ROUNDTABLE ON
BLACK MEN & BLACK WOMEN
IN SCIENCE, ENGINEERING, & MEDICINE

5 YEAR

# IMPACT REPORT

Roundtable on Black Men and Black Women in Science, Engineering, and Medicine

# ABOUT THE CHAIR – DR. CATO T. LAURENCIN

Cato T. Laurencin, M.D., Ph.D. earned his B.S.E. in Chemical Engineering from Princeton, his M.D., Magna Cum Laude, from the Harvard Medical School, and his Ph.D. in Biochemical Engineering/ Biotechnology from M.I.T.

He is the pioneer of the field of Regenerative Engineering.

In receiving the Spingarn Medal, he was named the world's foremost engineer-physician-scientist. Dr. Laurencin pioneered the novel use of polymeric biomaterials for treating musculoskeletal conditions. In recognition of his breakthrough achievements, the American Institute of Chemical Engineers created the Cato T. Laurencin Regenerative Engineering Founder's Award.

Dr. Laurencin's work spans fundamental science, applied science, and technology translation. He has received the highest honors in all areas including Chemistry (Priestley Medal), Materials Science (Von Hippel Award), Biological Engineering (Jay Bailey Award), Medical and Biological Engineering (Pierre Galletti Award) and Surgery (Nicolas Andry Award).

In science, engineering, medicine, and innovation, he is an elected member of the National Academy of Sciences, the National Academy of Engineering, the National Academy of Medicine, and an elected Fellow of the National Academy of Inventors. He is the first surgeon in history to be elected to all four national academies. Dr. Laurencin received the Philip Hague Abelson Prize, the highest honor of the American Association for the Advancement of Science, for "signal contributions to the advancement of science in the United States" for his work in Regenerative Engineering. He is the first person to receive both the oldest/highest award from the National Academy of Engineering (the Simon Ramo Founder's Award) and one of the oldest/highest awards of the National Academy of Medicine (the Walsh McDermott Medal). In innovation, Dr. Laurencin was awarded the National Medal of Technology and Innovation, America's highest honor for technological advancement, by President Barack Obama in ceremonies at the White House.

Dr. Laurencin is the University Professor and Albert and Wilda Van Dusen Distinguished Endowed Professor at the University of Connecticut. He is the Chief Executive Officer of the Cato T. Laurencin Institute for Regenerative Engineering at UConn

# FOUNDING MEMBERS

## L.D. Britt, MD

Dr. Britt, a graduate of Harvard Medical School and Harvard School of Public Health, is the Henry Ford Professor and Edward J. Brickhouse Chairman of the Department of Surgery at Eastern Virginia Medical School. Dr. Britt has the rare distinction of receiving the highest honor given by each of the four Royal Colleges in the United Kingdom – England, Edinburg, Ireland, and Glasgow. Dr. Britt was elected to the National Academy of Medicine in 2016. In addition, he was honored by the American College of Surgeons Academy of Master Surgeon Educators as a founding member. Dr. Britt received the rare distinction by the Society of Critical Care Medicine and the Board of Regents of the American College of Critical Care Medicine of being designated as a true "Master" in the discipline of critical care medicine.

## Cedric Bright, MD

Dr. Bright is the Associate Dean for Admissions, Professor of Internal Medicine, and the interim Associate Dean of Diversity and Inclusion at the Brody School of Medicine in Greenville NC. He served as President of the National Medical Association from 2011 to 2012, advocating in the White House for health equity, increased diversity in clinical trials, and increasing the pipeline of students of color into health careers. He is a member of AOA, the Order of the Golden Fleece and serves on the boards of the National Medical Fellowship Inc. as well as the W. Montague Cobb Health Policy Institute. He serves on the roundtable of Black Men and Women in STEM for the National Academy of Science, Engineering and Medicine and has presented numerous grand rounds on the impact of Covid 19 on the black community.

## George Q. Daley, MD

Dr. Daley is Dean and Caroline Shields Walker Professor of Medicine at Harvard Medical School. He is also Professor of Biological Chemistry and Molecular Pharmacology. Prior to becoming Dean, he was the Director of the Pediatric Stem Cell Transplantation Program at Dana-Farber/Boston Children's Cancer and Blood Disorders Center and an investigator of the Howard Hughes Medical Institute. He remains a staff member in Pediatric Hematology/Oncology at Boston Children's Hospital. Daley was a founding executive committee member of the Harvard Stem Cell Institute, served as president of the International Society for Stem Cell Research (2007-2008), and anchored the special task forces that produced the society's guidelines for stem cell research and clinical translation (2006, 2008, 2016). He was on the organizing committee for both the 2015 and 2018 International Summits on Human Genome Editing and has advocated publicly for responsible international guidelines for attempts at germline genome editing.

## Randall C Morgan Jr., MD MBA

Dr. Morgan is the Executive Director of the W. Montague Cobb/NMA Health Institute and an orthopedic surgeon who practices in Sarasota and Bradenton, Florida. He serves as founder and President of University Park Orthopedics in that community. He is a Clinical Associate Professor of Orthopedic Surgery at Florida State University School of Medicine. Dr. Morgan is a pioneer in his profession and was among the first surgeons to perform total joint replacement surgery at Northwestern University. With the assistance of his father, Mr. Randall C. Morgan, Sr., he founded the Orthopedic Centers of Northwest Indiana and served as its president from 1975-1999. He is a Diplomat of the American Board of Orthopedic Surgery and the American Board of Managed Care Medicine. He is also a fellow of the American College of Surgeons.

## Elizabeth Ofili, MD, MPH

Dr. Ofili is Professor of Medicine in Cardiology at the Morehouse School of Medicine and Chief Medical Officer of the Morehouse Choice Accountable Care Organization. She is a national and internationally recognized clinician scientist with particular focus on cardiovascular disparities and women's health. In 2002, as president of the Association of Black Cardiologists, she led the initiative to implement the landmark African American Heart Failure Trial, whose findings led to a change in practice guidelines for the treatment of heart failure in African Americans. She has advised the NIH on diversity in the biomedical research workforce, and currently serves on the Advisory Board of the National Clinical Center (NIH), and on the AAMC advisory panel on research. She is an elected member of the Association of University Cardiologists, and is on the board of directors of the National Space Biomedical Research Institute.

## Vivian Pinn, MD

Dr. Pinn was the first full-time Director of the NIH Office of Research on Women's Health held since 1991 and NIH Associate Director for Research on Women's Health since 1994 prior to her retirement in August 2011. Since then, she has been named as a Senior Scientist Emerita at the NIH Fogarty International Center. Dr. Pinn came to NIH from Howard University College of Medicine in Washington, D.C., where she had been Professor and Chair of the Department of Pathology from 1982-1991. Dr. Pinn had previously held teaching appointments at Harvard Medical School and Tufts University where she was also Assistant Dean for Student Affairs. She has held leadership positions in many professional organizations, including President of the National Medical Association (NMA) and is currently Chair of the NMA Past Presidents Council. Dr. Pinn currently serves on the Board of Trustees/Advisors of Thomas Jefferson University and Tufts University School of Medicine. Dr. Pinn also holds the position of Professor, Institute for Advanced Discovery and Innovation at the University of South Florida.

## Louis Sullivan, MD

Dr Sullivan is chairman of the Washington, D.C.-based Sullivan Alliance to Transform America's Health Professions. He served as chair of the President's Commission on Historically Black Colleges and Universities from 2002-2009 and was co-chair of the President's Commission on HIV and AIDS from 2001-2006. As secretary of Health and Human Services (HHS) from 1989 to 1993, he released Healthy People 2000 (a blueprint for health promotion/disease prevention), waged a vigorous campaign against tobacco use, urged increased seat belt use in vehicles, and improved FDA food labels. In 1975 Dr. Sullivan was the founding dean and president of Morehouse School of Medicine (MSM) serving for more than two decades. He is now President Emeritus.

# COMMITTEE

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John R. Lumpkin

EX OFFICIO MEMBER
Shirley M. Malcom

EX OFFICIO MEMBER
Alfred Mays

EX OFFICIO MEMBER
Jacqueline Phillips

EX OFFICIO MEMBER
Lamont R. Terrell



# CONTENTS

# BACKGROUND

The influential Roundtable on Black Men and Black Women in Science, Engineering, and Medicine (SEM) was first established under the direction of Cato T. Laurencin, MD, Ph.D. (member of all three National Academies) regarding his initial call to action regarding the lack of Black males represented in medical schools. At the time of Dr. Laurencin's powerful publication titled, "An American Crisis: the Lack of Black Men in Medicine" (2017), Blacks made up 13% of the U.S. population but comprised only 4% of U.S. doctors and less than 7% of medical students. Four strategies were proposed to increase the percentage of underrepresented and minority students matriculating and graduating from higher education programs.

