

Evidence-Based Practices for Public Health Emergency Preparedness and Response: Assessment of and Recommendations for the Field

Committee

Bruce N. Calonge

Chair

Ned Calonge, M.D., M.P.H., is the President and CEO of The Colorado Trust, a private grant-making foundation dedicated to achieving health equity for all Coloradans. He is an Associate Professor of Family Medicine at the Colorado School of Medicine, University of Colorado, Denver, and an Associate Professor of Epidemiology at the Colorado School of Public Health. Nationally, he serves on the Centers for Disease Control and Prevention's Community Preventive Services Task Force. He serves on the National Academies of Sciences, Engineering and Medicine's Board on Population Health and Public Health Practice as well as on the Roundtable on the Promotion of Health Equity. In 2016, he participated on two National Academies committees, supporting the release of two publications: *Communities in Action*, *Pathways to Health Equity* and *An Evidence Framework for Genetic Testing*. Dr. Calonge is past Chair of the United States Preventive Services Task Force, past Chair of CDC's Evaluating Genomic Applications in Practice and Prevention Working Group, past Co-chair of the National Academies Genomics in Public Health Action Collaborative and ongoing consultant for and past member of the Secretary's Advisory Committee on Heritable Disorders in Newborns and Children. Dr. Calonge serves as a board member for Delta Dental of Colorado and is a board member and treasurer for the Colorado Association of Funders. Prior to coming to The Trust, Dr. Calonge was the Chief Medical Officer of the Colorado Department of Public Health and Environment. Dr. Calonge also served as Chief of the Department of Preventive Medicine for the Colorado Permanente Medical Group and as a family physician for 10 years. He is a past President of the Colorado Medical Board, the state physician-licensing board. Dr. Calonge received his B.A. in Chemistry from The Colorado College, his M.D. from the University of Colorado and his M.P.H. from the University of Washington. He was elected to the National Academy of Medicine in 2011.

David M. Abramson

Member

David M. Abramson, Ph.D., M.P.H., is the founding director of NYU's Program on Population Impact, Recovery and Resiliency (PiR2), a faculty member of NYU's College of Global Public Health, and an associate faculty member of the NYU Medical School's Department of Population Health. Prior to joining the NYU faculty in 2014, Abramson was the Deputy Director at Columbia University's National Center for Disaster Preparedness at the Earth Institute. Dr. Abramson has led a number of major research studies examining the long-term impacts of disasters on communities and on vulnerable populations, including children. These studies include the longitudinal Gulf Coast Child and Family Health (G-CAFH) Study, post-Hurricane Katrina, which has recently received funding from NIH to look at recovery 10 years after the storm, and the Sandy Child and Family Health (S-CAFH) Study currently being conducted in partnership with Rutgers University with funding from the New Jersey Department of Health. Dr. Abramson is also the co-investigator of the NIH-funded Women's and Their Children's Health (WaTCH) Study, exploring the impact of the Deepwater Horizon oil spill on children's long-term health, in collaboration with Louisiana State University. Among his research-to-action initiatives, Dr. Abramson is the co-founder and co-director of the SHOREline youth empowerment project with Colorado State University's Dr. Lori Peek, a curricular project-based learning program presently operating in a number of Gulf Coast and New York City high schools. In addition to the disaster recovery work related to Katrina, Sandy, and the Deepwater Horizon oil spill, Abramson has studied short-term post-tornado community recovery in Joplin, Missouri, disaster recovery planning in four mid-sized US cities, risk communication strategies, and organizational and attitudinal aspects of disaster preparedness. Dr. Abramson received his Ph.D. in Sociomedical Sciences from Columbia University, with a specialization in political science, and an M.P.H. from Columbia University as well. Over the past twenty-five years, he has conducted research on HIV/AIDS, public health systems research, and civic engagement policy and practice. Prior to entering the field of public health, Dr. Abramson spent a decade as a national magazine journalist, having worked at or written for such publications as Rolling Stone, Esquire, and Outside magazines, among others.

