

## Forum on Microbial Threats

# Towards a Post-Pandemic World – Lessons Learned from COVID-19 for Now and the Future

Part Two of a Two-Part Virtual Workshop Series  
September 21-24, 2021



## TOWARDS A POST-PANDEMIC WORLD

Lessons Learned From COVID-19  
For Now and the Future

Virtual Workshop

September 21-24, 2021  
10:00 AM - 2:30 PM ET

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TOWARDS A POST-PANDEMIC WORLD – LESSONS FROM COVID-19  
FOR NOW AND THE FUTURE

*A VIRTUAL WORKSHOP*

September 21-24, 2021

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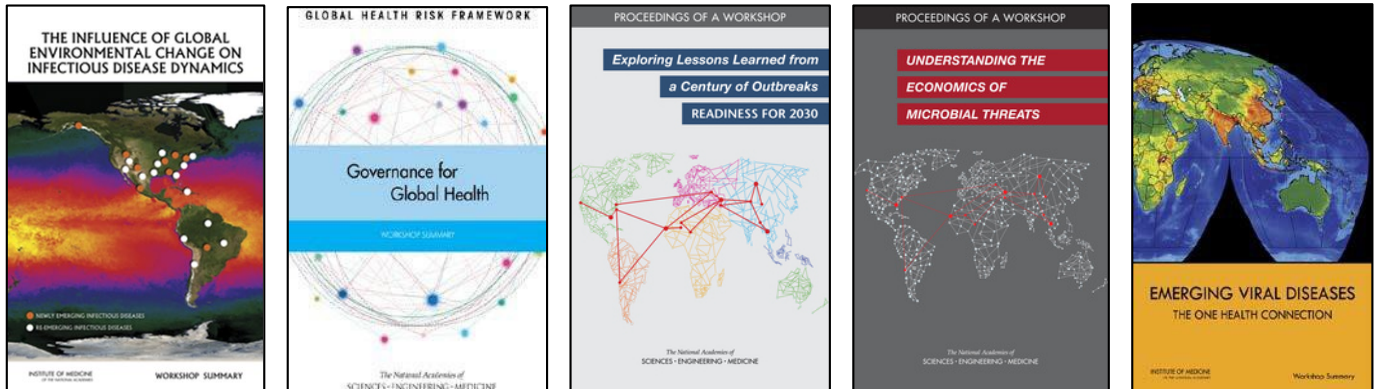
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## **FORUM ON MICROBIAL THREATS**

---- An Overview ----



### **ABOUT THE FORUM**

The Forum on Microbial Threats of the National Academies of Sciences, Engineering, and Medicine (National Academies) was created in 1996 at the request of the Centers for Disease Control and Prevention and the National Institutes of Health to provide a structured opportunity for discussion and scrutiny of critical, and possibly contentious, scientific and policy issues related to research on and the prevention, detection, surveillance, and responses to emerging and reemerging infectious diseases in humans, plants and animals as well as the microbiome in health and disease. The Forum brings together leaders from government agencies, industry, academia, and nonprofit and philanthropic organizations to facilitate cross-sector dialogue and collaboration through public debate and private consultation to stimulate original thinking about the most pressing issues across the spectrum of microbial threats.

Despite decades of progress, the need for the Forum on Microbial Threats remains. Problems such as MERS, Ebola, Chikungunya, Zika, yellow fever, and antibiotic resistance demonstrate how the issue of emerging infections is global and unrelenting. The drivers are ever more pervasive, and the consequences—human, social, and economic—loom larger than ever.

The Forum convenes several times each year to identify and discuss key problems and strategies in the area of microbial threats. To supplement the perspectives and expertise of its members, the Forum also holds public workshops to engage a wide range of experts, members of the public, and the policy community. All workshops are summarized in high quality scholarly workshop proceedings that are available for free download from the National Academies Press.

The Forum on Microbial Threats is part of the National Academies' Board on Global Health. For more information about the Forum, please visit our website: [www.nationalacademies.org/microbiaalthreats](http://www.nationalacademies.org/microbiaalthreats).

## SPONSORS

Financial support for the Forum is derived from the following government agencies, industries, and nonprofit and philanthropic associations:

- Biomedical Advanced Research and Development Authority
- U.S. Agency for International Development
- U.S. Centers for Disease Control and Prevention
- U.S. Department of Homeland Security
- U.S. Department of Veterans Affairs
- U.S. Food and Drug Administration
- U.S. National Institute of Allergy and Infectious Diseases
- Uniformed Services University of the Health Sciences
- American Society of Tropical Medicine and Hygiene
- Burroughs Wellcome Fund
- EcoHealth Alliance
- Infectious Diseases Society of America
- Johnson & Johnson
- Merck & Co., Inc.
- New Venture Fund
- Sanofi Pasteur

*The Forum greatly appreciates our sponsors that make intellectual and financial contributions to the Forum's work.*

## HIGHLIGHTS OF RECENT WORKSHOP PROCEEDINGS

- Using Syndemic Theory and the Societal Lens to Inform Resilient Recovery from COVID-19: Toward a Post-Pandemic World: Proceedings of a Workshop—in Brief (2021)
- The Critical Public Health Value of Vaccines: Tackling Issues of Access and Hesitancy: Proceedings of a Workshop (2021)
- Vaccine Access and Hesitancy: Part One of a Workshop Series: Proceedings of a Workshop—in Brief (2020)
- Exploring the Frontiers of Innovation to Tackle Microbial Threats: Proceedings of a Workshop (2020)
- The Convergence of Infectious Diseases and Noncommunicable Diseases: Proceedings of a Workshop (2019)
- Exploring Lessons Learned from a Century of Outbreaks: Readiness for 2030: Proceedings of a Workshop (2019)
- Understanding the Economics of Microbial Threats: Proceedings of a Workshop (2018)
- Urbanization and Slums: Infectious Diseases in the Built Environment: Proceedings of a Workshop (2018)
- Building Communication Capacity to Counter Infectious Disease Threats: Proceedings of a Workshop (2017)
- Big Data and Analytics for Infectious Disease Research, Operations, and Policy: Proceedings of a Workshop (2016)
- The Ebola Epidemic in West Africa: Proceedings of a Workshop (2016)

## FORUM'S ACTION COLLABORATIVE – ONE HEALTH

The Forum's One Health Action Collaborative (OHAC), led by Gail Hansen, D.V.M., is an ad hoc activity that engages a community of participants who are interested in contributing to ongoing exploration and information sharing related to One Health topics. OHAC is committed to accelerating the implementation of a One Health approach in the field to counter microbial threats. Members include a subset of Forum members and a diverse range of external stakeholders from multiple sectors and disciplines such as public health, animal health, plant pathology, agriculture, environment, biotechnology, and others. Drawing from the dynamic discussions over regular conference calls, OHAC advises on One Health efforts that are internal and external to the National Academies, through the publication of papers and the hosting of seminars. For more info, [click here](#).

## FORUM MEMBERSHIP

Membership in the Forum includes a diverse range of stakeholders from multiple sectors.

**Peter Daszak, Ph.D. (Chair)**

EcoHealth Alliance

**Kent E. Kester, M.D. (Vice Chair)**

Uniformed Services University of Health Sciences

**Rima F. Khabbaz, M.D. (Vice Chair)**

U.S. Centers for Disease Control and Prevention

**Emily Abraham, Dr.PH.**

Johnson & Johnson

**Kevin Anderson, Ph.D.**

U.S. Department of Homeland Security

**Cristina Cassetti, Ph.D.**

National Institute of Allergy and  
Infectious Diseases

**Andrew Clements, Ph.D.**

U.S. Agency for International  
Development

**Scott F. Dowell, M.D., M.P.H.**

Bill and Melinda Gates Foundation

**Marcos A. Espinal, M.D., Dr.P.H., M.P.H.**

Pan American Health Organization

**Eva Harris, Ph.D.**

University of California, Berkeley

**Elizabeth D. Hermsen, Pharm.D., M.B.A.**

Merck & Co., Inc.

