



Review

Racism and Cardiology: A Global Call to Action

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ABSTRACT

Racism and racial bias influence the lives and cardiovascular health of minority individuals. The fact that minority groups tend to have a higher burden of cardiovascular disease risk factors is often a result of racist policies that restrict opportunities to live in healthy neighbourhoods and have access to high-quality education and healthcare. The fact that minorities tend to have the worst outcomes when cardiovascular disease develops is often a result of institutional or individual racial bias encountered when they interact with the healthcare system. In this review, we discuss bias, discrimination, and structural racism from the viewpoints of cardiologists in Canada, the United Kingdom, and the US, and how racial bias impacts cardiovascular care. Finally, we discuss proposals to mitigate the impact of racism in our specialty.

RÉSUMÉ

Le racisme et la discrimination raciale influent sur la vie et la santé cardiovasculaire des membres des minorités. Le fait que les groupes minoritaires tendent à présenter plus de facteurs de risque de maladies cardiovasculaires est souvent le résultat de politiques racistes qui restreignent les possibilités de vivre dans des quartiers sains et d'avoir accès à une éducation et à des soins de santé de grande qualité. Le fait que les minorités tendent à afficher les pires résultats lorsqu'une maladie cardiovasculaire se manifeste est souvent le résultat d'une discrimination raciale systémique ou individuelle à l'œuvre dans leurs interactions avec le système de santé. Dans le présent article, nous traitons de la discrimination et du racisme structurel du point de vue de cardiologues du Canada, du Royaume-Uni et des États-Unis. Nous abordons également l'incidence de la discrimination raciale sur les soins cardiovasculaires. Enfin, nous proposons certaines mesures visant à atténuer l'effet du racisme dans notre spécialité.

Black, White, Indigenous, Asian, South Asian—these are some of the derivations used to describe race. Race is a social construct that describes a group of people that appear the same but genetically may be very different. Your race is the group of people to whom you bear most resemblance—your phenotypic appearance to the rest of the world. However, race is an umbrella term that suggests similarity when in fact the group may be very heterogeneous but just appear the same superficially. For instance, the term Black in Canada, the United Kingdom (UK,) or the US may describe not only a recent migrant from Ethiopia or Somalia but also a descendent of Black slaves whose relatives have lived for generations

in that particular country. Conversely, a person's ethnicity is determined by the genetic heritage that they receive from their forebearers. Race combines a group of people who may vary not only ethnically but also with other social determinants of health, including income, education, employment status, working life conditions, housing, food insecurity, early childhood development, social inclusion, and access to affordable healthcare. There is no biologic basis for race-based health disparities. Despite this, race predicts health outcomes. However, it is racism, and not race, that is the fundamental driver of these health inequities.

Essentially, racism is the belief that different races possess distinct characteristics, abilities, or qualities that distinguish them as inferior or superior to one another. There are 3 major forms of racism: explicit, implicit, and institutional, also known as structural.¹

Explicit racism is easily detectable and easy to condemn. Implicit racial bias is the unconscious association of positive or negative attributes with different racial groups. Unconscious or implicit bias can take many forms and includes bias based on gender, race, and other characteristics. Such bias is

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influenced by a person's environment, including friends, family, colleagues, and the beliefs drawn from stereotypes, the media, and the culture around that individual.²⁻⁵ The amygdala, part of the limbic cortex, is the driver of implicit bias. Although implicit biases occur outside of conscious awareness or control, they can influence behaviour and lead to discrimination. Reducing the effects of such bias can be facilitated by engaging the frontal cortex to allow recognition of one's bias, carefully -challenging oneself, and ultimately developing empathy and encouraging diversity.⁶