Julie Casani

Member

Julie Casani, M.D., is the Medical Director of Student Health Services at North Carolina State University where she oversees the delivery of primary care, women's services, physical therapy, nutrition services and pharmacy to students, faculty, and staff. She is an Adjunct Associate Professor in Biological Sciences where she instructs in Global Public Health, Agriculture Security and One Health and mentors pre-health students. Until June of 2017, she was the Director of Public Health Preparedness and Response in the North Carolina Division of Public Health. This Branch coordinates the preparedness system for 85 Local Health Departments and 4 regional offices and provides response/recovery coordination, subject expertise, and support to the Local Health Departments. From 1999-2006, she was the Preparedness Director at the Maryland Department of Health and Mental Hygiene. She has been a policy and health practice consultant to several national workshops and committees on Weapons of Mass Destruction for Federal and State agencies, serving on three Defense Science Boards. She also served three consecutive terms as a member of the Homeland Security Science and Technology Advisory Committee for DHS. She recently co-authored the text: Disasters and Public Health: Planning and Response. Dr. Casani practiced clinical Emergency Medicine in the Johns Hopkins system for 17 years. She has been actively involved in Emergency Medical Services since the 1970s serving at every level from ambulance provider to an appointed member of the Maryland State EMS Board. Dr. Casani received her Medical Degree from New York University School of Medicine and her Masters in Public Health from Johns Hopkins Bloomberg School of Public Health.

David Eisenman

Member

David Eisenman, M.D., M.S.H.S., is Professor in Residence at the David Geffen School of Medicine and the Fielding School of Public Health at UCLA, where he is the Director of the Center for Public Health and Disasters. For over 15 years, Dr. Eisenman has been funded by National Institutes of Health, National Science Foundation, Centers for Disease Control and Prevention, the Department of Homeland Security and other federal agencies to study the field of public health and disasters. He is a committee member on the National Health Security Preparedness Index and co-chairs the Social and Economic Standing Committee, National Institute of Standards and Technology (NIST) Community Resilience Planning Guide for Buildings and Infrastructure Systems. From 2012-2016, Dr. Eisenman served as the Preparedness Science Officer for the Emergency Preparedness and Response Program at the Los Angeles County Department of Public Health. Dr. Eisenman is also an Associate Natural Scientist at RAND, where he is a member of the Human Subjects Protection Committee. Dr. Eisenman is a Credentialed Physician for the Los Angeles County Emergency System for the Advance Registration of Volunteer Health Professionals Program (ESAR VHP). He holds a board certification in Internal Medicine and he cares for patients at the University of California, Los Angeles Medical Center.

Francisco Garcia

Member

Francisco García, M.D., M.P.H., is the Assistant County Administrator for Health and Chief Medical Officer of Pima County in Tucson, Arizona. Located on the US-Mexico border, Pima County is a large government jurisdiction the size of the state New Hampshire with more than a million inhabitants. Dr. García chairs CDC's National Breast and Cervical Cancer Prevention Advisory Committee. He is a member of the NASEM Roundtable on Health Equity and the Elimination of Health Disparities. He is an immediate past member of the U.S. Preventative Services Task Force. Prior to joining Pima County, he was a Distinguished Outreach Professor of Public Health and Obstetrics and Gynecology, and served in a variety of leadership roles at the University of Arizona including director of the Center of Excellence in Women's Health, the Arizona Hispanic Center of Excellence, and the Cancer Disparities Institute of the Arizona Cancer Center.

Paul K. Halverson

Member

Paul Halverson, Dr.P.H., is the founding dean of the Indiana University Richard M. Fairbanks School of Public Health in Indianapolis. Dr. Halverson came to Indiana University from the Arkansas Department of Health where he served as state health officer and director. Prior to his appointment as State Health Officer, Dr. Halverson served in senior leadership roles at the U.S. Centers for Disease Control and Prevention including as senior advisor in the office of strategy and innovation, senior scientist and director of the division of public health systems development and research, director of the CDC's World Health Organization's Collaborating Center for Public Health Practice, and director of the National Public Health Performance Standards program. Before joining the CDC, Dr. Halverson served as senior health policy advisor for the North Carolina Department of Environment, Health, and Natural Resources. Dr. Halverson began his career in health administration and has fifteen years of experience as a hospital and health system executive, working in Phoenix, Minneapolis, and Michigan. Dr. Halverson earned a doctorate in public health from the University of North Carolina, his master's degree in health services administration from Arizona State University, and is a Fellow of the American College of Healthcare Executives.

