

Diagnostics and Disease Management Tools for Use in Underserved Populations: An NHLBI Research & Implementation Workshop

Virtual Workshop • April 14–15, 2021



National Heart, Lung,
and Blood Institute



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INTRODUCTION

The National Heart, Lung, and Blood Institute (NHLBI), a part of the National Institutes of Health (NIH), is working to reduce health disparities and inequities in heart, lung, blood and sleep disorders and aims to better understand the unique risk factors of affected individuals. NHLBI convened the Diagnostics and Disease Management Tools for Use in Underserved Populations: An NHLBI Research and Implementation Workshop on April 14-15, 2021, to discuss barriers to—and opportunities for—improving heart, lung blood and sleep health outcomes in underserved, low-resource and remote communities. The workshop aims to identify practical and affordable technology solutions for disease diagnosis and management in these groups, prioritize the ones that could have the greatest impact and determine the ones best suited for further research.

Workshop organizers intend to explore and leverage recent research advances, diagnostic tools and implementation systems and apply them to heart, lung, blood and sleep diseases in underserved populations. For example, advances in omics research have led to the development of diagnostic tools for heart, lung, blood and sleep diseases, such as those to detect and predict early onset of stroke, pulmonary hypertension and vasculopathy in sickle cell disease. NIH's Rapid Acceleration of Diagnostics initiatives have developed an infrastructure for rapid and widely accessible viral testing. Many NHLBI investigators have leveraged their diagnostics platforms to develop molecular diagnostic assays. Large scale distribution and healthcare delivery at remote sites and in patients' homes also are emerging as a major part of the provider system.

At the close of the workshop, participants will identify the top priorities with the highest impact for the underserved community. The technologies may include, but are not limited to tools for *in vitro* diagnosis, imaging and screening within low-resource settings. Technologies that directly provide or immediately lead to diagnostics options available in the local health system are encouraged.

WORKSHOP QUESTIONS

1. What are the challenges to developing practical and affordable technology solutions to diagnose and manage heart, lung, blood and sleep diseases?
2. What are the barriers to progress in this research area?
3. How can your technology or approach be leveraged or optimized to diagnose or manage heart, lung, blood and sleep diseases in underserved communities?

ACKNOWLEDGEMENTS

The workshop organizers would like to thank the session chairs, the steering committee and our partners for their work and contributions to the meeting program.

SESSION CHAIRS

Monica Webb Hooper, Ph.D. | Understanding the Community Session Chair, National Institute on Minority Health and Health Disparities (NIMHD), NIH

Wilbur Lam, M.D., Ph.D. | Blood Session Chair, Emory University

Meredith McCormack, M.D., M.H.S. | Lung and Sleep Session Chair, Johns Hopkins University

David McManus, M.D. | Heart Session Chair, University of Massachusetts Medical School



Martin Mendoza, Ph.D. | Federal Partnerships for Underserved Populations Session Co-Chair,
Office of Minority Health, U.S. Department of Health and Human Services (HHS)
Kathleen Rousche, Ph.D. | Federal Partnerships for Underserved Populations Session Co-Chair,
Office of Translational Alliances and Coordination (OTAC), NHLBI, NIH

WORKSHOP STEERING COMMITTEE

Co-Chairs:

Asif Rizwan, Ph.D. | Co-Chair, Division of Blood Diseases and Resources (DBDR), NHLBI, NIH
Margaret Ochocinska, Ph.D. | Co-Chair, DBDR, NHLBI, NIH

Members:

Bishow Adhikari, Ph.D. | Division of Cardiovascular Sciences (DCVS), NHLBI, NIH
Marishka Brown, Ph.D. | National Center on Sleep Disorders Research, Division of Lung Diseases (DLD), NHLBI, NIH
Jue Chen, Ph.D. | DCVS, NHLBI, NIH
Erin Iturriaga, DNP, M.S.N., RN | DCVS, NHLBI, NIH
Albert Lee, Ph.D. | DCVS, NHLBI, NIH
Kyung Moon, Ph.D. | DBDR, NHLBI, NIH
Mike Pieck, Ph.D. | OTAC, NHLBI, NIH
Gautam Prakash, Ph.D., JD | OTAC, NHLBI, NIH
Antonello Punturieri, M.D., Ph.D. | DLD, NHLBI, NIH
Kathleen Rousche, Ph.D. | OTAC, NHLBI, NIH
Louis Vuga, Ph.D. | DLD, NHLBI, NIH
Makeda Williams, Ph.D., M.P.H. | Center for Translation Research and Implementation Science (CTRIS), NHLBI, NIH

WORKSHOP PARTNERS

Agency for Healthcare Research and Quality (AHRQ)
Biomedical Advanced Research and Development Authority (BARDA)
Centers for Disease Control and Prevention (CDC)
Centers for Medicare and Medicaid Services (CMS)
Food and Drug Administration (FDA)
Foundation for the National Institutes of Health (FNIH)
Health Resources and Services Administration (HRSA)
Indian Health Service (IHS)
National Center for Advancing Translational Sciences (NCATS)
National Institute of Biomedical Imaging and Bioengineering (NIBIB)
National Institute on Minority Health and Health Disparities (NIMHD)
National Science Foundation (NSF)
Office of the Assistant Secretary for Health (OASH)
Patient-Centered Outcomes Research Institute (PCORI)



AGENDA

Day 1	April 14, 2021
10:00–10:10 a.m.	Welcome Gary H. Gibbons, M.D., Director, NHLBI, NIH
10:10–10:15 a.m.	Workshop Introduction W. Keith Hoots, M.D., Director, DBDR, NHLBI, NIH
10:15–10:20 a.m.	Goals and Objectives Asif Rizwan, Ph.D., Program Director, DBDR, NHLBI, NIH
10:20–10:50 a.m.	Keynote: Improving Health Outcomes for All Communities: Accelerating Innovation to Implementation Nakela L. Cook, M.D., M.P.H., Executive Director, PCORI
Session I: Blood	<i>Chair: Wilbur Lam, M.D., Ph.D., Associate Professor, Emory University</i> <i>(A brief Q&A will follow each presentation.)</i>
10:50–11:10 a.m.	Developing Point-of-Care and Patient-Operated Anemia Detection Technologies for Global Health and Back to the U.S. Wilbur Lam, M.D., Ph.D., Associate Professor, Emory University
11:10–11:30 a.m.	The COVID-19 Revival of Telemedicine Betty S. Pace, M.D., Director of the Pediatric Sickle Cell Program, Augusta University
11:30–11:50 a.m.	History of Disparities in Thrombotic Outcomes Jean Marie Connors, M.D., Associate Professor, Harvard Medical School, Brigham and Women's Hospital
11:50 a.m.–12:10 p.m.	Case Study: Efficient Translation of Point-of-Care Diagnostic Technologies for Underserved Populations Umut Gurkan, Ph.D., Associate Professor, Case Western Reserve University
12:10–12:40 p.m.	Lunch Break
Session II: Lung and Sleep	<i>Chair: Meredith McCormack, M.D., M.H.S., Medical Director, Pulmonary Function Laboratory, and Associate Professor of Medicine, Johns Hopkins University</i> <i>(A brief Q&A will follow each presentation.)</i>
12:40–1:00 p.m.	Advancements in the Portable Monitoring of Sleep: Relevance for Studies of Underserved Populations Naresh Punjabi, M.D., Ph.D., Chief, Division of Pulmonary, Allergy, Critical Care, and Sleep Medicine, University of Miami
1:00–1:20 p.m.	Asthma Disparities and Technology: Innovation Needed Tyra Bryant-Stephens, M.D., Medical Director, Community Asthma Prevention Program, Children's Hospital of Philadelphia
1:20–1:40 p.m.	Bridging Gaps to Improve COPD Care: Using Technology to Reach Underserved and Remote Communities Meredith McCormack, M.D., M.H.S., Medical Director, Pulmonary Function Laboratory, and Associate Professor of Medicine, Johns Hopkins University
1:40–2:00 p.m.	Case Study: COPD Management of Underserved Populations in the Time of COVID-19 M. Bradley Drummond, M.D., M.H.S., Associate Professor of Medicine, Division of Pulmonary Diseases and Critical Care Medicine, and Director, Obstructive Lung Diseases Clinical and Translational Research Center, University of North Carolina at Chapel Hill
Session III: Heart	<i>Chair: David McManus, M.D., Chair and Professor, University of Massachusetts Medical School</i> <i>(A brief Q&A will follow each presentation.)</i>
2:00–2:20 p.m.	Technology, Community, and Equity: Considerations for Collecting Social Determinants Data Mahasin Mujahid, Ph.D., M.S., FAHA, Associate Professor, University of California, Berkeley