Structural racism results from years of policy-making that gives advantage to one racial group at the expense of another. This type of racism is more pervasive and often difficult to identify and define.⁷ Structural racism operates through mutually reinforcing systems that determine factors such as the following: the conduct of the criminal justice, healthcare, and educational systems; where people are allowed to live; the proximity of people's homes to clean air, water, healthy food, and green space; and access to high-quality hospitals. These factors have been suggested to have as great an impact on cardiovascular disease outcomes as traditional cardiovascular risk factors.⁸ Structural racism has been a significant cause of persisting health and healthcare disparities in Canada,⁷ the UK,^{3,9} and the US.^{10,11} However, evidence indicates that interventions can impact structural racism. For instance, in the US in the 1960s-1970s,¹² civil rights policies narrowed the economic gap between Blacks and Whites, reduced some health inequities, and resulted in improved living conditions and socioeconomic opportunities, although significant and still troubling inequity persists. Cardiologists must be aware that our patients can be impacted by the effects of all levels of racism. In this review, we discuss bias, discrimination, and structural racism from the viewpoints of cardiologists in Canada, the UK, and the US, how racial bias impacts cardiovascular care, and proposals to mitigate the impact of racism in our specialty.

Racism, Health, and Heart Disease

Racism, health, and heart disease in the UK

In a 1999 report investigating the police response to the racially motivated murder of a Black teenager in the UK, Sir William Macpherson coined the term "institutional racism" and concluded that the metropolitan police serving London, as an institution, were racist, and that this institutional or structural racism extended to the British Civil Service, the local government, systems of education, and the National Health Service.¹³ In the nearly 22 years since that report, ethnic minorities still live in socially disadvantaged and densely populated neighbourhoods, and experience greater social deprivation than the ethnic majority.¹⁴ These factors have a negative impact on the health of minority ethnic and disadvantaged communities. For instance, the recent coronavirus disease 2019 (COVID-19) pandemic has had a disparate impact on people of colour within the UK, with infection and death rates much higher than is commensurate with their relative representation in the population.¹⁵ Despite the National Health Service providing universal healthcare, the pandemic has unmasked the inequities in the lack of health

promotion and adequate healthcare in less-affluent, immigrant, and ethnic minority populations.¹⁶ To reduce racial disparities in cardiac care in the UK, it is imperative to address national policies that sustain inequalities in healthcare, education, and housing, as well as physician and systemic biases.

Racism, health, and heart disease in the US

In the US, longstanding social policies have resulted in limited access to quality education and healthcare for people of colour. Since the first Africans were captured and forcibly transported to the US in 1619, structural racism has had an ongoing negative impact on the health of Black people.¹⁷ Such racism affects everything from the lack of resources to maintain healthy behaviours in minority neighbourhoods to the disparate treatment minorities receive when they engage with the healthcare system.

The mere perception that one is being discriminated against has been associated with a higher risk of high blood pressure,¹⁸ depression,¹⁹ and coronary artery stenoses²⁰ in Black individuals. An analysis from the third National Health and Nutrition Examination Survey found an association between the higher mortality incidence among Blacks and the higher "allostatic load" (ie, wear and tear on the body resulting from stress) they experience.²¹ These factors could adversely impact the cardiovascular prognosis of Blacks in addition to that for Hispanics, Asians, and Native Americans in the US, even before they encounter the healthcare system. When racial bias awaits at the doctor's office or the hospital, the impact of racism on their health is compounded.

