

Accelerating Progress in Traumatic Brain Injury Research and Care

Committee

Donald M. Berwick

Chair

Donald Berwick, M.D., M.P.P., FRCP (London) (NAM) is president emeritus and senior fellow at the Institute for Healthcare Improvement and former administrator of the Centers for Medicare & Medicaid Services. A pediatrician by background, Dr. Berwick has served on the faculty of the Harvard Medical School and Harvard School of Public Health, and on the staffs of Boston's Children's Hospital Medical Center, Massachusetts General Hospital, and the Brigham and Women's Hospital. He has also served as vice chair of the U.S. Preventive Services Task Force, the first "independent member" of the American Hospital Association Board of Trustees, and chair of the National Advisory Council of the Agency for Healthcare Research and Quality. He served two terms on the Institute of Medicine's (IOM's) Governing Council, was a member of the IOM's Global Health Board, and served on President Clinton's Advisory Commission on Consumer Protection and Quality in the Healthcare Industry. Recognized as a leading authority on health care quality and improvement, Dr. Berwick has received numerous awards for his contributions. In 2005, he was appointed "Honorary Knight Commander of the British Empire" by Her Majesty, Queen Elizabeth II in recognition of his work with the British National Health Service. Dr. Berwick is the author or co-author of over 160 scientific articles and six books.

Jennifer Bogner

Member

Jennifer Bogner, Ph.D. is a professor and Bert C. Wiley, MD Endowed Chair in Physical Medicine and Rehabilitation at Ohio State University. She is also the vice-chair of Research and Academic Affairs and director of the Division of Rehabilitation Psychology in the Department of Physical Medicine and Rehabilitation at the College of Medicine. She is the Project Director for the Ohio Regional TBI Model Systems, one site of 16 distributed nationally and funded by the National Institute on Disability, Independent Living, and Rehabilitation Research. The TBI Model Systems have been conducting national longitudinal and interventional studies on traumatic brain injury for the past 35 years, and the Ohio Regional TBI Model System has been a site since 1997. The overarching goal of Dr. Bogner's research has been to improve long-term outcomes after TBI. Specific areas of research include utilizing causal inference methods to evaluate the comparative effectiveness of rehabilitation interventions; prevention and treatment of substance misuse following TBI; evaluating the impact of lifetime exposure to TBI on quality of life; and the development and validation of measurement tools to support rehabilitation research and clinical practice. Dr. Bogner previously chaired the Brain Injury Interdisciplinary Special Interest Group of American Congress of Rehabilitation Medicine. She received the Roger G. Barker Distinguished Research Contribution award from the American Psychological Association Division of Rehabilitation Psychology and the William Fields Caveness Award from the Brain Injury Association of America.

Matthew E. Fink

Member

Matthew E. Fink, M.D. is the Louis and Gertrude Feil Professor and chairman of the Department of Neurology at Weill Cornell Medical College, and neurologist-in-chief at New York Presbyterian Hospital/Weill Cornell Medical Center. In addition, he is chief of the Division of Stroke and Critical Care Neurology at NewYork-Presbyterian Hospital/Weill Cornell Medical Center, and vice chairman of the Medical Board. Dr. Fink was a founding member and chairman of the Critical Care Section of the American Academy of Neurology, and the Research Section for Neurocritical Care of the World Federation of Neurology. He is board-certified in internal medicine, neurology, critical care medicine, vascular neurology, and neurocritical care. He has been elected as a Fellow of the American Neurological Association, the American Academy of Neurology, and the Stroke Council of the American Heart Association. Throughout his career, Dr. Fink has been involved in the education and training of students, residents and fellows in the field of stroke and critical care neurology, as well as an active participant in clinical research within this field. He is a leader in this new specialty, has lectured widely, and has published numerous research and clinical articles in the field of stroke and critical care. In addition, he currently serves as editor of the monthly publication, NEUROLOGY ALERT, and is a past-president of the New York State Neurological Society.

