

Building Data Capacity for Patient-Centered Outcomes Research: An Agenda for 2021 to 2030

Workshop 1: Looking Ahead at Data Needs

Biographical Sketches of Speakers and Moderators

KALEAB ABEBE is an Associate Professor of Medicine, Biostatistics, and Clinical & Translational Science at the University of Pittsburgh. He also directs the Center for Research on Health Care Data Center as well as the Center for Clinical Trials & Data Coordination. Dr. Abebe joined the faculty in 2009 after receiving his PhD in Statistics from the University of Pittsburgh. His collaborative research focuses on design, conduct, coordination, and analysis of multicenter randomized controlled trials (RCTs). He is the Co-PI for the CaRISMA study, which is a pragmatic trial examining the effectiveness of computerized cognitive behavioral therapy (vs pain education) on pain intensity in adults with sickle cell disease (SCD). Dr. Abebe leads the data coordinating center (DCC) for the TAME-PKD study, which is a phase II RCT that is assessing safety and tolerability of metformin in PKD as well as for the STERIO-SCD study, a phase II trial evaluating safety and tolerability of riociguat in SCD. Most recently, he led the DCC for the HALT-PKD Network, which comprised two 7-site clinical trials evaluating the impact of hypertensive medications and blood pressure control on the progression of PKD. Additionally, Dr. Abebe collaborates with the Adolescent Medicine Division on the design and analysis of cluster randomized trials in sexual violence prevention. In addition to his research collaborations, Dr. Abebe is the director of the Clinical Trials Track for the MS in Clinical Research at the Institute for Clinical Research Education. He is a standing member of the Kidney, Nutrition, Obesity, and Diabetes (KNOD) Study Section, and he is a member of the Board of Directors for the Society for Clinical Trials.

REBEKAH ANGOVE is vice president for patient experience and program evaluation at Patient Advocate Foundation (PAF), where her work is focused on strategically expanding PAF's patient-centered research and program evaluation initiatives. Dr. Angove is a health services researcher and leader in patient engagement. She leads efforts to identify patient needs, translate those needs to direct service and policy recommendations, and evaluate the impact of these programs and services on patients and the patient community. In her previous role at the Louisiana Public Health Institute, she served as Associate Director of Health Services Research and Engagement Director of REACHnet, a PCORnet Clinical Data Research Network. Dr. Angove's expertise spans numerous clinical research programs and advisory groups including service on the PCORnet Engagement committee and the Tulane Preventive Medicine Residency Advisory Committee. Dr. Angove received her PhD in Public and Community Health from the Medical College of Wisconsin.

ANDREW BAZEMORE (NAM) is the Senior Vice President of Research and Policy at the American Board of Family Medicine and serves as the Director of the Robert Graham Center for Policy Studies in Family Medicine. Dr. Bazemore helped cultivate the growth and evolution of the Graham Center into an internationally-known primary care research center with diverse

funding sources. He guided and participated in the Graham Center's research with special interest in access to care for underserved populations, health workforce and training, and spatial analysis. Dr. Bazemore also led the Graham Center's emphasis on developing tools that empower primary care providers, leaders, and policymakers. He developed HealthLandscape, an innovative data engagement platform entirely funded by grants and contracts, including the nearly \$1.5 million/year federal Uniform Data System (UDS) Mapper contract that guides funding for all the nation's Federally Qualified Centers. Dr. Bazemore serves on the faculties of the Departments of Family Medicine at Georgetown University and Virginia Commonwealth University. He has also continued to see patients at Fairfax Family Practice Centers since joining the Graham Center in 2005. Dr. Bazemore received his Doctor of Medicine degree from the University of North Carolina, and his MPH from Harvard University School of Public Health. He also completed a Global Health Fellowship at the University of Cincinnati.

ROBERT M. CALIFF (NAM) is the Head of Clinical Policy and Strategy for Verily and Google Health. Prior to this, Dr. Califf was the vice chancellor for health data science for the Duke University School of Medicine; director of Duke Forge, Duke University's center for health data science; and the Donald F. Fortin, MD, Professor of Cardiology. He has led major initiatives aimed at improving methods and infrastructure for clinical research, including the Clinical Trials Transformation Initiative (CTTI), a public-private partnership co-founded by the FDA and Duke. He also served as the principal investigator for Duke's Clinical and Translational Science Award and the NIH Health Care Systems Research Collaboratory coordinating center and co-PI of the Patient Centered Outcomes Research Institute Network. Previously, he served as Deputy Commissioner for Medical Products and Tobacco in the U.S. Food and Drug Administration from 2015-2016, and as Commissioner of Food and Drugs from 2016-2017. Dr. Califf is a nationally and internationally recognized leader in cardiovascular medicine, health outcomes research, healthcare quality, and clinical research, and one of the most frequently cited authors in biomedical science. Dr. Califf is a graduate of Duke University School of Medicine.