Although structural racism is clearly a contributor to the shortened life expectancy of Blacks and Hispanics in the US, individual racial bias on the part of physicians and health institutions cannot be excluded and must be explored. Racial disparities in care have been noted in Veteran's Affairs hospitals in the US, where fundamentally, access should be the same for all patients,²² and have been found to persist even after reforms such as mandated insurance for all,²³ a response to the glaring and disproportionately high numbers of uninsured Black Americans. In an analysis of US data from 9 states between 2000 and 2005, after adjusting for demographics, comorbidities, and hospital clustering, Blacks and Hispanics with acute myocardial infarction were approximately 25% and 5% less likely to be treated with revascularisation, respectively, than Whites with similar insurance.^{10,24,25} Such data indicate that differences in insurance status do not fully explain racial disparities in care. The **Affordability and Real-World Antiplatelet Treatment Effectiveness After Myocardial Infarction Study** (ARTEMIS trial),²⁶ which looked at the effect of copayment intervention on antiplatelet medication in 6135 post-acute coronary syndrome patients, found a slight improvement in the uptake of antiplatelets when barriers to copayment were removed, but no impact on the 1-year incidence of major adverse cardiac events. These studies suggest that there are other barriers to optimal care, beyond finances and insurance status, that contribute to race-based health inequality. Reducing racial disparities in cardiovascular care in the US requires a multipronged approach, including policy changes in regard to housing segregation, healthcare access (ie, social determinants of health), and training of a diverse group of physicians and healthcare providers. Interventions, such as

having a doctor of similar race, have been shown to result in better health uptake, in particular for Black patients.²⁷

Racism, health, and heart disease in Canada

Recent reports, including Canada's Truth and Reconciliation Commission Report, published in 2015, state that the poor health statistics of the country's First Nations, Inuit, and Metis peoples are due in part to systemic racism and discrimination.^{25,10} This population has the highest cardiovascular disease burden in the nation, attributable in part to the effect of colonization and government policies that have resulted in lower socioeconomic status, lower-quality healthcare, less primary cardiovascular disease prevention, poor access to nutritional foods, and a shift away from traditional practices of Canada's First Nation people.²⁸ The burden of cardiovascular risk factors is significantly higher in this group, as is the overall mortality rate.^{29,30}

A reduction in these disparities and those suffered by other minority groups in Canada requires a national response to identify and close the gaps in healthcare between the majority White population and minority groups. The barriers to accessing healthcare include racism and aggression, disrespect, differential healthcare, discontinuity of language, and lack of cultural understanding of viewpoints or definitions of health.³¹ Factors necessary to reduce these disparities include required education of all students in healthcare, specifically those in medicine and nursing, on racial healthcare disparities, including Indigenous teachings and practices, with required skill-based training in intercultural competency, human rights, and anti-racism. The challenge for the Canadian populace is to lessen or remove the barriers to health of the Indigenous Peoples, and in doing so, reduce the impact of systemic racism and the colonial past. This involves deep-rooted change and systemic dismantling of entrenched attitudes toward the First Nations peoples, and instead the nurturing of a culture of mutual respect, understanding, and trust. Healthcare policy must involve learning from Indigenous-led movements.³¹ Cardiologists must grasp the mantle and lead this change to help drive down the disparity in cardiovascular outcomes, to eventually create better healthcare outcomes and equity for Indigenous Peoples, and for all.

Influence of Racism and Racial Bias in Cardiovascular Care

Racial disparities in automatic implantable cardioverter-defibrillator (AICD) implantation

Epidemiologic studies suggest higher rates of cardiac arrest in Blacks and individuals from socioeconomically disadvantaged backgrounds.^{32,33} Black and Hispanic neighbourhoods also have lower rates of bystander cardiopulmonary resuscitation and automatic external defibrillator (AED) use.^{34,35} For most individuals who survive a cardiac arrest, treatment with implantation of an AICD is considered a class I indication.³⁶ Studies documenting racial and gender disparities in the use of implantable defibrillators began to appear in the 1990s,³⁷ and appeared as late as 2018.³⁸ Numerous articles have shown that Blacks and women are less likely than White males to receive a defibrillator when one is indicated. Intersectionality may be

additive; one study showed that Black women were least likely of all groups to receive a defibrillator when it was indicated.³⁹

Thus, current evidence reveals that Blacks and Hispanics are more likely to suffer a first cardiac arrest, tend to reside in neighbourhoods where rescue with bystander cardiopulmonary resuscitation or automatic external defibrillators is less common, and, should they happen to survive a cardiac arrest, are less likely to subsequently receive AICDs. Unless systemic changes are enacted, Blacks, Hispanics, and other underserved groups will remain more likely to die of sudden cardiac arrest than other groups.