Jessica M. Gill

Member

Jessica Gill, Ph.D., R.N. is a senior investigator with the National Institute of Nursing Research (NINR) at the National Institutes of Health (NIH). She formerly also served as deputy director of NINR. Dr. Gill's current research focuses on revealing the mechanisms underlying differential responses to combat trauma and traumatic brain injury (TBI). Dr. Gill is a leader in research focused on identifying blood-based biomarkers that predict poor recovery from TBIs, concussions, and blast. She leads biomarker methods and clinical trial design within national and international funded consortiums, and analyses these samples in her laboratory at NIH. Specifically, her laboratory has developed novel methods to understand central processes using peripheral blood, to allow for a better understanding of the mechanisms of neuronal recovery from brain injuries. In her research, Dr. Gill combines biological methods—including proteomics and epigenetics—with neuronal imaging to follow patients during their immediate recoveries and for years afterwards to better understand risk and resiliency factors related to clinical outcomes.

Odette Harris

Member

Odette Harris, M.D., MPH is a professor of Neurosurgery, vice chair and director of the Brain Injury Program at Stanford University. Dr. Harris graduated from Dartmouth College and received her MD degree from Stanford University School of Medicine. She completed her internship and residency at Stanford University Medical Center Stanford, California and earned a Master of Public Health, Epidemiology from the University of California, Berkeley. Odette is a Fellow of the American Association of Neurological Surgeons, a member of the Congress of Neurological Surgeons and a Fellow of the Aspen Global Leadership Network. Dr. Harris manages and coordinates the medical and surgical care of patients suffering from traumatic brain injury who are admitted to the Stanford System. She focuses on implementing and streamlining current treatment algorithms aimed at improving the outcomes of this growing population. She is also deputy chief of staff, Rehabilitation at the Veterans Administration (V.A.) Palo Alto Health Care System, and site director and Principal Investigator of the Traumatic Brain Injury Center of Excellence (TBICoE) location at the VA Palo Alto Health Care System. The primary focus of TBICoE is TBI specific evaluation, treatment and follow-up care for all military personnel, veterans, and their dependents.

Sidney Hinds

Member

Sidney Hinds II, M.D. is a recently retired United States Army colonel with over 30 years of military medicine experience. He is Vice-President for Brain Health Strategy and Research at Wounded Warrior Project (WWP), serves as co-Principal Investigator and Lead for External Collaborations for the Long-term Impact of Military-relevant Brain Injury Consortium (LIMBIC-CENC), and is a consultant with SCS Consulting LLC. Dr. Hinds is a neurologist and nuclear medicine physician who most recently served as the DoD Brain Health Research Coordinator for the DoD Blast Injury Research Coordinating Office and as the medical advisor to the principal assistant for Research and Technology, Medical Research and Materiel Command, FT Detrick, MD. He was the Defense and Veterans Brain Injury Center's (DVBIC) fifth national director from 1 July 2013 to 16 March 2016 and served to collaborate, advise, and promote military relevant neurological and psychological medical and non-medical research efforts within the DoD and with external partners. Prior to that, he served as deputy director of the Armed Forces Radiobiology Research Institute for Military Medical Operations; the in-theater neurologist in Afghanistan (Operation Enduring Freedom), and chief of Nuclear Medicine Services at Walter Reed National Military Medical Center.

Frederick Korley

Member

Frederick Korley, M.D., Ph.D. is an Associate Professor of Emergency Medicine at the University of Michigan. He received his medical and emergency medicine education at Northwestern University School of Medicine (2003), and doctoral training in clinical investigation at the Johns Hopkins University School of Public Health with election into Phi Beta Kappa (2013). His research work is focused on the development of diagnostics and therapeutics for traumatic brain injury (TBI). Dr. Korley holds two patents for biofluid-based biomarkers for diagnosing traumatic brain injury and prognosticating TBI outcome. He is a co-investigator of the largest observational study of TBI in the US (the Transforming Research and Clinical Knowledge in TBI, TRACK-TBI). In collaboration with colleagues in engineering, Dr. Korley is developing a credit card sized microfluidic device for point-of-care measurement of TBI biofluid biomarkers. He is also a national principal investigator of two federally funded multi-center studies run by the Strategies to Innovate Emergency Clinical Care Trials (SIREN) network, that are investigating the use of biofluid-based biomarkers for 1) subject selection in clinical trials; 2) monitoring individual patient response to promising neuroprotective agents. In addition, he is a national principal investigator of an NINDS funded phase II adaptive design multi-center clinical trial that is investigating the optimal treatment parameters of hyperbaric oxygen for treating severe TBI.

