From race-based to race-conscious medicine: how anti-racist uprisings call us to act

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Lancet 2020; 396: 1125–28

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The brutalisation of Jacob Blake and murders of George Floyd, Breonna Taylor, Ahmaud Arbery, Tony McDade, and countless others—coupled with horrifying statistics about the disproportionate burden of COVID-19 on Black and Brown communities—have forced the USA and the world to reckon with how structural racism conditions survival. Although clinicians often imagine themselves as beneficent caregivers, it is increasingly clear that medicine is not a stand-alone institution immune to racial inequities, but rather is an institution of structural racism. A pervasive example of this participation is race-based medicine, the system by which research characterising race as an essential, biological variable, translates into clinical practice, leading to inequitable care. In this Viewpoint, we discuss examples of race-based medicine, how it is learned, and how it perpetuates health-care disparities. We introduce race-conscious medicine as an alternative approach that emphasises racism, rather than race, as a key determinant of illness and health, encouraging providers to focus only on the most relevant data to mitigate health inequities.

Research in clinical medicine and epidemiology requires explicit hypotheses; however, hypotheses involving race are frequently implicit and circular, relying on conventional wisdom that Black and Brown people are genetically distinct from White people.[1] This common knowledge descends from European colonialisation, at which time race was developed as a tool to divide and control populations worldwide. Race is thus a social and power construct, with meanings that have shifted over time to suit political goals, including to assert biological inferiority of dark-skinned populations.[2] In fact, race is a poor proxy for human variation. Physical characteristics used to identify racial groups vary with geography and do not correspond to underlying biological traits. Genetic research shows that humans cannot be divided into biologically distinct subcategories.[3,4] Furthermore, ongoing overlap and mixture between populations erodes any meaningful genetic difference.[5] Despite the absence of meaningful correspondence between race and genetics, race is repeatedly used as a shortcut in clinical medicine. For instance, Black patients are presumed to have greater muscle mass than patients of other races and estimates of their renal function are accordingly adjusted.[6] On the basis of the understanding that Asian patients have higher visceral body fat than do people of other races, they are considered to be at risk for diabetes at lower body-mass indices.[7] Angiotensin-converting enzyme (ACE) inhibitors are considered less effective in Black patients than in White patients, and they might not be prescribed to Black patients with hypertension (table).[1,6–28] We argue that such approaches are harmful and unnecessary, contributing to health-care disparities among the exact populations they are intended to help.

Emerging scholarship underscores the harms of these race-adjusted practices,[29,30] even as some continue to defend them, touting their ability to capture yet-understood differences in clinical measures between racial groups.[31,32] However, propagation of race-based medicine promotes racial stereotyping, diminishes the need for research identifying more precise biomarkers underpinning disparities, and condones false notions about the biological inferiority of Black and Brown people. Hence, even if significant findings or clinical anecdotes support the use of racially tailored practices, they should be rigorously critiqued and mediating variables, such as structural conditions, should be analysed accordingly.

Many medical students enter their training with racial biases that are unconsciously reinforced. Race is often learned as an independent risk factor for disease, rather than as a mediator of structural inequalities resulting from racist policies. Health disparities are presented without context, leading students to develop harmful stereotypes on the basis of the belief that some populations are more diseased than others. Students learn to associate race with disease conditions, such as sarcoidosis, cystic fibrosis, hypertension, and focal segmental glomerulonephritis, which upholds their implicit understandings of race as a biological trait.[33,34] Professors might misleadingly equate genetic ancestry, which could be meaningful when traced to a narrowly circumscribed population of origin (eg, Biafada people), with race (eg, African ancestry).[35,36] On the wards, students learn that race is relevant to treatment decisions and have inadequate power to question the racialised assumptions of their supervisors.[37–40] In this way, race-based medicine is quickly propagated.

Such racially tailored care might drive medical errors and increase health inequities. For instance, medical students who endorsed the false beliefs that Black patients had longer nerve endings and thicker skin than White patients also rated Black patients as feeling less pain and offered less accurate treatment recommendations in mock medical cases.[41] This racialised belief in diminished pain sensitivity of Black patients translates to consistently inadequate pain management and their reduced likelihood of receiving opioid prescriptions for severe pain.[42,43] Furthermore, race-adjusted instruments might also affect disease management. The assessment of renal function in Black patients is based on a higher estimated glomerular filtration rate (eGFR), which might mask kidney failure, delaying dialysis and listing for transplant.[9,10] Race corrections for pulmonary lung function