Authors have speculated on potential causes for race and sex disparities in AICD implantation, including patient-provider mistrust and differences in socioeconomic status, insurance levels, and health literacy. Some have suggested that rather than an underutilization in Blacks and women, the devices are overutilized in White males.⁴⁰ Implicit physician bias has been implicated in the underutilization of other advanced therapies in Black patients⁴¹ and may contribute to disparities in defibrillator implantation.

Racial bias and disparities in the care of acute coronary syndromes

Disparities in care are particularly relevant in the management of the acute coronary syndromes (ACSs), with which time is of the essence. During the early era of reperfusion in the US, door-to-needle (thrombolytic therapy) and door-to-balloon times were significantly longer in Blacks compared to those for Hispanics and Whites.⁴² More recent studies reveal that Black patients with ACS have longer wait times in the emergency department⁴³ and experience delays in coronary angiography and preferential use of bare metal vs drug-eluting stents.^{44,45}

In the United Kingdom, South Asian patients with symptomatic coronary artery disease are less likely than White patients to be evaluated with coronary angiography and revascularisation and to be treated with the appropriate medications.^{46,47} This disparity may be explained partly by the greater likelihood that they live in areas with relative social and economic deprivation.¹⁴ Previous studies have pointed out the differential care provided to Black, South Asian, and minority ethnic patients presenting with an acute myocardial infarction. In a recent study from the UK, minority patients presenting with ACS during the COVID-19 pandemic had more pronounced delays in receiving reperfusion therapies, compared with Whites, were less likely to be evaluated with coronary angiography, and had higher in-hospital and 7-day mortality.⁴⁸

In the US recently, the Montefiore ST-segment elevation myocardial infarct (STEMI) registry, in an evaluation of differences in management of 1208 STEMI patients, by age, sex, and race/minority group, revealed differences in the use of primary angioplasty in the elderly and African Americans that were not explained by severity of illness, suggesting that appropriate interventions and therapies may be withheld from those who may benefit most.⁴⁹ These findings are not new: similar disparities in the provision of revascularisation, to stable angina patients, were reported from Duke University in 1997, in a study of 12,402 patients undergoing angiography. Black patients with coronary disease were less likely than Whites to be treated with angioplasty, and were markedly less likely to undergo bypass surgery.⁵⁰ This inequity could not be

IMPROVING EQUITY, INCLUSION & DIVERSITY IN CARDIOLOGY TO IMPROVE THE CARE OF ALL CARDIOVASCULAR PATIENTS

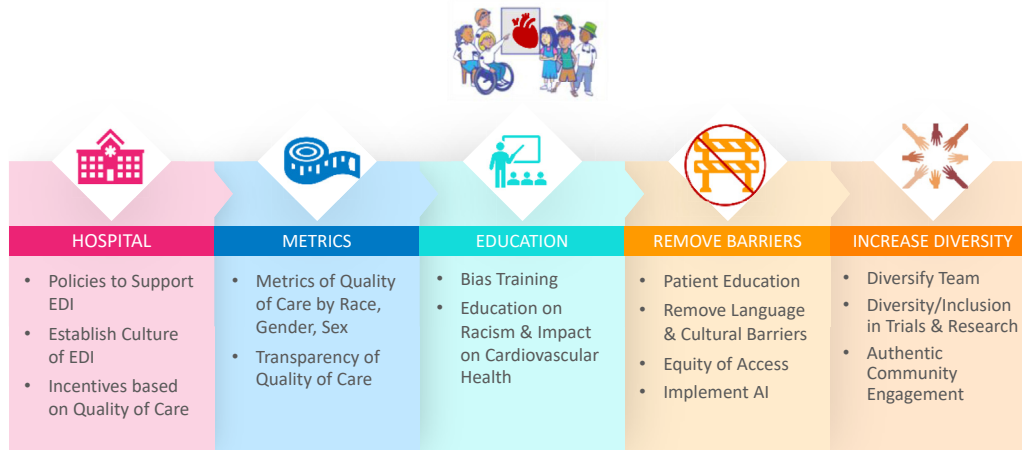


Figure 1. Schematic of strategies to reduce the impact of racism on cardiovascular care. AI, artificial intelligence; EDI, equity, diversity, inclusion.