Sean Hennessy

Member

Sean Hennessy, Pharm.D., Ph.D., is a professor of Epidemiology in Biostatistics at the University of Pennsylvania. He conducts research in the field of pharmacoepidemiology, which is the study of the health effects of drugs and other medical products in populations. His team identified a survival benefit of potassium supplementation in users of loop diuretics, and studied serious health consequences of drug-drug interactions involving high-risk drugs including anticoagulants, antidiabetic agents, and antiplatelet agents. His research has produced crucial knowledge about the cardiovascular safety of many widely-used drugs for mental health conditions including ADHD, depression, and schizophrenia. He also evaluated an early approach to using medical insurance data to improve prescribing, finding it ineffective despite its federal mandate. This contributed to the omission of a requirement for drug utilization review programs in Medicare Part D. He co-led a pair of studies demonstrating the effectiveness and safety of the SA14-14-2 vaccine for Japanese encephalitis (JE), which subsequently led to the immunization of millions of children per year in populous countries including Cambodia, India, Malaysia, Nepal, Sri Lanka, and Thailand. Use of that vaccine has been credited with reducing the incidence of JE. He co-developed the trend-in-trend research design for studying the effects of rapidly increasing or declining exposures. He was the senior author of one of two citizen petitions to the US Food and Drug Administration that led to re-labeling of metformin, the best-proven oral drug for diabetes, to permit its use in persons with mild to moderate renal insufficiency.

Edbert Hsu

Member

Edbert Hsu, M.D., M.P.H., FACEP, joined the department faculty after completing an International EM fellowship at Johns Hopkins. Combining his international health background with a special interest in disaster medicine, he has worked on emergency medicine program development and public health preparedness around the world. Currently, he serves on the leadership group of the Office of Critical Event Preparedness and Response (CEPAR). He has been a co-investigator with the DHS Center for the Study of Preparedness and Catastrophic Event Response (PACER) at Johns Hopkins and is currently a Co-PI on a CDC sponsored project studying public health leadership training for crises. Dr. Hsu has completed several systematic reviews supported by AHRQ. In recent years, he has been interested in the topic of mass gatherings and crowd disasters. Dr. Hsu serves as an Associate Editor for the AMA Journal, Disaster Medicine and Public Health Preparedness. Dr. Hsu holds an M.D. from University of Pittsburgh School of Medicine and an M.P.H. from the Johns Hopkins Bloomberg School of Public Health.

Nathaniel Hupert

Member

Nathaniel Hupert, M.D. M.P.H., is an internal medicine physician and public health researcher focusing on health care operations research, with a special focus on public health emergencies and response logistics. He currently serves as Associate Attending Physician at New York-Presbyterian Hospital/Weill Cornell Medical Center, where he is Associate Professor of Healthcare Policy and Research and of Medicine; in addition, since 2006 he has been Co-Director of the Cornell Institute for Disease and Disaster Preparedness. Using a variety of computational and data analytic methods, his research seeks to improve the effectiveness of care delivery in both conventional and crisis settings. Since September 2000, he has collaborated with local, state, federal, and international public health officials in advancing clinical and health system preparedness for bioterrorism and other public health emergencies. Several of Dr. Hupert's computer models of mass antibiotic dispensing and hospital surge capacity have been widely downloaded and used by public health professionals worldwide, notably the BERM Point-of-Dispensing staffing model and the AHRQ Surge Model. He led the development of two U.S. healthcare planning documents, the "Community Guide for Public Health Preparedness" (2004) and the "Guidebook for Hospital Preparedness Exercises" (2010). Dr. Hupert has served on the Anthrax Modeling Working Group of the U.S. Department of Health and Human Services (DHHS) (2003-9); was a member of the 2007 RAND Expert Panel on Defining Public Health Preparedness; was the founding Director of the Preparedness Modeling Unit at the U.S. Centers for Disease Control and Prevention (CDC) (2008-10); and served on the Scientific Advisory Board of the National Institute of Health's Modeling of Infectious Disease Agent Study (MIDAS) (2012-14). Between 2011-2017, he served as a Medical Advisor for the CDC's Division of Preparedness and Emerging Infections and also held similar appointments at the DHHS Biomedical Advanced Research and Development Authority (BARDA, 2014-15) and the DHHS National Healthcare Preparedness Program (NHPP, 2016). Dr. Hupert trained at Harvard Medical School, the University of Pittsburgh Medical Center, and the Harvard School of Public Health.

