Personal Protective Equipment and Personal Protective Technology Product Standardization for a Resilient Public Health Supply Chain: A Workshop

Committee

Linda H. Clever

Chair

Linda Hawes Clever, M.D., M.A.C.P.; a member of the National Academy of Medicine since 1980, has served as a member, chair or co-chair of several NAM/NASEM committees and subcommittees concerning health promotion, workplaces, and medical and nursing education and staffing, especially regarding occupational health and safety. She chaired the standing Committee on Personal Protective Equipment for nine years and served the NIOSH Board of Scientific Counsellors. She is former Clinical Professor of Medicine at University California San Francisco (UCSF) and Associate Dean for Alumni Affairs at the Stanford University School of Medicine, founding Chair of the Department of Occupational Health at California Pacific Medical Center, and former Editor of the Western Journal of Medicine. She is also founding President of RENEW, a not-for-profit aimed at helping devoted people maintain (and regain) their enthusiasm, effectiveness and purpose, and author of The Fatigue Prescription, Four Steps to Renewing Your Energy, Health and Life. Dr. Clever received undergraduate and medical degrees from Stanford University and had several years of medical residency and fellowships at Stanford and UCSF in internal medicine, infectious diseases, community medicine and occupational medicine. In the American College of Physicians, she served as Governor, Chair of the Board of Governors, and Regent. Her community activities include chairing the boards of KQED and University High School in San Francisco. She has written numerous papers, chapters, articles, and editorials. Her areas of special interest include personal and organizational renewal; the interactions of life, work and health; the occupational health of women and health care workers, and leadership. In 2010, Dr. Clever was given the American Medical Women’s Association’s Elizabeth Blackwell Medal for outstanding contributions to the cause of women in the field of medicine. She also received the Stanford Medal which honors volunteer leaders who have given extraordinary, distinguished and significant service to Stanford University.

Craig Colton

Member

Craig Colton, M.A.; is a certified industrial hygienist with CCR Consulting, LLC, specializing in respiratory protection since 1978. He currently works independently conducting respiratory protection training and consulting on respiratory protection issues. Prior to working on his own, he worked in the Technical Service/Regulatory Affairs group of the 3M Personal Safety Division specializing in respiratory protection. He has conducted workplace protection factor studies on 3M respirators, monitored and responded to regulatory affairs issues related to respiratory protection and provided technical assistance to respirator users. Prior to working for 3M, he was an instructor at the OSHA Training Institute where he was course chair for the respiratory protection course covering OSHA, NIOSH, NRC, ANSI, CGA, CSA, and NFPA standards as well as the complete range of respiratory protective devices. While at OSHA he was a member of the 4-person team that first implemented quantitative fit testing for OSHA personnel. Colton has also taught continuing education courses for several universities and organizations. He is a past chair of the AIHA Respiratory Protection Committee and Americas' Section of the International Society for Respiratory Protection (ISRP) (1998-2000; 2014-2016). He has authored several articles and book chapters on respiratory protection. He was a member of various ANSI subcommittees including the subcommittee on fit testing (Z88.10) and subcommittee on Practices for Respiratory Protection (Z88.2). He was a member of the ISO committee developing respiratory protection standards (TC94 SC15) for many years. This work included serving as convener for the working group that produced ISO 16972 on respiratory terminology and group lead for the ISO standard on fit testing. He is currently a member of the ASTM F23.65 Committee on respiratory hazards (previously ANSI Z88) most recently working on the new Respirator Fit Capability standard (ASTM F3407-20).