**Christopher R. Houchens, Ph.D.**

Biomedical Advanced Research and  
Development Authority

**Chandy C. John, M.D., M.S.**

American Society of Tropical Medicine and Hygiene

**Mark G. Kortepeter, M.D., M.P.H.**

Uniformed Services University of Health Sciences

**Michael Mair, M.P.H.**

U.S. Food and Drug Administration

**Jonna A. K. Mazet, D.V.M., M.P.V.M., Ph.D.**

University of California, Davis

**Victoria McGovern, Ph.D.**

Burroughs Wellcome Fund

**Sally A. Miller, Ph.D.**

The Ohio State University

**Suerie Moon, Ph.D., M.P.A.**

The Graduate Institute, Geneva

**Rafael Obregon, Ph.D., M.A.**

United Nations Children's Fund

**Kumanan Rasanathan, M.B.Ch.B., M.P.H**

World Health Organization

**Gary A. Roselle, M.D.**

U.S. Department of Veterans Affairs

**Peter A. Sands, M.P.A.**

The Global Fund to Fight AIDS,  
Tuberculosis & Malaria

**Thomas W. Scott, Ph.D.**

University of California, Davis

**Matthew Zahn, M.D.**

Orange County Health Care Agency

## FORUM STAFF

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**Towards a Post-Pandemic World – Lessons from COVID-19  
for Now and the Future**

*Virtual Workshop*  
September 21<sup>st</sup> – September 24<sup>th</sup> 2021

**Workshop objectives:**

This virtual workshop will host retrospective and prospective discussions on the broad ongoing impacts of the rapidly-evolving pandemic on human health and society. Presentations will explore new understandings, challenges, and emerging data for leaders in governments, public health systems, the private sector, and communities to consider in the ongoing pandemic response with a view towards enhancing resilience and preparedness for future outbreaks. Specifically, the workshop will feature invited presentations, panel discussions and breakout rooms on the following topics:

- Anticipated long-term impacts of the pandemic on health, both direct (physiological) and indirect (societal), at the individual and population level
- The impacts of COVID-19 on human health equity, taking into consideration the two-way relationship between health outcomes and structural or social determinants of health.
- Incorporating best practices and lessons learned from around the world to examine the role of social sciences in building a nuanced, transdisciplinary approach that strives to ensure equity in continued COVID-19 recovery efforts and mitigation of future emergent diseases
- Takeaways from the COVID-19 experience for leaders in government, communities, and the private sector on actionable and sustainable ways to collaborate, manage risk, build trust, and communicate effectively for public health, particularly in the context of uncertainty during public health emergencies
- The impact of dis- and misinformation and how it can be managed to maintain public trust and optimize adherence to health behavioral guidance in a time of crisis
- Ensuring lessons (re-)learned from COVID-19 are captured effectively in health systems that assure a more proactive approach to pandemic preparedness and response.

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**DAY 1 – TUESDAY, September 21<sup>st</sup> 2021**  
**10:00 AM – 2:30 PM ET**

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- 10:00 AM **Welcome**  
Peter Daszak, *chair, Forum on Microbial Threats*  
President  
EcoHealth Alliance
- 10:10 AM **Opening Remarks**  
Victor Dzau, *President, National Academy of Medicine*
- 10:20 AM **Workshop Overview & Goals**  
Elizabeth Hermsen, *workshop co-chair*  
Head, Global Antimicrobial Stewardship and Health Equity in Infectious  
Diseases  
Merck & Co., Inc.
- Rafael Obregon, *workshop co-chair*  
Country Representative in Paraguay  
UNICEF

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**Keynote Addresses**

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Kumanan Rasanathan, *session chair and moderator, World Health Organization*

- 10:30 AM **A Vision for the Future**  
Helen Clark (co-chair, Independent Panel for Pandemic Preparedness  
and Response)
- A Blueprint for a Whole-of-Society Approach to Health Care**  
H.E. Hanan Al Kuwari (Minister of Public Health, Qatar; Managing  
Director, Hamad Medical Corporation)
- 11:15 AM **Discussion** (45 min)
- 12:00 PM **BREAK** (30 min)

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**Session I: Long-Term Impacts of COVID-19 on Health Equity**

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**Session objective:** assess the current knowledge and outstanding questions on the consequences of COVID-19, identifying research priorities and implications for public health strategies – including gaps in systemic health equity.

- 12:30 PM    **Pandemic Inequities in U.S. Health Care: Evidence and Solutions**  
David Blumenthal (Commonwealth Fund)
- 12:45 PM    **New Onset of Mental Health Conditions, Social Determinants of Health, and COVID-19: Evidence from a National Health Insurance Claims Database**  
Mir M. Ali (U.S. Department of Health and Human Services)
- 1:00 PM    **Post-Acute COVID-19 Syndrome in the Pediatric Population and Strategies for the Next Phase**  
Danilo Buonsenso (Fondazione Policlinico Universitario A. Gemelli IRCCS, Italy)
- 1:15 PM    **Probing Disease Mechanisms of Long COVID**  
Akiko Iwasaki (Yale University)
- 1:30 PM    **Discussion** (*45 min*)
- In looking towards the future of health in the U.S. and ongoing issues related to COVID-19, identify areas for multidisciplinary problem solving in pandemic recovery and future capacity-building.
- 2:15 PM    **Observations & Closing Comments**  
Kumanan Rasanathan, *session chair*
- 2:30 PM    **ADJOURN**



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**DAY 2 – WEDNESDAY, September 22<sup>nd</sup> 2021**  
**10:00 AM – 2:30 PM ET**

**Session II: Addressing Uncertainties during a Pandemic**

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**Session objective:** identify actionable paths towards systemic change for encouraging public engagement and establishing trust in health crisis response (especially in times of scientific uncertainty).

10:00 AM **Welcome, Recap and Overview**  
William Hallman, *session chair, Rutgers University*

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**Trust and Engagement in Pandemic Responses and Outcomes**

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10:10 AM **Theory Presentations** (*15 min each*)

**Engaging for Equity: An Approach to Mitigating Pandemic Impact on the Underserved**

Vish Viswanath (Harvard T.H. Chan School of Public Health)

**Science Advice and Trust in the U.S. During the Pandemic**

Roger Pielke, Jr. (University of Colorado, Boulder)

10:40 AM **Case studies** (*20 min each*)

*Each of the case studies will:*

- Illustrate how to establish and sustain trust in the context of rapidly changing scientific evidence base and how to engage with a broad audience in order to encourage healthy behavior and make informed decisions. What infrastructure were in place to support this? What gaps did you have to bridge? What are the critical unmet needs and who can address them?
- Connect the trust and status of the relationship between the public and authorities to how response strategies were shaped, public adherence of these policies, and the resulting case burden.

**Case Study 1**

Siouxie Wiles (University of Auckland, New Zealand)

*pre-recorded presentation*

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**Case Study 2: Title Trust and Engagement in  
Pandemic/Epidemic Responses: Lessons from Ebola in Sierra  
Leone**

Lawrence Sao Babawo (School of Community Health Sciences in the  
Department of Nursing, Njala University)

**Case Study 3**

Stephen Thomas (Center for Health Equity, University of Maryland)

11:40 AM **Discussion** (60 min)

12:40 PM **BREAK** (15 min)

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**Understanding and Addressing Misinformation on COVID-19**

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12:55 PM **Facts and Myths about Misinformation**

Brendan Nyhan (Dartmouth University)

1:15 PM **Panel Discussion** (60 min)

*Panelists:*

- Renée DiResta (Stanford University)
- Brendan Nyhan (Dartmouth University)
- Christine Prue (U.S. Centers for Disease Control and Prevention)
- Brian Southwell (RTI International)

2:15 PM **Observations & Closing Comments**

William Hallman, *session chair*

2:30 PM **ADJOURN**

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**DAY 3 – THURSDAY, September 23<sup>rd</sup> 2021**  
**10:00 AM – 2:30 PM ET**

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**Session III: Systematizing Recovery Efforts to Mitigate the Next Pandemic**

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**Session objective:** identify knowledge, technology and tools (as well as the persistent gaps in each) that have arisen during the COVID-19 pandemic, and discuss how they might be integrated more permanently into existing health systems to improve both the ongoing COVID-19 response efforts and capacity for future outbreak readiness.

10:00 AM **Welcome, Recap and Overview**  
Chandy John, *session chair, Indiana University School of Medicine*

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**Community Engagement in Public Health**

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10:10 AM **The Pandemic as an Opportunity**  
Eliseo J. Pérez-Stable (National Institute of Minority Health and Health Disparities, National Institutes of Health)

10:30 AM **Q&A**

10:45 AM **Case Study Presentations** (*15 min each*)

**Designing for Care Equity: Strategies from a Community COVID-19 Vaccination Clinic**

Lauren Hahn (Penn Medicine Center for Digital Health)

**NewYork-Presbyterian Center for Community Health Navigation: A Hospital-Community Partnership to Improve Community Health and Well-Being**

Patricia Peretz and Adriana Matiz (NewYork-Presbyterian Center for Community Health Navigation)

**An Equity Driven Approach to Incident Command Structure (ICS): Lessons from the New Mexico Department of Health Vaccine Team**

Laura Chanchien Parajón and Miranda Durham (New Mexico Department of Health)

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**The Role of Community Engagement during the Pandemic:  
Lessons from the Paraguay Experience**

Guillermo Sequera (Ministry of Public Health and Social Welfare,  
Paraguay) (Ministerio de Salud Pública y Bienestar Social - Paraguay)

11:45 AM **Discussion** (45 min)

12:30 PM **BREAK** (15 min)

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**Toolbox for Recovery and Future Capacity-Building**

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12:45 PM **Panel Discussion** (30 min opening + 60 min discussion)

*Moderator:* Margaret Kruk (Harvard T.H. Chan School of Public Health)

*Panelists:*

- Simone Blayer (PATH): promises of the new vaccine platforms
- Joe DeRisi (Chan-Zuckerberg BioHub, UCSF): new diagnostic tools
- Syra Madad (New York City Health + Hospitals): social capital and trust in science during a crisis
- David Cutler (Harvard University): lessons from COVID-19 for health systems

2:15 PM **Observations & Closing Comments**

Chandy John, *session chair*

2:30 PM **ADJOURN**

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DAY 4 – FRIDAY, September 24<sup>th</sup> 2021  
10:00 AM – 2:30 PM ET

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**Session IV: Potentials for a Post-COVID World**

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**Session objective:** using lessons learned and guiding principles from the previous three sessions of the workshop, generate actionable strategies for preparing for and responding to future health crises.

