

Advancing Diagnostic Excellence in Maternal Health Care A Workshop July 27, 2023

The Arnold and Mabel Beckman Center 100 Academy Way Irvine, CA 92617

NATIONAL Sciences Engineering Medicine



ADVANCING DIAGNOSTIC EXCELLENCE IN MATERNAL HEALTH CARE

Hybrid Workshop July 27, 2023

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Workshop on Advancing Diagnostic Excellence in Maternal Health Care

Workshop Agenda



THURSDAY, JULY 27, 2023

8:00-8:30 AM Registration and Light Breakfast

8:30-8:45 AM Welcome to the Workshop

Andrew B. Bindman, MD, Kaiser Permanente Chair, Planning Committee

The Vision for Diagnostic Excellence in Maternal Health Care

Daniel Yang, MD, The Gordon and Betty Moore Foundation Morenike Ayo-Vaughan, MS, The Commonwealth Fund

8:45–9:45 AM Session One: Overview of the Ecosystem of Maternal Health Care in the U.S.

Moderator: Kathryn McDonald, PhD, MM, School of Medicine and Bloomberg School of Public Health, Johns Hopkins University Planning Committee Member

Maternal Health Care Patient Perspective: Lived Experience

Charity Watkins, PhD, North Carolina Central University Duke University School of Medicine

The Ecosystem of Maternity Care in the U.S.

Zsakeba Henderson, MD, National Institute for Children's Health Quality (NICHQ)

Panel Discussion/Audience Q&A

9:45-11:00 AM Session Two: Key Challenges and Considerations for Diagnostic Excellence in Maternal Health Care

Moderator: Komal Bajaj, MD, MS-HPEd, NYC Health + Hospitals/Jacobi/NCB

Albert Einstein College of Medicine

Planning Committee Member

Diagnostic Challenges in Maternal Health Care

Dena Goffman, MD, Columbia University Irving Medical Center

New York Presbyterian Hospital

Use of Simulation as a Quality/Safety Tool in Obstetrics

Shad Deering, MD, CHSE, Baylor College of Medicine

Key Diagnostic Challenges Related to Maternal Mental Health

Emily Miller, MD, MPH, Brown University

A Look at Evidence-Based Maternal Models of Care in Medicaid

Jennifer E. Moore, PhD, RN, FAAN, Institute for Medicaid Innovation

Panel Discussion/Audience Q&A

11:00-11:15 AM BREAK

11:15-12:30 AM Session Three: Strategies to Improve Diagnosis in Maternal Health Care

Co-Moderators:

Chanel Porchia-Albert, CD, CPD, CLC, CHHC, Ancient Song Doula Services
Audra Robertson Meadows, MD, MPH, FACOG, University of California at San Diego
Planning Committee Members

Strengthening Community, Patient, and Health Care Provider Collaboration

Jennie Joseph, LM, CPM, Commonsense Childbirth, Inc.

Doula Care in Immigrant Communities

Sheela Maru, MD, MPH, Icahn School of Medicine at Mount Sinai

Group Prenatal Care

Miriam Kuppermann, PhD, MPH, University of California at San Francisco

Improving Coordination to Address Gaps in Care Transitions Between Obstetrics and Emergency Care

Kathleen Kerrigan, MD, Cape Cod Emergency Associates

Panel Discussion/Audience Q&A

12:30-1:15 PM LUNCH

1:15-2:30 PM Session Four: Strategies to Mitigate Disparities and Promote Equity in Maternal Health Care

Co-Moderators:

Elizabeth Howell, MD, MPP, University of Pennsylvania

Audra Robertson Meadows, MD, MPH, FACOG, University of California at San Diego

Planning Committee Members

Statewide Perinatal Quality Collaborative Strategies and Interventions to Advance Equity in Maternal Health Care

Ann Borders, MD, MSc, MPH, Illinois Perinatal Quality Collaborative

Incorporating Health Equity into Quality Improvement Initiatives in Maternal Health Care

Christina Davidson, MD, Texas Children's Hospital

Operationalizing Birth Justice Metrics toward Achieving Equity in Maternal Health

Aimee Brill, CD, CPD, JustBirth Space

Panel Discussion/Audience Q&A

2:30–3:30 PM Session Five: Effective Diagnostic Technologies and Quality Innovations for Maternal

Health Care

Moderator: Mary Norton, MD, University of California at San Francisco

Planning Committee Member

Remote Monitoring/Early Diagnosis

Sindhu K. Srinivas, MD, MSCE, University of Pennsylvania

Cardiovascular Risk Assessment in Pregnancy

Afshan Hameed, MD, University of California at Irvine

Biomarkers for Adverse Pregnancy Outcomes

George R. Saade, MD, Eastern Virginia Medical School

Panel Discussion/Audience Q&A

3:30-3:45 PM BREAK

Workshop on Advancing Diagnostic Excellence for Maternal Health Care

3:45-4:45 PM Session Six: Vision for the Future of Diagnostic Excellence in Maternal Health Care

Moderator: Saul Weingart, MD, MPP, PhD, Brown University

Planning Committee Member

Panelists:

Charity Watkins, PhD, North Carolina Central University and Duke University

Neel Shah, MD, MPP, FACOG, Maven Clinic

Zsakeba Henderson, MD, National Institute for Children's Health Quality (NICHQ)