Ellen J. MacKenzie

Member

Ellen J. MacKenzie, Ph.D., MSc (NAM) is the 11th dean of the Johns Hopkins Bloomberg School of Public Health. A leading expert in injury prevention and health services and outcomes research, Dean MacKenzie was named a Bloomberg Distinguished Professor in 2017, recognizing her interdisciplinary work in trauma care and rehabilitation. She founded the Major Extremity Trauma Research Consortium (METRC), a national network of more than 50 civilian and military trauma centers. In 2018, she was elected to the National Academy of Medicine. Before becoming dean, MacKenzie held key leadership positions at the Bloomberg School including Chair of the Department of Health Policy and Management, Director of the Center for Injury Research and Policy and Senior Associate Dean for Academic Affairs. She has joint appointments in the Department of Biostatistics and the School of Medicine's departments of Orthopaedics, Physical Medicine Rehabilitation and Emergency Medicine. The Centers for Disease Control and Prevention named Dean MacKenzie one of 20 leaders and visionaries who have had a transformative effect on the field of violence and injury prevention in the past 20 years. Dean MacKenzie received a BA in Mathematics from Douglass College – Rutgers University and a Master of Science and Doctor of Philosophy from the Department of Biostatistics at the Bloomberg School.

Geoffrey T. Manley

Member

Geoffrey Manley, M.D., Ph.D. is the Chief of Neurosurgery at Zuckerberg San Francisco General Hospital (ZSFG) where he co-directs the UCSF Brain and Spinal Injury Center and is Professor and Vice Chairman of Neurosurgery at the University of California, San Francisco (UCSF). Dr. Manley is an internationally recognized expert in neurotrauma. In addition to a robust clinical practice at ZSFG, San Francisco and the Greater Bay Area's level 1 trauma center, he coordinates and leads national and international clinical research efforts in the study of the short- and long-term effects of traumatic brain injury (TBI). Building on the success of the seminal, national longitudinal study, TRACK-TBI, Geoff, as Contact Principal Investigator, along with a nationwide team of TBI experts, has recently launched the TRACK-TBI NETWORK, an innovative, precision-medicine driven consortium that will test Phase 2 drugs for TBI. The TRACK-TBI studies have created a modern precision medicine information commons for TBI that integrates clinical, imaging, proteomic, genomic, and outcome biomarkers to drive the development of a new TBI disease classification system, which could revolutionize diagnosis, direct patient-specific treatment, and improve outcomes. His nearly 300 published manuscripts reflect a wide range of research interests from molecular aspects of brain injury to the clinical care of TBI. He sits on the National Academies of Science, Engineering and Medicine's Committee on VA Examinations for Traumatic Brain Injury and has served as a consultant for the Prehospital Guidelines Committee for the World Health Organization and on numerous clinical research committees for the National Institutes of Health, Centers for Disease Control, and Department of Defense.

Susan S. Margulies

Member

Susan Margulies, Ph.D. (NAE, NAM) is an Assistant Director of the National Science Foundation, leading the Directorate for Engineering, and a Professor in the Wallace H. Coulter Department of Biomedical Engineering, jointly housed in the College of Engineering at Georgia Institute of Technology and the School of Medicine at Emory University. She is the Georgia Research Alliance Eminent Scholar in Injury Biomechanics. She previously served as chair of the department. Dr. Margulies has a BSE in Mechanical and Aerospace Engineering (1982, Princeton University) and a MSE and Ph.D. in Bioengineering (1983 and 1987, University of Pennsylvania). Dr. Margulies' research program spans the micro-to-macro scales in two distinct subfields: traumatic brain injury and ventilator-induced lung injury. Using an integrated biomechanics approach consisting of relevant animal models, cell and tissue experiments, and complementary computational models and human studies, Dr. Margulies' research program has generated new knowledge about the structural and functional responses of the brain and lung to their mechanical environment. Her lab has pioneered new methods for measuring functional effects of large or repeated tissue distortions; identified injury tolerances, response cascades, and causal signaling pathways; and translated these discoveries to preclinical therapeutic trials to mitigate and prevent brain and lung injuries in children and adults. Dr. Margulies is a member of the National Academy of Engineering and the National Academy of Medicine. She is a Fellow of the American Society of Mechanical Engineers, Biomedical Engineering Society, and American Institute for Medical and Biological Engineering (AIMBE). Any opinion, findings, and conclusions or recommendations that will be expressed in the forthcoming report are those of Dr. Margulies and do not necessarily reflect the views of the National Science Foundation.