DAVID CELLA (NAM) is Ralph Seal Paffenbarger Professor and Chair of the Department of Medical Social Sciences, and Professor of Neurology, Pediatrics, Preventive Medicine (Health and Biomedical Informatics) and Psychiatry and Behavioral Sciences, at Northwestern University. He is also Director of the Institute for Public Health and Medicine Center for Patient-Centered Outcomes at Northwestern. He plays a leadership role in the development and orchestration of transdisciplinary scientific collaborations and oversees basic and applied social science research to advance the understanding of the mechanisms and measurement of health and disease. From 2004-2013, he was the principal investigator and steering committee chair of the trans-NIH PROMIS effort supported by the NIH Common Fund. Currently Dr. Cella is the MPI of the Environmental Children's Health Outcomes Consortium PRO Core grant, and he leads a health system-wide symptom monitoring and management project under the NCI Moonshot program. A theme of his work has been ensuring that the voice of the patient is reflected in clinical care, research, and policy. A major focus of many of these initiatives has been ensuring measurement sensitive and appropriate to diverse populations. Dr. Cella received his Ph.D. from Loyola University of Chicago.

GISELLE CORBIE-SMITH (NAM) is a Kenan Distinguished Professor of the Departments of Social Medicine and Medicine, Director of the UNC Center for Health Equity Research in the

UNC School of Medicine and Associate Provost for UNC Rural Initiatives at the University of North Carolina at Chapel Hill, NC. She is nationally recognized for her scholarly work on the inclusion of disparity populations in research, and is accomplished in drawing communities, faculty, and health care providers into working partnerships in clinical and translational research. Her empirical work, using both qualitative and quantitative methodologies, has focused on the methodological, ethical, and practical issues of research to address racial disparities in health. Dr. Corbie-Smith has served as the principal investigator of community-based participatory research projects focused on disease risk reduction among rural racial and ethnic minorities. These projects have included funding through the National Heart Lung and Blood Institute, the Robert Wood Johnson Foundation, the National Institute for Minority Health and Health Disparities, the National Institute of Nursing Research, Greenwall Foundation, and the National Human Genome Research Institute. In 2013, Dr. Corbie-Smith established and became Director of the UNC Center for Health Equity Research to bring together collaborative multidisciplinary teams of scholars, trainees, and community members to improve North Carolina communities' health through shared commitment to innovation, collaboration, and health equity. She is currently the Co-PI for RWJF's Advancing Change Leadership Clinical Scholars Program. She previously served as the President of the Society of General Internal Medicine, and in 2018, Dr. Corbie-Smith was elected to the National Academy of Medicine for her ground-breaking contributions toward achieving community and population health equity. Dr. Corbie-Smith currently serves as an MPI on the NIH/NIMHD-funded RADx-Underserved Populations Coordination and Data Collection Center. Dr. Corbie-Smith received her M.Sc. degree in Clinical Research from Emory University and her M.D. from the Albert Einstein College of Medicine.

NANCY DE LEW joined ASPE in 2011 as the Associate Deputy Assistant Secretary for Health Policy in the Office of the Assistant Secretary for Planning and Evaluation at HHS. She serves as the senior career official in the Office of Health Policy where she leads a team who apply their skills in policy development, strategic planning, research, and evaluation to some of the Department's most challenging health policy problems. She provides executive leadership and coordination on a broad range of health care financing, coverage, access, public health, and quality issues. Prior to her service in ASPE, she held a variety of management positions in CMS including directing the policy team in the Office of Health Insurance Exchanges, the Deputy Director of the CMS Office of Legislation, and Director of the Special Analysis Staff. She has worked with the Congress on a number of major pieces of legislation over the course of her career including the Affordable Care Act in 2010, the Medicare Modernization Act of 2003, the Balanced Budget Act of 1997, the Health Insurance Portability and Accountability Act of 1996, and the Medicare Catastrophic Coverage Act of 1988. She joined the Department of Health and Human Services in 1985 as a Presidential Management Intern after receiving Master's degrees in Political Science and Public Administration from the University of Illinois at Urbana.

