

Medication Adherence: Landscape, Strategies, and Evaluation Methods

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Speaker Biographies

Joshua Benner



Josh Benner is the Founder, President and CEO of RxAnte, a pioneering provider of advanced analytics, patented technology, and high-touch pharmacy services that get more from medicines. The company's solutions increase quality scores and lower costs by improving prescription drug use in medically complex and vulnerable populations. A leading voice on medication adherence, Dr. Benner's award-winning research and numerous publications have shed new light on the problem of non-adherence and identified promising approaches to improving it. Prior to RxAnte, Dr. Benner was Fellow and Managing Director at the Brookings Institution's Engelberg Center for Health Care Reform where he focused on medical technology policy. Prior to Brookings, Dr. Benner was principal at ValueMedics Research, an analytic and consulting services firm. Following the sale of ValueMedics to IMS Health in 2007, he served as senior principal in health economics and outcomes research and global lead for medication adherence at IMS (now IQVIA). Dr. Benner received his Doctor of Pharmacy degree from Drake University and his Doctor of Science in health policy and management from the Harvard University School of Public Health. He was a post-doctoral fellow in health services research at the Brigham and Women's Hospital Department of Pharmacoepidemiology and Pharmacoeconomics. Dr. Benner is currently a member of the Health Policy and Management Executive Council at the Harvard T.H. Chan School of Public Health, and an Entrepreneur in Residence at the Harvard i-lab.

Marie Brown



Marie T. Brown, MD MACP is a practicing internist and Professor in the Department of Internal Medicine at Rush Medical College, Physician Director Practice Redesign for the American Medical Association and immediate past Governor of the American College of Physicians. Her national leadership roles have included member of the Board of Directors for the American Board of Internal Medicine, Operations Committee for the National Diabetes Education Program. Dr. Brown is a frequent guest lecturer at academic, national and international health care conferences. Her areas of expertise include: Medication Adherence, Practice Transformation, Joy in Medicine, Adult Immunizations, and Diabetes. National Leadership roles: American Medical Association Senior Physician Advisor, American College of Physicians Governor Illinois Northern Chapter, ABIM Board of Directors, ABIM Chair Internal medicine test writing committee, NDEP Better Diabetes Care Task Group (CDC/NIH) Chair, NDEP Operations Committee, Natl Minority Quality Forum Advisor, Center for Chronic Disease Research University of Chicago, NDEP Operations Committee, American College of Physicians Natl Faculty Quality Connect Program, CMSS Board of Directors Treasurer, Chair Scientific Program Annual Meeting ACP. One of Dr. Brown's more challenging cases was highlighted in the New York Times Magazine 'Think Like a Doctor' series.

Hayden Bosworth



Hayden B. Bosworth, PhD is a health services researcher and Professor of Population Health Sciences, Medicine, Psychiatry, and Nursing at Duke University Medical Center as well as the Vice Chair of Education in the Department of Population Health Sciences. He is also the Deputy Director of the Center for Health Service Research in Primary Care Center of Innovation (COIN) at the Durham VAMC and Adjunct Professor in the Department of Health Policy and Administration in the School of Public Policy at the University of North Carolina at Chapel Hill. His research interests comprise three overarching areas of research: 1) clinical research that provides knowledge for improving patients' treatment adherence and self-management in chronic care; 2) implementing research to improve access to quality of care; and 3) eliminate health care disparities. Dr. Bosworth's expertise is in patient-centered, multidisciplinary self-management programs for adults with chronic disease, particularly cardiovascular disease. His expertise is in developing and implementing scalable/sustainable interventions to improve health behaviors and reduce the burden of chronic diseases. These trials/programs focus on motivating individuals to initiate health behaviors and sustaining them long term. He has focused on various methods of engagement (e.g., telehealth) and including various members of the healthcare system (e.g., pharmacists and nurses). One example is a multi-site trial evaluating a nurse-administered intervention to extend the HIV treatment cascade for cardiovascular disease prevention (EXTRA-CVD). He is also conducting a multi-site 12-month, pragmatic trial to assess differences in a digital medicine system (DMS) measuring adherence versus treatment as usual (TAU) for adult patients with schizophrenia, bipolar 1 disorder, major depression. Dr. Bosworth is the recipient of numerous awards including an American Heart Association established investigator award, a VA Senior Career Scientist Award, and Under Secretary's Award for Outstanding Achievement in Health Services Research. He has been the Principal Investigator of over 30 trials involving medication adherence resulting in over 350 peer-reviewed publications and four books. His work involves on-going implementation projects, which are being implemented in Medicaid of North Carolina, The United Kingdom National Health System, Kaiser Health care system, and the Veterans Affairs. In addition, to his research experience, mentoring is an area that he has devoted significant effort. He has mentored over 140 graduate students, post-doctoral fellows, and junior faculty including 28 career development awardees over the last 10 years. In addition, he is the PI of a K12 NHLBI funded grant to train faculty in dissemination and implementation.