Rebecca A. Maynard

Member

Rebecca A. Maynard, Ph.D., is Professor of Education and Social Policy at the University of Pennsylvania. Dr. Maynard is a leading expert in the design and conduct of randomized controlled trials in the areas of education and social policy. She has conducted influential methodological research, including co-developing PowerUP! to support efficient sample designs for causal inference studies, and she has been influential in advancing the development and application of research synthesis methods. In 2016, she stepped down from a 12-year tenure as director of the University of Pennsylvania's Predoctoral Training Program in Interdisciplinary Methods for Field-based Education Research, which has served more than 75 Ph.D. students from Arts and Sciences, Business, and Education. From 2010 through 2012, Dr. Maynard served as Commissioner of the National Center for Education Evaluation and Regional Assistance at the Institute of Education Sciences (IES). As Commissioner, she oversaw the Institute's evaluation initiatives, the What Works Clearinghouse, the Regional Education Laboratories, and the National Library of Education (including ERIC). Prior to joining the faculty at the University of Pennsylvania in 1993, she was Senior Vice President at Mathematica Policy Research, Inc. Dr. Maynard holds a Ph.D. in Economics from the University of Wisconsin, Madison.

Suzet M. McKinney

Member

Suzet M. McKinney, Dr.P.H., M.P.H., currently serves as CEO/Executive Director of the Illinois Medical District. The Illinois Medical District (IMD), a 24/7/365 environment that includes 560 acres of hospitals, medical research facilities, labs, a biotech business incubator, universities, raw land development areas and more than 40 healthcare related facilities, is one of the largest urban medical districts in the United States. Dr. McKinney is the former Deputy Commissioner of the Bureau of Public Health Preparedness and Emergency Response at the Chicago Department of Public Health (CDPH), where she oversaw the emergency preparedness efforts for the Department and coordinated those efforts within the larger spectrum of the City of Chicago's Public Safety activities, in addition to overseeing the Department's Division of Women and Children's Health. Dr. McKinney previously served as the Sr. Advisor for Public Health and Preparedness at the Tauri Group, where she provided strategic and analytical consulting services to the U.S. Department of Homeland Security's (DHS), BioWatch Program. Her work at DHS included providing creative, responsive and operationally-based problem-solving for public health, emergency management and homeland security issues, specifically chemical and biological early detection systems and the implementation of those systems at the state and local levels. Dr. McKinney serves on numerous boards, committees and advisory boards. Current board memberships include the Board of Directors for Susan G. Komen Chicago, Thresholds, and the African-American Legacy of the Chicago Community Trust. Dr. McKinney is Co-Chair of the National Academies of Science, Engineering and Medicine, Health and Medicine Division's (HMD) Forum on Medical and Public Health Preparedness for Disasters and Emergencies and is a member of the IOM's Standing Committee on Health Threats Resilience. She also serves on the Science and Security Board for the Bulletin of the Atomic Scientists, the Board of Scientific Counselors for the U.S. Centers for Disease Control, Office of Public Health Preparedness and Response, as well as the Federal Emergency Management Agency's (FEMA) National Advisory Council (NAC). She has served as an Incident Commander for CDPH and was a member of Chicago's Incident Management Team. She has been responsible for leading multiple emergency response efforts, including Chicago's 2014-2015 Ebola response; the operational response to the 2009 H1N1 outbreak, which was successful in vaccinating nearly 100,000 residents over a six week timeframe; as well as CDPH's participation in the 2012 NATO Summit response and the 2010 Haiti Earthquake response. Dr. McKinney has earned a reputation as an experienced, knowledgeable public health official with exceptional communication skills. She has served as an on-camera media expert on emergency issues including biological and chemical threats, natural disasters, pandemic influenza, and climate-related emergencies. A sought after expert in her field, she has also provided support to the U.S. Department of Defense's, Defense Threat Reduction Agency, providing subject matter expertise in biological terrorism preparedness to the country of Poland. In academia, Dr. McKinney serves as an Instructor in the Division of Translational Policy and Leadership Development at Harvard University's T.H. Chan School of Public Health and as Adjunct Assistant Professor of Environmental and Occupational Health Sciences at the University of Illinois at Chicago School of Public Health. Additionally, she serves as a mentor for the Biomedical Sciences Careers Project, also at Harvard University. She is the author of the forthcoming text: Public Health Emergency Preparedness: Practical Solutions for the Real World, published by Jones & Bartlett Publishers (2018). Dr. McKinney holds her Doctorate degree from the University of Illinois at Chicago School of Public Health, with a focus on preparedness planning, leadership and workforce development. She received her Bachelor of Arts in Biology from Brandeis University (Waltham, MA) where she was also a Howard Hughes Medical Institute Fellow. She received her Master of Public Health degree (Health Care Administration) and certificates in Managed Care and Health Care Administration