10:00 AM **Welcome, Recap and Overview**

Matthew Zahn, *session chair, Orange County Health Care Agency*

10:10 AM **Visionary Statements** (10 min each)

**Pandemic Preparedness: The Biomedical Research Approach**

Anthony Fauci (National Institute of Allergy and Infectious Diseases)  
*pre-recorded presentation*

**COVID-19: What Went Wrong, Why It Did, and How We Can Do Better**

Sandro Galea (Boston University)

10:30 AM **Guiding Statement on Strategic Planning Exercise**

10:45 AM **Strategic Planning Breakout Rooms** (2.25 hours)

Using the provided scenario narratives inspired by the actual lived experiences of public health leaders responding to the initial U.S. outbreak of COVID-19, provide a response strategy for the public health apparatus, researchers, the private sector, and policymakers, placing emphasis on efforts towards ensuring sustained community partnerships and health equity.

Room 1

*Moderator:* Matthew Zahn (Orange County Health Care Agency)

*Participants:*

- David Broniatowski (George Washington University)
- Ramanan Laxminarayan (University of Washington)

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- Shari Ling (Center for Clinical Standards and Quality, Centers for Medicare and Medicaid Services)
- Laura Chanchien Parajón (New Mexico Department of Health)
- Patricia Peretz (New York-Presbyterian)

Room 2

*Moderator:* Stephen Thomas (State University of New York Upstate Medical University)

*Participants:*

- Carolina Batista (Institute of Global Health, Barcelona)
- Micheal Burke (Department of Homeland Security)
- Anupam Bapu Jena (Harvard Medical School)
- Lindsey J. Leininger (Tuck School of Business at Dartmouth)
- Tonya Nichols (Environmental Protection Agency)

1:00 PM     **BREAK** (30 min)

1:30 PM     **Strategic Planning Session Recap**

2:15 PM     **Workshop Closing Remarks**

Elizabeth Hermsen, *workshop co-chair*

Rafael Obregon, *workshop co-chair*

Peter Daszak, *chair, Forum on Microbial Threats*

2:30 PM     **ADJOURN**

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FUTURE

*A Virtual Workshop – Part 2*

**PLANNING COMMITTEE ROSTER**

**Elizabeth D. Hermsen, Pharm.D., M.B.A.**

*(Co-Chair)*

*Member, Forum on Microbial Threats*

Head, Global Antimicrobial Stewardship and Health

Equity in Infectious Diseases

Merck & Co., Inc.

Elkhorn, NE

**Rafael Obregon, Ph.D., M.A.**

*(Co-Chair)*

*Member, Forum on Microbial Threats*

Country Representative, Paraguay

UNICEF

New York, NY

**William K. Hallman, Ph.D.**

Department Chair, Professor

Department of Human Ecology

Bloustein School of Planning and Public Policy

Rutgers University

New Brunswick, NJ

**Chandy C. John, M.D., M.S.**

*Member, Forum on Microbial Threats*

Director, Ryan White Center for Pediatric Infectious  
Disease and Global Health

Indiana University School of Medicine

Indianapolis, IN

**Kent E. Kester, M.D.**

*Vice-Chair, Forum on Microbial Threats*

Professor of Medicine

Uniformed Services University of the Health Sciences

School of Medicine

Bethesda, MD

**Rima F. Khabbaz, M.D.**

*Vice-Chair, Forum on Microbial Threats*

Director, National Center for Emerging Zoonotic  
Infectious Diseases

U.S. Centers for Disease Control and Prevention

Atlanta, GA

**Kumanan Rasanathan, M.B.Ch.B., M.P.H.,  
FAFPHM**

*Member, Forum on Microbial Threats*

Coordinator, Health Systems

Office of the WHO Representative in Cambodia

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Phnom Penh, Cambodia

**Stephen J. Thomas, M.D., FACP**

Chief, Division of Infectious Diseases

Director, Institute for Global Health and Translational  
Science

State University of New York Upstate Medical  
University

Syracuse, NY

**Matthew Zahn, M.D.**

*Member, Forum on Microbial Threats*

Medical Director, Division of Epidemiology and  
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Orange County Health Care Agency

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*A Virtual Workshop – Part 2*

**PLANNING COMMITTEE BIOGRAPHIES**

**Elizabeth D. Hermsen, Pharm.D., M.B.A., BCPS-AQ(ID), FIDP, FIDSA (Co-Chair)**, is the Head of Global Antimicrobial Stewardship and Health Equity in Infectious Diseases at Merck & Co., Inc. and an Adjunct Associate Professor at the University of Nebraska Medical Center, Colleges of Pharmacy and Medicine, in Omaha, Nebraska. Dr. Hermsen received her Doctor of Pharmacy degree from the University of Nebraska Medical Center followed by a pharmacy practice residency at The Nebraska Medical Center, a fellowship in Infectious Diseases Research at the University of Minnesota, College of Pharmacy, and a master's degree in business administration at the University of Minnesota, Carlson School of Management. Following her fellowship, Dr. Hermsen developed and co-directed the antimicrobial stewardship program at The Nebraska Medical Center and subsequently joined Cubist, where she created and led the Antimicrobial Stewardship Outreach Group. Now, in her role at Merck, she is responsible for creating and executing a strategy to advance antimicrobial stewardship through education, implementation, research, and advocacy, with a global scope, across human, animal, and environmental health. Dr. Hermsen's role also focuses on health equity in infectious diseases, working across antimicrobials, virology, and vaccines. Dr. Hermsen actively contributed to the advancement of the Society of Infectious Diseases Pharmacists (SIDP) Antimicrobial Stewardship Certificate Program during her term as SIDP President and continues to participate as a lecturer in the program. Dr. Hermsen served as a contributing member of the Antimicrobial Stewardship Knowledge & Skills Collaborative, coordinated by the Society for Healthcare Epidemiology of America; an expert panel on Hospital-based Antimicrobial Utilization Surveillance via the National Healthcare Safety Network, coordinated by the Centers for Disease Control and Prevention; an expert panel coordinated by the National Quality Forum and CDC to develop the practical tool entitled, [Antibiotic Stewardship in Acute Care: A Practical Playbook](#); and co-chaired the Antimicrobial Stewardship Work Package (1A) for the Innovative Medicines Institute (IMI) Driving Reinvestment in Research & Development and Responsible Antibiotic Use ([DRIVE-AB](#)) initiative. Dr. Hermsen was selected to serve on the Infectious Diseases Society of America (IDSA) Leadership Development Committee, and she served as the inaugural Chair of the newly-created SIDP Strategic Planning Committee. Dr. Hermsen is a Board Certified Pharmacotherapy Specialist with added qualifications in Infectious Diseases and is a Fellow of SIDP and IDSA. She has contributed to the profession with numerous publications in peer-reviewed journals, book chapters, and by serving as a reviewer for several professional journals. Dr. Hermsen has also given over 100 invited presentations at state, regional, national, and international meetings, and she recently gave a [TED talk](#) regarding antimicrobial stewardship and resistance at TEDx Omaha 2019.

**Rafael Obregon, Ph.D., M.A. (Co-Chair)**, is country representative for the United Nations Children's Fund (UNICEF) in Paraguay and provides technical leadership and guidance on the development of standards, guidelines, and quality assurance for the application of communication for development principles and strategies across programmatic areas of UNICEF, including emergency response and humanitarian action. In this capacity, Dr. Obregon has engaged in several responses to public health emergencies and disease outbreaks, including the 2014 – 2015 West Africa Ebola Outbreak. In 2016 Dr. Obregon also served as a member of the Advisory Committee to the World Health Organization's (WHO's) International Health Regulations Emergency Committee on Zika virus and observed increase in neurological disorders and neonatal malformations. Prior to joining UNICEF, he has served as regional advisor for health communication within the Area of Family and Community Health and Child and Adolescent Health Unit at the Pan American Health Organization. Dr Obregon has also been a technical advisor, researcher, and resource/focal person for international/national cooperation agencies and government and nongovernmental organizations, particularly in health and development initiatives. His duties have focused on formative research, project design and evaluation, and capacity strengthening. Dr. Obregon has also been associate professor and guest faculty member at a number of universities, including Ohio University, the Universidad Autónoma in Barcelona, Spain, and the Universidad del Norte in Barranquilla, Colombia, where he remains as an adjunct faculty. Throughout his career, he has written several books, book chapters, monographs, manuals, peer-reviewed journal articles and reports on public health communication, participatory communication, and capacity development. More recently, he is co-editor on a forthcoming book, "Social and Behavior Change Communication in Disease Outbreaks: Dealing with Rights,



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Culture, Complexity, and Context” (Springer). He is a member of several editorial boards including the *Journal of Health Communication*, and has been a member of several scientific committees including the World Congress on Communication and Development, convened by the World Bank, the Food and Agriculture Organization of the United Nations, and the Communication Initiative, as well as a member of the Technical Advisory Group for the Global Health Communication Partnership within the Center for Communication Programs at Johns Hopkins University. Dr. Obregon earned his Ph.D. in an interdisciplinary program in mass communications, with a concentration on international health, at the College of Communications at Pennsylvania State University in 1999. He received his Master of Arts in international affairs and communication and development from Ohio University in 1994 with a minor in public health. Additionally, he obtained a diploma in education and pedagogy through the National Apprenticeship Service in Colombia in 1990.