explained by clinical factors or differential access to care. The underuse of prognostically important revascularisation procedures resulted in worse observed outcomes. Although both these studies were limited by including patients treated in just one institution, and hence were not reflective of national policy, the trends have been confirmed in other publications.⁵¹⁻⁵⁵

In Canada, a 2009 study of a multiracial group of patients with acute myocardial infarction found that among White, Chinese, South Asian, Southeast Asian, and First Nations individuals, Whites were significantly more likely to undergo angiography within 3 hours of presentation compared with all other groups.⁵⁶

Thus, racial variation in the treatment of acute myocardial infarction is a global problem, with Black, Hispanic, Asian, Indigenous, and other minorities less likely than Whites to receive evidence-based care in several countries. The fact that this theme is consistent across national borders makes it less likely that the sole culprit is variation in national systems of healthcare financing and strongly suggests a role for race. However, this statement may be too simplistic: in registry data looking at outcomes of STEMI by age and sex in a low-income population, it was found that younger patients (regardless of race) had a higher burden of risk factors, and in particular, those from socially disadvantaged backgrounds were more impacted by health disparity relating to STEMI.⁴⁹ This finding correlates with data suggesting that race and ethnicity play a significant role in a patient's social determinants of health. A greater number of social determinants of health associated with a patient can predict a worse cardiovascular outcome.⁸

Yet, it is racism, not race, that is the primary driver of the social determinants of health. Racism drives the inequities in housing, income, and education, especially among communities of colour. Furthermore, racism is not just one of the social determinants—it is **the** underlying structural determinant that sets the stage for all the other social determinants.

Racial disparities in structural heart disease interventions

In the US, racial minorities with severe aortic stenosis are less likely than Whites to have surgical or transcatheter aortic valve replacement (TAVR), with White patients undergoing more than 90% of the valve replacement procedures in both the pre- and post-TAVR eras.^{57,58}

The reasons for the lower utilization of TAVR among non-White patients are likely multifactorial, but they include a lower likelihood of being referred for any aortic valve repair (surgical or TAVR),⁵⁹ lower socioeconomic status and access to care,⁶⁰ patient mistrust, and lack of culturally competent communication on the part of physicians and providers.⁶¹

Time to Intervene: Reducing the Impact of Racism and Racial Bias in Cardiovascular Care

Reducing the impact of racism by mitigating individual implicit biases

We recommend that cardiologists and members of the cardiovascular care team make sincere efforts to mitigate their individual biases. Implicit biases or associations can be measured by the computer-based implicit association test (IAT), the results of which have been shown to predict discriminatory behaviour.^{3,4,62-64} The IAT appears to be a valid measure of unrecognised social beliefs, but it must be recognised that some limitations or concerns still remain.⁶⁵⁻⁶⁷ In particular, the relative nature of the measure and its subsequent impact on behaviour need further evaluation. Furthermore, there is an argument that implicit bias training may breed resentment and be counterproductive.⁶⁵ However, it appears that the benefits and potential gains for behavioural research outweigh these concerns, and the IAT provides a much-needed measure with strong psychometric properties.⁶⁷