from Benedictine University in Lisle, IL.

Jane P. Noyes

Member

Jane P. Noyes, D.Phil., MSc., is Professor of Health and Social Services Research and Child Health in the School of Social Sciences, Bangor University, UK. Jane is Co-Lead of the Wales National Centre for Population Health & Wellbeing Research and the Wales Kidney Research Unit. She is the former Co-Chair and now member of the Cochrane Methods Executive, Member of the Cochrane Scientific Committee, Lead Convenor of the Cochrane Qualitative and Implementation Methods Group, Honorary Visiting Professor in Child Health at University College Dublin, and Editor of the Journal of Advanced Nursing. She is a methodologist, systematic reviewer and primary researcher with a particular interest in complex social interventions. Dr. Noyes is one of the founder members of the group that developed GRADE CERQual to assess the confidence in findings of synthesised qualitative research. She also served as the methodologist on the WHO team that developed the 2017 risk communication guideline in public health emergencies. Dr. Noyes received her D.Phil. from York University in the United Kingdom.

Douglas K. Owens

Member

Douglas K. Owens, M.D., M.S., is the Henry J. Kaiser, Jr. Professor, and Director of the Center for Health Policy in the Freeman Spogli Institute for International Studies (FSI) and of the Center for Primary Care and Outcomes Research (PCOR) in the Department of Medicine and School of Medicine at Stanford. He is a general internist and Associate Director of the Center for Innovation to Implementation, a health services research center of excellence, at the VA Palo Alto Health Care System. Owens is a Professor of Medicine and, by courtesy, Professor of Health Research and Policy, and Professor of Management Science and Engineering, at Stanford University; he is also a Senior Fellow at FSI. Owens' research focuses on technology assessment, cost-effectiveness analysis, evidence synthesis, and methods for clinical decision making and guideline development. He is studying the cost-effectiveness of preventive and therapeutic interventions for HIV/AIDS; diagnostic and therapeutic interventions for cardiovascular disease; the cost effectiveness of current and emerging therapies for hepatitis C virus infection; approaches to quality improvement; and he has developed methods for developing clinical practice guidelines tailored to specific patient populations. Owens chaired the Clinical Guidelines Committee of the American College of Physicians for four years. The guideline committee develops clinical guidelines that are used widely and are published regularly in the Annals of Internal Medicine. He is a Vice-Chair of the U.S. Preventive Services Task Force, which develops national guidelines on preventive care, including guidelines for screening for breast, colorectal, prostate, and lung cancer. Owens also directed the Stanford-UCSF Evidence-based Practice Center and the Program on Clinical Decision Making and Guideline Development at PCOR. He co-directs two training programs in health services research: the VA Postdoctoral Fellowship in Health Services Research and the VA Postdoctoral Informatics Fellowship Program. Owens received a B.S. and an M.S. from Stanford University, and an M.D. from the University of California-San Francisco. He completed a residency in internal medicine at the University of Pennsylvania and a fellowship in health research and policy at Stanford. Owens is a past-President of the Society for Medical Decision Making. He received the VA Undersecretary's Award for Outstanding Achievement in Health Services Research, and the Eisenberg Award for Leadership in Medical Decision Making from the Society for Medical Decision Making. He was elected to the American Society for Clinical Investigation (ASCI) and the Association of American Physicians (AAP).