Christina Master

Member

Christina Master, M.D. is a Professor of Clinical Pediatrics at the University of Pennsylvania Perelman School of Medicine and a pediatric and adolescent primary care sports medicine specialist, as well as an academic general pediatrician, at the Children's Hospital of Philadelphia (CHOP). She completed her undergraduate studies at Princeton University with an A.B. in Molecular Biology and graduated summa cum laude from the University at Buffalo School of Medicine and Biomedical Sciences. She completed pediatric residency training with an additional year as chief resident at CHOP where she subsequently served for 14 years as the Associate and Vice Program Director for the Pediatric Residency Program prior to completing a sabbatical year of sports medicine fellowship training at the Hospital of the University of Pennsylvania in 2010. She is board-certified in pediatrics, sports medicine, and brain injury medicine, and is also an elected fellow of the American College of Sports Medicine. She treats over 800 children, youth and young adults with concussion annually in her clinical sports medicine practice while also continuing in her 28th year of general academic pediatric practice. She is the cofounding director of the Minds Matter Concussion Program, a CHOP Frontier Program which provides comprehensive cutting edge multi-disciplinary clinical care and rehabilitation for concussion, community advocacy and outreach, while advancing the field of concussion and mild traumatic brain injury in children, youth and young adults through translational clinical research. Her particular research emphasis focuses on furthering our understanding of visual deficits following concussion, their role in those with persistent post-concussive symptoms, and as a target for active intervention and treatment, as well as developing objective physiological measures as quantitative biomarkers of injury and recovery.

Michael McCrea

Member

Michael McCrea, Ph.D. is Tenured Professor, Eminent Scholar, and Vice Chair of Research in the Department of Neurosurgery at the Medical College of Wisconsin (MCW), where he also serves as Co-Director for the MCW Center for Neurotrauma Research (CNTR). He earned his doctoral degree from the University of Wisconsin-Milwaukee, then completed his internship training in neuropsychology at Vanderbilt University School of Medicine, followed by a postdoctoral fellowship in clinical neuropsychology at Northwestern University Medical School. Dr. McCrea is past President of both the American Academy of Clinical Neuropsychology (AACN) and the American Psychological Association's (APA) Society for Clinical Neuropsychology (SCN). He has been an active researcher in the neurosciences, with hundreds of scientific publications, book chapters, and national and international lectures on the topic of traumatic brain injury (TBI). Dr. McCrea has led several large, multi-center studies on the effects of TBI and concussion. He currently is co-PI on the NCAA-DoD Concussion Assessment, Research and Education (CARE) Consortium and several other large-scale studies investigating the acute and chronic effects of TBI in various populations at risk. He is also a key investigator on the TRACK-TBI and TBI Endpoint Development (TED) studies. Dr. McCrea has served on several national and international expert panels related to research and clinical care for TBI over the past two decades.