ANGELA DOBES is vice president of the Crohn's and Colitis Foundation's IBD Plexus program, a research information exchange platform designed to centralize data and biosamples from diverse research initiatives to advance science, accelerate precision medicine, and transform the care of IBD patients. Ms. Dobes has previously worked for clinical technology and pharmaceutical organizations, where she has led implementation of various technology solutions focused on business optimization and accelerating the delivery of new therapies to patients safely. She has also conducted research in the fields of managed care and patient engagement

and is a member of the IBD Partners Research Team. Ms. Dobes is currently serving as principal investigator on a study to enhance engagement, research participation, and collaboration through the IBD Partners Patient Powered Research Network. She has an M.A. degree in public health from the Icahn School of Medicine at Mount Sinai.

GARY EPSTEIN-LUBOW is an Associate Professor of Psychiatry and Human Behavior and Associate Professor of Medical Science at Alpert Medical School of Brown University. He is also an Associate Professor of Health Services, Policy and Practice at Brown University School of Public Health. Dr. Lubow is a geriatric psychiatrist with research, teaching, policy, clinical and administrative expertise related to geriatric psychiatry patients and family caregiver health, and serves as team leader of the Stakeholder Engagement Team for the National Institute on Aging Imbedded Pragmatic Alzheimer's disease (AD) and AD-Related Dementias (AD/ADRD) Clinical Trials (IMPACT) Collaboratory. He is also an associate director of the CDC BOLD Public Health Center of Excellence for Dementia Caregiving. He served as a non-federal member of the Department of Health and Human Services Advisory Council for Alzheimer's Research, Care, and Services, including work he organized regarding people living with dementia as stakeholders informing national research efforts for dementia care. He earned his MD from The Ohio State University's College of Medicine and Public Health; he completed his general psychiatry residency, geriatric psychiatry fellowship, and postdoctoral research at Brown University and Butler Hospital.

OLUWADAMILOLA (LOLA) FAYANJU is an associate professor of surgery and population health sciences at the Duke University School of Medicine, and director of the Durham VA Breast Clinic. She is also associate director for disparities and value in healthcare with Duke Forge, Duke University's Center for Actionable Data Science. Dr. Fayanju is actively involved in several national organizations, currently serving on the board of directors for the Surgical Outcomes Club. She serves on numerous committees, including: breast cancer, care delivery, and health disparities; the patient-reported outcomes, patient safety, quality, and publications committees for the American Society of Breast Surgeons; nominating and program committees for the Association for Academic Surgery; women in surgery committee for the Society of Black Academic Surgeons; and the locoregional and patient-reported outcomes committees for the Translational Breast Cancer Research Consortium. In 2019, she was recognized by the National Academy of Medicine as an emerging leader in health and medicine scholar. Dr. Fayanju has an M.D., and an M.A. degree in population health sciences from Washington University in St. Louis.

GEORGE J. ISHAM (NAM) is senior fellow at the HealthPartners Institute and senior advisor for the alliance of community health plans. Dr. Isham has been actively involved in health policy, serving as a member of the Centers for Disease Control and Prevention (CDC) task force on community preventive services, the Agency for Healthcare Research and Quality's United States preventive services task force, as a founding co-chair of the National Committee for Quality Assurance's committee on performance measurement, and as founding co-chair of the National Quality Forum's measurement application partnership. He is also a founding member of the advisory board for the National Guideline Clearinghouse and has served on the advisory board for the National Quality Measures Clearinghouse as well as the advisory committee to the director of the CDC. Dr. Isham is an elected member of the National Academy of Medicine and

was recognized as a national associate of the Institute of Medicine for his committee service. He has an M.D. from the University of Illinois, Chicago, and an M.S. degree in preventive medicine and administrative medicine from the University of Wisconsin, Madison.

KAREN E. JOYNT MADDOX is a practicing cardiologist at Barnes-Jewish Hospital and an Assistant Professor at Washington University School of Medicine and School of Social Work, as well as a health policy advisor for BJC Healthcare, a 15-hospital system in Missouri and Illinois. She served from 2014-2016 as Senior Advisor in the Office of Health Policy of the Department of Health and Human Services. Her research interests include: 1) Improving the measurement of the quality and efficiency of physicians, hospitals and health systems; 2) Understanding the impact of policy interventions on health care, with a focus on value-based and alternative payment models; and 3) Reducing disparities in care, with a focus on vulnerable populations including racial and ethnic minorities, individuals living in poverty, individuals with disabilities, frail elders, and those in rural areas. She serves as the Associate Editor for health policy at the Journal of the American Medical Association, and is a member of committees related to quality measurement and payment reform at the National Quality Forum, American College of Cardiology, and American Heart Association. Dr. Joynt Maddox received her A.B. in Public Policy from the Woodrow Wilson School at Princeton University, and her M.D. from Duke University School of Medicine. She trained in Internal Medicine at Duke University Medical Center, and then in Cardiovascular Medicine at Brigham and Women's Hospital. She also completed a research fellowship in Health Policy at the Harvard School of Public Health, from which she received her M.P.H.