Sandra C. Quinn

Member

Sandra Quinn, Ph.D., is a Professor in the Department of Family Science, Director of the doctoral program in Maternal and Child Health, and Senior Associate Director of the Maryland Center for Health Equity, School of Public Health, University of Maryland. From 2011-2017, she was Principal Investigator (with S. Thomas) for the Center of Excellence in Race, Ethnicity, and Health Disparities Research, and the PI on a study, Uncovering and Addressing Cultural Beliefs behind Vaccine Racial Disparities. She is currently PI (w. D. Broniatowski, George Washington University) on a NIGMS grant, Supplementing Survey-Based Analyses of Group Vaccination Narratives and Behaviors Using Social Media. In recent years, she was the PI on two FDA funded studies: 1) Public Attitudes Toward Medical Countermeasures and 2) Investigating Factors Associated with Participation of Racial & Ethnic Minority Populations in FDA Regulated Research. Dr. Quinn was PI (with Dr. Thomas) of a Grand Opportunity grant from the Office of the Director, NIH and NIMHD: "Bioethics Research Infrastructure Initiative: Building Trust between Minorities and Researchers." As the PI of a CDC funded study, Public Attitudes Toward H1N1 Influenza, she led two national surveys during the H1N1 influenza pandemic, becoming the first to examine public attitudes toward emergency use authorizations for drugs and vaccines. She was also funded by the CDC to study communication between postal workers and public health professionals during the anthrax attack. Her research interests include vaccine acceptance in routine and emergency situations; racial disparities in vaccine uptake; crisis and emergency risk communication with a specific focus on minority populations; and engagement of minority and marginalized communities in research.

Paul G. Shekelle

Member

Paul Shekelle is director of the Southern California Evidence-Based Practice Center site at the RAND Corporation, a consultant in health sciences at RAND, professor of medicine at the UCLA School of Medicine, and a staff physician at the VA Medical Center in West Los Angeles. He received his M.D. from Duke University; his M.P.H. from the University of California, Los Angeles (UCLA); and his Ph.D. from the UCLA School of Public Health. His scholarly interests are in the areas of evidence-based medicine, practice guidelines, and quality of care.

Andy S. Stergachis

Member

Andy Stergachis, Ph.D., BPharm, is Professor of Pharmacy and Global Health and Adjunct Professor of Health Services and Epidemiology, Associate Dean, School of Pharmacy, and Director of the Global Medicines Program, University of Washington (UW). He is author of 148 peer-reviewed publications in areas such as drug safety, pharmaceutical outcomes, emergency preparedness and response, and clinical epidemiology and serves as Editor-in-Chief of the Journal of the American Pharmacists Association. He is an elected member of the National Academy of Medicine. He is Director of the UW's WHO Collaborating Center on Mass Gatherings Public Health and is a Fellow of the International Society for Pharmacoepidemiology. He has been a member of the Drug Safety and Risk Management Advisory Committee for the US FDA and was Chair of the Malaria in Pregnancy Consortium Safety Working Group. He served as Chair, Emergency Pharmaceutical Distribution Collaborative Group, Centers for Public Health Preparedness, Association of Schools of Public Health, was a member of the State of Washington Joint Advisory Committee for Public Health and Hospital Emergency Preparedness and Response, and served as coordinator for the Strategic National Stockpile for King County Washington. Through his affiliation with the UW Northwest Center for Public Health Practice, he works on workforce development and research in emergency preparedness with the public health community. He has received numerous honors, including Pharmacist of the Year from the Washington State Pharmacy Association and the Martin Luther King, Jr. Community Volunteer Recognition Award from UW Health Sciences.