Helene Moriarty

Member

Helene Moriarty, Ph.D., RN, FAAN is Professor, Diane & Robert Moritz, Jr. Endowed Chair in Nursing Research at the Villanova University M. Louise Fitzpatrick College of Nursing and Nurse Scientist at the Corporal Michael J. Crescenz Veterans Affairs (VA) Medical Center. She is also a member of the NewCourtland Center for Transitions and Health at University of Pennsylvania School of Nursing. Dr. Moriarty's clinical research has led to novel insights and healthcare approaches for veterans with traumatic brain injury (TBI) and their families. Her research is one of the first scientific efforts to engage family members as integral partners in the care of veterans with TBI and also address the health of family caregivers. Her recent NIH-funded randomized controlled trial evaluated the impact of an innovative rehabilitation intervention, the Veterans' In-home Program (VIP), for veterans with TBI and their families. Building on the VIP, Dr. Moriarty's current NIH-funded research will test a rehabilitation approach that addresses critical gaps in services and research for civilians and veterans with chronic TBI symptoms and their families. Recognized as a national and international nursing leader and expert in family science, Dr. Moriarty is a tireless champion for families, particularly for those of military veterans. Dr. Moriarty has held leadership roles within the VA health system, serves as a member of the American Academy of Nursing's Expert Panel on Military and Veterans Health, and in 2019 was appointed to the VA Nursing Research Field Advisory Committee charged with developing and implementing the strategic plan for nursing research for the VA health system.

Corinne Peek-Asa

Member

Corinne Peek-Asa, Ph.D. (NAM) is associate dean for research for the University of Iowa College of Public Health and professor in the Department of Occupational and Environmental Health. Dr. Peek-Asa received her PhD in Epidemiology at the University of California, Los Angeles in 1995 and served on the UCLA faculty until 2001, when she joined the University of Iowa. Dr. Peek-Asa's area of expertise is injury and violence prevention, including global road traffic safety, interpersonal violence, workplace violence, and acute care. Dr. Peek-Asa's work has addressed the full spectrum of traumatic brain injuries from prevention to outcomes and from mild to severe TBI. She has conducted research on the impact of gender on traumatic brain injury outcomes; outcome differences from blunt compared with penetrating brain injury; and has evaluated the impact of trauma systems on TBI patients reaching definitive care. She served on the Big Ten/Ivy League Concussion Taskforce, including on the data committee. She was a co-investigator on two studies with University athletes to examine depression/anxiety and substance use related to sports injuries. Dr. Peek-Asa has conducted international traumatic brain injury research, including a role as P.I. on an NIH/NINDS project that established prospective traumatic brain injury registries in four countries. She was elected to the National Academy of Medicine in 2020.

Thomas M. Scalea

Member

Thomas M. Scalea, M.D. is physician-in-chief at the R Adams Cowley Shock Trauma Center at the University of Maryland. As director, Dr. Scalea serves at the level of chairman within the school and hospital. As physician-in-chief, he is responsible for clinical care in all medical administrative functions of Shock Trauma. Under Dr. Scalea's leadership, his program has expanded clinical services and his faculty is now responsible for the bulk of emergency general surgery patients at the University of Maryland Medical Center. His group has built a region-wide critical care program and are now responsible for nine Intensive Care Units and over 100 beds. Additionally, Dr. Scalea has reorganized both research and education in the Program in Trauma. Several years ago, he also established the G.O. Team, a rapid response team consisting of an anesthesiologist, surgeon, critical care medicine specialist, and a certified registered nurse anesthetist. The G.O. team serves as a specialized component of Maryland's statewide emergency medical system to expedite critical care interventions. In 2008 and 2011, Dr. Scalea traveled to Iraq and Afghanistan to observe the Wounded Warrior Care System in the field, during critical care air transport, and in military hospitals to provide recommendations on how to improve the system, as well as to determine how to continually refine trauma training. Dr. Scalea also served as a Senior Visiting Surgeon at Landstuhl Regional Medical Center, providing care for injured soldiers as they were evacuated from Iraq.

Eric Schoomaker

Member

Lieutenant General (Retired) Eric B. Schoomaker, MD, PhD was the 42nd U.S. Army Surgeon General/Commanding General of the U.S. Army Medical Command prior to his retirement in 2012. He then served as Professor/Vice-Chair for Leadership, Centers and Programs in the Department of Military & Emergency Medicine at the Uniformed Services University of the Health Sciences; he is currently an Emeritus Professor, having retired in 2019. He promotes Complementary and Integrative Health/Medicine in the shift from a disease management-focused healthcare system to the improvement of health & well-being; and leadership education. He has been committed to the health of soldiers, families and veterans throughout the U.S. and the globe, focusing on soldier medical readiness, enhancing battlefield care, promoting comprehensive behavioral healthcare, preventing combat wounds, injury and illness and advancing comprehensive pain management.