**William K. Hallman, Ph.D.**, is a professor and Chair of the Department of Human Ecology and is a member of the graduate faculty of the Department of Nutritional Sciences, and of the Bloustein School of Planning and Public Policy at Rutgers, the State University of New Jersey. He is a 1983 graduate of Juniata College in Huntingdon, Pennsylvania and earned his PhD. in Experimental Psychology from the University of South Carolina in 1989. Dr. Hallman's research examines public perceptions of controversial issues concerning food, health, and the environment. Recent research projects have looked at consumer perceptions and behaviors concerning genetically modified foods, animal cloning, avian influenza, accidental and intentional food contamination incidents, and food recalls. His current research projects include studies of public perceptions and responses to food safety risks, the safety of fresh meat, poultry, game, and seafood products purchased on the Internet, the use of nanotechnology in food, and public understanding of health claims made for food products. Dr. Hallman serves on the Executive Committee of Rutgers Against Hunger (RAH), and helped to found the New Brunswick Community Farmers Market, which offers food insecure residents access to fresh, locally grown, affordable, nutritious, and culturally appropriate produce and other food products. Dr. Hallman formerly served as the Director of the Food Policy Institute (FPI) at Rutgers, and currently serves as the Chair of the Risk Communication Advisory Committee of the US Food and Drug Administration (FDA).

**Chandy C. John, M.D., M.S.**, holds the Ryan White Endowed Chair in Pediatric Infectious Diseases and is director of the Ryan White Center for Pediatric Infectious Disease and Global Health at Indiana University. Dr. John's research focuses on malaria pathogenesis, immunology and epidemiology. Key discoveries of his collaborative research team include: 1) the first prospective studies to establish that severe malaria is associated with long-term cognitive impairment in children, 2) identification of immunologic factors that increase risk of severe malaria and cognitive impairment after severe malaria; 3) determination of geographic and immunologic factors that affect risk of malaria in areas of unstable malaria transmission; and 4) the first studies to show that hydroxyurea treatment is safe and effective for children with sickle cell anemia in malaria endemic areas. Dr. John conducts research and training programs in Kenya in collaboration with colleagues at the Kenya Medical Research Institute, and in Uganda in collaboration with colleagues at Makerere University. He is the author of more than 180 peer-reviewed publications and 30 book chapters. Dr. John serves on the Thrasher Research Fund Scientific Advisory Committee, and has served on or chaired numerous NIH and national and international study sections and review boards. Dr. John's awards include the Pediatric Infectious Diseases Society Young Investigator Award (2004), and the Bailey K. Ashford Medal from the American Society of Tropical Medicine and Hygiene for contributions to tropical medicine research (2011). Dr. John is an active clinician, specializing in pediatric infectious diseases, tropical medicine and travel medicine. As an educator, Dr. John was director of global health residency tracks in pediatrics at Case Western Reserve University and the University of Minnesota. Dr. John served as president of the American Society of Tropical Medicine and Hygiene in 2019.

**Kent E. Kester, M.D.**, was most recently Vice President and head of Translational Science and Biomarkers at Sanofi Pasteur. During a 24-year career in the U.S. Army, he worked extensively in clinical vaccine development and led multiple research platforms at the Walter Reed Army Institute of Research, the U.S. Department of Defense's largest and most diverse biomedical research laboratory—an institution he later led as its commander/director. His final military assignment was as the associate dean for clinical research in the School of Medicine at the Uniformed Services University of the Health Sciences (USUHS). Dr. Kester holds an undergraduate degree from Bucknell University and an M.D. from Jefferson Medical College. He completed his internship and residency in internal medicine at the University of Maryland and a fellowship in infectious diseases at the Walter Reed Army Medical Center. A malaria vaccine researcher with over 70 scientific manuscripts and book chapters, Dr. Kester has played a major role in the development of the malaria vaccine

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candidate known as RTS,S. Currently a member of the U.S. Government Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria, he previously chaired the Steering Committee of the National Institute of Allergy and Infectious Diseases (NIAID)-USUHS Infectious Disease Clinical Research Program, and has served as a member of the Food and Drug Administration's Vaccines and Related Biologics Products Advisory Committee, the NIAID Advisory Council, and the U.S. Centers for Disease Control's Office of Infectious Diseases Board of Scientific Counselors. Board certified in both internal medicine and infectious diseases, he holds faculty appointments at USUHS and the University of Maryland; and is a fellow of the American College of Physicians, the Infectious Diseases Society of America, the Royal College of Physicians of Edinburgh, and the American Society of Tropical Medicine and Hygiene.

**Rima F. Khabbaz, M.D.**, is the director of the National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) at the U.S. Centers for Disease Control and Prevention (CDC). From 2010 to 2017, she was CDC's deputy director for infectious diseases and director of the Office of Infectious Diseases, where she helped lead the efforts of CDC's infectious disease national centers and advance the Agency's crosscutting infectious disease priorities including the integration of advanced molecular detection technologies into public health. During that time, she also served on an interim basis as acting director of the National Center for Immunization and Respiratory Diseases, acting director of the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, and acting director of NCEZID during leadership transitions. Her previous CDC positions include director of the National Center for Preparedness, Detection, and Control of Infectious Diseases; director, acting director, and associate director for epidemiologic science in the National Center for Infectious Diseases (NCID); and deputy director and associate director for science in the Division of Viral and Rickettsial Diseases. Her first job at CDC was an Epidemic Intelligence Service Officer in NCID's Hospital Infections Program. She later served as a medical epidemiologist in NCID's Retrovirus Diseases Branch, where she made major contributions to defining the epidemiology of the non-HIV retroviruses, specifically human T lymphotropic viruses (HTLV) I and II, in the United States and to developing guidance for counseling HTLV-infected persons. Following the hantavirus pulmonary syndrome outbreak in the southwestern United States in 1993, she led CDC's efforts to set up national surveillance for this syndrome. She also played a key role in developing and coordinating CDC's blood safety and food safety programs related to viral diseases. She has served in leadership positions during many of CDC's responses to outbreaks of new and/or reemerging infections, including Nipah, Ebola, West Nile virus, SARS, and monkeypox, and she led the CDC field team to the nation's capital during the public health response to the anthrax attacks of 2001. Dr. Khabbaz is a graduate of the American University of Beirut in Lebanon, where she obtained both her bachelor's degree in science (biology/chemistry) and her medical doctorate degree. She trained in internal medicine and completed a fellowship in infectious diseases at the University of Maryland in Baltimore. In addition to her CDC position, she serves as clinical adjunct professor of medicine (infectious diseases) at Emory University. Dr. Khabbaz is a fellow of the Infectious Diseases Society of America (IDSA), a member of the American Epidemiological Society, and a member of the American Society for Microbiology and of the American Society for Tropical Medicine and Hygiene. She is a graduate of the Public Health Leadership Institute at the University of North Carolina and the National Preparedness Leadership Initiative at Harvard University. She served on IDSA's Annual Meeting Scientific Program Committee and serves on the society's Public Health Committee. She also is a member of the National Academies of Sciences, Engineering, and Medicine's Forum on Microbial Threats.

**Kumanan Rasanathan, M.B.Ch.B., M.P.H.**, is a public health physician with over 20 years of experience in health and related sectors. Currently, he is the Unit Head for Equity and Health in the Department of Social Determinants of Health at the World Health Organization (WHO) in Geneva. Previously, he was Coordinator for Health Systems for WHO in Cambodia, where he also led the work on maternal and child health and served as Incident Manager for COVID-19. Prior to Cambodia, he was Chief, Implementation Research and Delivery Science Unit and Senior Adviser Health for United Nations Children's Fund in New York, where he worked on improving child service delivery, particularly at district and community level, health systems resilience post-Ebola, and developing the Sustainable Development Goals health agenda. Dr. Rasanathan earlier worked for WHO in Geneva on primary health care and the social determinants of health, and in a number of different countries as a clinician, researcher, policy maker, program manager, and advocate. He started his public health career running Phase I and II vaccine clinical trials leading to the licensure and rollout of meningococcal B vaccine in New Zealand.