2:20–2:40 p.m.	Technology for Patients from Underrepresented Groups with Hypertension: Is It Adequate? Jeroan Allison, M.D., M.S., Chair and Professor, University of Massachusetts Medical School
2:40–3:00 p.m.	Digital Education Tools for Diabetes and Cardiometabolic Disease in Under-Resourced Populations Athena Philis-Tsimikas, M.D., Director, Community Engagement, Scripps Research Translational Institute, and Corporate Vice President, Scripps Whittier Diabetes Institute Scripps Research
3:00–3:20 p.m.	Case Study: Rural Community Needs and Challenges Shauntice Allen, Ph.D., M.A., Assistant Professor, University of Alabama at Birmingham
3:20–4:20 p.m.	Open Microphone Panel Discussion <i>Moderators:</i> <ul style="list-style-type: none"> Jue Chen, Ph.D., Program Director, DCVS, NHLBI, NIH Louis Vuga, M.D., M.P.H., Ph.D., Program Director, DLD, NHLBI, NIH Kyung Moon, Ph.D., Program Director, DBDR, NHLBI, NIH
4:20–4:30 p.m.	Wrap-up Asif Rizwan, Ph.D., Program Director, DBDR, NHLBI, NIH
4:30 p.m.	Adjourn

Day 2	April 15, 2021
10:00–10:10 a.m.	Opening Remarks Francis S. Collins, M.D., Ph.D., Director, NIH
10:10–10:25 a.m.	Plenary Presentation: RADx-Tech: A Model for Rapid Acceleration of Diagnostics at Unprecedented Speed and Scale Bruce Tromberg, Ph.D., Director, NIBIB, NIH
Session IV: Understanding the Community	<i>Chair: Monica Webb Hooper, Ph.D., Deputy Director, NIMHD, NIH (A brief Q&A will follow each presentation.)</i>
10:25–10:30 a.m.	Introduction to the Session Monica Webb Hooper, Ph.D., Deputy Director, NIMHD, NIH
10:30–10:50 a.m.	Transformational Stakeholder Engagement: A Model to Improve Sleep/Circadian Health in Vulnerable Communities Girardin Jean-Louis, Ph.D., Professor, Department of Population Health and Department of Psychiatry, NYU Langone Health, NYU Grossman School of Medicine
10:50–11:10 a.m.	Community Outreach Approach to Treatment of Hypertension David Harrison, M.D., Professor of Medicine and Betty and Jack Bailey Chair in Cardiology, Vanderbilt University
11:10–11:30 a.m.	Diagnostics and Disease Management Tools in American Indian Communities Marcia O'Leary, RN, Co-Founder, Missouri Breaks Industries Research, Inc. Lyle Best, M.D., Missouri Breaks Industries Research, Inc.
11:30–11:50 a.m.	Using Community Outreach and Technology to Address Latino Health Disparities Olveen Carrasquillo, M.D., M.P.H., Professor and Chief, Division of General Medicine, University of Miami Health System
11:50 a.m.–12:10 p.m.	Answering the Call: Racial Health Disparities in COVID-19 Among Essential Workers in the Urban Landscape Patricia O'Brien-Richardson, Ph.D., Associate Teaching Professor, Rutgers University
12:10–12:30 p.m.	Detection of COVID-19 and Other Health Information Using Wearables Michael Snyder, Ph.D., Chair, Department of Genetics and Director, Center for Genomics and Personalized Medicine, Stanford University
12:30–1:00 p.m.	Open Microphone Panel Discussion <i>Moderators:</i>



	<ul style="list-style-type: none"> • Marishka Brown, Ph.D., Director, National Center on Sleep Disorders Research, DLD, NHLBI, NIH • Makeda Williams, Ph.D., M.P.H., Program Director, CTRIS, NHLBI, NIH • Bishow Adhikari, Ph.D., Program Director, DCVS, NHLBI, NIH
1:00–1:30 p.m.	Lunch Break
Session V: Federal Partnerships for Underserved Populations	<i>Chairs: Martin Mendoza, Ph.D., Director for the Division of Policy and Data, Office of Minority Health, HHS, and Kathleen Rousche, Ph.D., Director, OTAC, NHLBI, NIH</i> <i>(A brief Q&A will follow each presentation.)</i>
1:30–1:45 p.m.	Evidence Evaluation of Diagnostic and Disease Management Tools for Use in Underserved Populations Elise Berliner, Ph.D., AHRQ
1:45–2:00 p.m.	Leveraging Research and Collaboration to Advance Health Equity Christine Lee, Ph.D., Pharm.D., Strategic Research Engagement Lead, Office of Minority Health and Health Equity, Office of the Commissioner, FDA
2:00–2:15 p.m.	The Secret Of MedTech Success: A Holistic Approach Douglas Kelly, M.D., M.B.A., Deputy Director for Science and Chief Scientist, Center for Devices and Radiological Health, FDA
2:15–2:30 p.m.	Increasing Access/Utilization of Emerging Tech in Under-Resourced Aging Populations Leith J. States, M.D., M.P.H., Acting Director, Office of Science and Medicine, Office of the Assistant Secretary for Health, HHS
2:30–2:45 p.m.	HRSA's Office for the Advancement of Telehealth – Programs to Improve Rural and Underserved Access to Care with Telehealth William England, Ph.D., M.S., JD, HRSA
2:45–3:00 p.m.	The Indian Health Service: Improving Access to Care through a Telehealth Initiative Susy Postal, DNP, RN-BC, Headquarters IHS Chris Fore, Ph.D., Founder and Director, IHS TeleBehavioral Health Center of Excellence
3:00–3:15 p.m.	Using Data to Improve Quality in Medicaid and CHIP LCDR Shondelle Wilson-Frederick, Ph.D., Technical Director for Analytics in the Division of Quality and Health Outcomes, CMS
3:15–3:30 p.m.	A Public-Private Partnership to Qualify Biomarkers for Early Detection and Prognosis of Pre-eclampsia Tania Kamphaus, M.Sc., Ph.D., FNIH
3:30–3:45 p.m.	Using Technology to Make Health Smarter in Underserved Communities Wendy J. Nilsen, Ph.D., Acting Deputy Division Director, NSF
3:45–4:00 p.m.	Using Self-Measured Blood Pressure Monitoring for Medically Underserved Populations and Beyond: Challenges and Opportunities Hilary Wall, M.P.H., Senior Health Scientist/Million Hearts Science Lead, CDC
4:00–4:15 p.m.	DRIVING the Push for a Culture Change: Addressing Racial Bias in Developing Diagnostics Šeila Selimović, Ph.D., Biologist/Program Manager, BARDA
4:15–4:30 p.m.	Plenary Presentation: Catalyzing Translational Innovation to Improve Health in Underserved Populations Christopher P. Austin, M.D., Director, NCATS, NIH
4:30–4:55 p.m.	Open Microphone Panel Discussion <i>Moderators:</i> Martin Mendoza, Ph.D., Director for the Division of Policy and Data, Office of Minority Health, HHS Kathleen Rousche, Ph.D., Director, OTAC, NHLBI, NIH Erin Iturriaga, DNP, M.S.N., RN, Clinical Trials Specialist/Program Officer, DCVS, NHLBI, NIH



4:55–5:00 p.m.	Wrap-up and Next Steps Margaret Ochocinska, Ph.D., Program Director, DBDR, NHLBI, NIH
5:00 p.m.	Adjourn



PRESENTER INFORMATION



Shauntice Allen, Ph.D., M.A.

Assistant Professor of Public Health, The University of Alabama at Birmingham

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Shauntice Allen, Ph.D., M.A., is an assistant professor in the Department of Environmental Health Sciences at the University of Alabama at Birmingham (UAB) School of Public Health. Her research program has a strong prevention focus at both the individual and community levels where she explores the inextricable link between environmental exposures, race and place. Dr. Allen is also an associate scientist with UAB's Center for Clinical and Translational Science (CCTS) where she collaborates with investigators in the disciplines of medicine, nursing, public health and business, along with the greater Birmingham community. Since 2008, Dr. Allen has

led the community engagement effort for UAB's CCTS. In this role, she has been responsible for the development, implementation and evaluation of the Birmingham Neighborhood Leaders Survey (BNLS), a community-designed survey tool used to explore issues affecting health in an urban metropolitan area. A two-time graduate of the University of Alabama in Tuscaloosa with a bachelor's degree in biology and a master's degree in human and environmental sciences, and a doctorate in health education and promotion from UAB, Dr. Allen has been involved in engaging both urban and rural communities in research, program evaluation, coalition building and deploying community-informed data collection methods.



Jeroan Allison, M.D., M.S.

Chair and Professor, Department of Population and Quantitative Health Sciences,
The University of Massachusetts Medical School

Email: Jeroan.Allison@umassmed.edu

Jeroan Allison, M.D., M.S., is a professor and chair of the Department of Population and Quantitative Health Sciences at the University of Massachusetts Medical School. Initially trained as a primary care physician and epidemiologist, his early research career focused on quality improvement and implementation science. Over the past several years, Dr. Allison's interests have transitioned almost completely to health equity. For the past 10 years, he has had continuous federal funding related to health equity. Promoting health equity and

understanding the root causes of health disparities has emerged as a powerful and rewarding pathway for him, both personally and professionally.



Christopher P. Austin, M.D. (Plenary Speaker)

Director, National Center for Advancing Translational Sciences, NIH

Email: austinc@mail.nih.gov

Christopher P. Austin, M.D., is director of the National Center for Advancing Translational Sciences (NCATS) at the National Institutes of Health (NIH). Dr. Austin leads the Center's work to improve the translation of observations in the laboratory, clinic and community into interventions that reach and benefit patients—from diagnostics and therapeutics to medical procedures and behavioral changes. Under his direction, NCATS researchers and collaborators are developing new technologies, resources and collaborative research models; demonstrating their usefulness; and disseminating the data, analysis and methodologies for

use by the worldwide research community.