Tinglong Dai

Member

Tinglong Dai, Ph.D., M.S., M.Phil.; is a Professor at the Johns Hopkins Carey Business School, with a joint faculty appointment at the Johns Hopkins School of Nursing. He serves on the leadership team of the Hopkins Business of Health Initiative and the executive committee of the Institute for Data-Intensive Engineering and Science. Dr. Dai's research interests span across healthcare operations, global supply chains, and human-AI interaction. His work has been published in leading journals such as Management Science, M&SOM, Marketing Science, and Operations Research, and has been recognized by the Johns Hopkins Discovery Award, INFORMS Public Sector Operations Research Best Paper Award, POMS Best Healthcare Paper Award, and Wickham Skinner Early Career Award (runner-up). In 2021, he was named one of the World's Best 40 Under 40 Business School Professors by Poets & Quants. Since the onset of the COVID-19 pandemic, Dr. Dai has been quoted thousands of times in the media, including the Associated Press, Bloomberg, CNN, Fortune, New York Times, NPR, USA Today, Wall Street Journal, and Washington Post, and has appeared on national and international TV such as CNBC, PBS NewsHour, and Sky News. He earned a Ph.D. in Management of Manufacturing and Automation from Carnegie Mellon University in 2013.

Michelle Feinberg

Member

Michelle Feinberg, A.S.; moved to New York City to attend the Fashion Institute of Technology (FIT), and was simultaneously hired by Manhattan Scalloping, a leading embellishment factory. She quickly fell in love with embellishments and embroidery, ended up working there until she graduated, and then joined a private label company as a loungewear and lingerie designer. That same year, Manhattan Scalloping went out of business and was purchased by Mona Slide Fasteners, which Michelle decided to join. She became a partner at the firm before age 21. Post 9/11, Michelle started New York Embroidery Studio (NYES). When production began to steadily move overseas, she jumped on the opportunity to visit large Chinese factories and learn about how to scale her manufacturing processes. She came back home and immediately applied these learnings, starting to mass produce embroidery and other designs. With COVID-19 came a new set of challenges, including a dangerous shortage of personal protective equipment (PPE). New York Embroidery Studio was able to completely pivot its production and in March of 2020, the company began to work with the New York Economic Development Corporation (NYCEDC) to make gowns and masks: NYCEDC helped NYES procure the necessary fabric, and Michelle's team successfully manufactured the highest quality Personal Protective Equipment. In addition, with New York Embroidery Studio being one of the first to pivot into large scale PPE production, many hospitals and government agencies started reaching out and orders began to grow exponentially, with the company producing 2 million gowns and masks each week.

Stephanie M. Holm

Member

Stephanie Holm, M.D., Ph.D.; is an environmental pediatrician and epidemiologist. She is the Co-Director of the Western States Pediatric Environmental Health Specialty Unit at University California San Francisco (UCSF), does research on air pollution effects on children's health and works half time at California EPA in the Office of Environmental Health Hazard Assessment. She got her medical degree from the University of Pittsburgh, did postgraduate medical training at both Children's Hospital Oakland and University of California San Francisco, and got her M.P.H. and Ph.D. at University California Berkeley. She's been heavily involved in work on health effects of wildfire smoke in children and public health strategies for mitigation for the last few years, and served on the consensus committee for NASEM on Respiratory Protection for the Public and Workers Without Respiratory Protection Programs at their Workplaces, whose report was released in February of 2022.

Amrita John

Member

Amrita John, M.D.; is a Critical Care and Infectious Disease physician at University Hospitals Cleveland Medical Center and Assistant Professor of Medicine at Case Western Reserve University (CWRU). She is an expert in Infectious diseases with a special interest in pathogen transmission in healthcare settings. She has several publications on personal protective equipment (PPE) use and trains healthcare professionals in proper PPE use. During the COVID-19 pandemic, she led a team of scientists from NASA Glenn and CWRU, physicians, and facility experts at University Hospitals to devise methods for rapid, large-scale disinfection and reuse of N95 filtering face respirators. Dr. John completed her medical school from Christian Medical College Vellore, India. She served in mission hospitals in India for 2 years, before moving to the United States in 2011. She completed her medical residency in Internal Medicine from Memorial Hospital of Rhode Island/ Brown University followed by advanced fellowships in Infectious Disease and Critical care medicine from University Hospitals and Cleveland Clinic respectively. A research fellowship with infectious disease expert Dr. Curtis Donskey at the Louis Stokes Veteran Affairs Medical Center cemented her interest and continued work towards understanding the complexities and minimizing the risk of healthcare acquired pathogens.