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**Stephen J. Thomas, M.D.**, is a virologist and vaccinologist who currently serves as a Professor of Medicine, Microbiology & Immunology and an Infectious Diseases physician-scientist at SUNY Upstate Medical University in Syracuse, NY. He is the Chief of the Division of Infectious Diseases and the Director of the Institute for Global Health and Translational Science. As Director of the Institute of Global Health and Translational Science, he provides leadership to multiple initiatives in the US and abroad. Dr. Thomas earned his Bachelor of Arts with Honors in Biomedical Ethics from Brown University, his Medical Degree from the Albany Medical College, and completed his internship and residency in Internal Medicine/Infectious Diseases at the Walter Reed Army Medical Center. Dr. Thomas is board certified in both Infectious Disease and Internal Medicine, holds a certification in Tropical Medicine and Traveler's Health from the American Society of Tropical Medicine and Hygiene, and is a Fellow in the American College of Physicians, Infectious Diseases Society of American, and the American Society of Tropical Medicine and Hygiene. Dr. Thomas has spent more than 5 years of his early career living and working in Thailand and Southeast Asia. He played a key leadership role during the West Africa Ebola outbreak, advising senior Department of Defense leadership and leading his team in planning and executing of Ebola vaccine trials. He was instrumental in developing and implementing his institution's first in-human MERS-CoV vaccine trial and Zika vaccine. Prior to joining SUNY Upstate, Dr. Thomas spent twenty years in the U.S. Army Medical Corps, serving at the Walter Reed Army Institute of Research, finishing his time there as the Chief Operating Officer of the Institute. As Chief of Infectious Disease at SUNY, Dr. Thomas leads the Infectious Diseases Division and is responsible for providing in- and out-patient consultation for more than 10% of New York State's population. As Director of the Institute of Global Health and Translational Science, he leads multiple initiatives encompassing education, research, and clinical service opportunities. His current research activities include work on dengue human infection models, development of vaccines against opioid use disorders, field-based studies exploring transmission and pathogenesis of arboviral diseases in Asia and Latin America, and both early and advanced phase testing of a number of vaccines and therapeutics against tropical diseases.

**Matthew Zahn, M.D.**, currently serves as medical director of the Division of Epidemiology and Assessment for the Orange County Health Care Agency. Dr. Zahn received his doctorate in medicine from St. Louis University School of Medicine. From 2004 through 2011, he served as medical director for the Louisville Metro Department of Public Health and Wellness. During that time, he also served as an assistant professor of pediatric infectious disease at the University of Louisville School of Medicine. Dr. Zahn has served on multiple national public health committees, including his current service as the chair of the Infectious Diseases Society of America's Public Health Workgroup.

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TOWARDS A POST-PANDEMIC WORLD – LESSONS FROM COVID-19 FOR NOW AND THE FUTURE

*A Virtual Workshop – Part 2*

## **Speaker Biographies**

**Her Excellency Dr. Hanan Mohamed Al Kuwari, Ph.D.**, was appointed as Qatar's Minister of Public Health in January 2016. She is also Managing Director of Hamad Medical Corporation (HMC), a position she has held since 2007.

Her Excellency is the Chairperson of numerous boards, including the Academic Health System International Advisory Board, the Hamad Healthcare Quality Institute International Advisory Board, and a number of other committees at the Ministry of Public Health. She is also a Co-Chair for the Joint Advisory Board of Weill Cornell Medicine, Vice Chair for the Board of the Qatar Precision Medicine Institute and a member of the Qatar University Board of Regents, Sidra Medicine Board of Governors, Board of Directors of Qatar Foundation for Social Work as well as Qatar Foundation's Qatar Research, Development and Innovation Council. In October 2018, Her Excellency was elected as an international member of the United States' National Academy of Medicine (NAM).

Following completion of a bachelor's degree and master's degree in healthcare management, she obtained a PhD in Healthcare Management from Brunel University in the UK in 2002.

**Mir M. Ali, Ph.D.**, is a Health Economist at the US Department of Health & Human Services, Office of the Assistant Secretary for Planning and Evaluation (ASPE). A specialist in behavioral health economics, Dr. Ali focuses his research on mental illness, substance abuse and issues of behavioral health policies affecting children and adults. He has authored 100+ peer-reviewed journal articles and numerous government reports on behavioral healthcare systems and policies.

**Lawrence Sao Babawo, B.Sc (Hon.), M.P.H., RGN, FWACN, Ph.D.**, is a long serving faculty member at the School of Community Health Sciences, Njala University and currently serves as Senior Lecturer. He is attached to the Department of Nursing and shares workload with the other two departments in the School. He lectures a range of courses at both undergraduate and postgraduate levels. He's a core staff of the Postgraduate School of the University for the MPH programme.

He graduated from University of Sierra Leone with a Bachelor of Science with honours degree in Nursing. He holds a master's degree in public health from Njala University. His research interests are in infectious diseases; health systems, policy and development; and public authority & nursing sciences. Professionally, Lawrence Sao Babawo is a licensed Registered General Nurse (RGN), a fellow of the West African College of Nursing (FWACN) & a Fellow of the Postgraduate College of Nursing and Midwifery in Sierra Leone.

He has several years experience in the NGO sector with advanced knowledge and skills in training, facilitation, and moderation. He has attended several national and International conferences, seminars and workshops in a range of fields including but not limited to health.

When the COVID-19 pandemic reached Sierra Leone, Lawrence was appointed a member of the Scientific, Technical and Advisory Group for Emergencies (STAGE) on COVID 19 by the President of Sierra Leone.

He has a solid publication profile in high impact factor journals including two textbooks.

**Carolina Batista, M.D., M.P.H.**, is a medical doctor and a recognized global health leader. She holds expertise in health policy, international development, infectious, neglected diseases, R&D, and migration. She has extensive experience in developing unique and innovative solutions to address public health challenges facing under served populations throughout the world, including migrants. Carolina has worked intimately with vulnerable communities to identify pressing health issues and to engage the strategic stakeholders necessary to address them. During the span of her career, she has been able to design frameworks and guidelines that have ultimately impacted public policies in countries and communities around the globe.

She is currently a member of the International Board of Doctors Without Borders/Médecins Sans Frontières (MSF), and the Latin America Strategic Advisor for the Barcelona Institute for Global Health (ISGlobal).

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From the onset of the COVID-19 pandemic, Carolina has been actively involved in supporting grass roots associations in various countries, led the MSF medical response to COVID-19 in the Navajo Nation, in the United States, and has published several articles and policy papers about COVID-19 and access to care during the pandemic. She is currently a member of The Lancet COVID-19 Commission, vaccines and therapeutics task force and is part of the Board of the Lancet Migration Latin America Hub.

Clinically trained in Brazil, Carolina started her career as a Family Medicine Physician in rural areas of the country. She later transitioned to work with remote indigenous communities in the Amazon region. In 2007, she joined MSF, working in a project in Somalia and has remained strongly connected with the humanitarian organization ever since.

In 2010 she led an assessment on Chagas disease in the United States with focus on Latin American migrants in the country. The outcome of which influenced the design of approaches to disease advocacy in the US and other endemic countries. In 2011 she became the medical director at MSF in Brazil. Her primary focus in this role was to support field operations treating Neglected Tropical Diseases (NTDs) and emerging infectious diseases. She was also involved in multiple assignments with the organization in Africa and Latin America and helped coordinate various MSF projects with Haitian migrants in Brazil that led to policy change at country level.

After three successful years with MSF-Brazil, Carolina joined the Drugs for Neglected Diseases initiative (DNDi) Latin America as the Head of Access and Medical Affairs. There, she led regional R&D, medical and scientific activities, and design and implementation of access programs for neglected diseases in the region. Under her leadership, DNDi established successful public private partnerships to improve R&D and access to diagnosis and treatment for NTDs throughout Latin America. Additionally, during this period, Carolina served voluntarily as an elected Member of the MSF-Brazil Board of Directors.

Since 2018 Carolina has worked as a strategic consultant in multiple projects in global health and international development and is currently the Head of Global Health Affairs at Baraka Impact Finance.

Carolina holds a combined master's degree in International Public Health, from the Swiss Tropical and Public Health Institute, the Institute of Tropical Medicine, Antwerp and The Royal Tropical Institute, Amsterdam.

**Simone Blayer, Ph.D.**, For more than two decades, Dr. Blayer has worked in vaccine development and production in biotech and multinational pharmaceutical companies throughout Europe and Asia. He brings diverse industry experience in all aspects of chemistry manufacturing control, including vaccine process development and optimization; production at scale; technology transfer; facility engineering; project management and leadership; and business development.

Prior to joining PATH in 2019, he founded the chemistry manufacturing control function at the Coalition for Epidemic Preparedness Innovations. As its first head, he led essential plans and activities for 26 separate vaccine projects. He was also the global project director for Batavia Biosciences in Leiden, the Netherlands. While there, he championed the RV3 rotavirus vaccine project in collaboration with Bio Farma and was an advisor to the Grand Challenges Inactivated Polio Vaccine Univercells project, among others.

Dr. Blayer is an Italian-Israeli national and earned his PhD in biochemical engineering from University College London.

**David Blumenthal, M.D., M.P.P.**, is President of the Commonwealth Fund. Previously, he served as Chief Health Information and Innovation Officer at Partners Health System and was Samuel O. Thier Professor of Medicine and Professor of Health Care Policy at Massachusetts General Hospital/Harvard Medical School. From 2009 to 2011, Dr. Blumenthal was the National Coordinator for Health Information Technology under President Barack Obama. As a renowned health services researcher and national authority on health IT adoption, he has authored over 300 scholarly publications, including the seminal studies on the adoption and use of health information technology in the United States.