Dr. Austin's career has spanned the spectrum of translational research in the public and private sectors. He joined NIH in 2002 as the senior advisor to the director for translational research at the National Human Genome Research Institute (NHGRI), where he was responsible for conceptualizing and implementing research programs to derive scientific insights and therapeutic benefits from the results of the newly completed Human Genome Project. While at NHGRI, Dr. Austin founded and directed the NIH Chemical Genomics Center, [Therapeutics for Rare and Neglected Diseases](#) program, [Toxicology in the 21st Century](#) initiative, and NIH Center for Translational Therapeutics. When NCATS launched in late 2011, Dr. Austin became the inaugural director of the Center's Division of Preclinical Innovation, and then was appointed as the NCATS director in 2012. Before joining NIH, Dr. Austin worked at the pharmaceutical company Merck, where he directed programs on genome-based discovery of novel targets and drugs, with a particular focus on treatments for schizophrenia and Alzheimer's disease.

Dr. Austin is trained as a clinician and geneticist, and he is a member of the National Academy of Medicine, formerly the Institute of Medicine. He earned his medical degree from Harvard Medical School and an A.B. *summa cum laude* in biology from Princeton University. He completed a research fellowship in developmental neurogenetics at Harvard, studying genetic and environmental influences on stem cell fate determination. Dr. Austin also trained in internal medicine and neurology at the Massachusetts General Hospital in Boston, after which he practiced medicine in academic and community hospitals, providing primary care in urban settings and in rural Alaska and Africa.



Elise Berliner, Ph.D.

Director, Technology Assessment Program, Agency for Healthcare Research and Quality

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Elise Berliner, Ph.D., is the director of the Technology Assessment Program at the Agency for Healthcare Research and Quality (AHRQ). The Technology Assessment Program provides technology assessments to the Centers for Medicare & Medicaid Services to inform Medicare coverage decisions and other policy issues. Prior to joining AHRQ, Dr. Berliner worked as a consultant to pharmaceutical and medical device companies on cost-effectiveness and outcomes research, technology assessment and reimbursement planning. Dr. Berliner also has several years of experience in research and development at a number of innovative medical

technology companies. She was a congressional fellow at the Office of Technology Assessment. Dr. Berliner received her doctorate in biophysics from Brandeis University.



Lyle Best, M.D.

Missouri Breaks Industries Research, Inc.

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Lyle Best, M.D., grew up in Wahpeton, North Dakota and began his professional career with the Indian Health Service (IHS) in 1977. For the first 16 years, he served as clinical director of the local hospital and later as the maternal child health consultant for the Aberdeen area IHS, where he was responsible for nine hospitals and 10 clinics in this region. Dr. Best has conducted genetic research in the American Indian communities of the northern plains, initially on a part time basis and from 2000-2017 as principal investigator for the Strong Heart Study, Dakota Center. He also has initiated the genetics and pre-eclampsia study at Turtle Mountain

Community College (TMCC) in 2004, and in 2012, he began a five-year research program on pediatric asthma in the Cheyenne River community. The latter is designed to evaluate an intensive educational component to improve quality of asthma control for these children. He has taught family medicine residents in Minot, North Dakota for many years; and the "Intro to Human Genetics" course at TMCC tribal college from 1997 to 2012. He regularly attends the Association of American Indian Physicians meetings, and a number of young American Indian physicians have developed their research capability as a result. He has volunteered his services on the Aberdeen Area, IHS Institutional Review Board since 1989.



Tyra Bryant-Stephens, M.D.

Medical Director, Community Asthma Prevention Program, Children's Hospital of Philadelphia

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Tyra Bryant-Stephens, M.D., is a board-certified pediatrician in clinical primary care practice for over 30 years and an associate professor of pediatrics at the Children's Hospital of Philadelphia. In 1997, she founded the Community Asthma Prevention Program (CAPP) of Children's Hospital of Philadelphia (CHOP), a program that implements asthma interventions in underserved, poorly resourced inner-city communities. As medical director of the program, she leads a core staff that includes public health professionals, nurse coordinators, research coordinators and community health workers. CAPP has made over 21,000 home-based asthma visits, educated thousands of caregivers in community education classes, provided site-based asthma trainings for hundreds of primary care providers and taught hundreds of children in school-based asthma classes.

Dr. Bryant-Stephens is nationally recognized for her work in community-driven, evidence-based research in asthma interventions. Recently, Dr. Bryant-Stephens has partnered with home repair agencies to create the CAPP+ program where structural home repairs are carried out to eliminate root causes of asthma triggers. In 2015, her work was recognized by the White House, and she was invited to participate in a roundtable discussion with President Obama to discuss strategies to engage the community in the health impacts of climate change.

Most recently, she served as a member of the Expert Panel Working Group of the National Heart, Lung and Blood Institute which released the 2020 Focused Updates to the Asthma Management Guidelines. She coordinates asthma care education annually for more than 70 primary care physicians in the Children's Hospital of Philadelphia Care Network, which serves approximately 50,000 inner-city patients and conducts over 100,000 patient visits each year. She serves on regional and national advisory committees and locally serves as a member of the Philadelphia Board of Health.



Olveen Carrasquillo, M.D., M.P.H.

Professor and Chief, Division of General Medicine, University of Miami Health System

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Olveen Carrasquillo, M.D., M.P.H., is a professor of medicine and public health sciences at the University of Miami's (UM) Miller School of Medicine. He is a Puerto Rican-born physician who was raised in the Bronx. He graduated *summa cum laude* from the Sophie Davis School of Bio-Medical Education at City College, and obtained his medical degree from the New York University School of Medicine. He completed a three-year internal medicine residency at Columbia-Presbyterian Medical Center, finished Harvard's two-year General Medicine Fellowship, and received a Master of Public Health from the Harvard School of Public Health.

Prior to UM, Dr. Carrasquillo was director of the Center of Excellence in Health Disparities Research at Columbia University.

For the last nine years, he has been the chief of the Division of General Internal Medicine. He oversees a clinical, teaching and research enterprise of 44 full-time faculty, including six primary care practices and an additional ambulatory hospital-based clinic at Jackson Health System (Miami Public Hospital system). Dr. Carrasquillo is a national expert in minority health, health disparities, community-based participatory research, access-to-care and community health worker interventions. He has over 20 years of experience leading large NIH center grants and randomized trials, totaling over \$60 million in funding. His work includes research in diabetes, cardiovascular disease, HIV, cancer, and most recently, precision medicine. His research has been published in many of the nation's top medical journals, and he serves on numerous NIH grant review committees. He also is active in various national organizations, including numerous current and past leadership roles in the Society of General Internal Medicine, Physicians for a National Health Program, National Hispanic Medical Association and Latinos for National Health Insurance. In Miami, he is a board



member of the Miami-Dade Area Health Education Center and the South Florida Health Council. He is often called upon by the media to discuss his research as well as health care topics of particular relevance to the Hispanic community, including being a frequent guest on most of the major Latino television networks.



Francis S. Collins, M.D., Ph.D.

Director, National Institutes of Health

Francis S. Collins, M.D., Ph.D., was appointed the 16th director of the National Institutes of Health (NIH) by President Barack Obama and confirmed by the Senate. He was sworn in on August 17, 2009. In 2017, President Donald Trump asked Dr. Collins to continue to serve as the NIH Director. President Joe Biden did the same in 2021. Dr. Collins is the only presidentially appointed NIH director to serve more than one administration. In this role, Dr. Collins oversees the work of the largest supporter of biomedical research in the world, spanning the spectrum from basic to clinical research.

Dr. Collins is a physician-geneticist noted for his landmark discoveries of disease genes and his leadership of the international Human Genome Project, which culminated in April 2003 with the completion of a finished sequence of the human DNA instruction book. He served as director of the National Human Genome Research Institute at NIH from 1993-2008.

Dr. Collins is an elected member of both the National Academy of Medicine and the National Academy of Sciences, was awarded the Presidential Medal of Freedom in November 2007, and received the National Medal of Science in 2009. In 2020, he was elected as a foreign member of the Royal Society (UK) and was also named the 50th winner of the Templeton Prize, which celebrates scientific and spiritual curiosity.



Jean Connors, M.D.

Associate Professor, Harvard Medical School, Brigham's and Women's Hospital

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Jean M. Connors, M.D., is a hematology attending physician at Brigham and Women's Hospital and Dana Farber Cancer Institute; the medical director of the Anticoagulation Management Services, and the Hemostatic Antithrombotic Stewardship Program; and an associate professor of medicine at Harvard Medical School.

She received a medical degree from The Johns Hopkins University in Baltimore, completed her residency in internal medicine at Beth Israel Deaconess Medical Center in Boston, and completed fellowships in transfusion medicine and hematology and oncology from Brigham and Women's Hospital.

Dr. Connors is an associate editor for the *Journal of Thrombosis and Haemostasis* and is a member of or holds a leadership role in many professional societies. She has participated in numerous clinical trials for patients with venous thrombosis and for the use of reversal agents for the direct oral anticoagulants, and she is leading trials in the area of mechanical circulatory support and cancer-associated thrombosis.