The National Academies of Sciences, Engineering and Medicine organized and conducted in November 2017 a Joint Workshop entitled "An American Crisis, the Growing Absence of Black Men in Medicine and Science". Chaired by Dr. Cato Laurencin, this historic workshop was conducted in November 2017, with workshop proceedings published as a book in July 2018. The workshop and the book highlighted the lack of inclusion of Black men in medicine and the unique challenges that hinder their participation.

These recommendations included: (1) Advancing cultural competency, (2) Increasing access to high-quality health care services, (3) Strengthening the medical research agenda, and (4) Ensuring optimal management of the health care system. In order to achieve health equity, eliminate health disparities, and promote excellence in clinical care it is imperative to create programs and policies targeting minorities to increase their enrollment and retention in the medical workforce and higher education.

The need to advance these efforts led the formation in 2019 of the Roundtable on Black Men and Black Women in Science, Engineering, and Medicine of the National Academies of Sciences, Engineering, and Medicine. The Inaugural Roundtable Business Meeting took place on December 2-3, 2019 at the National Academy of Sciences, Washington, DC. The Roundtable convened a broad array of stakeholders that will focus on the barriers and opportunities encountered by Black men and Black women as they navigate the pathways from K-12 and postsecondary education to careers in science, engineering and medicine. Through meetings, public workshops, and publications,

the Roundtable advances discussions that will highlight promising practices for increasing the representation, retention and inclusiveness of Black men and Black Women in STEM.

The Meeting Objectives were accomplished as follows: (1) Described the Roundtable's context, vision and goals; (2) Developed strategies to meet those goals during 2020; (3) Identified action group work plans; (4) Identified 2 topics that will be focus of next Roundtable meeting with public sessions; (5) Discussed communications approach and key stakeholders for the work of the Roundtable.

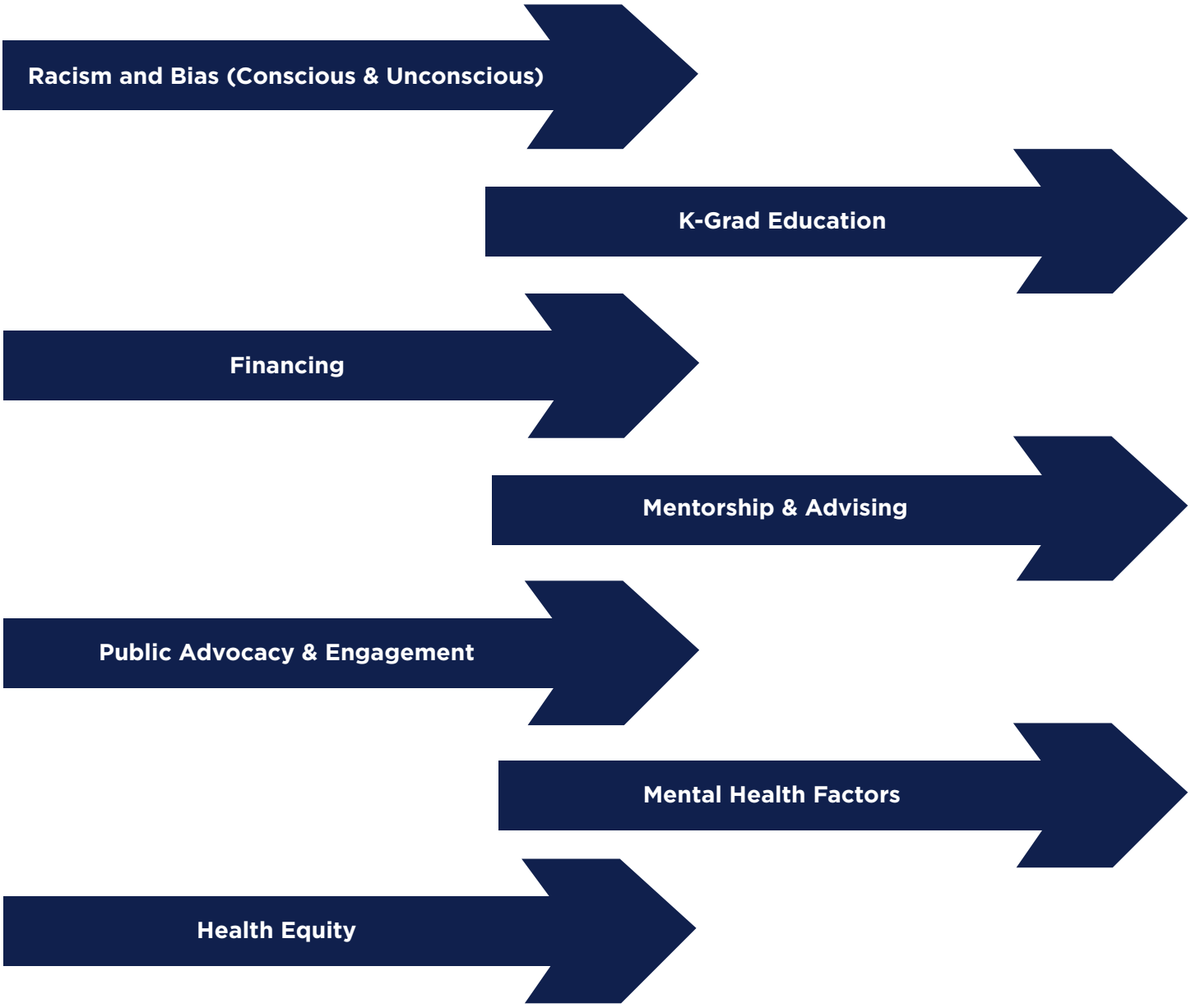
To formalize the launch of the Roundtable and introduce its mission to the broader scientific community, its Chair, Dr. Cato T. Laurencin, published and Editorial in the leading journal *Science*, "The Context of Diversity" on November 22, 2019.

# OBJECTIVES & GOALS

The overarching objectives and goals of the Roundtable are to:

- Compile and discuss quantitative and qualitative data relevant to the representation and experiences of Black men and Black women in science, engineering, and medicine (SEM).
- Convene a broad array of stakeholders representing higher education, industry, health care, government, private foundations, and professional societies.
- Highlight promising practices for increasing the representation, retention, and inclusiveness of Black men and Black women in science, engineering, and medicine; and advance discussions that can lead to increasing systemic change.

**The Roundtable accomplishes its objectives through the use of seven action groups:**



The Roundtable accomplishes its objectives through use of seven action groups. Each group is tasked within a specific focus area to better conduct the group's planning and implementation. The action groups are: Racism, Conscious & Unconscious Bias, K-Grad Education, Financing, Public Advocacy, Mentorship & Advising, Psychological Factors, and Health Equity.

1. **Racism and (Conscious & Unconscious) Bias:** This Action Group is tasked with establishing specific instances of racism operating in SEM. This focus area is guided by the principle that the low prioritization of the shortage of Black men and Black women in SEM fields is a form of racism. Therefore, this group works to identify mechanisms for both policy intervention and programs to target these racial barriers.

2. **K-Grad Education:** This Action Group role is to assess the state of public schooling disparities in education with a focus on the educational pipeline and parity initiatives, especially as they focus on SEM. This focus area is guided by the principle that early access and exposure to STEM disciplines and role models is fundamental to bolster self-confidence of the individual. Therefore, the group works to identify the types of efforts that can focus on the pool of Black students who apply but are not accepted to medical schools to ensure that they reapply with better preparation and resources.

3. **Financing:** This Action Group is responsible for addressing the financial barriers to higher education and the impact on students and families. This focus area is guided by the understanding that knowledge about scholarships, preparatory fellowship programs and concerned philanthropies is missing for many young students pursuing health and other SEM related careers. Therefore, the promotion of financial literacy to help students make better financial decisions related to loans and indebtedness for higher education starting in high school.

4. **Public Advocacy & Engagement:** This Action Group determines how advocacy and public policy can be utilized to raise awareness of the problem and issues associated with Black men and Black women in SEM related fields. This group works on marketing outreach and communications to reach potential students and increase public awareness.

5. **Mentorship & Advising:** This Action Group explores the mechanism of mentorship and how mentorship programs tailored to student needs have a lasting impact in diversifying the student body. Particularly, this group highlights programs that connect students with

faculty and peers to provide academic and emotional support throughout the schooling pathways. This focus area is guided by the belief that effective mentorship needs to embrace culture-sensitive leadership in addition to diversifying mentoring skills/styles expanding beyond pure research. This group works to see how colleges, universities, and medical schools can better implement programs for their faculty to teach and train a diverse student body with varying learning styles and social support needs.