**David A. Broniatowski, Ph.D.**, Director of the Decision Making and Systems Architecture Laboratory, conducts research in decision making under risk, group decision making, the design and analysis of complex systems, and behavioral epidemiology. This research program draws upon a wide range of techniques including formal mathematical modeling, experimental design, automated text analysis and natural language processing, social and technical network analysis, and big data. His work on systematic distortions of public opinion about vaccines on social media by state-sponsored trolls has been widely reported in the academic and popular press.

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**Danilo Buonsenso, M.D.**, is a pediatrician at the Gemelli University Hospital in Rome who led the first attempt to quantify “long COVID” in children. His main areas of research are pediatric and infant diseases. Dr. Buonsenso is a last year Ph.D. student in Public Health and Biomolecular Sciences. He sits on the Scientific Committee of the Global Health Research Center of the Catholic University of Rome, Italy, and is an active member of several European Societies, including awards from the ESPID 2020.

**Micheal Burke, D.V.M.**, obtained a degree in Animal Science from Cornell University in 2004, upon which he attended the University of Pennsylvania and subsequently obtained a Doctorate in Veterinary Medicine in 2009. Throughout his veterinary career his professional experience has spanned the diverse clinical settings of regulatory, companion animal, food production, laboratory animal, wildlife and zoological medicine. Most of his civil service experience has been with the USDA, where he was first involved in food safety while working for the Food Safety Inspection Service (FSIS). Following FSIS, he transitioned to the Animal and Plant Health Inspection Service's (APHIS) Veterinary Services (VS) and served as a veterinarian then Director for the New York Animal Import Center, a federal facility responsible for ensuring animal health through quarantine and bio-security protocols, diagnostic testing, and enforcement of import and export regulatory requirements for animals and livestock embarking or disembarking from the United States. He is now employed by the Department of Homeland Security Countering Weapons of Mass Destruction's Food, Agriculture and Veterinary Defense (FAV-D) Division where his program office has the responsibility to understand the future risk landscape of the Food and Agriculture Sector, and to better coordinate and integrate defensive countermeasures that include a capacity to absorb unexpected consequences and build stronger resilience at the national level. He has a strong belief in the One Health approach and seeks to help facilitate the adoption of an enhanced food defense readiness stance by ensuring a whole of community approach.

**Helen Clark, M.A. (HONs)**, was Prime Minister of New Zealand for three successive terms from 1999 -2008.

Throughout her tenure as Prime Minister and as a Member of Parliament over 27 years, Helen Clark engaged widely in policy development and advocacy across the international, economic, social, environmental, and cultural spheres. She advocated strongly for New Zealand's comprehensive programme on sustainability and for tackling the problems of climate change. She was an active leader of her country's foreign relations, engaging in a wide range of international issues.

In April 2009, Helen Clark became Administrator of the United Nations Development Programme (UNDP). She was the first woman to lead the organisation, and served two terms there. At the same time, she was also Chair of the United Nations Development Group, a committee consisting of all UN funds, programmes, agencies, and departments working on development issues. As Administrator, she led UNDP to be ranked the most transparent global development organisation. She completed her tenure in 2017.

Helen Clark came to the role of Prime Minister after an extensive parliamentary and ministerial career. Prior to being elected to the New Zealand Parliament in 1981, Helen Clark taught in the Political Studies Department of the University of Auckland, from which she earlier graduated with her BA and MA (Hons) degrees.

Helen continues to be a strong voice for sustainable development, climate action, gender equality and women's leadership, peace and justice, and action on pressing global health issues. In July 2020, she was appointed by the Director-General of the World Health Organisation as a Co-Chair of the Independent Panel for Pandemic Preparedness and Response, called for by the World Health Assembly, which will report in May this year. She chairs the boards of the Extractive Industries Transparency Organisation, the Partnership for Maternal, Newborn and Child Health, and of other public good organisations and initiatives.

**David Cutler, Ph.D.**, has developed an impressive record of achievement in both academia and the public sector. He served as assistant professor of economics from 1991 to 1995, was named the John L. Loeb Associate Professor of Social Sciences in 1995, and received tenure in 1997. He is currently the Otto Eckstein Professor of Applied Economics in the Department of Economics and holds secondary appointments at the Kennedy School of Government and the School of Public Health. Dr. Cutler was associate dean of the Faculty of Arts and Sciences for Social Sciences from 2003 to 2008.

Honored for his scholarly work and singled out for outstanding mentorship of graduate students, Dr. Cutler's work in health economics and public economics has earned him significant academic and public acclaim. He served on the Council of Economic Advisers and the National Economic Council during the Clinton administration and has advised the presidential

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campaigns of Bill Bradley, John Kerry, and Barack Obama as well as being senior health care advisor for the Obama presidential campaign. Among other affiliations, Dr. Cutler has held positions with the National Institutes of Health and the National Academy of Sciences. Currently, Dr. Cutler is a research associate at the National Bureau of Economic Research, a member of the Institute of Medicine, and a fellow of the Employee Benefit Research Institute. He advises many companies and groups on health care.

Dr. Cutler was a key advisor in the formulation of the recent cost control legislation in Massachusetts, and is one of the members of the Health Policy Commission created to help reduce medical spending in that state.

Dr. Cutler is author of two books, several chapters in edited books, and many of published papers on the topics of health care and other public policy topics. Author of [\*Your Money Or Your Life: Strong Medicine for America's Health Care System\*](#), published by Oxford University Press, this book and Dr. Cutler's ideas were the subject of a feature article in the *New York Times Magazine* titled [\*The Quality Cure\*](#) by Roger Lowenstein. Cutler was recently named one of the 30 people who could have a powerful impact on healthcare by *Modern Healthcare* magazine and one of the 50 most influential men aged 45 and younger by *Details* magazine.

Professor Cutler received a BA from Harvard University (1987) and a PhD in economics from MIT (1991).

**Joseph DeRisi, Ph.D.**, is recognized as an early pioneer in functional genomics. During his graduate career at Stanford University in the laboratory of Patrick O. Brown, he developed much of the automation, software, and methodology for producing DNA microarrays. In 1997, he was the first to produce and publish experiments using a DNA microarray representing an entire eukaryotic genome (*S. cerevisiae*). Dr. DeRisi has since exploited genomic technology for the study of infectious disease, including malaria and viruses. His lab was the first to provide a high-resolution for the blood stage transcriptome for *P. falciparum* and during the same year, his lab deployed a viral discovery array to assist with the identification of the SARS coronavirus during the global 2003 outbreak. Dr. DeRisi's lab has specialized in the use of ultra-deep sequencing technologies, sample preparation methodologies and bioinformatic techniques to identify viral pathogens in both human and veterinary medicine, especially with respect to neurological disease.

More recently, through his role as Co-President of the Chan Zuckerberg Biohub, he has redirected his efforts to providing large-scale, rapid turnaround clinical COVID19 testing through a UCSF/Biohub collaboration called the "CLIAHUB." As of August, the CLIAHUB has returned over 100,000 clinical results to Californians, in addition to thousands of full length SARS-CoV-2 genomes for genomic epidemiological studies.

**Renée DiResta**, is the Technical Research Manager at the Stanford Internet Observatory, a cross-disciplinary program of research, teaching and policy engagement for the study of abuse in current information technologies. Her work examines the ways in which distinct actor types leverage the information ecosystem to exert influence - from domestic activists promoting health misinformation and conspiracy theories, to well-resourced full-spectrum information operations executed by state-sponsored actors - and draws on those findings to consider policy, education, and design responses.

Renée has advised Congress, the State Department, and other academic, civic, and business organizations. At the behest of SSCI, she led outside teams investigating both the Russia-linked Internet Research Agency's multi-year effort to manipulate American society and elections, and the GRU influence campaign deployed alongside its hack-and-leak operations in the 2016 election. Renée is an Ideas contributor at Wired and The Atlantic, an Emerson Fellow, a 2019 Truman National Security Project fellow, a 2019 Mozilla Fellow in Media, Misinformation, and Trust, a 2017 Presidential Leadership Scholar, and a Council on Foreign Relations term member.

**Miranda Durham, M.D.**, currently serves as the NW Region Health Officer and Vaccine Planning Chief for the New Mexico Department of Health. She is a family physician who worked with Indian Health Service for 20 years before joining the health department. She worked extensively on healthcare QI projects with the IHS Improving Patient Care Initiative. She also served as the Medical Director on the CMS funded Partnership to Advance Tribal Health (PATH), an all IHS QIO. She graduated from Albany Medical College in 1994 and completed residency at the University of Rochester in 1997.

**Anthony S. Fauci, M.D.** is director of the National Institute of Allergy and Infectious Diseases (NIAID) at the U.S. National Institutes of Health, where he oversees an extensive research portfolio focused on infectious and immune-mediated diseases. As the long-time chief of the NIAID Laboratory of Immunoregulation, Dr. Fauci has made many seminal contributions in basic and clinical research and is one of the world's most-cited biomedical scientists. He was one of the

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principal architects of the President's Emergency Plan for AIDS Relief (PEPFAR), a program that has saved millions of lives throughout the developing world.