Nakela Cook, M.D., M.P.H. (*Keynote Speaker*)

Executive Director, Patient-Centered Outcomes Research Institute

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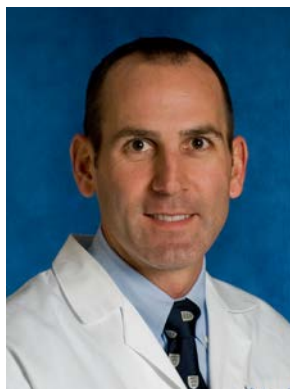
Nakela L. Cook, M.D., M.P.H., is executive director at the Patient-Centered Outcomes Research Institute (PCORI). She is a cardiologist and health services researcher with a distinguished career leading key scientific initiatives engaging patients, clinicians and other healthcare stakeholders at one of the nation's largest public health research funders.

Dr. Cook leads PCORI's research, dissemination and implementation, and engagement work as the organization enters its second decade of service to the nation. She also provides strategic and day-to-day oversight of ongoing programs as well as new initiatives designed to create a healthcare system that is more efficient, effective and patient-centered.

Prior to her current role, Dr. Cook served as senior scientific officer and chief of staff at the National Heart, Lung, and Blood Institute (NHLBI), the third largest institute of the National Institutes of Health, with a staff of 1,000 and an annual budget of over \$3 billion. There she spearheaded the development and implementation of NHLBI's strategic plan and initiatives in precision medicine, data science, sickle cell disease, and women's health with meaningful engagement of stakeholder groups.

Preceding her position as chief of staff, Dr. Cook was a clinical medical officer in NHLBI's Division of Cardiovascular Sciences and an attending cardiologist at the Washington Hospital Center in Washington, DC. She has a bachelor of science degree in materials science and engineering from the University of Alabama at Birmingham; earned her medical degree and master of public health in health care policy and management from Harvard Medical School and Harvard School of Public Health, respectively; and completed her clinical training at Massachusetts General Hospital in Boston. Dr. Cook is also an alumna of the Commonwealth Fund/Harvard University Fellowship in Minority Health Policy.

Throughout her career, Dr. Cook has worked to enhance diversity and equity in research and care delivery and been a leader in efforts to reduce disparities in health access and outcomes. She has received numerous awards for her excellence in clinical teaching and mentorship as well as her leadership of complex scientific initiatives and programs.



M. Bradley Drummond, M.D., M.H.S.

Associate Professor of Medicine, Division of Pulmonary Diseases and Critical Care Medicine, and Director, Obstructive Lung Diseases Clinical and Translational Research Center, University of North Carolina at Chapel Hill

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M. Bradley Drummond, M.D., M.H.S., is a board-certified pulmonary and critical care physician. His clinical expertise includes chronic obstructive lung disease (COPD), alpha-1 antitrypsin deficiency and smoking cessation. He is also a clinical and translational researcher whose research focus includes characterizing the mechanisms for development of chronic lung disease in individuals at-risk or with COPD. He has expertise in epidemiology and clinical trials design, and he has applied these skills to understand the pattern and risk factors for lung function progression in smokers, rural residents, as well as in HIV-infected individuals. He is supported by the NHLBI to study a novel biomarker in the blood and lungs of individuals with or who are at-risk for COPD, and he is examining the role of vitamin D on levels of this biomarker. Additionally, Dr. Drummond is involved in characterizing the longitudinal impact of smoking, HIV infection and tobacco dependence on long-term outcomes related to COPD. He is the director of the UNC Obstructive Lung Diseases Clinical and Translational Research Center, where he oversees clinical research studies supported by NIH and industry sponsors.



William England, Ph.D., M.S., JD

Director, Advancement of Telehealth, Health Resources and Services Administration

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William England, Ph.D., M.S., JD, is senior advisor for telehealth in the Federal Office of Rural Health Policy at the Health Resources and Services Administration (HRSA). Previously, he was director of the HRSA Office for the Advancement of Telehealth. He began work in health care financing as an assistant professor of industrial engineering at the University of Wisconsin-Madison and then came to Centers for Medicare & Medicaid Services where he ran the first Medicare telemedicine demonstration. Subsequently, he became director and vice president of the FCC/Universal Service Rural Health Care Program, before coming to HRSA. He is a fellow

of the American Telemedicine Association and was a Robert Wood Johnson Foundation Healthcare Financing Fellow. He has bachelor's and master's degrees in electrical engineering and a doctorate in industrial engineering from Purdue University and a JD from the University of Maryland.



Chris Fore, Ph.D.

Founder and Director, IHS TeleBehavioral Health Center of Excellence

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Chris Fore, Ph.D., is currently the director of the Indian Health Service (IHS) TeleBehavioral Health Center of Excellence (TBHCE). He is a member of the Choctaw Nation of Oklahoma. He received his doctorate in child clinical psychology from Oklahoma State University. In 2009, he established the IHS TBHCE. The mandate of the Center is to explore the feasibility of telebehavioral health within IHS (regionally and nationally), improve access to care, develop models of care and to address sustainability.



Gary H. Gibbons, M.D.

Director, National Heart, Lung, and Blood Institute, NIH

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Gary H. Gibbons, M.D., is director of the National Heart, Lung, and Blood Institute (NHLBI) at the National Institutes of Health (NIH), where he oversees the third largest institute at the NIH, with an annual budget of more than \$3 billion and a staff of 917 federal employees.

The NHLBI provides global leadership for research, training and education programs to promote the prevention and treatment of heart, lung and blood diseases and enhance the health of all individuals so that they can live longer and more fulfilling lives.

Prior to being named director of the NHLBI, Dr. Gibbons served as a member of the National Heart, Lung, and Blood Advisory Council (NHLBAC) from 2009-2012. He was also a member of the NHLBI Board of Extramural Experts (BEE), a working group of the NHLBAC.

Before joining the NHLBI, Dr. Gibbons served as the founding director of the Cardiovascular Research Institute, chairperson of the Department of Physiology, and professor of physiology and medicine at the Morehouse School of Medicine, in Atlanta.

Under his leadership of the Cardiovascular Research Institute, Dr. Gibbons directed NIH-funded research in the fields of vascular biology, genomic medicine and the pathogenesis of vascular diseases. During his tenure, the Cardiovascular Research Institute emerged as a center of excellence, leading the way in discoveries related to the cardiovascular health



of minority populations. Dr. Gibbons received several patents for innovations derived from his research in the fields of vascular biology and the pathogenesis of vascular diseases.

Dr. Gibbons earned his undergraduate degree from Princeton University in Princeton, N.J., and graduated *magna cum laude* from Harvard Medical School in Boston. He completed his residency and cardiology fellowship at the Harvard-affiliated Brigham and Women's Hospital in Boston. Prior to joining the Morehouse School of Medicine in 1999, Dr. Gibbons was a member of the faculty at Stanford University, from 1990-1996, and at Harvard Medical School from 1996-1999.

Throughout his career, Dr. Gibbons has received numerous honors, including election to the Institute of Medicine of the National Academies of Sciences; selection as a Robert Wood Johnson Foundation Minority Faculty Development Awardee; selection as a Pew Foundation Biomedical Scholar; and recognition as an Established Investigator of the American Heart Association.



Umut Gurkan, Ph.D.

Associate Professor, Case Western Reserve University

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Umut A. Gurkan, Ph.D., is the Warren E. Rupp Associate Professor with tenure at Case Western Reserve University (CWRU), Mechanical and Aerospace Engineering Department. Dr. Gurkan holds a secondary appointment in the Department of Biomedical Engineering and is a member of the Case Comprehensive Cancer Center. Dr. Gurkan holds a doctorate in biomedical engineering from Purdue University. He completed his postdoctoral training at Harvard Medical School. Dr. Gurkan's group works on gaining a fundamental understanding of hemoglobin, red blood cells, blood rheology, and microcirculation in health, in disease, with

targeted interventions, and with gene-based therapies. His research has led to new biomedical microtechnologies that improve patients' access to timely diagnosis and personalized monitoring of emerging therapies. Dr. Gurkan's research is primarily funded by NHLBI, Cure Sickle Cell Initiative, the National Cancer Institute and the National Science Foundation.

Dr. Gurkan's awards include a National Science Foundation CAREER Award, a Biomedical Engineering Society "Rising Star" Award, a Doris Duke Innovations in Clinical Research Award, an IEEE-Wyss Award for Translational Research, and an NIH Technology Accelerator Challenge Award for Non-Invasive Diagnostic Technologies for Global Health. Dr. Gurkan has authored over 80 peer-reviewed papers and holds nine issued U.S. patents to date. His patents have been licensed for commercialization by medical diagnostic companies: DxNow Inc., Xatek Inc., BioChip Labs Inc., and Hemex Health Inc. Dr. Gurkan is a member of the American Society of Hematology, American Society of Mechanical Engineers, IEEE Engineering in Medicine and Biology Society, and Biomedical Engineering Society. He is an elected senior member of the National Academy of Inventors.



David Harrison, M.D.