6. **Psychological Barriers:** This Action Group concentrates on the psychological factors leading to the lack of Black men in American medicine by redefining mental health as part of wellness and resilience when addressing this problem. This group is grounded on the principle that identifying the most vulnerable youth, including those exposed to emotional trauma, is critical for early interventions and mental health services. Further acknowledging the need for research in the specific psychological factors affecting the Black community.

7. **Health Equity:** This Action Group initially centered on examining the dynamic and disruptive nature the COVID-19 pandemic had on Black communities, as well as healthcare responses. Currently, the group's focus has evolved from exclusively exploring the pandemic to now working with other Action Groups to highlight the differential outcomes and healthcare inequities directly effecting Black communities at large.

# EXECUTIVE SUMMARY

**The Roundtable convenes a vast array of experts and stakeholders with the focus to continuously advance discussions on the inclusiveness of Black men and Black women in science, engineering, and medicine (SEM). Roundtable members draw on academia, government policy, and industry to take action on the barriers and opportunities Black men and Black women face as they navigate the pathways from K-12 and postsecondary education to professional careers in SEM.**

## Workshops

The Roundtable convenes thrice annually and hosts three national workshops each year. Roundtable members, drawn from academia, government, and industry, will focus on the barriers and opportunities encountered by Black men and Black women as they navigate the pathways from K-12 and postsecondary education to careers in science, engineering, and medicine.

## Symposia

The Roundtable hosted a variety of symposia centered around the COVID-19 pandemic and its impact on Black communities. Roundtable experts convened on topics such as vaccine hesitancy in Black communities, COVID vaccines and treatments, virus variants, in addition to the pandemic's overall impact

## Scholarly Articles

There are over 20 articles written by medical professionals in the committee discussing various topics tackling important issues in health disparity.

## Roundtable Publications

There are a total of nine published books in the past five years. In addition to this, there are new resources and papers from different committee members available for download online free to the public.

## Impact

The impact of the Roundtable is exemplified by 2 parallel efforts from the solidarity and action of other concerned societies and associations:

- The report "*Advancing Antiracism, Diversity, Equity, and Inclusion in STEMM Organizations"* was released on February 2023). It was a National Academies report undertaken by the National Academies Board on Behavioral, Cognitive, and Sensory Sciences. It reports on ways that research can inform practice and evaluation can measure progress. It addressed how the community interested in antiracism, diversity,

equity, and inclusion can enhance personal belonging in learning and working environments.

- The *Action Collaborative for Black Men in Medicine* was launched in October 2022, led by the Association of American Medical Colleges (AAMC) and the National Medical Association (NMA). It focuses on systemic solutions to increase representation and success of Black men in medicine by systems-based solutions to address exclusionary practices, barriers and inequity.

The impact of the Roundtable on public policy is exemplified by its outreach to Congress. The Roundtable held a Progress Report Briefing for the Congressional Black Caucus on June 11, 2021. The history and mission of the Roundtable were presented.

Metrics for citation of Roundtable publications and attendance at its Workshops are presented in the IMPACT MEASURES section.

# TESTIMONIALS

"At a time when the contributions from science, engineering, and medicine have never been more important for solving the many challenges confronting human society on a fragile and finite planet, we must engage the talents of the best and brightest regardless of background. I applaud the Roundtable on Black Men and Women in Science, Engineering, and Medicine for taking leadership in this important task by enhancing diversity and inclusivity in the scientific enterprise."

**Marcia K. McNutt, Ph.D.**

President, National Academy of Sciences

"The changing demographics of the population of the United States compel us to "let opportunity meet talent" (John Brooks Slaughter) in SEM fields. If we are to maintain technical leadership and a healthy, prosperous, and secure society, extra efforts must be taken to recruit engineers, scientists and medical professionals from all segments of society, especially persons of color and women. I commend the National Academies' Roundtable on Black Men and Black Women in Science, Engineering and Medicine for providing leadership in this important endeavor."

**John L. Anderson, Ph.D.**

President, National Academy of Engineering

"The tireless efforts of the Roundtable on Black Men and Black Women in Science, Engineering, and Medicine have been impactful and are crucial to NAM's mission of advancing science and accelerating equity to improve health for everyone, everywhere. The Roundtable addresses long standing racial inequity and structural biases confronted by black students, practitioners, and researchers in SEM. It highlights strategies to increase representation, retention, and inclusiveness for Black individuals within the SEM community. These are not simple tasks, but they are necessary if we hope to address centuries of racial inequity and create systematic change in the science, engineering, and biomedical enterprises."

**Victor J. Dzau, MD**

President, National Academy of Medicine

"The National Medical Association and the Association of American Medical Colleges released the Action Collaborative for Black Men in Medicine's report after convening various stakeholders at its inaugural Strategy Summit to create adoptable strategies on the educational pathway for Black Men to become physicians. The U.S. faces projected physician workforce shortages and a continued Black physician deficit which is a focus area for me during my presidency. I believe there is tremendous synergy between the Action Collaborative and the work of the Roundtable on Black Men and Black Women in Science, Engineering and Medicine for institutions and government to utilize in developing future approaches to increase diversification in the healthcare workforce."

**Yolanda Lawson, MD, FACOG**

President, National Medical Association

"Cato Laurencin and his committee deserve respect and gratitude for this remarkable five-year effort. The Roundtable has convened outstanding leaders from key stakeholder groups to put a bright light on seven critical issues and needs. The resulting symposia, workshop reports, symposia, articles, books, and interviews with "living legends" comprise a courageous, inspiring body of work with substantial promise to acknowledge and address incessant, racism-driven underrepresentation of black men and women in science, engineering and medicine."

**Keith R. Yamamoto, Ph.D.**

President, American Association for the Advancement of Science,
Vice Chancellor for Science Policy and Strategy, University of California, San Francisco

"The mission of the Association of American Medical Colleges (AAMC) is to lead and serve academic medicine to improve the health of people everywhere, and we cannot achieve this without a health care and research workforce that represents and reflects the diverse communities we serve. I am immensely grateful to the Roundtable on Black Men and Black Women in Science, Engineering, and Medicine and the leadership of Dr. Cato T. Laurencin, MD, PhD, for this work, which is especially vital in the wake of the recent Supreme Court decision on race-conscious admissions in higher education. We know that excellence and equity go hand in hand and I am eager for the AAMC to continue collaborating with the Roundtable to increase the representation, retention, and inclusiveness of Black scientists, engineers, and medical professionals across academic medicine and beyond."

**David J. Skorton, M.D.**

President and CEO, Association of American Medical Colleges (AAMC)

# WORKSHOPS AND SYMPOSIA

## Workshops

### 2023

- Protecting Diversity, Equity, and Inclusion in Higher Education – Anti-Racist Strategies for Saving the Science, Engineering, and Medical Intellectual Capital of the Nation: A Workshop (May 1-2, 2023)
- Engaging Black Men and Black Women in the Breadth of Engineering: A Workshop (October 4-5, 2023)
- Lighting the Spark for Pathways to Greatness for Black People in SEM: A Workshop (December 11, 2023)

### 2022

- Supporting Black Students through Their SEM Career Journeys: A Workshop (May 2-3, 2022)
- Community Support, Partnerships, and Inclusive Environments for Black Students in SEM: A Workshop (September 19-20, 2022)
- Leveraging Trust to Advance Science, Engineering and Medicine in the Black Community: A Workshop (December 15-16, 2022)

### 2021

- Reducing Financial Barriers for Black Students in Science, Engineering, and Medicine: A Workshop (April 19-20, 2021)
- Psychological Factors that Contribute to the Dearth of Black Students in Science, Engineering, and Medicine: A Workshop (September 14-15, 2021)
- The State of Anti-Black Racism in U.S. Science, Engineering, and Medicine: A Workshop (December 6-7, 2021)

### 2020

- The Impacts of Racism and Bias on “Black” People Pursuing Careers in SEM: A Workshop (April 13-14, 2020)
- COVID-19 and Black Communities: Understanding the Landscape, Developing Ideas to Address the Challenges, and Building a Community of Action that includes Black Physicians, Black Engineers, and Black Scientists. A Workshop (June 23, 2020)
- Educational Pathways for Blacks in Science, Engineering, and Medicine: Exploring Barriers and Possible Interventions: A Workshop (September 2-3, 2020)
- Mentoring and Advising of Black Students in Science, Engineering, and Medicine: A Workshop (December 7-8, 2020)

## Symposia

### 2023

- Understanding the implications of the SCOTUS Affirmative Action Decision: A Symposium (November 27, 2023)

### 2021

- The Black Community and the COVID-19 Vaccine: Discussing the Justified Questions (January 29, 2021)
- Roundtable on Black Men and Black Women in SEM COVID-19 Update: Vaccination, Immunity, and Virus Variants (October 25-26, 2021)

### 2020

- COVID-19 Vaccines, Treatments, and a Return to Sports: A Symposium (August 26, 2020)

# Conversations with Living Legends

## 2023

**Dr. Vivian Pinn** (Former Director of the Office of Research on Women's Health at the National Institutes of Health [NIH], Former Professor and Chair of the Department of Pathology at Howard University College of Medicine): On April 6, 2023, Dr. Pinn was interviewed by Dr. Joan Reed. This forum was recorded with a target date for release for August 31, 2023.