 ${\sf Komal\ Bajaj,\ MD,\ MS-HPEd,\ NYC\ Health\ +\ Hospitals/Jacobi/NCB}$

Albert Einstein College of Medicine

Audience Q&A

4:45-5:00 PM Workshop Wrap-Up

Andrew B. Bindman, MD, Kaiser Permanente

Chair, Planning Committee

5:00 PM MEETING ADJOURNS



PROJECT SUMMARY

Advancing Diagnostic Excellence: A Workshop Series

Statement of Task:

At the request of the Gordon and Betty Moore Foundation, the National Academies of Sciences, Engineering, and Medicine will conduct a series of five one day workshops to examine the current scientific landscape and research opportunities for improving diagnosis within the U.S. health care system. Each workshop will focus on a different priority category associated with a disproportionate share of diagnostic error and patient harm. The workshops will focus on:

- 1. Acute cardiovascular events.
- 2. Infections (particularly hospital-related infections),
- 3. Selected cancers.
- 4. Diagnostic lessons learned from the COVID-19 pandemic, and
- 5. Diagnosis for older adults,
- 6. Maternal Health

Workshop participants will consider strategies to reduce patient harm from diagnostic errors in the selected disease categories. Presentations and discussions will also emphasize initiatives used to lower costs and redundancies in the diagnostic process, while improving health outcomes. Critical components include development and validation of measurement approaches to strengthen accountability for diagnostic performance.

In consultation with sponsor staff, four planning committees will be established to develop workshop agendas, invite speakers, and discuss data and information relevant to clinical practices, published studies, and new developments in the field of diagnostic excellence. Some planning committee members will be selected to participate in the planning of all 5 workshops, for continuity across workshops. Agenda topics may include:

- new technologies,
- innovations using artificial intelligence,
- · machine- and crowd-learning strategies for assessing patient safety,
- · quality improvement, and
- accountability related to diagnostic errors.

For cancer-related activities, the workshop is conducted in collaboration with the National Cancer Policy Forum at the National Academies.

In accordance with institutional guidelines, a designated rapporteur will prepare proceedings of each workshop based on the presentations and discussion during that workshop. The proceedings will be subject to the National Academies review procedures prior to release. A communications product will also be developed to recap the discussions at the five workshops.



Sponsor(s):

Gordon and Betty Moore Foundation

The John A. Hartford Foundation (Workshop on Advancing Diagnostic Excellence for Older Adults)

Timeline:

August 27, 2020: Achieving Excellence in Sepsis Diagnosis (virtual workshop)

April 23, 2021: Achieving Excellence in the Diagnosis of Acute Cardiovascular Events (virtual workshop)

October 6, 2021: Achieving Excellence in Cancer Diagnosis (virtual workshop)

January 14, 2022: Diagnostic Lessons Learned from the COVID-19 Pandemic (virtual workshop)

July 21, 2022: Advancing Diagnostic Excellence for Older Adults (in person workshop)

July 27, 2023: Advancing Diagnostic Excellence in Maternal Health (in person workshop)

Planning Committees:

Planning committee for sepsis diagnosis workshop:

Andrew Bindman (Chair), Kaiser Permanente

Derek Angus, University of Pittsburgh

Pascale Carayon, University of Wisconsin-Madison

Gari Clifford, Emory University

Laura Evans, University of Washington

Kathryn McDonald, Johns Hopkins University

Lyle Moldawer, University of Florida

Saul Weingart, Rhode Island Hospital and Brown University

Planning committees for acute cardiovascular event workshop:

Andrew Bindman (Chair), Kaiser Permanente

Pascale Carayon, University of Wisconsin-Madison

Gari Clifford, Emory University

Kirsten Bibbins-Domingo, University of California, San Francisco

Kathryn McDonald, Johns Hopkins University

Robert Neumar, University of Michigan

Marina Del Rios, University of Illinois, College of Medicine

Saul Weingart, Rhode Island Hospital and Brown University

Planning committee for cancer diagnosis workshop:

Andrew Bindman (Chair), Kaiser Permanente

Pascale Carayon, University of Wisconsin-Madison

Robert Carlson, National Comprehensive Cancer Network

Sarah Kobrin. National Cancer Institute

Alex Krist, VCU School of Medicine

Curtis Langlotz, Stanford University

Kathryn McDonald, Johns Hopkins University

Ritu Nayar, Northwestern University

Lisa Richardson, CDC Division of Cancer Prevention and Control

Saul Weingart, Rhode Island Hospital and Brown University



Planning committee for diagnostic lessons learned from COVID workshop:

Andrew Bindman (Co-chair), Kaiser Permanente

Derek Angus, (Co-chair), University of Pittsburgh

Amesh Adalja, Johns Hopkins Center for Health Security

Suzanne Bakken, Columbia University

Marie-Carmelle Elie, University of Alabama School of Medicine

Nicole Lurie, Coalition for Epidemic Preparedness Innovations

Kathryn McDonald, Johns Hopkins University

Kosali Simon, Indiana University

Saul Weingart, Rhode Island Hospital and Brown University

Planning committee for diagnosis in older adults' workshop:

Andrew Bindman (Chair), Kaiser Permanente

Christine Cassel, University of California, San Francisco

George Demiris, University of Pennsylvania

Kedar Mate, Institute for Healthcare Improvement

Supriya Mohile, University of Rochester Medical Center

Kathryn McDonald, Johns Hopkins University

Sonja Rosen, Cedars Sinai

Gordon Schiff, Harvard Medical School

Saul Weingart, Rhode Island Hospital and Brown University

Planning committee for diagnosis in maternal health:

Andrew Bindman (Chair), Kaiser Permanente

Komal Bajaj, NYC Health + Hospitals

Elizabeth Howell, University of Pennsylvania

Kathryn MacDonald, Johns Hopkins University

Audra Meadows, University of California at San Diego

Mary Norton, University of California at San Francisco

Chanel Porchia-Albert, Ancient Song Doula Services

Saul Weingart, Brown University

Staff:

Laurie Graig, Senior Program Officer Jennifer Flaubert, Program Officer Adrienne Formentos, Research Associate Anesia Wilks, Senior Program Assistant

Sharyl Nass, Director, Board on Health Care Services, and Co-Director, National Cancer Policy Forum

Website:

https://www.nationalacademies.org/our-work/advancing-diagnostic-excellence-a-workshop-series

Workshop on Advancing Diagnostic Excellence in Maternal Health Care

SPONSORS

- Gordon and Betty Moore Foundation
- The Commonwealth Fund

We are grateful for the generous support of our workshop sponsors.



Advancing Diagnostic Excellence in Maternal Health Care

Planning Committee Roster

Andrew B. Bindman, MD (Chair)

Chief Medical Officer and Executive Vice President Kaiser Permanente

Komal Bajaj, MD, MS-HPEd

Chief Quality Officer, NYC Health +
Hospitals/Jacobi/NCB
Professor, Obstetrics & Gynecology and
Women's Health, Albert Einstein
College of Medicine
Clinical Director, NYC Health +
Hospitals Simulation Center

Elizabeth A. Howell, MD, MPP

Harrison McCrea Dickson,
MD President's Distinguished Professor
Chair, Department of Obstetrics &
Gynecology, Perelman School of
Medicine
University of Pennsylvania Health
System
Senior Fellow,
Leonard Davis Institute of Health
Economics, University of Pennsylvania

Kathryn McDonald, PhD

Bloomberg Distinguished Professor of Health Systems, Quality, and Safety Johns Hopkins University

Audra R Meadows, MD, MPH, FACOG

Associate Professor and Vice Chair for Culture and Justice Department of Obstetrics, Gynecology, and Reproductive Sciences UC San Diego School of Medicine

Mary E. Norton, MD

Professor Department of Obstetrics, Gynecology, and Reproductive Sciences University of California, San Francisco

Chanel Porchia-Albert, CD, CPD, CLC, CHHC

Founder and Executive Director Ancient Song Doula Services

Saul Weingart, MD, MPP, PhD

Professor of Medicine Warren Alpert Medical School Brown University

Workshop on Advancing Diagnostic Excellence in Maternal Health Care

Planning Committee Biosketches



Andrew Bindman, M.D., (Chair), is executive vice president and chief medical officer for Kaiser Foundation Health Plan, Inc. and Hospitals. In this role, Dr. Bindman is responsible for driving superior quality and equitable health outcomes through the integration of quality innovation, research, and care delivery. He collaborates with the Permanente Medical Groups to accelerate Kaiser Permanente's quality strategy and improve the high-quality care provided to members and patients nationwide. Dr. Bindman reports directly to Kaiser Permanente's chairman and chief executive officer and is a member of the National Executive Team and

the CEO Executive Committee. He works closely with clinical and operational leaders to establish common performance standards for quality and service, drive consistent adoption of key quality programs, and leverage data analytics and research across the enterprise. His areas of focus include advancing the quality outcomes that matter most to members and establishing equity, alongside quality and safety, as a fundamental metric for care. Dr. Bindman previously spent more than 30 years at the University of California, San Francisco where he practiced and taught clinical medicine while conducting research in health access and outcomes that resulted in more than 180 published scientific articles. A noted policy advocate, he has held advisory and leadership roles for the U.S. House Energy and Commerce Committee, the U.S. Department of Health and Human Services, the Agency for Healthcare Research and Quality, the California Medicaid Research Institute, and the Healthy California for All Commission, among other agencies. Dr. Bindman is a graduate of Harvard College and the Mount Sinai School of Medicine. A board-certified general internist, he completed his residency in internal medicine at UCSF and was a Robert Wood Johnson Foundation Clinical Scholar at Stanford University. He was elected to the National Academy of Medicine in 2015 and serves on the organization's board for health care services.



Komal Bajaj, M.D., M.S.-H.P.Ed, serves as Chief Quality Officer for NYC Health + Hospitals/Jacobi/NCB and Clinical Director for the system's Simulation Center. She is a Professor of Obstetrics & Gynecology and Women's Health at Albert Einstein College of Medicine. Dr. Bajaj is an innovator in the fields of ingraining equity into quality/safety structures, the application of diagnostic safety lens to maternal mortality reduction, healthcare simulation and sustainability. Dr. Bajaj attended medical school at Northwestern University's Feinberg School of Medicine and completed her training in Obstetrics & Gynecology at McGaw Medical Center of Northwestern University. Following residency, she completed a fellowship

in Reproductive Genetics at Albert Einstein College of Medicine and a Masters in Health Professions Education from the MGH Institute of Health Professions. Dr. Bajaj was an inaugural National Academy of Medicine/Council of Medical Specialty Societies Diagnostic Excellence Scholar. She sits on the AHRQ National Advisory Council, the Board of Trustees of Center for Medical Simulation, and on the External Advisory Board for the Joan H. Marks Graduate Program in Human Genetics of Sarah Lawrence College.