Professor of Medicine and Betty and Jack Bailey Chair in Cardiology, Vanderbilt University

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David G. Harrison, M.D., is a professor of medicine, director of the Division of Clinical Pharmacology and the Betty and Jack Bailey Chair in Cardiology at the Vanderbilt University School of Medicine. For the past 30 years, he has employed molecular biology, physiology and biochemical approaches to define mechanisms of cardiovascular disease. Over the years, he has begun to use a systems biology approach to understand how immune cells affect blood pressure, and he has developed unique mouse models to facilitate these studies. In recent studies, he and his colleagues have discovered a novel role of isoketal-adducted proteins

acting as neoantigens in hypertension. He has received the Novartis Award for outstanding research in hypertension and



Distinguished Scientist Award from the American Heart Association and the Irvine Page Award Distinguished Award from the American Society of Hypertension. He is also the principal investigator of a pilot research clinical trial for black men, who are traditionally less likely than white men to have regular preventive checkups with their doctor. This new study is modeled after several pioneering studies led by the late hypertension specialist Ronald G. Victor, M.D., who was the first to demonstrate that hypertension health care provided in convenient neighborhood settings could have a positive impact on the health outcomes in the black community.



Monica Webb Hooper, Ph.D. (*Understanding the Community Session Chair*)

Deputy Director, National Institute on Minority Health and Health Disparities, NIH
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Monica Webb Hooper, Ph.D., is deputy director of the National Institute on Minority Health and Health Disparities (NIMHD). She works closely with the director, Dr. Pérez-Stable, and the leadership, to oversee all aspects of the institute and to support the implementation of the science visioning recommendations to improve minority health, reduce health disparities and promote health equity.

Dr. Webb Hooper is an internationally recognized translational behavioral scientist and licensed clinical health psychologist. She has dedicated her career to the scientific study of minority health and racial/ethnic disparities, focusing on chronic illness prevention and health behavior change. Her program of community-engaged research focuses on understanding multilevel factors and biopsychosocial mechanisms underlying modifiable risk factors, such as tobacco use and stress processes, and the development of community responsive and culturally specific interventions.

Before joining NIMHD, Dr. Webb Hooper was a professor of oncology, family medicine and community health, and psychological sciences at Case Western Reserve University. She was also associate director for cancer disparities research and director of the Office of Cancer Disparities Research in the Case Comprehensive Cancer Center. During her time as a professor, Dr. Webb Hooper directed the Tobacco, Obesity and Oncology Laboratory, was principal investigator of multiple federal and foundation grants, and trained dozens of underrepresented trainees at all levels.

Dr. Webb Hooper completed her doctorate in clinical psychology from the University of South Florida, internship in medical psychology from the University of Florida Health Sciences Center, and her Bachelor of Science from the University of Miami.



W. Keith Hoots, M.D.

Division of Blood Diseases and Resources, National Heart, Lung, and Blood Institute, NIH
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W. Keith Hoots, M.D., is the director of the Division of Blood Diseases and Resources at the National Heart, Lung, and Blood Institute (NHLBI), part of the National Institutes of Health (NIH). In this role, Dr. Hoots plans and directs research and research training on the causes and prevention of blood diseases and disorders. He also oversees research to assure the adequacy and safety of the nation's blood supply.

Dr. Hoots' major interests involve the management and diagnosis of congenital and acquired bleeding disorders and clotting disorders. His work includes the creation of longitudinal follow-up of hemophilia cohorts with HIV and hepatitis, gene therapy trials for Hemophilia A and B, clinical trials of new clotting concentrates for Hemophilia A and B, and the impact of care and clotting factor product on Hemophilia patient outcomes. He also has a 20-year interest in the diagnosis and treatment of diffuse intravascular coagulation (DIC), in particular DIC in head trauma.



Having completed his training as the HIV epidemic was evolving in hemophilia patients, Dr. Hoots has been intimately involved in the development of safe coagulation factor products. By the late 1980s, he returned to the hemostasis focus which initially attracted him to the field, and he has continued to be a productive investigator and collaborator. He has a strong interest in global collaborations and in developing public-private partnerships and completed his sabbatical in Belgium.

Prior to joining the NHLBI in 2009, Dr. Hoots worked at the University of Texas (UT) Medical School at Houston where he was professor of pediatrics and the division head of pediatric hematology; section head of pediatric hematology, UT M.D. Anderson Cancer Center; and medical director, Gulf States Hemophilia and Thrombophilia Treatment Center. Dr. Hoots also directed the fellowship program at M.D. Anderson.

Dr. Hoots received his Bachelor of Arts in English and chemistry and his Doctor of Medicine from the University of North Carolina (UNC) in Chapel Hill. While a senior at UNC, he worked in the hemostasis laboratory of Dr. Kenneth Brinkhous. He then completed his pediatric internship and residency at Children's Medical Center, Parkland Memorial Hospital in Dallas, Texas. He returned to UNC for his fellowship in pediatric hematology oncology and worked in the laboratory of Dr. Harold Roberts. Dr. Hoots then joined the faculty at M.D. Anderson.

Dr. Hoots is a past member of the U.S. Department of Health and Human Services Blood Safety and Availability Advisory Committee to the Secretary of Health, past chair of the Medical and Scientific Advisory Committee for the National Hemophilia Foundation, and subcommittee co-chair of the DIC Subcommittee of International Society of Thrombosis and Hemostasis. He was also an associate editor for *Seminars in Thrombosis and Hemostasis* and served on the editorial boards of *Haemophilia*, *Haemophilia Forum*, and the *International Monitor on Hemophilia*. He is a former president of the Hemophilia Research Society of North America.



Girardin Jean-Louis, Ph.D.

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Girardin Jean-Louis, Ph.D., is professor of population health and psychiatry at NYU Langone Health. He is the director of the PRIDE Institute on Behavioral Medicine and Sleep Disorders Research and the Translational Sleep and Circadian Sciences Program. He has served on the NIH Sleep Disorders Research Advisory Board; the Cancer, Heart and Sleep Epidemiology (CHSE-B) study section; the National Advisory Council for National Center for Complementary and Integrative Health and several NIH Special Emphasis Panels/Scientific Review Groups.

Dr. Jean-Louis has been involved in several important NIH-funded studies, which have led to 396 publications, primarily in sleep deficiency and cardiometabolic diseases, circadian science, aging and health equity. His research findings have appeared in 180 scientific conference proceedings and book chapters, and 216 peer-reviewed scientific journals. The overarching goal of his research is to address multilevel barriers hindering adoption of healthful sleep practices in vulnerable communities. His research focuses on the application of agile behavioral models to enhance treatment adherence to reduce risk of cardiovascular disease and brain injury. Dr. Jean-Louis' research addresses psychosocial and environmental determinants of health behavior preventing access to adequate care in diverse communities, which are disproportionately burdened by adverse cardiovascular and cerebrovascular outcomes. His studies aim to engage various stakeholders in delivering messages to promote health literacy at the community level. Dr. Jean-Louis also been involved in several university-based training programs designed to increase academic diversity focusing on mentees at the undergraduate, graduate, post-graduate and faculty levels.



Tania Kamphaus, M.Sc., Ph.D.

Foundation for the National Institutes of Health

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Tania Kamphaus, M.Sc., Ph.D., leads the metabolic disorders research partnership programs at the Foundation for the National Institutes of Health (FNIH). In coordination with the NIH, nonprofit and industry leaders, she manages a portfolio of projects in metabolic diseases including diabetes, heart failure, non-alcoholic steatohepatitis, pre-eclampsia and other diseases of metabolic dysregulation. Dr. Kamphaus is trained in molecular genetics, molecular and cell biology and skilled in strategic planning and collaborative program development across basic, translational and clinical research.

Prior to joining the FNIH, Dr. Kamphaus was the director of clinical protocol development at the University of Wisconsin-Madison, where she supported development of clinical trial protocols ranging for interventional and observational studies. Before her work in clinical trials, Dr. Kamphaus was director of collaborative research at the Crohn's and Colitis Foundation. In this role, she oversaw nine translational research consortia in inflammatory bowel diseases (IBD), including IBD genetics, gut microbiome and IBD plexus. Dr. Kamphaus conducted her postdoctoral work at Columbia University at the Department of Pathology and Cell Biology. She has published important works in neuronal stem cell migration, standardizing techniques for animal modeling and *in vivo* imaging. Dr. Kamphaus earned her doctorate in molecular genetics from The Ohio State University and her master's in biotechnology from Madurai Kamaraj University, India.



Doug Kelly, M.D., M.B.A.

Deputy Director for Science and Chief Scientist, Center for Devices and Radiological Health,
Food and Drug Administration

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Doug Kelly, M.D., M.B.A., became deputy director and chief scientist at the Food and Drug Administration's (FDA) device, diagnostics and digital health branch in 2020 after a 30-year seed and early-stage life sciences venture capital career starting, financing, growing and exiting companies spanning biotech, medical devices, robotics, laboratory tools, healthcare IT, ADME/Tox simulation and clinical trial software. At the Center for Devices and Radiological Health, Dr. Kelly is the interface between the FDA and patient and physician groups, payors, industry, academia, innovators, investors and other agencies and governments. His focus is on creating a more vibrant and sustainable MedTech ecosystem, to bring new innovations to patients faster to relieve suffering, especially in unserved and underserved populations.