**Dr. James West** (Research Professor at Johns Hopkins University's Whiting School of Engineering, Co-inventor of the foil-electret transduce, National Inventor Hall of Fame Inductee): Interview to be facilitated by Dr. Massey (mentee of Dr. West). Date forthcoming.

**Dr. Cora Marrett** (Professor Emerita in the Department of Sociology at UW Madison, Former National Science Foundation [NSF] Deputy Director): Interview and facilitator to be scheduled for release of documentary on Black History Month 2024.

## 2022

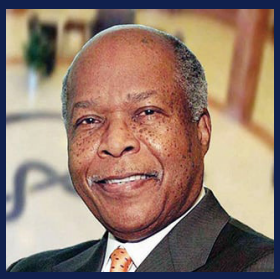
**Dr. Louis Sullivan** (Chairman CEO of The Sullivan Alliance to Transform the Health Professions, Former Secretary of DHHS, Founding Dean/President of Morehouse): On February 22, 2022, Dr. Sullivan was interviewed by Dr. Wayne Riley (President of Downstate Medical Science University) where the two discussed Dr. Sullivan's life work promotion education and accesses diversifying the health professions and medical education.

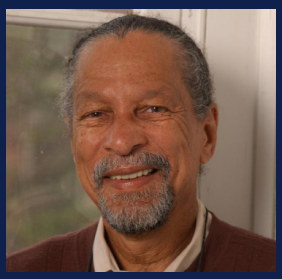
*The video is available at: https://bit.ly/3jhc1QA*

**Dr. Shirley Malcom** (Senior Advisor at AAAS, Co-Author of The Double Bind: The Price of Being a Minority Woman in Science, Recipient of the NAS Public Welfare Medal): On February 24, 2022, Dr. Malcom was interviewed by Dr. Evelynn Hammonds (Director of the Project on Race and Gender in Science and Medicine at the Hutchins Center for African and African American Research at Harvard) about their long-term mentorship relationship and how it relates to science and social justice.

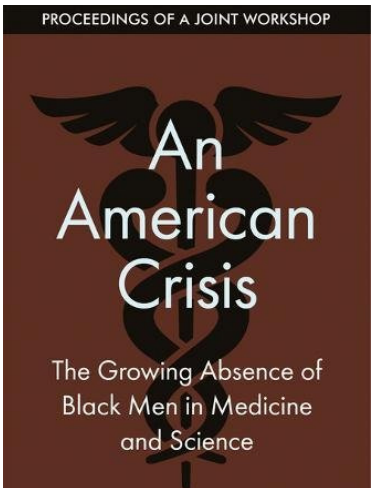
*The video is available at: https://bit.ly/3LMGORx*

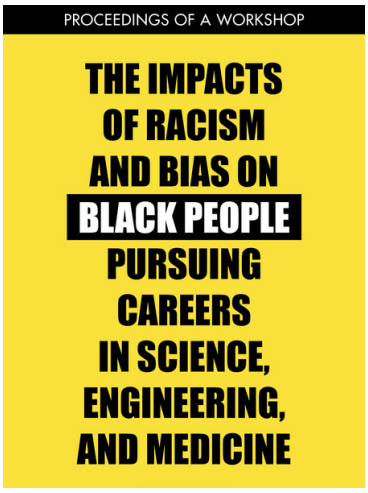
Dr. Louis Sullivan | Dr. Shirley Malcom | Dr. Vivian Pinn | Dr. James West | Dr. Cora Marrett

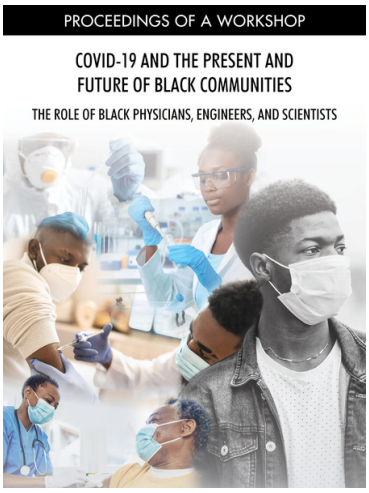


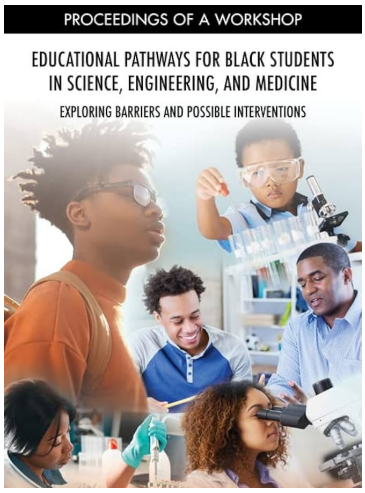



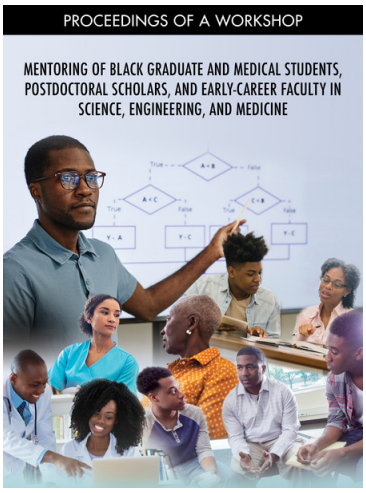

# PUBLICATIONS

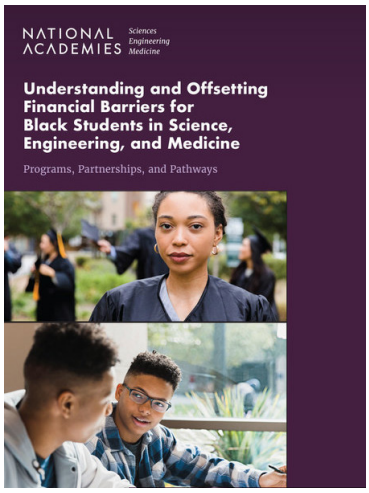


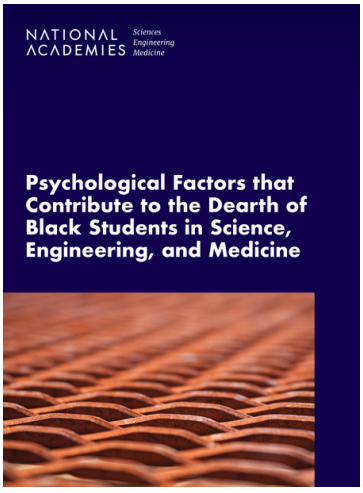



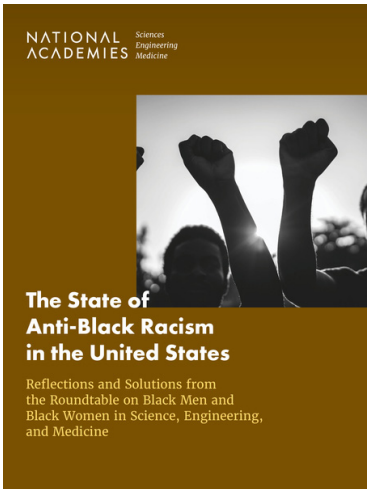



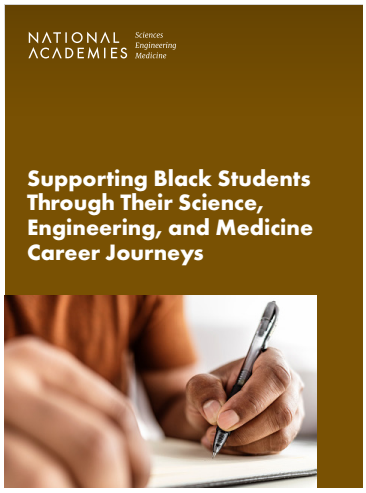



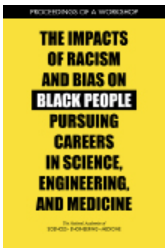



# Impact of Workshop Proceedings




*"The Impacts of Racism and Bias on Black People Pursuing Careers in Science, Engineering, and Medicine: Proceedings of a Workshop."*

**Highlights**

Our report has been widely disseminated with a total of **4,791 full text downloads**, putting it in the **top 7%** of all National Academies Press products. Fifteen major email campaigns sent to over 594,680 emails.