Elizabeth Howell, M.D., M.P.P., is the Harrison McCrea Dickson, MD President's Distinguished Professor and Chair of the Department of Obstetrics & Gynecology, Perelman School of Medicine at the University of Pennsylvania. She is an NIH-funded health services researcher and her research interests lie at the intersection between quality of care and disparities in maternal mortality and morbidity. Dr. Howell has served on several expert committees at the Institute of Medicine, NIH, the Joint Commission, and the American College of Obstetricians and Gynecologists and was recently elected to the National Academy of Medicine. She has testified to the US Congress on maternal healthcare legislation, co-chaired the National Quality Forum Committee on Maternal Morbidity and Mortality and was invited to the

White House by Vice President Harris to participate in a roundtable on Black Maternal Health. Dr. Howell received her undergraduate degree from Stanford University and her medical and public policy degrees from Harvard Medical School and the Harvard Kennedy School of Government. She completed her residency at Cornell /New York Hospital and her fellowship at Yale Medical School.



Kathryn McDonald, Ph.D., is an international thought leader who focuses on bringing an evidence-based, patient-centered approach to the study of health care delivery. She explores what makes for safe, affordable, and high-quality health care delivery systems and the factors that prevent health organizations from achieving this standard of care. McDonald develops tools for measuring patient safety and quality that are used by private and public care providers alike. McDonald created a set of standardized health care quality measurements called Quality Indicators, which are used to analyze administrative data from hospitals—including Johns Hopkins—to identify potential quality concerns and track changes over time. She is currently working on an ongoing study that examines the ways that a patient's age, race, and sex may contribute to errors in medical diagnoses and disparities

in patient outcomes. McDonald hopes to understand how "visible factors" put young people, women, and African American people at risk for misdiagnoses of infections, cancer, and cardiovascular issues.



Audra Robertson Meadows, M.D., M.P.H., is a Clinical Professor and Vice Chair for Culture and Justice in the Department of Obstetrics, Gynecology, and Reproductive Sciences at the University of California, San Diego School of Medicine. Dr. Meadows is a birth optimizer - providing care, championing health equity, and improving health systems. She is board-certified Obstetrician/Gynecologist in practice for more than 15 years. Dr. Meadows completed her medical education at The University of Texas at San Antonio Long Medical School and residency training at The Brigham & Women's Hospital and Massachusetts General Hospital at Harvard Medical School. In 2007, she was awarded the Commonwealth Fund Fellowship in Health Equity

Leadership and received a Master of Public Health degree from the Harvard School of Public Health. She is a founding director of the Massachusetts perinatal quality improvement collaborative, PNQIN MA, where she continues to lead implementation of the PNQIN Maternal Equity Bundle across hospitals. At UCSD, Dr. Meadows is active in clinical practice, research, and directs the Equity in Systems Science curriculum for undergraduate medical students. She enjoys inspiring students and trainees to innovate and optimize health systems. Dr. Meadows also leads equity and justice initiatives for the department. She is funded by the National Institutes of Health (NIH), Centers for Disease Control (CDC), and Robert Wood Johnson Foundation (RWJF) to investigate strategies to address maternal quality and birth experiences. Dr. Meadows is nationally recognized for her work leading teams, innovating prenatal care, and developing tools to improve obstetric equity.



Mary Norton, M.D., is a Professor of OBGYN & Reproductive Sciences at UCSF. She several other leadership roles, including Vice-Chair of Clinical and Translational Genetics; Co-director of the Center for Maternal-Fetal Precision Medicine; and co-Director of the Fetal Treatment Center. She was previously the Director of the Division of Maternal Fetal Medicine and Interim Chair of the Department of OBGYN & Reproductive Sciences at UCSF. She graduated from the University of Washington School of Medicine, completed her OBGYN residency at Tufts University in Boston, and her fellowship in MFM and Clinical Genetics at UCSF. Her clinical expertise is in prenatal genetics, and she has been involved in clinical research and clinical trials throughout her

academic career, with involvement and experience in studies focused on pregnancy, prenatal diagnosis, and perinatal genetics. She has been involved in a number of multicenter clinical trials and NIH funded consortia, including studies of maternal and fetal interventions. In addition to a number of research awards, she has served as president of several professional societies, including the Society for Maternal-Fetal Medicine, the Perinatal Quality Foundation, and the San Francisco Gyn Society.



Chanel L. Porchia-Albert, C.D., C.P.D., C.L.C., C.H.H.C., is the founder and Chief Executive Officer of Ancient Song Doula Services; A reproductive health organization focused on providing resources and full-spectrum doula services to women of color and marginalized communities throughout NYC and northern New Jersey. Her work within infant and maternal health have led her across the globe to Uganda where she has served as a maternal health strategist in rural war-torn areas. Her work in birth and reproductive justice continues to span into the research and methods of care of marginalized people and people of

color bringing a human rights framework into birthing

rooms and beyond into institutional reform and accountability measures within healthcare to address implicit bias and racism. She has served as a consultant for AMCHP, NYC Department of Health in Mental Hygiene and assisted in the creation of the Respectful Care at the Birth document other healthcare institutions engaging providers in birth justice and serve on the advisory board at Ariadne Labs at Harvard Medical School, Board of Directors for March for Moms, founding Board Member Birth Future Foundation, and Village Birth Intl.Chanel and Ancient Song's work is featured on CNN's Champions for Change, the cover of Working Mother Magazine, NY Times, SELF Magazine, and most recently NowThis and Vogue Magazine and partnering BabyDove Black Birth Equity Fund to provide grants for doula services nationwide. When she is not working on legislative policy or facilitating workshops, you can find her spending time with her six children.