Dr. Kelly received his bachelor's degree in biochemistry and cell biology with honors from University of California, San Diego, his medical degree from the Albert Einstein College of Medicine, and his master's degree from the Stanford University Graduate School of Business (GSB). In addition to lecturing at the GSB and Stanford Medical School, he conceived of and taught one of the biggest and most popular classes, "Financing the Start-up," for Stanford's Department of Continuing Education for over a decade.



Wilbur A. Lam, M.D., Ph.D. (*Blood Session Chair*)

Associate Professor, Emory University

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Wilbur A. Lam, M.D., Ph.D., is a physician-scientist-engineer who is a professor of pediatrics and biomedical engineering (with tenure) at Emory University and Georgia Institute of Technology. He also is a physician at the Aflac Cancer and Blood Disorders Center of Children's Healthcare of Atlanta, where he serves as chief innovation officer of the Pediatric Technology Center of Georgia Tech and Children's. Dr. Lam obtained his bachelor's degree from Rice University, his medical degree from Baylor College of Medicine, and his bioengineering doctorate from the University of California, Berkeley and the University of California, San Francisco, where he also completed his clinical training in pediatrics and pediatric hematology/oncology.

Dr. Lam's interdisciplinary laboratory serves as a unique "one-stop shop" in which they develop microsystems- and smartphone-based platforms to study and diagnose pediatric and blood diseases and then directly translate those technologies to his patients. Dr. Lam's group has specifically pioneered the development of *in vitro* microvasculature-on-chip microfluidic models of hematologic diseases, including sickle cell disease and thrombotic/bleeding disorders, as research-enabling and drug discovery platforms. With an interest in patient-operated diagnostics, the Lam lab is dedicated to further developing its technologies as novel "cheap tech" solutions to enable and empower pediatric patients to more easily monitor their own diseases at home and in the global health and low-resource settings.

Dr. Lam's interdisciplinary laboratory serves as a unique "one-stop shop" in which they develop microsystems- and smartphone-based platforms to study and diagnose pediatric and blood diseases and then directly translate those technologies to his patients. Dr. Lam's group has specifically pioneered the development of *in vitro* microvasculature-on-chip microfluidic models of hematologic diseases, including sickle cell disease and thrombotic/bleeding disorders, as research-enabling and drug discovery platforms. With an interest in patient-operated diagnostics, the Lam lab is dedicated to further developing its technologies as novel "cheap tech" solutions to enable and empower pediatric patients to more easily monitor their own diseases at home and in the global health and low-resource settings.

Dr. Lam co-founded and served as chief medical officer for two medical device startups based on his laboratory's research. In addition, Dr. Lam is a principal investigator of the Atlanta Center for Microsystems Engineered Point-Of-Care Technologies, which is part of the National Institute of Biomedical Imaging and Bioengineering's Point-of-Care Technologies Research Network, and currently serves as the Test Verification Core of the NIH RADx Tech initiative for COVID-19 diagnostic testing. Among other honors, Dr. Lam has been elected into the American Society of Clinical Investigation; named an Emerging Investigator by the journal, *Lab on a Chip*, published by the Royal Society of Chemistry; and received a National Science Foundation (NSF) Career Award, the American Society of Pediatric Hematology/Oncology's Frank A. Oski Memorial Lectureship Award, the *Lab on a Chip*/Dolomite Pioneers of Miniaturization Lectureship Award, and an NHLBI Emerging Investigator Award. His laboratory's research is funded by the NIH, the NSF, the Food and Drug Administration, the American Heart Association, the Coulter Foundation, the Department of Defense and the Georgia Research Alliance.



Christine Lee, Ph.D., Pharm.D.

Strategic Research Engagement Lead, Office of Minority Health and Health Equity, Office of the Commissioner, Food and Drug Administration

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Christine Lee, Ph.D., Pharm.D., is an expert in social and behavioral sciences, decision analysis and human behavioral theories. She also is classically trained in measurement, psychometrics, focus group testing and outcome analysis.

She is a leader in driving national impact in reducing adverse drug events across the healthcare industry, an expert in coalition-building and partnership development within public and private sectors and an expert in translating quantitative and qualitative research to drive informed policy, educational interventions and communication strategies.

Dr. Lee serves as the lead for strategic research engagement for the Office of Minority Health and Health Equity (OMHHE) in the Office of the Commissioner at the Food and Drug Administration (FDA). She leads minority health and health equity focused research and develops strategic partnerships to advance the health of diverse populations. Prior



to joining OMHHE, Dr. Lee's work included structuring unstructured FDA materials as well as social media data to inform regulatory decision making. Dr. Lee aims to develop research and strategic innovations that advance the health for all populations.

Dr. Lee received her Doctor of Pharmacy from the University of Buffalo and her Doctor of Philosophy in pharmaceutical outcomes and policy from the University of Florida.



Meredith McCormack, M.D., M.H.S. (*Lung and Sleep Session Chair*)

Medical Director, Pulmonary Function Laboratory, and Associate Professor of Medicine, Johns Hopkins University

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Meredith McCormack, M.D., M.H.S., is an associate professor of medicine in the Division of Pulmonary and Critical Care at the Johns Hopkins University School of Medicine and Environmental Health Sciences at the Johns Hopkins Bloomberg School of Public Health Department. Dr. McCormack has expertise in asthma and chronic obstructive pulmonary disease (COPD), as well as pulmonary physiology and pulmonary function testing. She serves as the medical director of the Johns Hopkins University Pulmonary Function Laboratory and chair of the American Thoracic Society Committee for Proficiency Standards in Pulmonary Function Testing. She is a physician-scientist with a research focus on environmental health disparities in populations with underlying obstructive lung disease—specifically air pollution, diet and obesity influences on COPD and asthma. She has been funded by the National Institute of Environmental Health Sciences and the Environmental Protection Agency to conduct environmental cohort studies and clinical trials among children and adults with respiratory disease. Her work has focused on Baltimore, Maryland and has also included rural areas of Washington state, Appalachia and the Caribbean. Dr. McCormack is dedicated to training the next generation of physician scientists. She serves as an associate program director of the Johns Hopkins Pulmonary and Critical Care Fellowship program and plays an active role in mentoring fellows and junior faculty.



Dave McManus, M.D. (*Heart Session Chair*)

Chair and Professor, University of Massachusetts Medical School

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Dave McManus, M.D., is a clinical and research cardiologist and cardiac electrophysiologist at the University of Massachusetts Medical School, where he serves as chair and the *Richard M. Haidack Professor of Medicine*. He is also the founding editor-in-chief of the *Digital Cardiovascular Health Journal*. He has served or is serving as a principal investigator on multiple NIH R01s and a U54 grant that focus on the use of digital technologies and data to advance the care of patients with cardiovascular disease.



Martin Mendoza, Ph.D. (*Federal Partnerships for Underserved Populations Session Co-Chair*)

Director for the Division of Policy and Data, Office of Minority Health, U.S. Department of Health and Human Services (HHS)

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Martin Mendoza, Ph.D., serves as director for the [Division of Policy and Data](#) (DPD) in the Office of Minority Health (OMH) at the U.S. Department of Health and Human Services (HHS). In this capacity, Dr. Mendoza provides leadership, oversight and direction to DPD's role in developing health policies and initiatives that are designed to address the elimination of health disparities and advance health equity.

Prior to OMH, Dr. Mendoza served as the lead for extramural research for the Office of Minority Health and Health Equity (OMHHE) at the Food and Drug Administration (FDA). While at FDA, Dr. Mendoza spoke before Congress in support of OMHHE's programs/mission and has been an invited speaker at numerous industry meetings/workshops. He is the primary author for OMHHE's pivotal FDA guidance document "[Collection of Race and Ethnicity Data in Clinical Trials](#)" and is a recognized global expert in clinical trial diversity.

Before FDA, Dr. Mendoza served in the Division of Clinical Research at the National Institute of Neurological Disorders and Stroke (NINDS) at the National Institutes of Health (NIH) where he oversaw NINDS' Congressionally-mandated reporting of women and minorities in clinical research. Preceding NINDS, Dr. Mendoza was an active researcher at NIH. He conducted his primary research training at the National Cancer Institute and served as a genetic mapper for the Human Genome Project at the National Human Genome Research Institute.

Dr. Mendoza is a graduate of the University of Maryland Baltimore County and received his doctorate in cancer biology from Johns Hopkins University.



Mahasin S. Mujahid, Ph.D., M.S., FAHA

Associate Professor, Epidemiology, University of California, Berkeley

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Mahasin S. Mujahid, Ph.D., M.S., FAHA, is an associate professor of epidemiology in the School of Public Health at the University of California (UC), Berkeley, the Lillian E. I. and Dudley J. Aldous Chair in the School of Public Health, and a fellow of the American Heart Association. Her primary area of research is social epidemiology with a particular interest in neighborhood health effects, cardiovascular health disparities and racial/ethnic health inequities over the life course.

Dr. Mujahid is currently the principal investigator of the Social Determinants Core for RURAL, a longitudinal cohort study focusing on the heart and lung health of a diverse sample of adults living in rural counties in Appalachia and the Mississippi Delta. Her research has been funded by the National Institutes of Health and Robert Wood Johnson Foundation and published in leading public health and medical journals. Prior to joining the faculty at UC Berkeley, Dr. Mujahid earned her bachelor's degree in mathematics from Xavier University in New Orleans. She earned her master's degree in biostatistics and a doctorate in epidemiology from the University of Michigan, Ann Arbor. In addition, Dr. Mujahid was a Robert Wood Johnson Health and Society Scholar at Harvard University.