**Sandro Galea, Dr. P.H.**, a physician, epidemiologist, and author, is dean and Robert A. Knox Professor at Boston University School of Public Health. He previously held academic and leadership positions at Columbia University, the University of Michigan, and the New York Academy of Medicine. He has published extensively in the peer-reviewed literature, and is a regular contributor to a range of public media, about the social causes of health, mental health, and the consequences of trauma. He has been listed as one of the most widely cited scholars in the social sciences. He is past chair of the board of the Association of Schools and Programs of Public Health and past president of the Society for Epidemiologic Research and of the Interdisciplinary Association for Population Health Science. He is an elected member of the National Academy of Medicine. Galea has received several lifetime achievement awards. Galea holds a medical degree from the University of Toronto, graduate degrees from Harvard University and Columbia University, and an honorary doctorate from the University of Glasgow.

**Lauren Hahn, M.B.A.**, is a senior innovation manager at the Center for Digital Health within Penn Medicine, the University of Pennsylvania Health System. Centered on digital products, she works with teams to design, develop, and implement new care programs across the health system. She seeks to improve care delivery for patients, providers, and caregivers by leveraging digital health- and novel strategies. During the COVID-19 pandemic, she helped lead the design and implementation of community vaccination clinics with a focus on equity, highlighted by *Operationalizing Equity: A Rapid-Cycle Innovation Approach to Covid-19 Vaccination in Black Neighborhoods* (<https://catalyst.nejm.org/doi/full/10.1056/CAT.21.0094>). Lauren received her master's in business administration with a concentration in marketing and analytics from Villanova University (2019), and she received her bachelor's degree from the University of Delaware (2012).

**Akiko Iwasaki, Ph.D.**, Professor Iwasaki received her Ph.D. in Immunology from the University of Toronto (1998) and completed her postdoctoral training at the National Institutes of Health before joining Yale's faculty in 2000. She has received awards and honors, including the Burroughs Wellcome Fund Career Award in Biomedical Sciences, the Wyeth Lederle Young Investigator Award, Burroughs Wellcome Fund Investigator in Pathogenesis of Infectious Diseases, the BD Biosciences Investigator Award, the Seymour & Vivian Milstein Award for Excellence in Interferon and Cytokine Research, and the Meritorious Career Award from the American Association of Immunologists. Professor Iwasaki has been a Howard Hughes Medical Institute Investigator since 2014. She was elected to the National Academy of Sciences in 2018, the National Academy of Medicine in 2019, to the American Academy of Microbiology in 2020, and to the American Academy of Arts and Sciences in 2021. Dr. Iwasaki is at the forefront of COVID-19 pandemic, with respect to research, science communication, and public service. Dr. Iwasaki is also well known for her advocacy on women and underrepresented minority in the science and medicine fields and has a large follower base in social media.

**Anupam B. Jena, M.D., Ph.D.** is the Ruth L. Newhouse Associate Professor of Health Care Policy and Medicine at Harvard Medical School. He is an internist at Massachusetts General Hospital and a Faculty Research Fellow at the National Bureau of Economic Research. Dr. Jena received his MD and PhD in Economics from the University of Chicago and his residency in internal medicine at Massachusetts General Hospital. Dr. Jena's research involves several areas of health economics and policy including the economics of physician behavior and the physician workforce, health care productivity, medical malpractice, and the economics of medical innovation. He is the host of the *Freakonomics, M.D.* podcast. His work is frequently featured in the media, including the New York Times, Washington Post, WSJ, and others.

**Margaret E. Kruk, M.D.**, is Professor of Health Systems at the Harvard T.H. Chan School of Public Health. Dr. Kruk's research generates evidence on how health systems can improve health for people living in low-income countries. Working with colleagues in Ethiopia, Kenya, Nepal, South Africa, and India, among other countries, she develops novel measures of health system quality and studies the links between quality and population demand for health care, health outcomes, and confidence in the system. Dr. Kruk and her team use implementation science and econometric methods to evaluate large-scale health system reforms.

Dr. Kruk is Director of the QuEST Centers and Network: a multi-country collaboration to produce a global evidence base



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for improving health systems. The QuEST Network responds to the findings of the Lancet Global Health Commission on High Quality Health Systems in the SDG Era ([HQSS Commission](#)), a global initiative chaired by Dr. Kruk. QuEST will develop new instruments to assess health system quality, test structural and policy solutions to systemic quality deficits, and support expansion of high-impact health systems research in partner countries.

Prior to coming to Harvard, Dr. Kruk was Associate Professor of Health Policy and Management and Director of the Better Health Systems Initiative at Columbia University. Previously, she was Assistant Professor of Health Management and Policy at the University of Michigan. She has held posts at the United Nations Development Program and McKinsey and Company and practiced medicine in northern Ontario, Canada. She holds an MD degree from McMaster University and an MPH from Harvard University. She is on Twitter @mkruk.

**Ramanan Laxminarayan, Ph.D.**, is founder and director of the Center for Disease Dynamics, Economics & Policy (CDDEP) in Washington, D.C. and New Delhi, and a senior research scholar at Princeton University. He is an affiliate professor at the University of Washington and a visiting professor at the University of Strathclyde in Scotland and at the University of Kwazulu Natal in South Africa. Laxminarayan chairs the board of GARDP, a global product development partnership created by the World Health Organization, that aims to develop and deliver new treatments for bacterial infections. He is founder and board chair at HealthCubed, which works to improve access to healthcare and diagnostics worldwide.

**Lindsey Leininger, Ph.D.**, is a public health scientist who specializes in data-driven health policy. She is on faculty at the Tuck School of Business at Dartmouth College where she teaches current and future health care leaders how to make sense of medical data. As part of an all-woman team of “Nerdy Girl” scientists, she runs the science communication campaign @Dear Pandemic on social media. Prior to joining Dartmouth, she spent a decade leading research and technical assistance projects for public health insurance programs, both in academic and think-tank settings. Lindsey earned her PhD in health policy from the University of Chicago’s Harris School of Public Policy.

**Shari Ling, M.D.**, is the Deputy Chief Medical Officer for the Centers for Medicare and Medicaid Services (CMS). Her leadership experience includes service as the Acting Chief Medical Officer for CMS February to July 2020, and as the Acting Director for the Office of Clinician Engagement from December 2016 to March 2018. Dr. Ling also contributes her clinical expertise as a geriatrician, internist and rheumatologist to the development and implementation of the CMS response to the COVID-19 public health emergency. She currently leads CMS's efforts to address the nation's opioid and substance use disorders (SUD) crisis as leader of its Opioid and SUD Steering Committee, which includes a strong focus on strengthening behavioral health services.

Dr. Ling earned a Master's in Gerontology from the University of Southern California, and MD degree from Georgetown University School of Medicine. She performed postgraduate fellowships in rheumatology at Georgetown University Hospital and in Geriatric Medicine fellowship at the Johns Hopkins University School of Medicine. She continues her clinical work as a dementia care provider at the VA Loch Raven outpatient clinic and has retained her appointment as part-time faculty in the Division of Geriatrics and Gerontology, Johns Hopkins University School of Medicine. Her clinical focus and scientific interest is the areas of dementia, multiple chronic conditions, and long-term services and supports.

**Syra Madad, D.H.Sc., M.Sc., MCP**, is an internationally recognized public health leader and epidemiologist in infectious disease and special pathogens preparedness and response. She serves as the Senior Director of the System-wide Special Pathogens Program at NYC Health + Hospitals and Health and Safety Lead of the Enhanced Investigations Unit of NYC Test and Trace Corp. Her work focuses on the preparedness for, response to and recovery from infectious disease outbreaks with an emphasis on healthcare and public health biopreparedness. Dr. Madad earned her doctoral degree in health science with a concentration in global health studies from Nova Southeastern University in 2014, Master of Science in Biotechnology with a concentration in Biodefense and Biosecurity and holds numerous professional certifications, including Advanced Emergency Planning Certification, All Hazard Response (CBRNE) Training for Laboratory Personnel, Infection Control and Prevention Certification, Biosafety Level III Training, and Identification of the Primary Select Agents of Bioterrorism Training.

Dr. Madad build NYC Health + Hospitals special pathogens program from the ground up, maintaining readiness at the nation's largest municipal healthcare delivery system for all communicable infectious disease threats through ongoing

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training, education, drills, developing protocols, and processes and more. She's responded to multiple infectious disease outbreaks as an infectious disease epidemiologist including Ebola, measles and Zika. In addition, Dr. Madad is a fellow at the Harvard Kennedy School Belfer Center for Science and International Affairs where she regularly publishes on the latest public health guidance, epidemiological concepts and scientific literature to help the public understand complex topics using infographics and simplified science communication. She's also Core Faculty in the National Emerging Special Pathogens Training and Education Center (NETEC) and affiliate faculty at the Center for Emerging Infectious Diseases Policy & Research at Boston University. Dr. Madad is prominently featured in the Netflix docuseries, *Pandemic: How to Prevent an Outbreak*, and the Discovery Channel documentary, *The Vaccine: Conquering COVID*.