MITCHELL (MITCH) R. LUNN is an Assistant Professor in the Division of Nephrology of the Department of Medicine at Stanford University School of Medicine. As an internist and nephrologist with a strong interest in technology and sexual and gender minority health, Dr. Lunn's research is designed to characterize the health and well-being of these populations. Through the use of existing and emerging technologies, Dr. Lunn focuses on improving understanding of the factors that positively and negatively influence SGM health including research on SGM health disparities, SGM societal experiences (in and out of health care), provider education about SGM health, and institutional climate towards SGM people. He is the co-director of PRIDENet, a participant-powered research network of SGM people that engages SGM communities at all stages of the biomedical research process: research question generation and prioritization, study design, recruitment, participation, data analysis, and results dissemination. Dr. Lunn is also the co-director of The PRIDE Study, a national, online, prospective, longitudinal general health cohort study of over 21,000 SGM individuals that employs innovative technologies to bridge research gaps in the health of these medically underserved and vulnerable populations. Dr. Lunn earned his Doctor of Medicine degree from Stanford University School of Medicine, and his Masters in Advanced Studies degree in Clinical Research from the University of California, San Francisco (UCSF). He completed internal medicine internship and residency training at Brigham and Women's Hospital and nephrology fellowship at UCSF.

ELIZABETH MCGLYNN (NAM) is vice president for Kaiser Permanente Research and executive director for the Center for Effectiveness & Safety Research at Kaiser Permanente. She

is also interim senior associate dean for research and scholarships at the Kaiser Permanente Bernard J. Tyson School of Medicine. She is an internationally known expert on methods for evaluating the appropriateness and quality of healthcare delivery. She has led major initiatives to evaluate health reform options under consideration at the federal and state levels. She is the lead of Kaiser Permanente & Strategic Partners Patient Outcomes Research To Advance Learning (PORTAL) Network. She is a member of the National Academy of Medicine and serves on a variety of national advisory committees. She was a member of the Strategic Framework Board, which provided a blueprint for the National Quality Forum on the development of a national quality measurement and reporting system. She chaired the board of AcademyHealth, served on the board of the American Board of Internal Medicine Foundation, and served on the Board of Providence-Little Company of Mary Hospital Service Area in Southern California. She serves on the editorial boards for Health Services Research and The Milbank Quarterly and is a regular reviewer for many leading journals. She has a Ph.D. in Public Policy from RAND Graduate School.

DAVID MELTZER (NAM) is Chief of the Section of Hospital Medicine, Director of the Center for Health and the Social Sciences, and Chair of the Committee on Clinical and Translational Science at the University of Chicago, where he is Professor in the Department of Medicine, and affiliated faculty at the University of Chicago Harris School of Public Policy and the Department of Economics. Dr. Meltzer's research explores problems in health economics and public policy with a focus on the theoretical foundations of medical cost-effectiveness analysis and the cost and quality of hospital care. He has performed randomized trials comparing the use of doctors who specialize in inpatient care ("hospitalists"). He is also currently leading a Centers for Medicaid and Medicare Innovation Challenge award to study the effects of improved continuity in the doctor patient relationship between the inpatient and outpatient setting on the costs and outcomes of care for frequently hospitalized Medicare patients. He led the formation of the Chicago Learning Effectiveness Advancement Research Network (Chicago LEARN) that helped pioneer collaboration of Chicago-Area academic medical centers in hospital-based comparative effectiveness research and the recent support of the Chicago Area Patient Centered Outcomes Research Network (CAPriCORN) by the Patient Centered Outcomes Research Institute (PCORI). Meltzer received his MD and PhD in economics from the University of Chicago and completed his residency in internal medicine at Brigham and Women's Hospital in Boston.