Wendy J. Nilsen, Ph.D.

Acting Deputy Division Director, National Science Foundation

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Wendy J. Nilsen, Ph.D., is the acting deputy division director in the Information and Intelligent Systems Division of the Computer and Information Science and Engineering Directorate at the National Science Foundation (NSF). She also is the lead program director in the Smart Health program. Her work has focused on the intersection of computing and human functioning. Her interests span the areas of sensing, analytics, cyber-physical systems, information systems, machine learning, artificial intelligence and robotics. She also serves as cochair of the Health Information Technology Research and Development working group of the Networking and

Information Technology Research and Development Program and, serving on numerous federal technology initiatives. Prior to joining NSF, Dr. Nilsen was at the National Institutes of Health.



Patricia O'Brien-Richardson, Ph.D.

Associate Teaching Professor, Rutgers University

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Patricia O'Brien-Richardson, Ph.D., is an associate professor at Rutgers University whose work centers on racial and ethnic health disparities in the urban landscape. She is a regular contributor to Inspiring Minds from Harvard Business Publishing, where she empowers educators and professionals on well-being practices and self-care.

Dr. O'Brien-Richardson is the CEO of Move it Nation, Inc., a nonprofit organization she founded after living in Africa for 10 years that focuses on health disparities among women and girls of color. She also is the creator of several cultural health promotion initiatives, programs and curricula that have been used in school districts in Massachusetts, Virginia, Illinois, New Jersey and New York. Her research on black hair harassment and hair discrimination has contributed to the growing body of literature addressing the need for the CROWN Act and public policies on hair discrimination protecting the rights of people of African descent to maintain natural hair and hairstyles.

Dr. O'Brien-Richardson's words and work have appeared in Elle.com, NJTV and various research journals and book chapters. She is the author of the book, "Purge it with Patti," the editor of the upcoming volume, "The Curlaborative - How Educators of Color Build Inclusive Places and Spaces," and the founder of "Well While Black," a platform helping professionals of color maintain their well-being at work.



Marcia O'Leary, RN

Co-Founder, Missouri Breaks Industries Research, Inc.

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Marcia O'Leary, RN, in collaboration with her husband, Tim, established Missouri Breaks Industries Research, Inc. (MBIRI), in 1995. As the coordinator for the Strong Heart Study for the past four phases, she has worked with and is well known to many community members, tribal council members and health directors.

MBIRI is an Indian-owned business established to bridge the scientific gap in rural American Indian communities. It has established a track record for conducting valuable and ethical research in tribal communities. The value of established relations and institutional memory in American Indian communities cannot be underestimated.



As the coordinator for the Dakota Center, Inc., Ms. O'Leary has been able to bring these valuable assets to communities, allowing not only increased efficiency in the progress of the data collection but also improved ability to translate the information back into the communities.

MBIRI's focus is on working with scientists and tribal communities from across the nation to assist with research on issues of special importance to tribal communities. It has worked with numerous institutions and principal investigators in collecting data and biological samples; disseminating research results to health care providers, tribal leaders and community members; and developing capacity within tribal membership. MBIRI looks forward to continuing that collaboration to help tribal communities better understand the relationship between genetics and environment and their causal relationship to the diseases that heavily burden so many community members.



Betty S. Pace, M.D.

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Betty S. Pace, M.D., is a professor of pediatrics and Francis J. Tedesco Distinguished Chair of Pediatric Hematology/Oncology at Augusta University. Dr. Pace received her medical degree from the Medical College of Wisconsin, completed her pediatric residency at the Milwaukee Children's Hospital and then trained in Pediatric Hematology/Oncology at the University of Colorado Health Sciences Center in Denver. Subsequently, she joined the laboratory of Dr. George Stamatoyannopoulos, at the University of Washington to complete a postdoctoral fellowship (1990-1994). Dr. Pace acquired invaluable molecular biology/bench research skills

and mentoring during fellowship that established her career trajectory as a molecular hematologist.

Currently, Dr. Pace provides leadership for an NIH-funded basic/translational research laboratory, focused on studies related to globin gene regulation and the discovery of drugs, which induce fetal hemoglobin for treatment of sickle cell disease. In 2010, Dr. Pace joined the faculty at Augusta University in the Department of Pediatrics. She serves as director of the Pediatric Comprehensive Sickle Cell Program providing subspecialty medical services for over 700 children with sickle cell disease through in person visit and telehealth to improve access to care. Parallel her research efforts, since 1994, Dr. Pace has trained over 87 young scientists at the high school through junior faculty levels. In addition, she directs an NHLBI-funded training opportunity, Program to Increase Diversity for Individuals Engaged in Health-Related Research (PRIDE). Eighty-five junior faculty from 43 institutions have completed the PRIDE program to expand the diversity of the U.S. biomedical science workforce.



Athena Philis-Tsimikas, M.D.

Director, Community Engagement, Scripps Research Translational Institute, and Corporate

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Athena Philis-Tsimikas, M.D., is the corporate vice president of the Scripps Whittier Diabetes Institute at Scripps Health and the director of community engagement at Scripps Research Translational Institute in San Diego, California. With over 25 years of experience, she leads the Diabetes Care Line which creates programs, conducts research and delivers diabetes services across five Scripps hospitals, 25 outpatient facilities and the community. She is board-certified in the subspecialty of diabetes and endocrinology and is an associate clinical professor of

medicine at the University of California, San Diego's Division of Endocrinology and Metabolism. She is a leader of the innovative Project Dulce and Dulce Digital program which cares for underserved populations with diabetes. Dr. Philis-Tsimikas and the Scripps Whittier Diabetes Institute are actively promoting participation of health centers in community-based clinical research, and her teams have focused on integrating digital technologies to improve diabetes care in the ambulatory and hospital setting.



Susy Postal, DNP, RN-BC

Chief Health Informatics Officer, Headquarters Indian Health Service

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Susy Postal, DNP, RN-BC, is the chief health informatics officer for the Indian Health Service (IHS), where her focus is bridging information technology (IT) with health care to promote quality in patient care and improve patient outcomes. She supports the IHS in addressing modernization of health IT, electronic health record (EHR) usability, quality measures reporting needs and federal policies that impact IHS federal, tribal and urban programs. Dr. Postal helped to lead the expansion of telehealth IHS wide to support COVID-19 efforts. She leads the IHS National Quality Payment Program Working Group.

Dr. Postal actively partakes in over 20 IHS committees, represents the IHS at federal intra-agency meetings and serves on 15 national committees/workgroups. She participated in IHS update of the EHR to the 2015 edition to promote reporting of electronic clinical quality measures while addressing measure alignment, prioritization and development. She is actively involved in leading business intelligence initiatives at the IHS to collect and transform data into meaningful, useful information to improve quality (e.g., wait times). Before her service at IHS, she spent 28 years at the National Institutes of Health and pursued a nursing career focused on psychiatric and intensive care and informatics. She earned a Doctor of Nursing Practice from the University of Maryland and is a Jonas Scholar.



Naresh Punjabi, M.D., Ph.D.

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Naresh M. Punjabi, M.D., Ph.D., is a professor of medicine and chief of the Division of Pulmonary, Critical Care, and Sleep Medicine at the University of Miami, Miller School of Medicine. He received his undergraduate education in biomedical engineering from Northwestern University and his medical degree from the University of Chicago (Pritzker School of Medicine) in 1991. He completed his postdoctoral training in internal medicine, pulmonary/critical medicine and sleep medicine at the Johns Hopkins University School of Medicine in Baltimore, Maryland.

His current research focuses on the clinical and population epidemiology of sleep apnea with a particular emphasis on outcomes, including insulin resistance, type 2 diabetes mellitus and cardiovascular disease. In addition, ongoing work in his laboratory is examining intermediate pathways through which intermittent hypoxia and sleep fragmentation in sleep apnea alter glucose and fat homeostasis in murine models and human studies. He has been one of the principal investigators for the multicenter Sleep Heart Health Study examining the longitudinal effects of sleep apnea on hypertension, cardiovascular disease and mortality. He also has been a co-investigator or a field site principal investigator for multiple multicenter epidemiological studies and randomized clinical trials. His research has been funded by grants from the National Institutes of Health. He has served as member of the American Professional Sleep Societies scientific program committee and as an editorial board member for several journals, including the *American Journal of Respiratory and Critical Care Medicine*, *Chest*, *Sleep*, *Journal of Clinical Sleep Medicine* and *Sleep Medicine*.