Alarming, it has been shown that if physicians unknowingly hold negative or positive implicit biases about a patient

under their care, the biases can influence clinical decision-making and interpersonal communication. A study in 2007 found that physicians with negative implicit biases about Black individuals were less likely to treat Black compared to White heart attack victims with life-saving thrombolytic drugs.⁶⁸ In an analysis of doctor–patient interactions in the office setting, oncologists with implicit negative biases about Black people spent less time with their Black patients and displayed a verbally dominant tone during the office visit.⁶⁹ In a more recent, vignette-based study using Black and White male patients, Breathett et al. found that heart failure specialists were more likely to consider a Black man to be at risk for non-adherence.⁴¹ The cardiologists were more likely to offer a White man heart transplantation; a Black man was more often referred for a left ventricular assist device, currently considered the inferior option of the two. Although the sobering news is that many physicians hold implicit negative biases about Blacks, and that this bias is pervasive, with nearly 70% of IAT takers demonstrating some degree of implicit association of a White face with “good” and a Black face with “bad”^{2,70} mitigation of these biases is possible. Several studies have shown that educational interventions targeted at faculty members in science, technology, engineering, medicine, and mathematics departments can be successful at increasing awareness of and reducing biases. Positive outcomes range from a reduction in self-reported bias, to an increase in the diversity of students matriculating into medical school, and an increase in hiring women faculty in science departments.⁷¹⁻⁷⁴

There is some evidence that just becoming aware of one’s bias can help reduce it.³ Studies have shown that human behaviours are changeable and dependent on their environments.^{75,76} Recurring workshops or discussions to rehearse bias mitigation strategies can be undertaken as a team. We prefer a model in which clinical cases are presented and discussed, and workshop participants intentionally list items that could trigger biases (race, skin tone, gender, perceived religion, obesity, etc.) and then verbally “rehearse” research-proven bias-mitigation strategies.⁷⁷ These discussions should be led by an experienced bias-mitigation workshop leader. Although data indicating that cardiovascular outcomes are improved by bias-mitigation training of healthcare teams are lacking,^{63,66,67} there is evidence that educating clinicians and healthcare workers in strategies to override racial and other biases may enhance the atmosphere of inclusion perceived by patients and colleagues alike, and enhance patient trust.⁷⁸

The promise of using artificial intelligence (AI) to reduce the impact of racism

We recommend that the specialty of cardiology accelerate research into the use of AI as a tool to reduce the impact of racial bias in medicine. AI has the potential to be implemented in numerous ways to reduce bias in cardiovascular care and allow for implementation of precision medicine. (Fig. 1). The potential for AI to remove the inequities in care is only possible if the AI algorithms have excluded biases and confounding factors.⁷⁹

AI can be incorporated into electronic health record platforms using predictive modelling to prompt specific care approaches. An example of its utility is shown in Figure 1. AI has the potential to eliminate or reduce biases in cardiovascular

care. An example of such AI has been demonstrated in STEMI care—a standardized approach reduced the disparities in care of women and improved outcomes when they presented with STEMI.⁸⁰

Although the use of AI has the potential to improve cardiovascular outcomes by removing bias, it is no panacea for racism in medicine; the data entered into the AI systems must be clear of bias, and the clinicians supervising/overseeing the process must not contribute their bias to the algorithms.⁸¹

Reducing the impact of racism by enhancing diversity in medicine and cardiology

We recommend that cardiology accelerate efforts to recruit and matriculate underrepresented groups into medicine and cardiology. The lack of racial diversity in medicine and cardiology is a culmination of inadequate resources in public schools in minority neighbourhoods, a dearth of Black, Hispanic, First Nation, and Native American physicians to inspire minority children, the prohibitive costs of a college and medical education, and explicit and implicit biases by many “gatekeepers,” from grade school to medical school. Race and sex biases that put women and minorities at a disadvantage for achieving a quality education have been well described and include biases during the high school years and earlier.^{82,83} In a world where 70% of IAT takers demonstrate an implicit association of White faces with “good” and Black faces with “bad,”⁷⁶ the minority child who dreams of being a physician faces nearly 2 decades of obstacles. Because the lack of diversity in cardiology is one contributor to racial disparities in cardiac care,⁸⁴ it deserves attention and should be addressed with urgency.