Mitchell Stripling

Member

Mitch Stripling, M.P.A., oversees agency preparedness and response efforts at the New York City Department of Health and Mental Hygiene, including units for planning, training/exercises, risk analysis, intelligence, and evaluations. He coordinated citywide planning for the 2009 H1N1 Pandemic and served as a planning section chief at the department for the responses to Hurricanes Irene/Sandy, the Ebola crisis and the recent outbreaks of Legionella/Zika. His unit has developed nationally recognized threat response guides for 21 of the highest risk scenarios that could impact New York City (NYC), a data/consensus-driven risk assessment methodology, a principal scientific advisor model for public health incident command system, and a strategic planning directive model for civilian use, among other achievements. Prior to working in NYC, Mr. Stripling worked for the Florida Department of Health. There, he helped plan and implement the responses to six federally declared disasters, including the 2004 record-breaking hurricane season and Florida's response in southern Mississippi after Hurricane Katrina. During that time, he developed, rostered and trained environmental health and other public health strike teams, built national training standards in collaboration with U.S. Centers for Disease Control and Prevention, and focused on making communities more resilient in the face of environmental threats. Before working in public health, he spent several years providing strategic consulting for Fortune 500 companies and government agencies. He began his career working at the United Nations Global Teaching and Learning Project on human rights issues.

Steven M. Teutsch

Member

Steven M. Teutsch, M.D., M.P.H. is an independent consultant, Adjunct Professor at the Fielding School of Public Health, UCLA; Senior Fellow, Public Health Institute; and Senior Fellow, Leonard D. Schaeffer Center for Health Policy and Economics, University of Southern California. Until 2014 he was the Chief Science Officer, Los Angeles County Public Health where he continued his work on evidence-based public health and policy. He had been in Outcomes Research and Management program at Merck since October 1997 where he was responsible for scientific leadership in developing evidence-based clinical management programs, conducting outcomes research studies, and improving outcomes measurement to enhance quality of care. Prior to joining Merck he was Director of the Division of Prevention Research and Analytic Methods (DPRAM) at CDC where he was responsible for assessing the effectiveness, safety, and the cost-effectiveness of disease and injury prevention strategies. DPRAM developed comparable methodology for studies of the effectiveness and economic impact of prevention programs, provided training in these methods, developed CDC's capacity for conducting necessary studies, and provided technical assistance for conducting economic and decision analysis. The Division also evaluated the impact of interventions in urban areas, developed the Guide to Community Preventive Services, and provided support for CDC's analytic methods. He has served as a member of the Community Preventive Services Task Force and the U.S. Preventive Services Task Force which develops the Guide to Clinical Preventive Services as well as on Americas Health Information Community Personalized Health Care Workgroup and the Evaluation of Genomic Applications in Prevention and Practice (EGAPP) Workgroup. He chaired the Secretary's Advisory Committee on Genetics Health and Society, and has served on and has chaired several IOM panels, Medicare's Evidence Development and Coverage Advisory Committee, and on several subcommittees of the Secretary's Advisory Committee on Healthy People 2020 and 2030. Dr. Teutsch joined CDC in 1977, where he was assigned to the Parasitic Diseases Division and worked extensively on toxoplasmosis. He was then assigned to the Kidney Donor and subsequently the Kidney Disease Program. He developed the framework for CDC's diabetes control program. He joined the Epidemiology Program Office and became the Director of the Division of Surveillance and Epidemiology where he was responsible for coordinating CDC's disease monitoring activities. He became Chief of the Prevention Effectiveness Activity in 1992. Dr. Teutsch was born in Salt Lake City, Utah. He received his undergraduate degree in biochemical sciences at Harvard University in 1970, an M.P.H. in epidemiology from the University of North Carolina School of Public Health in 1973, and his M.D. from Duke University School of Medicine in 1974. He completed his residency training in internal medicine at Pennsylvania State University, Hershey. He was certified by the American Board of Internal Medicine in 1977, the American Board of Preventive Medicine in 1995, and is a Fellow of the American College of Physicians and American College of Preventive Medicine. Dr. Teutsch has published over 200 articles and 8 books in a broad range of fields in epidemiology, including parasitic diseases, diabetes, technology assessment, health services research, and surveillance.