Niteesh Choudhry



Niteesh K. Choudhry, MD, PhD, is Professor of Medicine at Harvard Medical School, Professor in the Department of Health Policy and Management at the Harvard T.H. Chan School of Public Health and Executive Director for the Center for Healthcare Delivery Sciences at Brigham and Women's Hospital, where he also a practicing hospitalist. He is also Director of Implementation Research and Education and Associate Director for Postgraduate Education in Clinical and Translational Science for Harvard Catalyst. Much of Dr. Choudhry's research deals with design and evaluation of novel strategies to increase the use of evidence-based therapies for common conditions such as heart disease and diabetes. He is particularly interested medication adherence and improving the quality of prescribing and has run numerous large pragmatic trials testing a variety of potential interventions to address these issues. His largest ongoing projects seek to combine approaches from behavioral and data science to develop scalable solutions for health quality improvement. He and his research team are funded by a variety of

public and private sources including the National Institutes of Health, health insurers, pharmaceutical manufactures and private foundations. Dr. Choudhry attended McGill University, received his M.D. and completed his residency training in Internal Medicine at the University of Toronto and then served as Chief Medical Resident for the Toronto General and Toronto Western Hospitals. He earned his Ph.D. in Health Policy from Harvard University with a concentration in Statistics and the Evaluative Sciences and was concurrently a Post-Doctoral Fellow in Drug Policy Research at Harvard Medical School. His research has been widely published in leading medical and policy journals and has won numerous awards for excellence in research, teaching and mentorship.

John Concato



John Concato, MD, MS, MPH, BEng, is Deputy Director of the Office of Medical Policy Initiatives in the Center for Drug Evaluation and Research at the Food and Drug Administration (FDA), and an Adjunct Professor of Medicine at Yale University. In his position at FDA, Dr. Concato develops and implements policies addressing a broad range of medical product, regulatory, and clinical topics, including drug development and drug approval processes, clinical trial and other study design considerations, human subjects protection, and pre-and post-market safety surveillance. Prior to joining FDA, Dr. Concato was an investigator, mentor, and clinician at Yale School of Medicine and VA Connecticut Healthcare System for almost thirty years, with extensive experience in study design and data analysis for patient-oriented research.

His projects involved a range of topics in patient care, methodology, and health policy; examples include evaluating the effectiveness of screening programs, launching the Million Veteran Program genomic biobank, and comparing results of observational studies with randomized trials that inform ongoing discussions of real-world evidence.

Jacqueline Corrigan-Curay



Jacqueline Corrigan-Curay serves as Director of CDER's Office of Medical Policy (OMP). She leads the development, coordination, and implementation of medical policy programs and strategic initiatives. She works collaboratively with other CDER program areas, FDA centers, and stakeholders on enhancing policies to improve drug development and regulatory review processes. OMP is comprised of the Office of Prescription Drug Promotion (OPDP) and the Office of Medical Policy Initiatives (OMPI). OPDP oversees the regulation of prescription drug promotion and advertising. OMPI provides oversight and direction for new and ongoing policy initiatives in broad-based medical and clinical policy areas. Prior to joining FDA, she served as supervisory medical officer with the Immediate Office of the Director,

National Heart, Lung and Blood Institute (NHLBI), at National Institute of Health's (NIH) where she focused on developing policies and procedures to enhance the clinical trial enterprise. She also served as the Director of the Office of Biotechnology Activities (OBA), Office of Science Policy at NIH, where she was executive secretary of the NIH Recombinant DNA Advisory Committee.