Saul N. Weingart, M.D., Ph.D., M.P.P., is a professor of Medicine at Brown University. He served as Chief Medical Officer and Senior Vice President of Medical Affairs at Tufts Medical Center and Professor of Medicine, Public Health, and Community Medicine at Tufts University School of Medicine from 2013-2021. Previously, he served as Vice President for Quality Improvement and Patient Safety at Dana-Farber Cancer Institute. Dr. Weingart holds a doctorate in public policy from Harvard and an MD degree from the University of Rochester. Dr. Weingart's research examines patient safety in primary and specialty care, patient engagement, and diagnostic

errors. A practicing general internist, Dr. Weingart served as a member of the board of directors of the National Patient Safety Foundation and was the recipient of the 2012 John M. Eisenberg individual achievement award in quality and patient safety.



Workshop on Advancing Diagnostic Excellence in Maternal Health Care

Speaker Roster

Ann Borders, MD

Ian Bernard Horowitz Chair of Obstetrics NorthShore University Health systems Executive Director, Illinois Perinatal Quality Collaborative

Aimée Brill, CD, CPD

Co-Director JustBirth Space

Christina Davidson, MD

Associate Professor
Division of Maternal Fetal Medicine
Vice Chair of Quality, Patient Safety
& Health Equity
Department of Obstetrics & Gynecology
Baylor College of Medicine
System Chief Health Equity Officer
Chief Quality Officer, Obstetrics &
Gynecology
Texas Children's Hospital

Shad Deering, MD, CHSE, COL(ret) USA

Associate Dean, Baylor College of Medicine, CHofSA System Medical Director, CHRISTUS Simulation Institute Professor, Department of OB/GYN, Baylor College of Medicine

Dena Goffman, MD

Vice Chair for Quality and Patient Safety Professor in Obstetrics and Gynecology Columbia University Irving Medical Center

System Associate Chief Quality Officer for Obstetrics

New York Presbyterian Hospital

Afshan B. Hameed, MD, FACOG, FACC

Professor OB/GYN, Division of Maternal Fetal Medicine Professor, Division of Cardiology Medical Director, Obstetrics Medical Director, Quality and Safety University of California, Irvine

Zsakeba Henderson, MD, FACOG

Senior Health Advisor for the National Institute for Children's Health Quality and

Founder & Principal Consultant Equity, Safety, & Wellbeing Consultants

Jennie Joseph, LM, CPM

Founder and President of Commonsense Childbirth Inc.

Kathleen Kerrigan, MD, FACEP, FACOG

Associate Professor of Emergency Medicine University of Massachusetts Chan Medical School

Miriam Kuppermann, PhD, MPH

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Sheela Maru, MD, MPH

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Emily S. Miller, MD, MPH

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Jennifer E. Moore, PhD, RN, FAAN

Founding Executive Director Institute for Medicaid Innovation

George Saade, MD

Professor and Chair Associate Dean for Women's Health EVMS Foundation Chair for Women's Health, and Department of Obstetrics and Gynecology, Eastern Virginia Medical School

Neel Shah, MD, MPP

Chief Medical Officer Maven Clinic

Sindhu K. Srinivas, MD, MSCE

Professor, Associate Chief Medical Officer -Quality and Safety, Hospital of the University of Pennsylvania Vice Chair for Quality and Safety Department of Obstetrics and Gynecology, Division of Maternal Fetal Medicine

Charity S. Watkins, PhD, MSW

BIRCWH Scholar, Department of Obstetrics & Gynecology, Duke University Department of Social Work, North Carolina Central University

Workshop on Advancing Diagnostic Excellence in Maternal Health Care

Speaker Biosketches



Ann Borders, M.D., M.Sc., M.P.H., is a Maternal Fetal Medicine physician at NorthShore University Health System Department of Obstetrics and Gynecology at Evanston Hospital. She is the Executive Director and Obstetric Lead for the Illinois Perinatal Quality Collaborative, a collaborative of over 100 birthing hospitals focused on improving outcomes for mothers and newborns. She is a National Institutes of Health-funded researcher addressing inequities in pregnancy outcomes. She serves on the Illinois Department of Public Health Maternal Mortality Review Committee and the State Quality Council as well as on the National Network of Perinatal Quality Collaboratives Executive Committee.



Aimée Brill, M.S.W., is a mother, consultant, birth justice activist, and is the co-founder of Village Birth International (VBI) and co-director of JustBirth Space. Her work is dedicated to addressing systemic gaps in our perinatal health care system by integrating personcentered, respectful maternity care practices and advancing systems change through accountability and innovative principles of operationalizing birth justice. Since 2003 she has been practicing as a maternal health professional providing local, national, and international advocacy, consultancy, mentorship, community doula trainings, and education. In 2006, she developed and implemented a

Ugandan-led mobile midwifery clinic, which offered midwifery care to communities in northern Uganda. Integrating at the intersections of national and global maternal health advocacy and reproductive justice in 2011, VBI founded the first community-based doula collective in Syracuse, New York. With Ancient Song Doula Services and Every Mother Counts, Aimee co-authored *Advancing Birth Justice: Community-Based Doula Models of Care for Ending Racial Disparities*, which focused on the role of community-based doula models in successful Medicaid reimbursement. Aimée facilitates workshops and provides consulting services for organizations and institutions committed to

creating equitable frameworks that uplift and center reproductive justice and human rights in childbirth. She lives with her partner and three children in rural New Jersey.