Jill Morgan

Member

Jill Morgan, R.N.; earned her nursing degree from Georgia State University and has over thirty years of bedside nursing experience in emergency and critical care, beginning in a rural critical access hospital and then moving to more urban emergency departments before joining Emory in 2003 in medical and respiratory ICU’s. Morgan has been a member of Emory’s Serious Communicable Disease Unit for more than fifteen years and cared for all four of Emory’s Ebola virus disease patients. She now serves as the site manager for the Emory biocontainment unit and has worked to validate the Unit’s processes for the inactivation of special pathogen waste. During her biocontainment unit experience, Morgan developed an acute interest in ensuring that clinicians of all kinds can safely do their work. That passion has led to a strong relationship with clinical research, Emory’s Healthcare Human Factors Lab, NIOSH, and the National Personal Protective Technologies Laboratory, as well as involvement with PPE standards organizations such as ASTM. She serves as the in-person education lead for NETEC, the National Emerging Special Pathogens Training and Education Center, a CDC funded organization charged with improving the readiness of the US healthcare system for infectious pathogens. For NETEC, Morgan helped create and deliver frontline education, co-leads the PPE Working Group, and serves as a PPE and waste inactivation subject matter expert.

Carolyn Sheridan

Member

Carolyn Sheridan, R.N.; is the founder and executive director of the Ag Health and Safety Alliance™ (AHSA), an international non-profit organization registered in the US and Canada. ASHA focuses on ag health and safety education for all generations of agriculture with a special focus on the next generation of agriculture. Carolyn has more than 28 years of experience serving the agricultural population. As the developer of the Gear Up for Ag Health and Safety™ program in 1993, she has delivered the program to over 8,000 students over the past 20 years and led the international expansion of the program. Carolyn also serves as an instructor for the Agricultural Medicine-Occupational & Environmental Health Course for Rural Health Professionals in several states across the nation. Her area of focus is the appropriate use, care and understanding of PPE. Carolyn translates outreach experience and findings into several academic publications focused on agricultural health and safety. Her response to emerging issues includes the development of respiratory protection videos and dissemination of resources outlining personal protective equipment (PPE) recommendations for poultry producers. In 2020, she collaborated with more than four NIOSH-funded Ag Centers on a document providing guidance on respiratory protection use during the shortages experienced during the COVID-19 pandemic. Awards related to agricultural health and safety work include the I-CASH Hall of Fame the 2022 ISASH Practitioner Award.

Tener G. Veenema

Member

Tener Goodwin Veenema, Ph.D., M.P.H., M.S.; is a Senior Scientist in the Department of Environmental Health & Engineering and a Senior Scholar at the Johns Hopkins Center for Health Security, Johns Hopkins Bloomberg School of Public Health. Dr. Veenema is an international expert in disaster nursing and public health preparedness and her research focuses upon informing evidence-based policy related to health care systems and public health response for catastrophic events such as pandemics and radiation/nuclear disasters. At the Center, she conducts and leads research projects to explore health systems optimization and healthcare worker respiratory protection during large-scale biological events. She serves as an Associate Editor of the peer-reviewed journal Health Security and is Editor of Disaster Nursing and Public Health Preparedness for Chemical, Biological, Radiation and other Hazards (4th Ed.). An accomplished scholar and researcher, Dr. Veenema is an elected member of the National Academy of Medicine (NAM), an elected Fellow in the American Academy of Nursing, the National Academies of Practice, and the Royal College of Surgeons, Faculty of Nursing & Midwifery, Dublin, Ireland. At the National Academy of Medicine, Dr. Veenema is a member of the Forum on Medical and Public Health Preparedness and the Disaster Research Action Collaborative, and she recently served as Chair of the Standing Committee for the CDC Center for Preparedness and Response. Dr. Veenema has served on numerous NAM consensus studies, including the Standing Committee on the Use of Elastomeric Respirators in Health Care (2018-19) and Current Issues in the Assessment of Respiratory Protective Devices: A Workshop, National Academy of Medicine at the National Academies of Science, Planning Committee Member and Speaker (August 4-5, 2020).