She has held positions as an attending physician with the VA Medical Center, a policy analyst with the Congressional Office of Technology Assessment, and a practicing attorney in Washington, D.C. Dr. Corrigan-Curay earned her law degree from Harvard Law School, her medical degree from University of Maryland School of Medicine, and a bachelor's degree in history of science from Harvard/Radcliffe College in Cambridge, MA. She completed her training in internal medicine at Georgetown University Medical Center, where she also served as a clinical assistant professor of medicine. She continues to practice internal medicine part-time at the Veterans Affairs Medical Center in Washington, D.C.

David Evans



David Evans has worked for 30 years to ensure that public health policies, clinical and social science, and health education initiatives are rooted in the values of the individuals who should benefit from them. Inspired by the passionate but pragmatic HIV activism of the 1980s and 1990s, he co-developed one of the nation's first peer-based HIV treatment education and adherence programs and has led multi-stakeholder gatherings to develop public health programs that minimize stigma and criminal vulnerability for people with HIV. He has published in the popular and scientific press, ranging from *POZ Magazine* and *Positively Aware*, to the *Journal of AIDS*, the *Journal of Medical Ethics*, *PLoS One*, and the *Journal of Virus Eradication*.

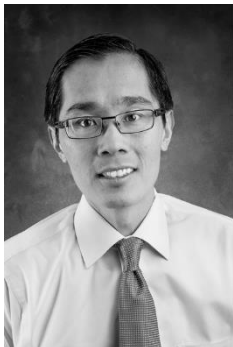
Rahul Gondalia



Rahul Gondalia is Health Research Scientist at Propeller Health, where he leverages his training in epidemiology to develop and implement clinical research studies with academic, health system and pharmaceutical partners. Prior to his current role, Rahul worked in academic, consulting and government sectors to generate real world evidence around chronic diseases, specifically in respiratory and cardiovascular health. Rahul is generally interested in applying epidemiologic methods in clinical research

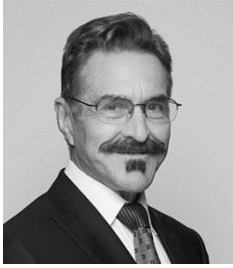
to address biases in observational data, with the ultimate goal of improving population health and decision-making around patient care. Rahul holds a PhD in epidemiology from the University of North Carolina at Chapel Hill and an MPH in environmental health from Emory University.

Michael Ho



P. Michael Ho, MD, PhD is a staff cardiologist at the VA Eastern Colorado Health Care System and Professor of Medicine, University of Colorado School of Medicine. He is Director of the VA HSR&D Denver Center of Innovation to Promote Veteran-Centered Value-Driven Care. The Center of Innovation is focused on health services research, program evaluation and implementation science research with the goal of improving the outcomes of care delivered to Veterans. His research has focused on describing the prevalence of medication non-adherence among patients with cardiovascular diseases and implementing collaborative care interventions to improve medication adherence and risk factor control.

John (Jack) Lewin



Prior to his current position at Lewin and Associates, Dr. Jack Lewin most recently served as President and Chief Executive Officer of the Cardiovascular Research Foundation. Previously, Dr. Lewin was CEO of the American College of Cardiology (ACC) from 2006 through April 2012. The 41,000 member ACC represents over 90% of U.S. cardiologists, 5,000 cardiovascular nurses and clinicians and over 5,000 international members. Prior to his stint at ACC, Lewin was CEO of the 35,000 member California Medical Association for eight years. Previously, he was Hawaii's Director of Health from 1986-1994, overseeing 6,500 employees, 12 hospitals and a billion-dollar budget. Before that, as a Commissioned Officer in the US Public Health Service, Dr. Lewin was the founder and first Director of the Navajo Nation Department of Health, serving the needs of America's largest American Indian tribe. He currently serves as the voluntary Chairman of the Board for the National Coalition on Health Care. In 2011, he was named as one of Modern Healthcare's 100 Most Influential People in Healthcare. Dr. Lewin received his BA in Biological Sciences from the University of California, Irvine, and his MD from the University of Southern California.