MEGAN MORRIS is an Associate Professor in the Division of General Internal Medicine at the University of Colorado, Anschutz Medical Campus and is the founder/director of the Learning Collaborative to Address Disability Equity in Healthcare (LEADERS), a national consortium of healthcare organizations working towards advancing equitable healthcare for patients with disabilities. Dr. Morris' researches disparities in care experienced by persons with disabilities, with a focus on provider and healthcare organization-level factors that negatively impact the quality of care delivered to patients with disabilities. Using qualitative and mixed methods, she has led multiple studies in the area, including studies examining providers' implicit disability bias and a PCORI funded trial comparing methods to improve the quality of communication between patients with disabilities and their healthcare team. She received her MS in Speech-

Language Pathology, her MPH in Health Systems and Policy, and her PhD in Rehabilitation Science from the University of Washington.

ELISABETH M. OEHRLEIN is Assistant Vice President, Research & Programs at the National Health Council. In this role, Dr. Oehrlein crafts the NHC's annual research and programmatic agenda in service to the organization's mission and leads the NHC's research and programmatic work on value, real-world evidence, and patient engagement. She is a mixed-methods researcher with expertise in epidemiologic, qualitative, and patient-engagement methods, as well as patient-focused medical product development. Her research interests include developing new methods for applying patient-provided information when developing real-world evidence to ensure studies reflect the "real world" as closely as possible, as well as developing new methods for patient-journey mapping. She is an active member of the International Society for Pharmacoeconomics and Outcomes Research and holds leadership roles in the Patient-Centered and Real-World Evidence Special Interest Groups. Dr. Oehrlein holds an M.S. degree in Epidemiology from the University Of Maryland School Of Medicine's Department of Epidemiology and Human Genetics, and a Ph.D. in Pharmaceutical Health Services Research with a concentration in Comparative Effectiveness Research/Patient-Centered Outcomes Research from the University of Maryland School of Pharmacy.

BRAY PATRICK-LAKE is Senior Director of Strategic Partnerships at Evidation Health, where she develops collaborations to support the design and implementation of participant-centered studies and the regulatory and clinical acceptance of digital measures. She serves on the Digital Medicine Society's Scientific Leadership Board, Reagan Udall Foundation's IMEDS Steering Committee, and American College of Cardiology's National Cardiovascular Data Registry Oversight Board. Previously, she was a member of the All of Us National Advisory Panel, National Academies of Sciences, Engineering, and Medicine Health Science Policy Board, and Director of Stakeholder Engagement for the Clinical Trials Transformation Initiative (CTTI) at Duke University, where her work involved actively engaging patient advocacy organizations and other stakeholders in the CTTI's efforts to improve clinical trials. She served as co-chair of the Advisory Committee to the NIH Director that authored the vision for Precision Medicine Initiative's Cohort Program (now All of Us Research Program) and as a member of PCORNet's Executive Leadership Committee. She holds a BS degree from the University of Georgia, and an MFS degree from National University.

SCOTT RAMSEY is a physician, cancer researcher and health economist. He co-directs the Hutchinson Institute for Cancer Outcomes Research, or HICOR at Fred Hutch. The institute aims to reduce the economic and human burden of cancer by improving the efficiency and effectiveness of cancer care. Dr. Ramsey's research focuses on cancer outcomes, health care delivery, and economic evaluations of new and existing cancer screening and treatment technologies. He also explores methods for engaging a diverse range of stakeholders to help inform how research studies are prioritized and designed. He designs and conducts studies that weigh the costs and benefits of various treatment and screening approaches. Findings from such studies support medical decision-making and help payers, patients and health systems maximize health value. Dr. Ramsey received his MD from the University of Iowa, College of Medicine and his Ph.D. from the University of Pennsylvania, Wharton School.

THOMAS SEQUIST is the Chief Patient Experience and Equity Officer at Mass General Brigham. In this role he leads system wide strategies for improving patient experience and health care equity, while also overseeing quality and safety. He is a practicing general internist at Brigham and Women's Hospital and is a Professor of Medicine and Professor of Health Care Policy at Harvard Medical School. Previously, Dr. Sequist served as the Chief Quality and Safety Officer at Partners Healthcare, and also as the Director of Research and Clinical Program Evaluation for Harvard Vanguard Medical Associates and Atrius Health. Dr. Sequist's research interests include ambulatory quality measurement and improvement, with a focus on patient and provider education, and the innovative use of health information technology. Dr. Sequist is particularly interested in health policy issues affecting care for Native Americans, and has worked collaboratively with the Indian Health Service to evaluate the provision of care for this population. He is a member of the Taos Pueblo tribe in New Mexico and is committed to improving Native American health care, serving as the Director of the Four Directions Summer Research Program at Harvard Medical School and the Medical Director of the Brigham and Women's Hospital Physician Outreach Program with the Indian Health Service. He graduated from Cornell University with a B.S. in chemical engineering. He received his M.D. degree from Harvard Medical School, and his M.P.H. degree from the Harvard School of Public Health.