	How race is used	Rationale for race-based management	Potential harm	Race-conscious approach
eGFR[6]	eGFR for Black patients is multiplied by 1·16–1·21 the eGFR for White patients, depending on the equation used	Black patients are presumed to have higher muscle mass and creatinine generation rate than patients of other races	Black patients might experience delayed dialysis and transplant referral[8,9]	Use eGFR equations that do not adjust for race (eg, CKD-EPI Cystatin C).[10]
BMI risk for diabetes[7]	Asian patients considered at risk for diabetes at BMI ≥23 *vs* 25 for patients of other races	Asian patients are presumed to develop more visceral than peripheral adiposity than patients of other races at similar BMI levels, increasing risk for insulin resistance[7]	Asian patients screened for diabetes despite absence of other risk factors might experience increased stigma and distrust of medical providers[11]	Screen patients with lower BMIs on the basis of indications of increased body fat (eg, body roundness,[12] body fat percentage), not based on race
FRAX[13]	Probability of fracture is adjusted according to geography or minority status, or both	Different geographical and ethnic minority populations are presumed to have varied relative risks for fracture on the basis of epidemiological data	Some populations, including Black women, might be less likely to be screened for osteoporosis than other populations[14]	Screen patients for osteoporosis on the basis of clinical risk criteria, rather than race; counteract existing biases that place Black patients at risk because of racial essentialist beliefs about variation in bone density[15]
PFT[16]	Reference values for pulmonary function are adjusted for race and ethnicity	Racial and ethnic minority groups are presumed to have varied lung function on the basis of epidemiological data	Black patients might experience increased difficulty obtaining disability support for pulmonary disease[17]	Use unadjusted measures of lung function for all patients; counteract existing biases that harm Black patients because of racial essentialist beliefs about variation in lung capacity[18]
JNC 8 Hypertension Guidelines[19]	Treatment algorithm provides alternate pathways for Black and non-Black patients	ACE-inhibitor use associated with higher risk of stroke and poorer control of blood pressure in Black patients than in patients of other races	Black patients might be less likely to achieve hypertension control and require multiple antihypertensive agents[20]	Consider all antihypertensive options for blood pressure control in Black patients; adjust as needed to achieve goals and manage adverse effects
Paediatric UTI diagnosis[21]	White race in girls and non-Black race in boys are considered independent risk factors for UTI	Study of febrile children in the emergency department found highest prevalence of UTI among White girls and non-Black boys[22]	Experimental data suggests that these guidelines could affect management of UTI by race[23]	Treat UTI in children on the basis of clinical presentation, regardless of race
ASCVD risk estimation	Race-specific equations included to estimate ASCVD risk	ASCVD events higher for Black patients than patients of other races with otherwise equivalent risk burden[24]	Black patients might experience more adverse effects from recommended statin therapy, including persistent muscle damage[25]	Recommend preventive therapy on the basis of clinical metrics and comorbidities; consider pathways by which structural racism might increase cardiovascular risk among Black patients and promote resources to reduce racial stress and trauma[26]
Eltrombopag dosing	East Asian patients receive half the starting dose compared with non-east Asian patients	Limited pharmacokinetic studies suggest reduced metabolism of eltrombopag in patients of East Asian descent[27]	Some East Asian patients might receive inappropriate dosing[28]	Initiate same starting dose for all patients, regardless of race, and adjust as needed on the basis of platelet response

Examples of race-based medicine were chosen to represent multiple racial groups (eg, White, Black, Asian) and domains in which race is essentialised as biological (eg, pharmacokinetics, bone density, lung capacity). ACE=angiotensin-converting enzyme. ASCVD=atherosclerotic cardiovascular disease. BMI=body-mass index. CKD-EPI=Chronic Kidney Disease Epidemiologic Collaboration equation. eGFR=estimated glomerular filtration rate. FRAX=fracture risk assessment score. JNC 8=Eighth Joint National Committee. PFT=pulmonary function test. UTI=urinary tract infection.

***Table*: Examples of race-based medicine, the potential harm to patients, and race-conscious alternatives**

tests also reduce the likelihood that Black patients can obtain disability support for their lung disease.[18] These examples show the necessity of transitioning from a race-based system of clinical care to race-conscious practice. Adopting the language of race-conscious policy, we accordingly provide the following recommendations for race-conscious medicine.