Christina Davidson, M.D., is a board-certified Maternal Fetal Medicine specialist at Baylor College of Medicine. She earned her bachelor's degree in chemical engineering from Howard University and her medical degree from the University of Texas Medical School at Houston, where she also completed her fellowship in Maternal Fetal Medicine. Dr. Davidson joined Baylor College of Medicine in 2007. She is the Vice Chair of Quality, Patient Safety and Health Equity for the Department of Obstetrics and Gynecology at Baylor College of Medicine as well as the System Chief Health Equity Officer and the Chief Quality Officer for Obstetrics and Gynecology at Texas Children's Hospital. She is the past co-chair of the Obstetrics committee of the Texas Collaborative for Healthy Mothers and Babies, which is the state perinatal quality collaborative. She is also the Chair

of the Society for Maternal-Fetal Medicine Patient Safety and Quality Committee. Dr. Davidson's areas of interest include medical complications of pregnancy, VBAC, and health equity. She loves teaching medical students and residents and has received numerous teaching awards throughout her career.



Shad Deering, M.D., Colonel (retired) USA, C.H.S.E., is a board-certified Maternal-Fetal Medicine physician with the Baylor College of Medicine and CHRISTUS Health where he serves as the Associate Dean for Faculty Affairs at The Children's Hospital of San Antonio (CHofSA) and the System Medical Director of the CHRISTUS Simulation Institute, that trains approximately 15,000 medical providers annually. Dr. Deering is a national leader in medical simulation training and patient safety, focusing on practical implementation. The simulation efforts and organizations he has led have trained more than 600,000 medical providers during his career. Dr.

Deering has served as the Chair of the American College of Obstetricians and Gynecologists Simulation Working Group where he designed and implemented the Emergencies in Clinical Obstetrics (ECO) Course that is now available from ACOG to allow simulation training for obstetric emergencies for all levels of providers. He was instrumental in the creation of the Practicing For Patients (PFP) program which has been distributed through the Alliance for Innovation on Maternal Health (AIM). The program allows for any size hospital to run obstetric emergency in-situ drills; he led the PFP implementation training for over 120 hospitals in Texas. He was also selected to be the Simulation Chair for the Texas AIM collaborative in 2022 as this program continues. In September 2022 Dr. Deering was elected to the Executive Board of the Society for

Maternal Fetal Medicine. He is also part of a team recently awarded a 3.6 million dollar National Institutes of Health Ro1 grant in collaboration with Baylor College of Medicine and Columbia University to create a simulation training program to improve operative management of postpartum hemorrhage. Dr. Deering has delivered babies in 10 different States and a combat zone, was awarded the Bronze Star, holds two patents for an obstetric birthing simulator system, has over 100 publications and two TED talks about obstetric simulation, and has managed over 30 million dollars in grants and external funding. His simulation videos have over 21 million views on YouTube.



Dena Goffman, M.D., graduated from the Albert Einstein College of Medicine and completed her residency in Obstetrics and Gynecology at New York Presbyterian Hospital/Columbia University Medical Center. Dr. Goffman went on to complete a fellowship in Maternal Fetal Medicine with additional training in Critical Care Medicine at Albert Einstein College of Medicine/Montefiore Medical Center. Dr. Goffman is currently the Vice Chair for Quality and Patient Safety and Ellen Jacobson Levine and Eugene Jacobson Professor in Obstetrics and Gynecology at Columbia University and the System Associate Chief Quality Officer for Obstetrics for New York-Presbyterian. She has spent her career working to improve patient safety and

quality in obstetrics and to decrease severe maternal morbidity and mortality. Much of her work has focused on the use of simulation, team training, clinical standardization and implementation of evidence-based guidelines to achieve this goal.



Afshan Hameed, M.D., is a Maternal Fetal Medicine Specialist and a Cardiologist at the University of California, Irvine. She co-authored inter-conception care guidelines from ACOG in women with hypertension in the form of an algorithm to improve postpartum care and follow up. She serves on the California Maternal Quality Care Collaborative (CMQCC) Pregnancy Associated Mortality Review Advisory Committee (PAMR) that reviews all cases of maternal mortality to identify gaps in care for quality improvement opportunities. She cochaired the Cardiovascular Toolkit and Venous Thromboembolism Toolkit published by CMQCC. Dr. Hameed served on the ACOG Presidential Task Force for publication of Practice Bulletin on Heart Disease in Pregnancy in 2019. She

currently serves as an expert to help create Obstetrics Basic Life Support curriculum to integrate into the American Heart Association Life Support Program. She serves on the writing committee for Heart Rhythm Society's "Arrhythmias in Pregnancy Guidelines", scheduled release later in 2020. She also serves on the SMFM Quality and Patient Safety Committee. Her goal is to eliminate preventable causes of maternal morbidity and mortality.



Zsakeba Henderson, M.D., F.A.C.O.G., is currently the Senior Health Advisor for the National Institute for Children's Health Quality (NICHQ), advancing the work of the organization to achieve optimal health for children and families. She previously served as Senior Vice President of MCH Impact and Interim Chief Medical Officer at March of Dimes, providing strategic direction and clinical expertise across the organization to help end the maternal and infant health crisis. She is a board-certified obstetrician-gynecologist, with more than 18 years of experience managing numerous maternal and infant health initiatives. Dr. Henderson is a nationally recognized leader in the growth and spread of perinatal quality improvement efforts across the country,

including leading the establishment of the National Network of Perinatal Quality Collaboratives (NNPQC).