**Testimonial**

*"I have a diversity, equity, and inclusion consultancy firm that supports STEM companies so this information will be most helpful. I am also reading for my personal edification. As a black woman working in biotech for the last 20 years, I am all too familiar with how homogeneous these professional spaces, as well as the academic institutions are."*

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*"An American Crisis: The Growing Absence of Black Men in Medicine and Science: Proceedings of a Joint Workshop."*

**Highlights**

Our report has been widely disseminated with a total of **4,426 full text downloads**, putting it in the **top 8%** of all National Academies Press products. **Nine** major email campaigns sent to over **612,014 emails.**

**Who's Reading Our Reports**

*We have achieved a broad international reach to 110 countries and have garnered downloads in 49 states and the District of Columbia. The research and academic community (.edu) accounted for 33% and the public at large accounted for the remaining 54%.*

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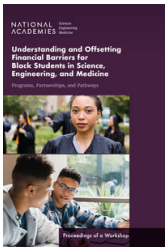


*"Understanding and Offsetting Financial Barriers for Black Students in Science, Engineering, and Medicine: Programs, Partnerships, and Pathways: Proceedings of a Workshop"*

**Highlights**

Our report has been widely disseminated with a total of **534 full text downloads. Three** major email campaigns sent to over **212,405 emails**.

**Media Attention**

*We have achieved a broad international reach to 38 countries and have garnered downloads in 43 states and the District of Columbia. This report also gained online attention from 48 news outlets.*

# Scholarly Publications by Roundtable Members

## 2023

- Montgomery Rice, V., Elks M., & Howse M. (2023). "The Supreme Court Decision on Affirmative Action – Fewer Black Physicians and More Health Disparities for Minoritized Groups". JAMA, Published online August 25, 2023. http://doi.org/10.1001/jama.2023.15515.

- Yancy, C., Barbarino, G., Bright, C., Laurencin, C., & Montgomery Rice V. (2023). "The Supreme Court and the Importance of Diversity in Medicine". NEJM, 389(8), 677-679. https://doi.org/10.1056/nejmp2306195.

## 2022

- Laurencin C., Wu Z., & Ruaño G. (2022). "COVID-19 Vaccination Hesitancy in Black Americans: Need for Trusted Voices Explaining Justified Concerns. In: Mathematics for Human Flourishing in the time of COVID-19 and post COVID-19, Proceedings". Hounkonnou MN, Mitrović M (Eds.), De Gruyter, 2022 [ISBN 978-3-11-073862-9].

## 2021

- Barbarino, G., "Engineering Solutions to COVID-19 and Racial and Ethnic Health Disparities". J Racial and Ethnic Health Disparities, 8, 277–279. https://doi.org/10.1007/s40615-020-00953-x.

- Dawson, M. (2021). "Black Nurses Collaborative Approach to Addressing COVID-19 in Black Communities". J Racial and Ethnic Health Disparities, 8, 790-793. https://doi.org/10.1007/s40615-021-00987-9.

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- Laurencin, C., Wu, H., McClinton, A., Grady, J., & Walker, J. (2021). "Excess Deaths among Blacks and Latinx Compared to White Residents during Covid-19". J of Racial and Ethnic Health Disparities, 8, 783–789. https://doi.org/10.1007/s40615-021-01010-x.

- Marrett, C. (2021). "Racial Disparities and COVID-19: the Social Context". J Racial and Ethnic Health Disparities, 8, 794-797. https://doi.org/10.1007/s40615-021-00988-8.

- Montgomery Rice, V. (2021). "Diversity in Medical Schools: A Much-Needed New Beginning". JAMA, 325(1), 23-24. https://doi:10.1001/jama.2020.21576.

## 2020

- Barabino, G. (2020). "Systemic Equity in Education". Science, 369(6509), 1277. https://doi.org/10.1126/science.abe6517.

- Daley, G., Barabino, G., Ajijola, O., Bright, C., Montgomery, R., & Laurencin, C. (2020). "COVID highlights another crisis: lack of Black physicians and scientists". Med, 2(1), 2-3. https://doi.org/10.1016/j.medj.2020.06.006.

- Laurencin, C. (2020). "Unconscious Bias, Racism, and Trauma-Informed Policing: an Address and Message to the Connecticut Racial Profiling Prohibition Project Advisory Board". J of Racial and Ethnic Health Disparities, 7, 590-591. https://doi.org/10.1007/s40615-020-00794-8.

- Laurencin, C. (2020). "Black Lives Matter in Science Engineering and Medicine". J of Racial and Ethnic Health Disparities, 7, 1021-1034. https://doi.org/10.1007/s40615-020-00924-2.

- Laurencin, C. & McClinton, A. (2020). "The COVID-19 Pandemic: A Call to Action to Identify and Address Racial and Ethnic Disparities". J of Racial and Ethnic Health Disparities, 7, 398–402. https://doi.org/10.1007/s40615-020-00756-0.

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- Laurencin, C. & Walker, J. (2020). "A Pandemic on a Pandemic: Racism and COVID-19 in Blacks". Cell Systems, 11(1), 9-10. https://doi.org/10.1016/j.cels.2020.07.002.

- Laurencin, C. & Walker, J. (2020). "Racial Profiling Is a Public Health and Health Disparities Issue". J of Racial and Ethnic Health Disparities, 7, 393–397. https://doi.org/10.1007/s40615-020-00738-2.

**2019**

- Laurencin, C. (2019). "The Context of Diversity". Science, 366 (6468), 929. https://doi.org/10.1126/science.aba2319.

# IMPACT MEASURES

## Supporting Data–Altmetric

Altmetric data and scores enable the tracking and quantification of citation of Roundtable publications in the scientific literature. The Roundtable Workshop proceedings rank highly in online downloads within the universe of all NASEM publications (see Table below). Two of five publications are in the Upper 10% and three others in the top 50% of online availability over the period 2018-2022. Three publications with less than 18 months of availability do not have enough downloads to rank precisely.

| Workshop name | Position NASEM‡ | Date of 1st Download | Months since | Percentile Rank* |
|---|---|---|---|---|
| The Impacts of Racism and Bias on Black People Pursuing Careers in Science, Engineering, and Medicine | 889 | 18 NOV 20 | 34 | **92.6** |
| An American Crisis: The Growing Absence of Black Men in Medicine and Science | 987 | 18 MAY 20 | 41 | **91.8** |
| Educational Pathways for Black Students in Science, Engineering, and Medicine: Exploring Barriers and Possible Interventions | 3648 | 31 JAN 22 | 20 | **69.8** |
| Mentoring of Black Graduate and Medical Students, Postdoctoral Scholars, and Early-Career Faculty in Science, Engineering, and Medicine | 4639 | 05 APR 22 | 18 | **61.6** |
| COVID-19 and the Present and Future of Black Communities: The Role of Black Physicians, Engineers, and Scientists | 5736 | 22 JUN 21 | 27 | **52.5** |
| Understanding and Offsetting Financial Barriers for Black Students in Science, Engineering, and Medicine | 6707 | 06 JUL 22 | 15 | -§- |
| Psychological Factors That Contribute to the Dearth of Black Students in Science, Engineering, and Medicine | 9875 | 14 APR 23 | 5 | -§- |
| The State of Anti-Black Racism in the United States: Reflections and Solutions from the Roundtable on Black Men and Black Women in Science, Engineering, and Medicine | 10862 | 26 JUN 23 | 3 | -§- |