SCOTT R. SMITH is Director of the Division of Health Care Quality and Outcomes in the Office of the Assistant Secretary for Planning and Evaluation (ASPE) at HHS. His division conducts research on how health policies influence health care quality and outcomes in State and Federal programs. In addition, the division is responsible for managing the Office of the Secretary's Patient-Centered Outcomes Research (PCOR) data infrastructure portfolio across HHS. His interests are studying quality metrics in Medicare and Medicaid, building national data capacity for conducting patient centered outcomes research, strengthening research programs, and facilitating support for a learning health care system. Before joining ASPE, he directed research programs on comparative effectiveness and pharmaceutical outcomes at the Agency for Healthcare Research and Quality (AHRQ) and was a member of the tenured faculty at the University of North Carolina at Chapel Hill. He received an M.S.P.H. from the University of Illinois at Urbana-Champaign, and a Ph.D. from the University of Michigan

BENJAMIN SOMMERS (NAM) was appointed the Deputy Assistant Secretary for Health Policy in ASPE on January 20, 2021. Before joining ASPE, he was the Huntley Quelch Professor of Health Care Economics at the Harvard School of Public Health, and professor of medicine at Harvard Medical School and Brigham & Women's Hospital. He is a health economist and primary care physician whose main research interests are health policy for vulnerable populations and the health care safety net. He has received numerous awards including the Health Services Research Impact Award and the Article-of-the-Year Award from Academy Health, and the Outstanding Junior Investigator Award from the Society of General Internal Medicine. He was elected to the National Academy of Medicine in 2019. From 2011-2016, he served as a senior adviser in the Office of the Assistant Secretary for Planning and Evaluation in the U.S. Department of Health and Human Services. His research has been published in the New England Journal of Medicine, Journal of the American Medical Association, Journal of Health Economics, and Health Affairs, and covered by the New York Times, Wall Street Journal, and Washington Post. He received both his Ph.D. in Health Policy and his M.D. from Harvard University.

KURT C. STANGE (NAM) is Distinguished University Professor, Dorothy Jones Weatherhead Professor of Medicine, and Professor in the Departments of Family Medicine and Community Health, Population and Quantitative Health Sciences, and Sociology at the Case Western Reserve University, where he serves as Director of the Center for Community Health Integration. He is a family and public health physician, practicing at Neighborhood Family Practice, a federally-qualified community health center in Cleveland, Ohio. Dr. Stange is active in practice-based, multimethod, participatory research and development that aims to understand and improve primary health care and community health. He uses complexity science to guide and interpret integrated qualitative and quantitative research, and has been working on participatory methods to advance community health and to develop computational models of primary health care and patient-centered, population health and equity outcomes. He has been a PI of two PCORI projects and a co-investigator on another, and a co-investigator on two AHRQ-funded PCORTF studies, including the national evaluation of the EvidenceNow program. He has been locally active in the COVID-19 pandemic response and produced a report on the lessons of the pandemic for the NASEM Report on *Implementing High-Quality Primary Care: Rebuilding the Foundation of Health Care*.. He is an American Cancer Society Clinical Research Professor and a Scholar of The Institute for Integrative Health. Dr. Stange received his M.D. from Albany Medical College, and his Ph.D. from the University of North Carolina School of Public Health.

PAUL TANG (NAM) is a physician with the Palo Alto Medical Foundation and adjunct professor in the Stanford Clinical Excellence Research Center. Dr. Tang has over 25 years of executive leadership experience in healthcare information technology within medical groups, health systems, and corporate settings. Most recently, he led the creation, development, deployment, and evaluation of the application of artificial intelligence to physician point-of-care solutions integrated within an electronic health record system. He has chaired numerous federal and private sector advisory and professional association groups related to health information technology and policy. Dr. Tang is an elected member of the National Academy of Medicine, and fellow of the American College of Physicians, the American College of Medical Informatics, the College of Healthcare Information Management Executives, and the Healthcare Information and Management Systems Society. He has an M.S. degree in electrical engineering from Stanford University, and an M.D. from the University of California, San Francisco.