part of existing recommendations, or new topics -Consider "health equity" as a prioritization criterion</p>
<p><u>Guideline group membership</u> -Include representatives of disadvantaged populations in the voting panel -Ensure method for recruitment of group members considers representatives of all relevant disadvantaged populations -Recruit a methodologist who is familiar with and mindful of equity issues -Ensure that the chair of the voting panel is familiar with equity issues</p>	<p>-Consider how to incorporate the patient voice (particularly for diverse racial/ethnic populations) into the recommendation process -Have racial/ethnic diversity in the USPSTF membership and leadership -Ensure supporting EPCs are familiar and mindful of equity issues -Ensure that the USPSTF chairs are familiar with equity issues</p>
<p><u>Identifying the target audience(s)</u> -Specify relevant disadvantaged populations when identifying the target audience(s) -Involve representatives of disadvantaged populations when identifying the target audience(s)</p>	<p>-Consider involving professional societies that represent racial/ethnic diversity as "partners" (e.g., National Medical Association)</p>
<p><u>Generating the guideline questions</u> -Consider equity when specifying elements of the PICO questions ---consider "health equity" as an outcome ---consider patient-important outcomes relevant to health equity -Consider "good-practice statements" that could help address equity issues</p>	<p>- Include specific populations and interventions relevant to health disparities when developing key questions -Consider if there are topics for which health equity might be an important outcome, or if there are other important outcomes relevant to health equity</p>
<p><u>Considering the importance of outcomes and interventions</u> -Involve representatives of disadvantaged populations in rating the importance of interventions and outcomes -Search selected databases for outcomes rated as important by disadvantaged populations -Consider separate recommendations for disadvantaged populations if their values and preferences are thought to differ substantively to the point of affecting the strength and/or direction of recommendation</p>	<p>-Consider incorporating patient input (particularly for diverse racial/ethnic populations) on ranking outcomes, as well as values and preferences on various outcomes</p>
<p><u>Deciding what evidence to include and searching for the evidence</u> -Seek evidence specific to disadvantaged populations; for example, baseline risks specific to those groups -Consider including evidence derived from fields other than health (e.g., social science) that address disadvantaged populations -Search literature published in the language relevant to the disadvantaged population</p>	<p>-Incorporate baseline risks by racial/ethnic populations, as well as other populations with increased risk of disease/condition -In select instances, consider including evidence in LMIC if relevant to US setting</p>
<p><u>Summarizing the evidence and considering additional information</u> -Consider the PROGRESS-plus elements when synthesizing the evidence* ----assess differences in the magnitude of effect in relative terms between disadvantaged and more advantaged populations ---assess differences in the baseline risk and hence the differing impacts on absolute effects for disadvantaged populations ---assess indirectness of evidence to disadvantaged populations (do not downgrade certainty for lack of comparability unless there are compelling reasons to anticipate differences in effect due to biology/physiology, sociocultural influences, or setting specific resource issues that impact the effectiveness/harms of an intervention) -Follow the PRISMA-equity statement when reporting the systematic review</p>	<p>-Synthesize and summarize the evidence (relative and absolute effects) by racial/ethnic populations as well as other populations with increased risk of disease/condition (when relevant and possible) -Be transparent about how baseline risks are estimated and how/if they impacted the judgement of magnitude of effect -Assess the comparability between populations and interventions in research studies to those under consideration for the recommendation statement -Consider contextual questions on: -effect on health equity: consider EtD health equity questions † -feasibility and acceptability: if a preventive service has less feasibility or acceptability</p>

Appendix G. GRADE Working Group Recommendations and Relevance to the USPSTF

GRADE's proposed guidance ¹⁷⁴	Relevance to USPSTF
-Consider the information on resource use, cost, effect on equity, feasibility, and acceptability from the perspective of disadvantaged populations	(greater barriers to implementation), may be important to address as a contextual question -interventions to improve implementation in racial/ethnic populations or other populations for whom disparities occur (when relevant/possible)
<u>Wording of recommendations</u> -Be as specific as possible in defining the population to maximize the understanding that it applies to a disadvantaged population (when applicable) -Include necessary remarks following recommendation to ensure its appropriate implementation in disadvantaged populations -Ensure that the language is used carefully so that the recommendation does not stigmatize already disadvantaged populations	-Include specific recommendations or considerations by racial/ethnic or other populations at increased risk (when relevant)‡ -Consider text around implementation of preventive services if suboptimal uptake by racial/ethnic populations (e.g., acknowledge or address barriers to implementation) -Avoid language that may stigmatize already racialized, marginalized populations
<u>Evaluation and use</u> -Produce tools to facilitate implementation and use among disadvantaged populations -Monitor and audit implementation and use among disadvantaged populations	-Produce tools to facilitate implementation and use among disadvantaged populations (when relevant/possible) -Monitor and audit implementation and use among disadvantaged populations (when relevant/possible)

*PROGRESS-Plus: Place of residence, Race/ethnicity/culture/language, Occupation, Gender/sex, Religion, Education, Socioeconomic status, or Social capital.

†EtD Health Equity Questions:

1. Are there groups or settings that might be disadvantaged in relation to the problem or interventions (options) that are considered?
2. Are there plausible reasons for anticipating differences in the relative effectiveness of the intervention (option) for disadvantaged groups or settings?
3. Are there different baseline conditions across groups or settings that affect the absolute effectiveness of the intervention or the importance of the problem for disadvantaged groups or settings?
4. Are there important considerations that should be made when implementing the intervention (option) in order to ensure that inequities are reduced, if possible, and that they are not increased?

‡Recommendation wording considerations:

4. A general recommendation that can be applied across different populations and settings. Assessment of health equity across the criteria may increase the confidence of the panel that a general recommendation is warranted and that the intervention is applicable for disadvantaged populations and settings.
5. A general recommendation that can be accompanied with subgroup and implementation considerations, to promote health equity or mitigate worsening health inequities.
6. A separate recommendation for a specific disadvantaged population when evidence of meaningfully different effects for a specific setting or subgroup is identified.