‡Among 12085 NASEM Publications, measured by number of online downloads

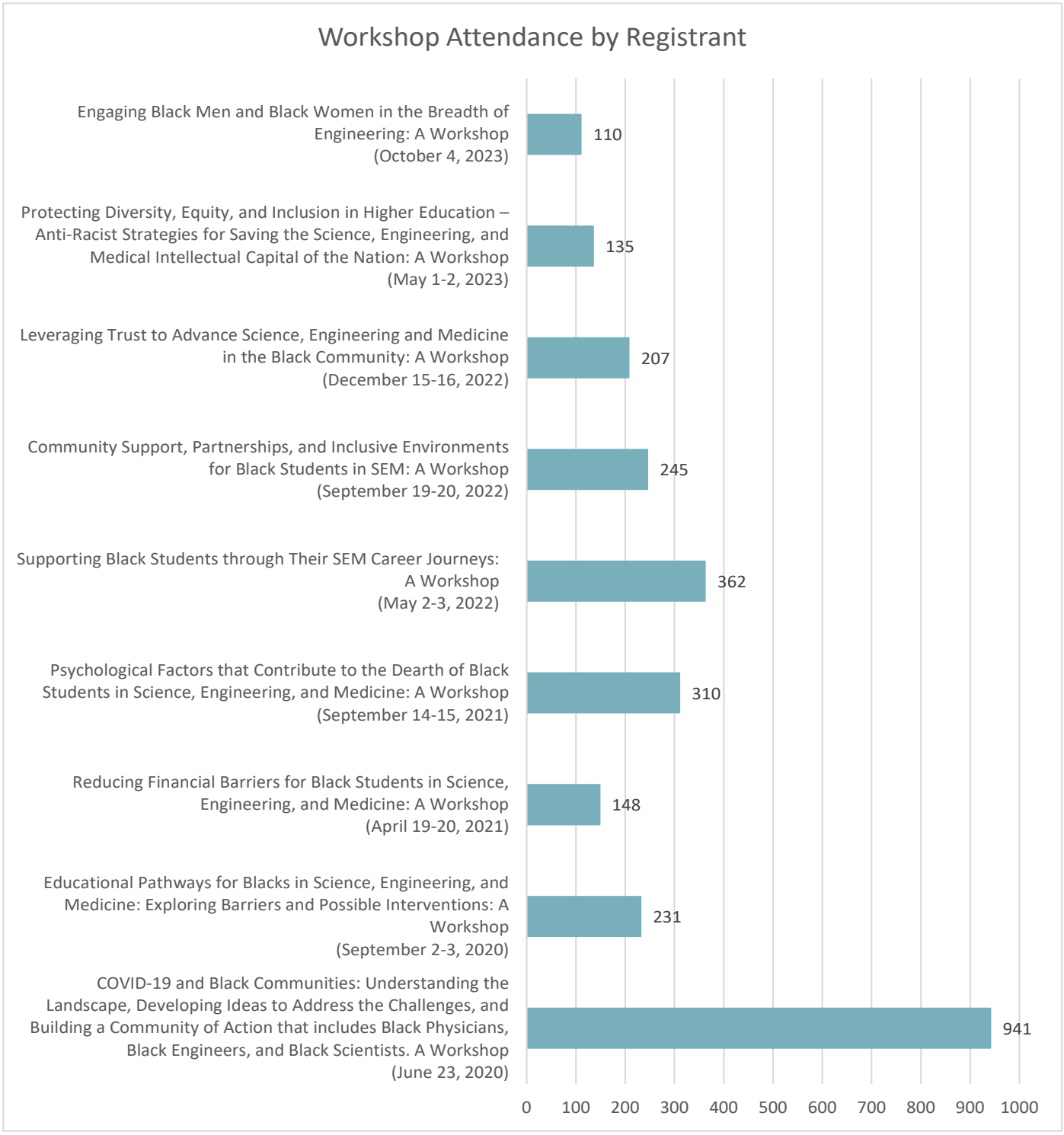
*Percentile Ranking as of 1 Sept. 2023, normalized by period of online availability.

-§- Insufficient downloads to rank.

# Registration at Workshops

Registration at the 9 Roundtable Workshops convened to October 2023 has consistently been above 100 participants, ranging from 110 to 941 (see Table below).

The best attended Workshop on COVID-19 and Black Communities topped 900 registrants. Two workshops have been in the range 300-400 registrants (Supporting Black Students and Psychological Factors). Three workshops drew 200-300 registrants (Community Support, Educational Pathways, Leveraging Trust).



# Book Citations for Proceedings of Roundtable Workshops

"Lighting the Spark for Pathways to Greatness for Black People in SEM: Proceedings of a Workshop."
National Academies of Sciences, Engineering, and Medicine. (2024, in press). Washington, DC: The National Academies Press.

"The State of Anti-Black Racism in the United States: Reflections and Solutions from the Roundtable on Black Men and Black Women in Science, Engineering, and Medicine: Proceedings of a Workshop."
National Academies of Sciences, Engineering, and Medicine. (2023). Washington, DC: The National Academies Press.
*https://doi.org/10.17226/26692*.

"Psychological Factors That Contribute to the Dearth of Black Students in Science, Engineering, and Medicine: Proceedings of a Workshop."
National Academies of Sciences, Engineering, and Medicine. (2023). Washington, DC: The National Academies Press.
*https://doi.org/10.17226/26691*.

"Understanding and Offsetting Financial Barriers for Black Students in Science, Engineering, and Medicine: Programs, Partnerships, and Pathways: Proceedings of a Workshop."
National Academies of Sciences, Engineering, and Medicine. (2022). Washington, DC: The National Academies Press.
*https://doi.org/10.17226/26576*.

"Mentoring of Black Graduate and Medical Students, Postdoctoral Scholars, and Early-Career Faculty in Science, Engineering, and Medicine: Proceedings of a Workshop."
National Academies of Sciences, Engineering, and Medicine. (2022). Washington, DC: The National Academies Press.
*https://doi.org/10.17226/26462*.

"Educational Pathways for Black Students in Science, Engineering, and Medicine: Exploring Barriers and Possible Interventions: Proceedings of a Workshop."
National Academies of Sciences, Engineering, and Medicine. (2022). Washington, DC: The National Academies Press.
*https://doi.org/10.17226/26391*

"COVID-19 and the Present and Future of Black Communities: The Role of Black Physicians, Engineers, and Scientists: Proceedings of a Workshop."
National Academies of Sciences, Engineering, and Medicine. (2021). Washington, DC: The National Academies Press.
*https://doi.org/10.17226/26146*

"The Impacts of Racism and Bias on Black People Pursuing Careers in Science, Engineering, and Medicine: Proceedings of a Workshop."

National Academies of Sciences, Engineering, and Medicine. (2020). Washington, DC: The National Academies Press.

*https://doi.org/10.17226/25849*.

"An American Crisis: The Growing Absence of Black Men in Medicine and Science: Proceedings of a Joint Workshop."

National Academies of Sciences, Engineering, and Medicine. (2018). Washington, DC: The National Academies Press.

*https://doi.org/10.17226/25130*.

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BURROUGHS WELLCOME FUND

Chan Zuckerberg Initiative

Johnson & Johnson

NATIONAL ACADEMIES Sciences Engineering Medicine

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*The Roundtable on Black Men and Black Women in Science, Engineering, and Medicine would like to extend the highest gratitude to Congresswoman Jahana Hayes, the Congressional Black Caucus, the Connecticut Legislative Black and Puerto Rican Caucus, and the W. Montague Cobb/NMA Health Institute.*

This impact report was compiled by a team at the Cato T. Laurencin Institute for Regenerative Engineering

*Dr. Gualberto Ruaño, Dr. James Grady, Dr. Rong Wu, Makayla Murphy, Jolene Monahan Wilding, Jini Davis, and Emily Touch*

# APPENDIX

## Landmark Articles by the Roundtable Leadership


Laurencin, C. (2019). "The Context of Diversity". Science, 366 (6468), 929. https://doi.org/10.1126/science.aba2319.

Daley, G., Barabino, G., Ajijola, O., Bright, C., Montgomery, R., & Laurencin, C. (2020). "COVID highlights another crisis: lack of Black physicians and scientists". Med, 2(1), 2-3. https://doi.org/10.1016/j.medj.2020.06.006.

Yancy, C., Barbarino, G., Bright, C., Laurencin, C., & Montgomery Rice V. (2023). "The Supreme Court and the Importance of Diversity in Medicine". NEJM, 389(8), 677-679. https://doi.org/10.1056/NEJMp2306195

EDITORIAL

# The context of diversity

The term "diversity," which came about in connection with the passage of the U.S. Civil Rights Act of 1964, has been expanding to include an ever-growing list of identities—from race, gender, and sexual orientation to physical appearance, belief systems, thought styles, socioeconomic status, and rural/urban geographic location, among others. This is a welcome extension of representation, but this added texture has a downside—it threatens to muddle targets and obscure actions when achieving diversity is the goal. This consequence is particularly serious in the context of addressing equity for specific underrepresented racial and ethnic groups. Next week, the U.S. National Academies will convene the Roundtable on Black Men and Black Women in Science, Engineering and Medicine to focus on confronting issues that threaten the future of Blacks broadly in science. Forging systemic changes that bring Black diversity at all education and career levels will hopefully bring racial equity to practices in these fields and in doing so, expand the benefits of science, engineering, and medicine to society.