Jennie Joseph is a British-trained midwife who fights to ensure every person has their healthiest possible pregnancy, birth and postpartum experience with dignity and support. Jennie created The JJ Way® which is an evidence-based, maternity care model delivering readily accessible, patient-centered, culturally-congruent care to women in areas that she terms 'materno-toxic zones'. Jennie is the Founder and President of Commonsense Childbirth Inc. which operates a perinatal training division, a clinical division, a national Midwifery school and the National Perinatal Task Force, a grassroots organization whose mission is the elimination of racial

disparities in maternal child health in the USA. A proud member of The Council of Midwifery Elders, she serves on the Advisory Council for the Congressional Black Maternal Health Caucus, is a Fellow of The Aspen Institute, and has been recognized as a TIME Woman of The Year 2022 for her work in promoting perinatal equity.



Kathleen Kerrigan, M.D., F.A.C.E.P., F.A.C.O.G., is an Associate Professor of Emergency Medicine at the University of Massachusetts Chan Medical School. She has served as Assistant Program Director at Baystate Medical Center in Springfield, MA. She has had the unique experience of completing residencies in both Ob/Gyn and Emergency Medicine. She serves as a Councillor to ACEP Council and is the Immediate Past President of the Massachusetts Chapter of the American College of Emergency Physicians. She currently sits on the ACEP Reproductive Health Task Force and is ACEP BOD liaison to the ACOG/AIM OB Readiness Toolkit Project.

She is currently working in the ER at Cape Cod Hospital in Hyannis, Massachusetts.



Miriam Kuppermann, Ph.D., M.P.H., is Professor of Obstetrics, Gynecology & Reproductive Sciences and Epidemiology & Biostatistics at the University of California, San Francisco, where she also serves as Director of the California Preterm Birth Initiative's Healthcare Interventions Aim and Transdisciplinary Postdoctoral Fellowship. Dr. Kuppermann has a long track record in conducting intervention studies aimed at reducing disparities in maternal and birth outcomes among diverse populations, which includes having served as PI on numerous NIH, PCORI, AHRQ, and foundationfunded efforts. These studies have involved development

and implementation of innovative practices that address social determinants of health as part of prenatal care and conducting effectiveness and hybrid implementation science studies of these interventions among racially and ethnically and socioeconomically diverse populations of pregnant and birthing people. Dr. Kuppermann is currently PI for a PCORI-funded comparative effectiveness study titled "Comparing Approaches to Enhanced Prenatal Care to Improve Maternal and Child Health in Central California," dual PI (with Dr. Brownsyne Tucker Edmonds at IU) for an AHRQ-funded randomized trial of a decision tool for expectant parents facing threatened periviable delivery titled "Promoting Shared Decision Making in Periviable Care: A Randomized Controlled Trial of the Periviable GOALS Decision Support Tool," and PI of an NICHD-funded T32 training grant titled "Transdisciplinary Research Training to Reduce Disparities in Preterm Birth and Improve Maternal and Neonatal Outcomes."

NATIONAL Sciences Engineering Medicine



Sheela Maru, M.D., M.P.H., is an Assistant Professor in the Departments of Health Systems Design and Global Health and Obstetrics, Gynecology and Reproductive Science at the Icahn School of Medicine at Mount Sinai. She is an attending physician at Elmhurst Hospital where she practices as a generalist Obstetrician Gynecologist. Sheela is the Director of the NYC partnership between the Arnhold Institute for Global Health at Mount Sinai and the H+H/Elmhurst Global Health Institute, Queens and Elmhurst Hospitals. The NYC Partnership aims to improve the health and wellbeing of communities served by the public health system in Queens through building

community partnerships and addressing social determinants of health. Sheela worked closely with community partners to build the HoPE Community Doula Program. In addition, she has been an advisor for the organization Possible, supporting health systems strengthening and implementation science work in rural Nepal for the past decade. Her research is focused on improving healthcare access and quality for women and children in low-resource settings. Sheela is the mother of twin teens and lives in Jackson Heights with her family.



Emily Miller, M.D., M.P.H., is an Associate Professor in Obstetrics & Gynecology at the Alpert Medical School of Brown University. She is the Division Director of Maternal Fetal Medicine at Women & Infants Hospital of Rhode Island. She is committed to improving mental health care for pregnant and postpartum people, with the overarching goal of equitable access to holistic wellness for all new families. She has led the development of multiple national consensus statements to guide care provision for perinatal mental health. By bringing attention to gaps in health services for perinatal mental health care, she has challenged the paradigm of our current obstetric model of perinatal mental health care and transformed care delivery. She is currently PI of three NIH-funded studies focused on optimization and dissemination of the

collaborative care model as a health services intervention to equitably and sustainably integrate mental health care into obstetric settings.



Jennifer E. Moore, Ph.D., R.N., F.A.A.N., is an internationally recognized leader in Medicaid and maternal child health. With more than 30 years of experience, her work, at the intersection of clinical practice, research, and policy, positions her as a thought leader and a passionate advocate for the Medicaid program and the individuals, families, and communities it serves. This multifaceted emphasis makes her a respected participant in the national dialogue on these and other health care topics. As the founding executive director of the Institute for Medicaid Innovation (IMI) and assistant research professor at the University of

Michigan medical school's department of obstetrics and gynecology, Dr. Moore focuses her efforts on strategically bringing together payers, clinicians, researchers, and government to design and evaluate innovative approaches to address maternal health issues such as alternative payment models, inequities and disparities, social determinants of health, community voice and partnership, and a full range of perinatal specific topics.

An inducted fellow of the American Academy of Nursing and Women of Impact, Dr. Moore holds PhD and Master's degrees in Health Systems and Policy from the University of Michigan, as well as a Bachelor of Science in Nursing.