Matthew Loper



As CEO and Co-Founder, Matt Loper oversees strategy, sales, business development, and finance for Wellth. He is inspired by the chance to create scalable positive behavior change in patients with chronic conditions and humbled by the fact that we get to work with some of the best healthcare providers and insurers in the industry. Prior to founding Wellth, Matt was an investor in publicly traded healthcare technology, medical devices, and services company at OrbiMed Advisors, a leading healthcare investment firm with \$13 billion under management. He also worked in Healthcare Investment Banking at Goldman Sachs. Matt holds a BS in Biological Engineering from MIT. He is a lifelong fan of the Los Angeles Lakers and played college baseball. He enjoys spending time with his Australian Shepherd, Luna.

Janet de Moor



Janet S. de Moor, PhD, MPH is the Deputy Associate Director of the Healthcare Delivery Research Program (HDRP) in the Division of Cancer Control and Population Sciences at the National Cancer Institute. In this role, she provides support and expertise to HDRP's Associate Director on developing and implementing long-term scientific goals and activities, the annual budget cycle and processes, communications and other program activities and scientific planning. Dr. de Moor leads research and programmatic activities focused on cancer care delivery and the economic burden of cancer, namely the impact of a cancer diagnosis and treatment on financial hardship and employment outcomes. Dr. de Moor also co-leads the National Institutes of Health (NIH) Adherence Network, a transdisciplinary consortium of Institutes and Centers who provide leadership, vision, and support to strengthen adherence research funded by the NIH.

Neha Sheth Pandit



Neha Sheth Pandit is an Associate Professor and Vice Chair of Research and Scholarship for the University of Maryland Baltimore School of Pharmacy (UMBSOP). She completed her PGY1 at NewYork-Presbyterian Hospital and her HIV Specialty Residency at University at Buffalo. Since the completion of her training she has served as the clinical pharmacist at the University of Maryland Medical System HIV outpatient, THRIVE Program, in addition to the HIV/oncology clinic. She previously served as the HIV clinical pharmacist on two inpatient HIV infection services. She has served on the board of a federally-qualified health center, Chase Brexton Health Services, the Advisory Board for the Maryland AIDS Drug Assistance Program, as chair for the HIV PRN American College of Clinical Pharmacy (ACCP), in addition to many committees for the Society of Infectious Diseases Pharmacists and the Infectious Diseases PRN for ACCP. She currently serves on the Pharmacists Committee for the American Academy of HIV Medicine.

Andrew Peterson



Andrew M. Peterson PharmD, PhD, FCPP, is the Executive Director of the Substance Use Disorders Institute (SUDI) and John Wyeth Dean Emeritus at University of the Science in Philadelphia. He is also Professor of Clinical Pharmacy and Professor of Health Policy and previously served as Dean of the Mayes College of Healthcare Business and Policy. Highly regarded in the fields of Pharmacy Management and Health Policy, Dr. Peterson has more than 30 years research experience in medication adherence, health outcomes research, health and drug use policy, and substance use disorders. His accomplishments are wide ranging: he has produced a large body of research and scholarly work, created innovative programming, and secured significant grant dollars. Dr. Peterson speaks at conferences around the world on issues related to pharmacy and health policy and is known for his commitment to mentoring others and fostering success; recognitions include several awards for excellence in teaching and for learning innovation. He is co-author of an authoritative text for nurse practitioners and physician assistants entitled: *Advanced Pharmacotherapeutics: A Practical Approach*, 4th edition and co-editor of the book *Leadership and Management in Pharmacy Practice*. He is also a contributor to numerous peer-reviewed publications. Active in the academic and research communities, Dr. Peterson has served on the boards of many organizations and is engaged in several professional organizations including the American Pharmacists Association, the College of Physicians of Philadelphia, the American Public Health Association, and the International Society for Pharmacoeconomics and Outcomes Research. Dr. Peterson earned his BS in Pharmacy from Rutgers University, his PharmD from Virginia Commonwealth University, and his PhD in health policy at USciences. He also completed an advanced residency in hospital pharmacy administration at Thomas Jefferson University Hospital and a residency in hospital pharmacy practice at Rush Presbyterian St. Luke's Medical Center in Chicago.