Kathleen Rousche, Ph.D. (*Federal Partnerships for Underserved Populations Session Co-Chair*)

Director, Office of Translational Alliances and Coordination (OTAC), National Heart, Lung, and Blood Institute, NIH

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Kathleen Rousche, Ph.D., serves as the director of the innovation office (Translational Alliances and Coordination) within the Division of Extramural Research Activities at the National Heart Lung and Blood Institute at the National Institutes of Health. In this role, she oversees programs and activities designed to accelerate the translation of new discoveries into innovative biomedical products to prevent, diagnose and treat heart, lung and blood disorders. The innovation office coordinates the NHLBI Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, and manages translational research initiatives directed at advancing new technologies from the university to the marketplace: the NIH Centers for Accelerated Innovations (NCI) and the NIH Research Evaluation and Commercialization Hubs (REACH) programs. The office is a central point-of-contact for information about the NHLBI's small business funding opportunities, facilitates alliances between the federal and private sector stakeholders and offers resources, entrepreneurial training and advisory services to support biomedical innovators to more efficiently and effectively transition discoveries to benefit public health. Dr. Rousche has a diverse background in translational biomedical research, program administration, teaching and alliance management, and she held positions in industry, academia and medical communications prior to joining the NIH.



Šeila Selimović, Ph.D.

Biologist/Program Manager, Biomedical Advanced Research and Development Authority

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Šeila Selimović, Ph.D., serves as program manager in the Biomedical Advanced Research and Development Authority (BARDA) at the U.S. Department of Health and Human Services. Her work focuses on transformational technologies that provide early and actionable health information to individuals and health care providers. Prior to BARDA, Dr. Selimović was a program director at the National Institute of Biomedical Imaging and Bioengineering, and an AAAS Science and Technology Policy Fellow at the U.S. Department of State. She completed her doctorate in condensed matter physics at Brandeis University and pursued a postdoctoral fellowship at Harvard Medical School and Brigham & Women's Hospital. Her research experience includes microfluidics, biosensors, tissue engineering, microphysiological systems and energy policy.



Michael Snyder, Ph.D.

Chair, Department of Genetics and Director, Center for Genomics and Personalized Medicine, Stanford University

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Michael Snyder, Ph.D., is the Stanford Ascherman Professor and Chair of Genetics and the director of the Center of Genomics and Personalized Medicine. Dr. Snyder received his doctorate training at the California Institute of Technology and carried out postdoctoral training at Stanford University. He is a leader in the field of functional genomics and multi-omics and one of the major participants of the ENCODE project. His laboratory study was one of the first to perform a large-scale functional genomics project in any organism, and he has developed many technologies in genomics and proteomics. These include the development of proteome chips, high resolution tiling arrays for the entire human genome, methods for global mapping of transcription factor (TF) binding sites (ChIP-chip now replaced by ChIP-seq), paired end sequencing for mapping of structural variation in eukaryotes and *de novo* genome sequencing of genomes using high throughput technologies and RNA-Seq. These technologies have



been used for characterizing genomes, proteomes and regulatory networks. Seminal findings from the Snyder laboratory include the discovery that much more of the human genome is transcribed and contains regulatory information than was previously appreciated (e.g. lncRNAs and TF binding sites), and a high diversity of transcription factor binding occurs both between and within species. He contributed to the field of personalized medicine by combining different state-of-the-art omics technologies to perform the first longitudinal, detailed integrative personal omics profile (iPOP) of a person, and his laboratory pioneered the use of wearables technologies (smart watches and continuous glucose monitoring) for precision health. He is a cofounder of many biotechnology companies, including Personalis, SensOmics, Qbio, January, Protos, Oralome, Mirvie and Filtricine.



Leith J. States, M.D., M.P.H.

Acting Director, Office of Science and Medicine, Office of the Assistant Secretary for Health, HHS

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As the Office of the Assistant Secretary for Health (OASH) Acting Director of the Office of Science and Medicine, Leith J. States, M.D., M.P.H., leads the Office of the Chief Medical Officer, the Center for Health Policy Innovation, and the InnovationX Office. He also advises and supports the Assistant Secretary for Health (ASH) and other senior OASH leadership regarding issues of national public health importance through collaboration with OASH program offices, the U.S. Department of Health and Human Services' (HHS) enterprise and

interagency, and critical external stakeholders.

Before being named to the acting director role, Dr. States served in the roles of permanent, acting and deputy OASH Chief Medical Officer between October 2018 and January 2021. During his time with OASH, he has been fortunate to contribute to the development or advancement of initiatives concerning health equity (health equity in innovation for aging medically underserved populations, stigma reduction in persons living with HIV/AIDS, persons living with disabilities, persons with a history of substance use disorder), social determinants of health (Building a Healthier America initiative) and disparities reduction (Sickle Cell Disease in youth and hydroxyurea utilization, out-of-hospital cardiac arrest).



Bruce Tromberg, Ph.D. (*Plenary Speaker*)

Director, National Institute of Biomedical Imaging and Bioengineering, NIH

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Dr. Tromberg is the Director of the National Institute of Biomedical Imaging and Bioengineering (NIBIB) at the National Institutes of Health (NIH) where he oversees an approximately \$400 million per year portfolio of research programs focused on developing, translating and commercializing engineering, physical science and computational technologies in biology and medicine. In addition, he leads NIBIB's \$500 million Rapid Acceleration of Diagnostics (RADx Tech) innovation initiative to increase SARS-COV-2 testing capacity and performance.

Prior to joining NIH in January 2019, he was a professor of biomedical engineering and surgery at the University of California, Irvine (UCI). During this time, he served as director of the Beckman Laser Institute and Medical Clinic (BLIMC) (2003-2018) and the Laser Microbeam and Medical Program, an NIH National Biomedical Technology Center at the BLIMC (1997-2018).

Dr. Tromberg specializes in the development of optics and photonics technologies for biomedical imaging and therapy. He has co-authored more than 450 publications and holds 21 patents in new technology development as well as bench-to-bedside clinical translation, validation and commercialization of devices. He has trained more than 80 students and



fellows, is co-founder of the biophotonics company, Modulim, Inc., and has served on numerous advisory boards in academia, industry, government and private foundations.

Dr. Tromberg received his undergraduate training in chemistry from Vanderbilt University (1979) and master's and doctorate degrees in chemistry from the University of Tennessee (1988) where he was a U.S. Department of Energy/Oak Ridge Associated Universities Fellow at the Oak Ridge National Laboratory. He was a Hewitt Foundation Photomedicine Fellow at the BLIMC and joined the UC Irvine faculty in 1990.

Dr. Tromberg has received several awards, including the R&D 100 award, the Michael S. Feld Biophotonics Award from The Optical Society (OSA), the Directors Award from the International Society of Optical Engineering (SPIE), the Horace Furumoto Innovator Award from the American Society for Laser Medicine and Surgery, and is a fellow of the OSA, SPIE and the American Institute for Medical and Biological Engineers.



Hilary K. Wall, M.P.H.

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Hilary K. Wall, M.P.H., is a senior scientist in the Division for Heart Disease and Stroke Prevention at the Centers for Disease Control and Prevention (CDC). Ms. Wall serves as the Science Lead for Million Hearts®, a national initiative co-led by CDC and the Centers for Medicare & Medicaid Services with the goal of preventing one million heart attacks and strokes by 2022. In this role, she provides scientific leadership and expertise to a portfolio of work related to health care systems change, health information technology and their

intersection with public policy. For almost 20 years, Ms. Wall has created evidence-based tools for and provided technical assistance to public health professionals, clinicians and community-based organizations in cardiovascular disease prevention. Prior to coming to CDC, Ms. Wall served as an epidemiologist for the Massachusetts Department of Public Health's Heart Disease and Stroke Prevention and Control Program and at the Yale Prevention Research Center, leading and analyzing data for randomized controlled trials in cardiovascular disease and diabetes. She holds a Master of Public Health degree in chronic disease epidemiology from the Yale School of Public Health.



LCDR Shondelle Wilson-Frederick, Ph.D.

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LCDR Shondelle Wilson-Frederick, Ph.D., currently serves as a technical director for analytics in the Division of Quality and Health Outcomes at the Center for Medicaid and CHIP Services in the Centers for Medicare & Medicaid Services (CMS). In this role, she manages an innovative enterprise-wide research portfolio aimed at improving the quality and availability of Medicaid and CHIP data supporting two critical CMS quality initiatives: the Medicaid and CHIP Adult and Child Core Set and the Medicaid Quality Rating System.

LCDR Wilson-Frederick is a nationally recognized sickle cell disease (SCD) expert and her leadership has positioned the U.S. Department of Health and Human Services (HHS) and CMS to improve the quality of care for Medicare, Medicaid and CHIP beneficiaries with SCD. She has developed a claims-based CMS SCD algorithm that identifies beneficiaries with SCD and a new Healthy People 2030 measure on the receipt of evidenced-based therapies for Medicare beneficiaries with SCD. She serves on the HHS SCD Workgroup, leads the CMS SCD Workgroup and the HHS SCD Research and Clinical Trials Subgroup, and served as a guest editor and reviewer for 2020 HHS-sponsored Annals of Emergency Medicine SCD



supplement, "[Sickle Cell Disease in the Emergency Department](#)." Her expertise spearheaded development of the first HHS Medicaid and CHIP [SCD Report](#) and [SCD Infographic](#).

LCDR Wilson-Frederick holds a doctorate in bacteriology from the University of Wisconsin-Madison and did postdoctoral training in cancer epidemiology at the Johns Hopkins Bloomberg School of Public Health. She is a dedicated mentor for underrepresented professionals in STEM-related fields. In addition, she pursues her passion of service by volunteering as a coach to families desiring financial freedom.