First, racist, racially tailored practices that propagate inequity should be avoided. Race should not be used to make inferences about physiological function in clinical practice. Race-adjusted tools should be abandoned or replaced with more precise analytics than currently used. For instance, the health systems of the University of Washington, the University of California San Francisco, the Beth Israel Deaconess, and the Vanderbilt University eliminated the race-correction for eGFR. Clinical teams should reconsider the use of race in the opening sentence of an encounter note and instead consider including relevant indicators of structural vulnerability (eg, Spanish-speaking woman aged 41 years instead of Black woman aged 41 years). Race should be used to assess for experiences of discrimination and refer to affinity-based

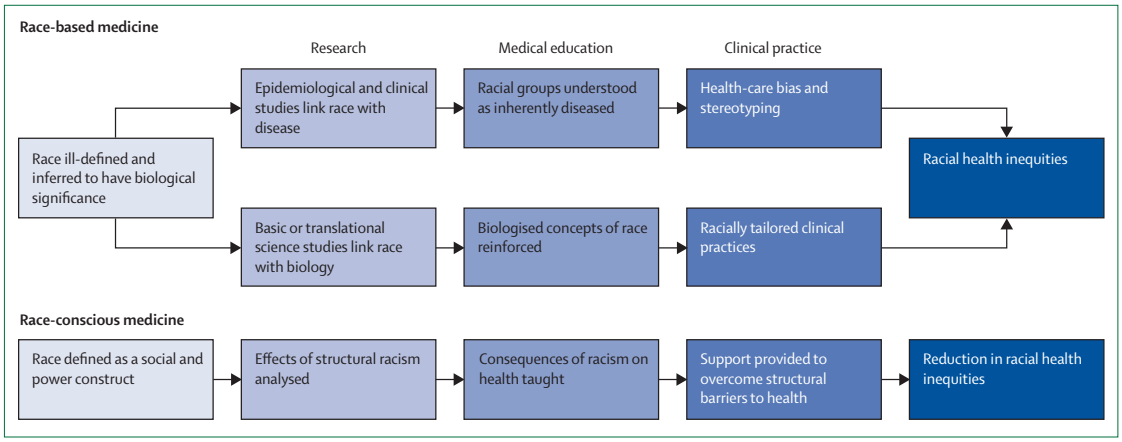

Figure: **How race-based medicine leads to racial health inequities**
An alternative approach to race-conscious medicine; defined as medical practice and pedagogy that accounts for how structural racism determines illness and health.

support services. Second, it should be taught that racial health disparities are a consequence of structural racism. Beginning in preclinical education, racial disparities in disease should be explained within the framework of the structural determinants of health, defining race as a social and power construct. Awareness of institutional inequities as a root cause of ongoing racial injustice promotes structural competency in clinical practice.[44] In addition, phenotypic race should be distinguished from genetic ancestry and students should be discouraged from narrowing differential diagnoses and management on the basis of perceived race. Third, resolutions denouncing race-based medicine across clinical leadership should be adopted. Effective action to eradicate race-based medicine will require cooperation across clinical leadership, including those professional societies responsible for setting practitioner standards. Societies for health-care practitioners should consider resolutions denouncing the use of race-based medicine in their trainings, guidelines, and other publications, and require that race be explicitly characterised as a social and power construct when describing disease risk factors. Black, Indigenous, and other people of colour should be included in (and rewarded for their contributions to) decision making processes to reform disease management guidelines.[45] Some forward-thinking societies have already made strides to advance such resolutions. Finally, clinical research should be used to examine structural barriers, rather than using race as a proxy for biology. Clinical journals should include in their publication guidelines instructions to avoid the use of race as a proxy for biological variables, such as genetics, pharmacokinetics, and metabolism. Hypotheses using racial labels should make the authors' definition and operationalisation of race explicit. Additionally, structural barriers to health that overlap with race should be considered, including socioeconomic status, discrimination, transportation, environmental exposures, criminal history, documentation status, English proficiency, and neighbourhood violence. Models and measures of structural racism that account for policy influences can be developed and used to assess health impacts, rather than solely including race as an independent variable.[46–48]

Our multi-pronged, race-conscious approach seeks to reform race-based medicine across clinical practice, education, leadership, and research (figure). These recommendations aim to promote conscious, anti-racist practices over unchecked assumptions that uphold racial hierarchies.[49] In doing so, medicine can make substantial strides toward achieving health equity.

Health care is merely one institution plagued by structural racism: a comprehensive antidote to racial health disparities will require collaboration across sectors of housing, education, transportation, criminal justice, and environmental justice. We should encourage health-care practitioners to leverage their cultural capital to advocate for antiracist policies. Through conscious effort and collaboration, health-care providers can work towards racial equity within and beyond the walls of examination rooms.

Contributors
JPC and MVP conceived the idea of this Viewpoint and prepared the original manuscript draft. JT contributed to manuscript revision. JPC prepared the final version of the manuscript with input from MVP and JT.

Declaration of interests
We declare no competing interests.

Acknowledgments
JPC and MVP are supported by the Robert Wood Johnson Health Policy Research Scholars Program. JPC is supported by the National Institutes of Health Medical Scientist Training Program Grant T32GM13665.

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