The argument for diversity in medicine is an easy one to make: (i) physicians from underrepresented or disadvantaged groups are more likely to locate their practices in and serve underserved communities⁸⁵; (ii) black physicians are least likely of all physician groups to harbour negative implicit racial biases against other groups⁷¹; and (iii) minority patients are more likely to comply with recommendations from physicians that share their cultural background.^{27,86}

Finally, another aspect of racism that is rarely discussed is the personal moral responsibility to speak up when witnessing racism and the effects of structural racism. We can no longer shrug our shoulders and turn away. We have a moral responsibility to speak out and fight for the overlooked and the forgotten in our society. We must use our privileged position, as healthcare professionals and educators, to improve the lives of our patients and colleagues.⁸⁷⁻⁹⁰

Ultimately, accomplishing major changes in the diversity of the medical workforce will require changes in public policy to dismantle the structural racism that traps many children in poverty and/or deprives them of access to high-quality education. However, the academic medicine and cardiology community can and must take active steps now. We recommend a tripartite approach to enhancing the diversity of the physician workforce.⁹¹ The first step is to reach out to the “deep pipeline” of minority children and girls, by exposing them to medicine and cardiology via hands-on learning sessions in simulation centres and visiting high school “career day” sessions. The second step is outreach to the “intermediate pipeline” of college and medical students and internal medicine residents by serving as mentors and allowing them to

“shadow” when possible. It is important to provide mentors and role models from the minority groups, to overcome the common impact reflected in the phrase “You can’t be what you can’t see.” The final step is to “de-bias” the selection stages; we recommend utilizing tools at the stage of selection of medical students, residents, and fellows, such as holistic review and a point-score system that prioritizes cultural competence, experience serving underserved populations, and likelihood of serving disadvantaged communities.⁷⁰

In Canada, the push for diversity has begun. The University of Manitoba’s medical school admissions committee detected that the privilege of being White and wealthy resulted in higher medical college admission test (MCAT) scores and more successful interviews. Subsequently, the dean for admissions convened a panel of experts in race relations to design a probing and personal questionnaire that would identify other previously overlooked but able candidates, and in doing so, increase the diversity of the incoming students, in an attempt to rebalance the racial and socioeconomic disparity.⁹² The initial results show a commendable 5% increase in the number of students with diverse attributes. In the US, the American Medical Colleges Experience—Attributes—Metrics Model gives importance to life experiences a student has had before medical school or residency, in addition to their education, leadership, and community service.⁹³ However, this model is not as explicitly supportive of students as the University of Manitoba system, which gives value to the many challenges of social deprivation.

Limitations

Certainly, the research on racism and racial bias, and its effect on cardiovascular health, has limitations. Bias can be expressed both directly and indirectly. In addition to the differences in the *expression* of bias, there are differences in the underlying *process* of bias (implicit vs explicit bias). Measurement of bias in medicine is presumed to be similar to that in the general population, but it is unclear if a specific test to assess bias in medicine is needed. Additionally, validity of any assessment of bias based on diverse races and ethnicities is needed, as the majority of the research to date has had an almost exclusive focus on Black populations. Implicit bias can also extend to persons with specific conditions, such as those with disabilities, mental illnesses, obesity, or substance abuse. The disparity is found in results of research examining the relationship between implicit bias and health outcomes.

Conclusions

Racism and racial bias on an individual and societal level negatively impacts the health of people of colour and Indigenous populations. The effects of racism and the social determinants of health are intertwined. Racism impairs mental and physical health and is the driver of poor cardiovascular health and outcomes in minority individuals. Global events in 2020, including the disparate impact of the COVID-19 pandemic on communities of colour and highly publicized incidents of police brutality fuelled by racism, have sparked an international movement to address and abolish racism. Policymakers, legal professionals, law enforcement officers, and medicine and healthcare professionals all have a role to play. We believe that the strongest “anti-racism statement” that those

in the field of medicine can make is to diversify its ranks, and we stand with cardiologists and all physicians and healthcare workers who oppose racism and bias in their daily work.

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