Tener G. Veenema

Member

Tener Goodwin Veenema, Ph.D., M.P.H., M.S., R.N., FAAN, is Associate Professor of Nursing and Public Health at the Johns Hopkins School of Nursing and the Johns Hopkins Bloomberg School of Public Health. As an internationally recognized expert in disaster nursing and public health emergency preparedness, she has served as senior scientist to the DHHS Office of Human Services Emergency Preparedness and Response (OHSEPR), DHS, FEMA and the Veterans Affairs Emergency Management Evaluation Center (VEMEC). An accomplished researcher, Dr. Veenema is a member of the American Red Cross National Scientific Advisory Board and is an elected Fellow in the American Academy of Nursing, the National Academies of Practice, and the Royal College of Surgeons, Dublin, Ireland. She is editor of Disaster Nursing and Emergency Preparedness for Chemical, Biological and Radiological Terrorism and Other Hazards, 4th Ed., the leading textbook in the field and developer of Disaster Nursing, an innovative technology application ("App", Unbound Medicine). Dr. Veenema received master's degrees in nursing administration (1992), pediatrics (1993), and public health (1999) and a Ph.D. in health services research and policy (2001) from the University of Rochester School of Medicine and Dentistry. Dr. Veenema was awarded the Florence Nightingale Medal of Honor (International Red Crescent, 2013) the highest international award in Nursing for her professional service in disasters and public health emergencies and was the recipient of a Fulbright U.S. Scholar Award (2017). Dr. Veenema has previously served on the National Academies CDC Standing Committee for the Strategic National Stockpile. She currently serves as the 2017-18 National Academy of Medicine Distinguished Nurse Scholar-in-Residence.

Matthew K. Wynia

Member

Matthew Wynia, M.D., M.P.H., is the Director of the Center for Bioethics and Humanities, University of Colorado and Professor of Medicine at the University of Colorado School of Medicine. Dr. Wynia's training is in internal medicine, infectious diseases, public health, and health services research. From 1997-2015, Dr. Wynia worked at the American Medical Association, where he developed a research institute and training programs focusing on bioethics, professionalism and policy issues (the AMA Institute for Ethics) and founded the AMA's Center for Patient Safety. He also practiced at the University of Chicago. His research has focused on understanding and improving practical management of ethical issues in medicine and public health. He has led projects on a wide variety of issues related to ethics and professionalism, including public health and disaster ethics; understanding and measuring the ethical climate of health care organizations and systems; ethics and quality improvement; communication, team-based care and engaging patients as members of the team; defining physician professionalism; medicine and the Holocaust (with the U.S. Holocaust Memorial Museum); and inequities in health and health care. He has served on committees, expert panels and as a reviewer for the Health and Medicine Division of the National Academies of Sciences, Engineering, and Medicine, The Joint Commission, federal agencies, the Hastings Center, the American Board of Medical Specialties and other organizations, and he has delivered more than 2 dozen named lectures and visiting professorships nationally and internationally. Dr. Wynia is the author of more than 140 published articles, chapters, and essays. His work has been published in JAMA, the New England Journal of Medicine, Annals of Internal Medicine, Health Affairs and other leading medical and ethics journals, and he is a contributing editor at the American Journal of Bioethics. Dr. Wynia is a past president of the American Society for Bioethics and Humanities (ASBH) and he has chaired the Ethics Forum of the American Public Health Association (APHA) and the Ethics Committee of the Society for General Internal Medicine (SGIM). He has current Board certifications in Internal Medicine and Infectious Diseases.