There are unintended negative consequences of the expanded definition of diversity. With so many groups, success in achieving diversity is increasingly measured in a pick-and-choose manner, where progress is defined through any lens that shows success. Also, with so many groups, diversity is often described through the lens of gender, leaving other groups as seemingly less important, or unimportant. And with so many groups, it has become easier for diversity efforts to disregard the historical and present drivers of discrimination that concepts of diversity began with. In other words, the greater context of inclusion and equity can get lost, making strides to diversify meaningless. The latter point is particularly relevant to Blacks in the United States who have experienced slavery, legally enforced segregation and discrimination, and now battle conscious and unconscious racism, and mass incarceration. Institutionalized racism, past and present, has resulted in the disregard, disrespect, and dismissal of Black people from all walks of life, and this is true in science, engineering, and medicine.

These may be factors in the crisis-level changes seen across the academic landscape of Blacks in science, engineering, and medicine. For example, the number of Black males entering medical school between 2013 and 2014 in the United States was only 500, a historic low. Black men represented only 37.7% of Blacks entering medical school, which represented only 2.5% of all students entering medical school. This occurred during a historic increase in the number of medical schools in the nation. While this was happening at the trainee level, the U.S. National Academy of Medicine's most recent election in 2019 had no Black men in a class that recently increased by over 30% in size. Thus, there is a crisis taking place at all points in the medical educational and career spectrum for this particular group.

**"Embracing the expanding definition of diversity is easy, but using the word with focus...for achieving diversity will take great attention."**

In response to this downward trend of Blacks in science and medicine, a number of individuals, including me, convened a U.S. National Academies workshop in 2017 that focused specifically on the growing absence of Black men in medicine in the United States. The ideas became a blueprint for actions that address not only Black men in medicine, but also the trajectory for Black women, and issues in engineering and science overall.

Embracing the expanding definition of diversity is easy, but using the word with focus so as not to weaken the paths for achieving diversity will take great attention. Next week, as leaders from academia, industry, government, foundations, and other nonprofits gather at the U.S. National Academy for this historic first meeting, the goal will be to begin to understand the barriers, explore opportunities, and develop actionable plans to increase the number of Blacks pursuing science, engineering, and medicine. The Roundtable will have a laser focus on racism and bias, early to graduate education, financing, public advocacy, mentorship, and mental health/behavioral factors. We're at the starting point of a roadmap that could potentially break cycles so rooted in the past for Blacks, and perhaps also help other groups navigate their pursuit of success in science too.

**–Cato T. Laurencin**

PHOTO: UCONN PHOTOS

**Cato T. Laurencin** is the Albert and Wilda Van Dusen Distinguished Endowed Professor of Orthopaedic Surgery, and the chief executive officer of the Connecticut Convergence Institute for Translation in Regenerative Engineering at UConn Health, Farmington, Connecticut, USA. He is the University Professor at the University of Connecticut, Storrs, Connecticut, USA. laurencin@uchc.edu

10.1126/science.aba2319

Correspondence

# COVID Highlights Another Crisis: Lack of Black Physicians and Scientists

George Q. Daley,[1,2,*] Gilda A. Barabino,[3,*] Olujimi A. Ajijola,[4] Cedric M. Bright,[5] Valerie Montgomery Rice,[6] and Cato T. Laurencin[7,8,9,*]

The crisis of the COVID-19 pandemic has prompted widespread alarm about deficiencies and disparities in the health care system in the United States.[1] Despite having the world's most expensive medical care, outcomes are woefully poor and lifespan and overall health appear to be declining. Tens of millions of uninsured or underinsured Americans mean large swaths of the country fail to receive even the most routine preventive health maintenance, leading to an overwhelming burden of chronic disease and lost productivity. We need to recognize that the US health care system is deeply flawed. The old bromide "never let a crisis go to waste" has never been so apt. The COVID pandemic is threatening to place US health care on life support, with our only hope of recovery being a major commitment to overhaul and repair our frailties and inequalities.

The stark realities of health inequality have been thrust under a glaring spotlight by the disproportionately higher COVID case rates and fatalities in communities of color. Black, Latinx, and Native populations are being hardest hit because they suffer more of the social determinants that predict poor health outcomes in the current COVID crisis. Bearing the brunt of poverty and overcrowded living conditions provides little opportunity for social distancing.[2] The shocking over-abundance of morbidity and mortality in minority communities highlights the deep socioeconomic and cultural divides in this country. The root causes transcend poor access to health care and limited resources of hospitals that serve the socioeconomically disadvantaged.[3,4] With Black and Latinx patients filling hospital beds in New York City, New Orleans, and other major cities, a less appreciated crisis is apparent in the demographics of the physician work force that serves them. While Blacks make up 13% of the US population,[5] they comprise only 4% of U.S. doctors and less than 7% of medical students. Black doctors are more likely to practice in underserved communities, and patients of color have better outcomes when served by doctors who look like them (https://www.nytimes.com/2020/01/13/upshot/race-and-medicine-the-harm-that-comes-from-mistrust.html). Research on unconscious bias has revealed that the majority of white physicians harbor bias against Blacks.[6] These biases can lead to poor physician communication and poor clinical outcomes. There is evidence in the COVID-19 pandemic that unconscious bias by white physicians may be contributing substantially to the disparities seen in clinical outcomes by Blacks.[7] In the current crisis, the absence of Black physicians has likely led to more deaths and disability that will persist long after the pandemic recedes.

The low number of Black physicians is itself a crisis.[8] The even more stark absence of scientists and researchers of color who are equipped to launch a scholarly assault begs the question of whether U.S. health care can effectively address the social determinants that create the health outcome disparities of the COVID crisis. The absence of Blacks in medicine means a dearth of practitioners who understand their patients' needs and who inspire trust in communities subject to historic deficiencies in health care services and quality. It also means a deficiency in the hidden curriculum where students in close proximity share their different life experiences, thereby enhancing the academic milieu. In medical education today, social science is just as important as basic science. The absence of Black faculty members in departments of biostatistics, epidemiology, and microbiology and in schools of medicine and public health means our health care system will never be adequately prepared for the next pandemic. Who will analyze the COVID crisis across demographic

[1]Harvard Medical School, Boston, MA, 02115, USA

[2]Harvard Stem Cell Institute, Boston, MA, 02115, USA

[3]The Grove School of Engineering, The City College of New York, New York, NY, USA

[4]UCLA Cardiac Arrhythmia Center, David Geffen School of Medicine at UCLA, Los Angeles, CA, USA

[5]Brody School of Medicine at East Carolina University, Greenville, *NC* 27834, *USA*

[6]Morehouse School of Medicine and Morehouse Healthcare, 720 Westview Drive, SW, Atlanta, GA 30310, USA

[7]Connecticut Convergence Institute for Translation in Regenerative Engineering, University of Connecticut Health Center, Farmington, CT 06030, USA

[8]Department of Orthopaedic Surgery, University of Connecticut Health Center, Farmington, CT 06030, USA

[9]The Africana Studies Institute, University of Connecticut, Storrs, CT, 06269, USA

*Correspondence: george.daley@childrens.harvard.edu (G.Q.D.), gbarabino@ccny.cuny.edu (G.A.B.), laurencin@uchc.edu (C.T.L.)

https://doi.org/10.1016/j.medj.2020.06.006

groups and suggest remedies for the future?

The COVID-19 crisis has increased the need for engineers equipped to develop user-centered solutions spanning all aspects of the pandemic, from testing to PPE to digital technology. Blacks make up a mere 5% of the science and engineering workforce and are largely missing among academic leaders in science, engineering and medicine (https://www.nist.gov/speech-testimony/african-american-technological-contributions-past-present-and-future). Like those pursuing medicine, Blacks pursuing engineering are often driven by a desire to contribute to their community and thus are well positioned to help reduce disparities and improve health outcomes.

The crisis of underrepresentation of Blacks in medicine and all STEM fields (science, technology, engineering, and mathematics) reflects a long-standing disparity in access to and quality of education and is only likely to be exacerbated further by the COVID pandemic. With schools closed and students left to self-educate at home, the digital divide between rich and poor leave many students in minority communities without computers, with poor internet bandwidth, and without quiet, private, safe learning environments. The COVID pandemic will only further amplify the educational disparities that are likely to perpetuate socioeconomic inequality.