George Savage



George Savage, M.D. is Chief Medical Officer and Co-Founder of Proteus Digital Health. His experience reviewing the outcomes of digital medicines interventions has confirmed his belief that they are an invaluable collaboration platform for patients and physicians, integrating information about use of drug and response to therapy directly into everyday healthcare. George is focused on developing the clinical and economic evidence needed to secure global regulatory approvals and spur widespread adoption of digital medicines. Under his leadership there have been 120 clinical studies and 106 academic papers and abstracts published on digital medicines. The company has received FDA approvals for novel drugs and new categories of medical devices. These ground-breaking approvals in the US have been replicated in Europe and in China. He serves on the boards of the California Life Sciences Association and the Boston University College of Engineering Advisory Council. In 2016 George Savage was elected a Fellow of the American Institute for Medical and Biological Engineering. George holds a Bachelor of Science in biomedical engineering from Boston University, an M.D. from Tufts University School of Medicine, and an M.B.A. from Stanford University Graduate School of Business. He completed postgraduate training in surgery at the University of Massachusetts and is licensed to practice medicine in California. He is a named inventor on more than 70 patents worldwide and author of over 14 peer-reviewed publications. George has made many presentations including at the White House to the President's Commission on Combating Drug Addiction and the Opioid Crisis.

Fortunato (Fred) Senatore



Fortunato Fred Senatore MD, PhD, FACC. Fred received his BA in Biochemistry and MS in Bio-engineering from Columbia University. He received his PhD in Chemical Engineering from Rutgers University. He was a professor of Chemical Engineering at Texas Tech University with expertise in artificial organ technology, biocompatibility, hemodynamics, fluid mechanics, and modeling/simulation of biological processes. Fred attended Medical School at Texas Tech University Health Sciences Center School of Medicine while on staff in the chemical engineering department. He trained in Internal Medicine at the Mayo Clinic and in Cardiology at the Massachusetts General Hospital. Fred served in the pharmaceutical industry with increasing responsibility over a span of 17 years and is currently a medical officer in the Division of Cardiovascular and Renal Products in the Office of New Drugs, Center of Drug Evaluation Research, Food and Drug Administration. He also holds an adjunct assistant professorship at the George Washington University School of Medicine.

Michael Stirratt



Michael J. Stirratt, Ph.D. is a Senior Behavioral Scientist at the NIMH Division of AIDS Research, where he leads a portfolio of federally-funded research grants on patient adherence to HIV treatment and prevention regimens. Dr. Stirratt has worked in HIV behavioral research for over 20 years. During his tenure at NIMH, Dr. Stirratt has advanced behavioral research and implementation science initiatives to strengthen delivery and use of oral HIV pre-exposure prophylaxis (PrEP), and to address HIV care continuum gaps with a focus on antiretroviral medication adherence among people living with HIV. Dr. Stirratt contributes to protocols and scientific working groups in multiple NIH HIV Research Networks, including the HIV Prevention Trials Network, the HIV Vaccine Trials Network, and the AIDS Clinical Trials Network. He also co-Chairs the NIH Adherence Network, a scientific interest group which provides leadership and vision for adherence research at NIH.

Stephen Thomas



One of the nation's leading scholars in the effort to eliminate racial and ethnic health disparities, Dr. Stephen B. Thomas has applied his expertise to address a variety of conditions from which minorities generally face far poorer outcomes, including cardiovascular disease, diabetes, obesity and HIV/AIDS. He is the Principal Investigator (with Dr. Sandra C. Quinn) on the Center of Excellence in Race, Ethnicity and Health Disparities Research, funded by the National Institute for Minority Health and Health Disparities (NIMHD). Dr. Thomas has received numerous awards for his professional accomplishments, and over the years, his work has become recognized as one of the scholarly contributions leading to the 1997 Presidential Apology to Survivors of the Syphilis Study Done at Tuskegee. His current research focuses on the translation of evidence-based science on chronic disease into community-based interventions designed to eliminate racial and ethnic disparities in health and health care. More specifically, he has focused on understanding how social context shapes attitudes and behaviors of underserved, poorly served, and never-served segments of our society toward participation in health promotion and disease prevention activities. Dr. Thomas is particularly interested in how the legacy of the Syphilis Study at Tuskegee (1932–72) has impacted trust and influenced the willingness of African Americans to participate in medical and public health research.