Dr. Schoomaker is an internal medicine physician with a PhD in Human Genetics. He held many assignments including command of the Walter Reed Army Medical Center, the Eisenhower Army Medical Center, two Army regional medical commands, the Army's Medical Research & Materiel Command and Fort Detrick, MD, a community hospital, a deployable medical brigade and service as command surgeons for the Vth Corps and US Army Forces Command. Dr. Schoomaker is the recipient of numerous military awards, including those from France and Germany, the 2012 Dr. Nathan Davis Award from the American Medical Association for outstanding government service, an Honorary Doctor of Science from Wake Forest University, a Doctor of Letters in Medicine from the Baylor College of Medicine, and the Philipp M. Lippe Award from the American Academy of Pain Medicine for outstanding contributions to the social and political aspect of Pain Medicine. He currently works as a part-time Senior Physician Advisor to the Veterans Health Administration.

Martin Schreiber

Member

Martin Schreiber, M.D. is professor of Surgery, chief, division of trauma, critical care, and acute care surgery, and director of the Donald D. Trunkey Center for Civilian and Combat Casualty Care at Oregon Health and Science University. He is also a colonel in the U.S. Army Reserve. Dr. Schreiber's training includes significant military instruction and practice, including direct clinical experience as a military surgeon in Afghanistan. He also serves as a subject matter expert on DoD committees including the Committee on Surgical Combat Casualty Care (since 2016); the Tactical Combat Casualty Care Subject Matter Expert Panel (since 2018); and as chairman of the Research Committee, Committee on Surgical Combat Casualty Care (since 2019). Dr. Schreiber is the head of the trauma research laboratory. He has been awarded the lifetime achievement award in trauma resuscitation science by the American Heart Association and the Asmund S. Laerdal Memorial Award for extensive involvement in resuscitation research and publishing from the Society of Critical Care Medicine. He received his M.D. from the School of Medicine at Case Western Reserve University in 1988.

Monica Vavilala

Member

Monica Vavilala, M.D. directs the Harborview's Injury Prevention and Research Center (HIPRC), which is one of nine CDC funded injury control centers and is the only anesthesiologist to hold this position in the country. She is professor with tenure of Anesthesiology and Pain Medicine and Pediatrics and adjunct professor of Neurological Surgery, Radiology, and Health Services at the University of Washington. Dr. Vavilala has clinical expertise in neuroanesthesia, pediatric trauma, and in the acute care of patients with traumatic brain injury (TBI). Dr. Vavilala is a translational TBI researcher and works from bench to bedside to improve care and outcomes after TBI. Dr. Vavilala co-founded the injury and health equity initiative at HIPRC and her work aims to improve outcomes for groups at greatest risk of injury, including children, the elderly, the poor, underrepresented minorities, and residents of rural areas. Dr. Vavilala serves on the adult and pediatric Brain Trauma Foundation Guidelines Committees. Dr. Vavilala has received funding from the NIH for over 20 years and has published over 350 peer-reviewed papers. Dr. Vavilala earned her M.D. at McGovern Medical School in Houston, Texas in 1991 where she also completed her pediatrics degree in 1994. Dr. Vavilala completed her anesthesiology residency from the University of Washington in 1997.

Katherine Bowman

Staff Officer

Katherine Bowman, PhD is a senior program officer in the Board on Health Sciences Policy and study director for Accelerating Progress in Traumatic Brain injury Research and Care. Her past activities have focused on the implications of developments in science and technology. She served as co-director of the report Heritable Human Genome Editing (2020) with colleagues at the Royal Society and as director of the 2017 report Human Genome Editing: Science, Ethics, and Governance. Other recent studies in which she was involved include Biodefense in the Age of Synthetic Biology (2018) and Microbiomes of the Built Environment: A Research Agenda for Indoor Microbiology, Human Health, and Buildings (2017). She also takes part in international activities that explore advances in science and their potential impacts for biological and chemical security. She received her Ph.D. in Biomedical Engineering from Johns Hopkins University.