In an attempt to address these long-standing and widespread disparities, the US National Academies of Science, Engineering, and Medicine have convened a round table of leading physicians, scientists, and engineers aimed at studying the underlying root causes of the under-representation of Blacks in medicine and other STEM fields. We are organized into action groups probing systemic change to overcome psychological and social barriers to success, racism and bias, kindergarten to graduate education, mentorship and advising, finance and economics, and public engagement. The National Academies' round table seeks to define strategies to increase representation. Enhancing diversity, inclusion, and racial equity in such a vital sector of society as health care will promote improvements in all aspects of health care delivery and promises to pave the way for more balanced, effective, and just responses to public health crises in the future.

## ACKNOWLEDGMENTS

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## DECLARATION OF INTERESTS

C.T.L. serves as a consultant for Johnson and Johnson Corporation. The other authors declare no relevant competing interests.

1. James, S.A. (2017). The strangest of all encounters: racial and ethnic discrimination in US health care. Cad. Saude Publica *8* (33, Suppl 1), e00104416, https://doi.org/10.1590/0102-311X00104416.

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The NEW ENGLAND JOURNAL of MEDICINE

Perspective

AUGUST 24, 2023

# The Supreme Court and the Importance of Diversity in Medicine

Clyde W. Yancy, M.D., Gilda Barabino, Ph.D., Cedric Bright, M.D., Cato T. Laurencin, M.D., Ph.D., and Valerie Montgomery Rice, M.D.

In a landmark ruling on June 29, 2023, the U.S. Supreme Court decided in favor of Students for Fair Admissions in parallel cases against the University of North Carolina (6 to 3) and Harvard College (6 to 2). The decision effectively ends the legal consideration of race in university admissions, especially for selective institutions; it no doubt extends to medical school admissions. As members of the Roundtable on Black Men and Black Women in Science, Engineering, and Medicine created by the National Academies of Sciences, Engineering, and Medicine, we recognize the importance of diversity and have identified potential strategies for supporting diversity in medicine while complying with the Court's ruling.

The decision effectively overturns decades of legal precedent and threatens progress toward educational equity. Using race as a factor in a multifaceted, holistic review of applications in higher education was first legally sanctioned in 1978. In *Regents of the University of California v. Bakke*, the Court affirmed the use of race as constitutionally permissible to confer certain educational benefits associated with having a racially diverse student body. This precedent was affirmed in 2003 in two cases involving the University of Michigan's admissions procedures (*Gratz v. Bollinger* and *Grutter v. Bollinger*), and the constitutionality of using race as a factor was reaffirmed in 2016 in *Fisher v. University of Texas*.

The majority and minority opinions in the current decision are strikingly divergent. In a dissenting opinion, Justice Ketanji Brown Jackson was resolute: "Deeming race irrelevant in law does not make it so in life. . . . No one benefits from ignorance. . . . Race still matters to the lived experiences of all Americans in innumerable ways." The majority argued that it's time to adopt colorblind admissions policies; Justice Sonia Sotomayor countered: "The court cements a superficial rule of colorblindness as a constitutional principle in an endemically segregated society where race has always mattered and continues to matter."

The decision to eliminate affirmative action and thus dismiss diversity's benefits in higher education ignores four decades of tedious progress toward educational equity and four centuries of disadvantage for members of marginalized racial and ethnic groups, especially those who identify as Black or African American. Among

the many scars directly attributable to centuries of segregation and racism is inequity in access to higher education, particularly professional and graduate schools. Potential consequences of this decision include having fewer members of such groups serving as executives of health and health care organizations and as medical and life-sciences researchers.

People seeking to overturn diversity and inclusion initiatives have asserted that focusing on diversity when selecting a class is discriminatory and divisive and undermines merit. In reality, data reveal improved patient outcomes with a more diverse medical community, and lessons from U.S. corporations validate the importance of increased diversity, particularly diversity of ideas, as a path to achieving business objectives.[1]

Contemporary medical practice demands attention to the health and well-being of all people and, especially in the United States, requires that physicians serve diverse, multicultural, pluralistic patient communities. There is no convincing rationale for not attempting to ensure that the physician workforce reflects community demographics and can provide culturally competent care. Moreover, the history of medicine is replete with examples of excess morbidity and mortality caused by implicit bias and disproportionately affecting historically marginalized groups. On most campuses today, students learn at least as much from interactions with their classmates — particularly those from backgrounds unlike their own — as they do from professors. Having a diverse class promotes multicultural immersion and exploration that enables understanding of various identities, cultures, customs, and social contexts. Fostering a culturally heterogeneous learning environment is judged to be so important that the Liaison Committee on Medical Education assesses diversity and inclusion in medical school accreditation.

In a recent survey conducted by the Association of American Medical Colleges (AAMC), 7% of U.S. physicians identified as Hispanic and 6% as Black or African American, well below the population proportions of 18% and 13%, respectively. Black physicians are more likely than White physicians to enter primary care and to practice in underserved areas,[2] and evidence is mounting that patients from marginalized racial or ethnic groups fare better when treated by culturally concordant clinicians.[3] U.S. medical school matriculants are still disproportionately drawn from the upper socioeconomic classes[4] and elite undergraduate institutions. But with recent attention to the value of diversity in medical education and recognition of the need to confront injustices, medical school enrollment of Black and Hispanic students is increasing, according to the AAMC. Efforts to increase diversity in medicine have inarguably been beneficial. We contend that now is not the time to stop working toward increased diversity in medical education and the medical workforce.

In states where consideration of race is no longer permitted in admissions processes, the number of students from groups that are underrepresented in medicine has fallen.[5] With the Supreme Court's elimination of the use of race as a factor in admissions, diversity in medical schools and the medical profession is likely to decline, health care disparities will persist, and efforts to advance health equity will suffer.

Writing for the Court's majority, Chief Justice John Roberts provided guidance for a way forward, noting that "nothing prohibits universities from considering an applicant's discussion of how race affected the applicant's life, so long as that discussion is concretely tied to a quality of character or unique ability that the particular applicant can contribute to the university." The majority also asserted, however, that universities shouldn't "establish through application essays or other means the regime we hold unlawful today."

Consequently, consideration of a candidate's race, even as a surrogate for some permissible criterion, is no longer allowed in admissions processes. But there are several potential strategies whereby race-agnostic review could continue to realize the benefits of diversity.

First, admissions committees could emphasize comprehensive review, particularly review of applicants' life journeys — recognizing that although scholarly accomplishment and raw intellect are prerequisites for medical school admission, many additional attributes, including empathy, perseverance in the face of uncertainty, a learning-oriented mindset, deft powers of observation, good listening skills, a focus on teamwork, and collegiality, are valuable if students are to become successful physicians. None of these qualities are evident in test results or grade-point averages. Second, committees could consider how applicants — in essays or interviews — articulate the effects of racialized acculturation

on their personal journeys and highlight particular contributions they could make to an institution or profession that can't be captured by traditional metrics. Third, committees could stress character assessment, reflecting on applicants' life histories and resilience and the challenges they've faced, and incorporate metrics such as "adversity scores," which are often especially relevant to students from economically challenged backgrounds that have required early-life sacrifices and work experiences.

*An audio interview with Valerie Montgomery Rice is available at NEJM.org*

Universities, think tanks, and academic societies will undoubtedly weigh in on other new applicant-review processes, which might ultimately be evaluated in legal cases. The profile created using comprehensive review, in concert with assessment of academic prowess, could help predict students' likelihood of success in the face of challenging social and clinical circumstances and illuminate traits such as grit, perseverance, and drive — critical attributes for practicing in an increasingly complex environment. Finally, medical schools could increase their capacity, creating more opportunities for all potential students.

Physicians take an oath to "do no harm." The cessation of prevailing admissions policies may further harm members of society who have long experienced injustices. We remain firm in our conviction that diversity, especially diversity of thought and culture, is invaluable. Over several decades, the environments in which we learn and practice medicine and conduct research have gradually become more equitable, and medicine has improved as both a profession and a practice. We must not allow a return to the dark era of medicine, when the profession did well for some patients and little for others. As leaders in medicine, we are bound by the ethical principles of beneficence, nonmaleficence, and justice. Accordingly, although we will comply with the Court's decision, we remain committed to the laudable and cardinal goal of achieving a diverse student body and workforce. Medical education must be steadfast and relentless in this pursuit, which will render medicine more just, fair, and equitable. Our patients — all our patients — deserve no less.

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From the Feinberg School of Medicine, Northwestern University, Chicago (C.W.Y.); Olin College of Engineering, Needham, MA (G.B.); the Brody School of Medicine, East Carolina University, Greenville, NC (C.B.); the Cato T. Laurencin Institute for Regenerative Engineering, University of Connecticut, Farmington (C.T.L.); and Morehouse School of Medicine, Atlanta (V.M.R.).

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