Andrea Troxel



Andrea Troxel is Professor of Population Health and Director of Biostatistics at NYU School of Medicine. In addition to her extensive experience in the design, conduct, and analysis of all phases of clinical studies, Dr. Troxel has published on missing data, sensitivity analyses, and the development of statistical methodology for analysis of clinical trials. Dr. Troxel is the author of more than 240 articles in the literature of statistical methodology, cancer, behavioral research, and other areas of medicine; in particular, she is expert on randomized trials of behavioral interventions and on adaptive trial designs. She is an elected Fellow of the American Statistical Association; Associate Editor of *Statistics in Medicine*, a premier journal in biomedical statistics; and serve on Data Safety Monitoring Boards (DSMBs) for randomized trials in cancer,

cardiac devices, smoking cessation, and behavioral therapies. Dr. Troxel has directed PhD dissertations in biostatistics and mentored numerous fellows in oncology, radiology, health policy, and general medicine.

Jocelyn Ulrich



Jocelyn Ulrich, MPH, is Deputy Vice President, Policy and Research, at the Pharmaceutical Research and Manufacturers of America (PhRMA). At PhRMA, she is responsible for developing legislative and policy analysis and research studies on a range of issues impacting innovative biopharmaceutical companies including intellectual property issues, FDA policy issues, the R&D process, the value of innovation, and other issue areas impacting the environment for innovation. In addition to her experience at PhRMA she has over 15 years of experience in the pharmaceutical industry at Pfizer, Human Genome Sciences, and EMD Serono in roles in clinical research management, investigator-initiated and collaborative research, and global policy and public affairs. Jocelyn holds an MPH in global health policy and management from New York University.

Bernard Vrijens



Bernard Vrijens is Scientific Lead at Advanced Analytical Research on Drug Exposure (AARDEX Group). He is also Professor of Biostatistics at Liege University, Belgium. Dr. Vrijens holds a PhD from the Department of Applied Mathematics and Informatics at Ghent University, Belgium. He currently leads a research program investigating (a) the most common errors in dosing using a simple but robust taxonomy, (b) particular dosing errors that can jeopardize the efficacy of a drug, and (c) the optimal measurement-guided medication management program that can enhance adherence to medications and maintain long-term persistence. Dr. Vrijens is also the co-author of seven book chapters, over 100 peer-reviewed scientific papers, and named as inventor on 6 patents. He is an honorary member of the International Society for Patient Medication Adherence (ESPACOMP), and an active member of several EU- and US-funded collaborative projects around the theme of adherence to medications.

Michael Wolf



Michael Wolf, MA MPH PhD is the James R. Webster, Jr. Professor of Medicine and Director of the Center for Applied Health Research on Aging (CAHRA) within the Feinberg School of Medicine at Northwestern University. He is a cognitive/behavioral scientist and health services researcher with expertise in health literacy, aging, chronic disease self-management, and specifically the design of health system interventions to promote safety and adherence to complex medication regimens among medically complex, older adults living with multiple chronic conditions.

Marta Wosińska



Marta E. Wosińska, PhD, is the Deputy Director, Policy at the Duke-Margolis Center for Health Policy and Consulting Professor at the Fuqua School of Business. Widely recognized as an expert on health policy, economics, and regulation, Dr. Wosińska leads the Center's Washington, DC office. Dr. Wosińska's experience spans both academia as well as the executive and legislative branches of the federal government. In 2019, Dr. Wosińska served as an economic advisor to the U.S. Senate Finance Committee, providing drug market analysis and expert guidance for the Committee's bipartisan investigative and legislative work on drug pricing. Dr. Wosińska also served as Chief Healthcare Economist in the Office of Inspector General (OIG) at the US Department of Health and Human Services. Before then, Dr. Wosińska headed the Economics Staff at FDA's Center for Drug Evaluation Research. Before entering public service, Dr. Wosińska was an Assistant Professor of Marketing at the Harvard Business School and a visiting Assistant Professor at the Columbia Business School. Dr. Wosińska received her PhD in economics from University of California at Berkeley and a bachelor's degree from Arizona State University.

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