George R. Saade, M.D., is a Professor and Chair of Obstetrics and Gynecology, Associate Dean for Women's Health, and EVMS Foundation Chair for Women's Health at the Eastern Virginia Medical School. He is an elected member of the Tau Beta Pi Engineering Honor Society and Alpha Omega Alpha. He is past president of the Society for Maternal Fetal Medicine and past Chair of its Health Policy and Advocacy Committee. He is the editor-in-chief of the American Journal of Perinatology. Dr. Saade has served on a number of national and international advisory committees and scientific review panels, including NIH, CDC, March of Dimes, ACOG,

Wellbeing/Royal College of Obstetricians and Gynaecologists, and the Health Research Council of New Zealand. He is the principal investigator on two (2) NIH-funded clinical research networks and the co-investigator on three (3) others. Dr. Saade is certified by the American Board of Obstetrics and Gynecology and is an examiner. His clinical area of expertise revolves around adverse pregnancy outcomes and long-term health for mother and offspring. He has authored more than 500 peer-reviewed publications and is the co-editor of the Maternal Medicine and the Critical Care Obstetrics textbooks. He has been voted as Best Doctor and selected to Super Doctors several years in a row.

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Neel Shah, M.D., M.P.P., F.A.C.O.G., is Chief Medical Officer of Maven Clinic, the world's largest digital clinic for family health care. He is also a visiting scientist at Harvard Medical School where he previously served as a professor of obstetrics, gynecology and reproductive biology. Dr. Shah has been recognized with the Franklin Delano Roosevelt Humanitarian of the Year Award from the March of Dimes for his impact on maternal health in the United States. He is featured in the films Aftershock, which won the Special Jury Prize for Impact at the 2022 Sundance Film Festival, and The Color of Care from the Smithsonian Channel and

Executive Producer Oprah Winfrey. Dr. Shah founded the nonprofits Costs of Care and March for Moms, as well as the Delivery Decisions Initiative at Ariadne Labs, a research and social impact program of the Harvard T.H. Chan School of Public Health.

As a physician-scientist, Dr. Shah has written landmark academic papers on maternal health and health care policy, and contributed to four books, including as senior author of Understanding Value-Based Healthcare (McGraw-Hill), which industry leaders have called "an instant classic" and "a masterful primer for all clinicians." He is listed among the "40 smartest people in health care" by the Becker's Hospital Review. Dr. Shah currently serves on the advisory board of the National Institutes of Health, Office of Women's Health Research.



Sindhu K. Srinivas, M.D., M.S.C.E., is a Professor of Obstetrics and Gynecology, Vice-chair for Quality and Safety, and Associate Chief Medical Officer for quality and safety for the Hospital of the University of Pennsylvania. She has developed a successful research program including both clinical/epidemiologic and health services and care delivery research. Her current areas of research include: 1) evaluating innovative health care delivery strategies to improve maternal outcomes and eliminate inequities and 2) studying and developing obstetric quality measures as well as understanding the impact of practice changes (individual level and system level) on maternal and neonatal outcomes. Her clinical interests are in the areas of hypertensive disorders of pregnancy, cardiovascular disease in pregnancy, and pregnancy

care and counseling at the threshold of viability. As an Obstetrician Gynecologist and Maternal Fetal Medicine specialist, Dr. Srinivas is deeply committed to improving health outcomes of women and children and eliminating inequities through her leadership, research, advocacy and clinical work. She serves on the Pennsylvania Maternal Mortality Review committee. She is actively involved in Philadelphia wide



initiatives to eliminate maternal morbidity and mortality. Nationally, she is an active member of the Society for Maternal-Fetal Medicine (SMFM) and is currently on the SMFM Board of Directors and Executive Committee.



Charity S. Watkins, Ph.D., M.S.W., is a tenure-track professor and provisionally licensed social worker. She earned her BA in Sociology, Masters in Social Work (MSW), and Ph.D. in Social Work from the University of North Carolina at Chapel Hill. Dr. Watkins joined North Carolina Central University (NCCU) faculty in 2018 while serving as a school social worker and completing her dissertation focused on promotive parenting factors for academic resilience among socioeconomically marginalized Black children. Now as a recipient of the Duke-NCCU Building

Interdisciplinary Research Careers in Women's Health (BIRCWH) K12 NIH Career Development award, Dr. Watkins's research focuses on how institutional racism affects the health and wellbeing of Black Americans, with particular attention to how the experience of severe cardiovascular maternal morbidity may influence the perceived stress, mental health, and parenting behaviors of Black women. Following her own diagnosis of peripartum cardiomyopathy (pregnancy-related heart failure), Dr. Watkins sought to advocate for health equity for Black mothers and babies through not only her research, but also through her social and political advocacy as a WomenHeart Champion and the Board of Directors' Chair for Equity Before Birth, a North Carolina-based nonprofit organization focused on fusing birth justice with economic justice.

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Workshop on Advancing Diagnostic Excellence in Maternal Health Care

Selected Readings and Resources

AHRQ

Bajaj, K., A. deRoche, and D. Goffman. 2020. Issue Brief 6: The Contribution of Diagnostic Errors to Maternal Morbidity and Mortality During and Immediately After Childbirth: State of the Science. Rockville, MD: Agency for Healthcare Research and Quality. AHRQ Publication No. 20(21)-0040-6-EF.

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- National Academies of Sciences, Engineering, and Medicine. 2022. Accelerating the use of findings from patient-centered outcomes research in clinical practice to improve health and health care: Proceedings of a workshop series. Edited by C. Bell, L. Carrera, A. Applegate and J. Alper. Washington, DC: The National Academies Press.

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