**Luz Adriana Matiz, M.D.**, is a Professor of Pediatrics at Columbia University Irving Medical Center. She is a medical director of New York Presbyterian Hospital's Center for Community Health Navigation where she oversees the clinical integration and model development of the Community Health Worker programs across the healthcare system. She has created an asthma medical home model for children, pediatric care management model and a model of care for children with special health care needs in primary care practices to improve care and reduce preventable healthcare utilization. Dr Matiz is a native of Colombia, raised in NYC and a graduate of NYU College of Arts and Science and the School of Medicine. She completed her pediatric training and subsequent Chief Residency at Montefiore Medical Center/Albert Einstein College of Medicine and resides with her family in the Bronx.

**Brendan Nyhan, Ph.D.**, is the James O. Freedman Presidential Professor in the Department of Government at Dartmouth College. His research focuses on misperceptions about politics and health care. He has been named an Andrew Carnegie Fellow by the Carnegie Corporation of New York and a Belfer Fellow by the Anti-Defamation League and is a co-founder of Bright Line Watch, a non-partisan group monitoring the state of American democracy, and a contributor to *The Upshot* at *The New York Times*. Nyhan received his Ph.D. from Duke University and previously served as Professor of Public Policy at the University of Michigan. He also co-authored *All the President's Spin*, a *New York Times* bestseller, and served as a media critic for *Columbia Journalism Review*.

**Laura Chanchien Parajón, M.D., M.P.H.**, a family physician, medical missionary (International Ministries), and public health professional, co-founded AMOS Health and Hope with her husband, David, and worked in the health equity “trenches” of rural Nicaragua for nearly 20 years. Dr. Parajón currently serves as Deputy Cabinet Secretary for the New Mexico Department of Health, Executive Director for the UNM Office for Community Health, and Assistant Professor in the UNM Department of Family and Community Medicine. She has a strong call to work towards a world where every child has the opportunity to thrive and live an abundant life. Dr. Parajón received her B.A. from Brown University, M.D. from University of New Mexico (UNM) School of Medicine, and M.P.H. from UNM School of Public Health. She completed her residency in family medicine at UNM School of Medicine.

**Patricia Peretz, M.P.H.**, co-founded and leads the Center for Community Health Navigation at New York-Presbyterian Hospital where for the last 14 years she has worked alongside clinical and community partners to develop, implement, and evaluate public health initiatives shown to reduce the burden of illness in communities throughout New York City. In this capacity, Patricia leads multiple City-wide community health worker programs with more than 100 team members based in 7 emergency departments, 2 inpatient units, and 10 community based organizations. Prior to this role, Patricia was an evaluation consultant at Columbia University and also worked at the New York City Department of Health and Mental Hygiene where she refined and evaluated strategies to improve the delivery of care for children with special needs. Patricia is a graduate of the Mailman School of Public Health at Columbia University.

**Eliseo J. Pérez-Stable, M.D.**, (Eh-lee-SAY-oh PEH-rez-eh-STAH-blay) is Director of the National Institute on Minority Health and Health Disparities (NIMHD) at the National Institutes of Health (NIH). He oversees NIMHD's annual budget to advance the science of minority health and health disparities research. NIMHD conducts and supports research programs to advance knowledge and understanding of health disparities, identify mechanisms to improve minority health, and develop effective interventions to reduce health disparities in community and clinical settings. NIMHD is the lead organization at the National Institutes of Health (NIH) for planning, reviewing, coordinating, and evaluating minority health and health disparities research activities conducted by NIH. NIMHD also promotes diversity in the biomedical workforce, supports research capacity at institutions training underrepresented students and serving populations with health disparities, and

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promotes information dissemination through regular electronic communications, public education outreach, and scientific presentations.

Since joining NIMHD in September 2015, Dr. Pérez-Stable has been cultivating the Institute's position on the cutting edge of the science of minority health and health disparities. Through this effort, the Institute has produced a collection of resources that guide and facilitate the conduct of research to promote health equity. These include the NIH Minority Health and Health Disparities Strategic Plan 2021-2025; the NIMHD Research Framework; the PhenX Social Determinants of Health Assessments Collection, a research toolkit; a collection of 30 science visioning Strategies to Promote the Advancement of Health Disparities Science; special journal supplements Structural Racism and Discrimination: Impact on Minority Health and Health Disparities and Addressing Health Disparities through the Utilization of Health Information Technology; and The Science of Health Disparities Research textbook, among other resources.

Throughout the COVID-19 pandemic, Dr. Pérez-Stable has positioned NIMHD at the forefront of the research response to COVID-19 health disparities by establishing new research programs and collaborating with other NIH institutes and centers. He also serves as co-chair for two prominent NIH-wide programs that have been established to promote health equity by reducing COVID-19 associated morbidity and mortality disparities experienced by underserved and vulnerable communities: the Community Engagement Alliance (CEAL) Against COVID-19 Disparities and the Rapid Acceleration of Diagnostics for Underserved Populations (RADx-UP) initiatives.

Prior to becoming NIMHD Director, Dr. Pérez-Stable was a professor of medicine and chief of the Division of General Internal Medicine, at the University of California, San Francisco (UCSF). Dr. Pérez-Stable's research interests have centered on improving the health of racial and ethnic minorities through effective prevention interventions, understanding underlying causes of health disparities, and advancing patient-centered care for underserved populations. Recognized as a leader in Latino health care and disparities research, Dr. Pérez-Stable spent 32 years leading research on smoking cessation and tobacco control in Latino populations in the United States and Latin America, addressing clinical and prevention issues in cancer control research, supporting early career scientists in research on minority aging in clinical and community settings, and addressing research questions in clinical conditions such as hypertension, asthma, diabetes and dementia.

He has published more than 300 peer-reviewed papers and was continuously funded by NIH grants for 30 years prior to becoming NIMHD Director. Dr. Pérez-Stable was also director of the UCSF Center for Aging in Diverse Communities, which is funded by NIH's National Institute on Aging, and director of the UCSF Medical Effectiveness Research Center for Diverse Populations. He was a career mentor for many students, residents, and faculty, and a research mentor for over 70 minority investigators.

Dr. Pérez-Stable was elected to the National Academy of Medicine (formerly Institute of Medicine) of the National Academy of Science in 2001 and the American Society of Clinical Investigation in 1996. He earned his B.A. in chemistry in 1974 and M.D. in 1978 from the University of Miami. He then completed his primary care internal medicine residency and a research fellowship in general internal medicine at UCSF before joining the faculty as an assistant professor in 1983. Dr. Pérez-Stable practiced primary care internal medicine for 37 years at UCSF following a panel of about 200 patients, and supervised and taught students and residents in the ambulatory care and hospital settings.

**Roger Pielke, Jr., Ph.D.**, has been on the faculty of the University of Colorado Boulder since 2001, where he teaches and writes on a diverse range of policy and governance issues related to science, technology, environment, innovation and sports. Roger is a professor in the Environmental Studies Program. He has degrees in mathematics, public policy and political science, all from the University of Colorado Boulder. He has served on multiple NASEM committees and studies over the past 20 years. Roger is currently focusing his research on a NSF-sponsored, 16-country evaluation of science advice in the COVID-19 pandemic.

**Christine Prue, Ph.D.**, is the Associate Director for Behavioral Science at CDC's National Center on Emerging and Zoonotic Infectious Diseases. She works to apply and advance the science of health behavior and health communication to prevent and control infectious diseases that result from the interaction of people, animals, and the environment. Dr. Prue has a diverse portfolio of applied research projects supporting programs addressing food safety, vaccine safety, One Health, Lyme disease, and viruses including rabies, Zika, and Ebola. Chris has expertise in program evaluation, risk communication, community engagement, as well as scientific and health literacy. She is the co-author of CDC's Clear Communication Index. Chris works to advance the integration of social and behavioral science in public health scientific

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and programmatic activities from modeling disease transmission to designing interventions that are effective, do-able, and acceptable to individuals and communities. She has worked as part of hundreds of outbreak responses over the years both domestically and abroad. She is most fulfilled when she is engaging with community members (the public) in public health efforts. Chris received her doctorate's degree in health education (focusing on health behavior and health communication) from the University of Maryland in 1998. She received a Master of Science of public health degree from the University of Massachusetts in 1988. She received a Bachelor of Science degree in Biology from the University of Maine in 1986.

**Guillermo Sequera, M.D., M.P.H., MSc**, is currently General Director of the Epidemiological Surveillance in the Ministry of Health and Social Welfare of Paraguay. In that capacity, he has led key aspects of the country's response to the COVID-19 pandemic, as well as the response to other recent outbreaks such as Dengue. Dr. Sequera is a PhD Candidate in Public Health at the Universidad de Barcelona, Spain, and holds a Masters in Research Methods in Health Sciences, Universidad Autonoma de Barcelona, Spain; and a Master's in Public Health, Universidad Pompeu Fabra, Barcelona, Spain. He graduated as a Medical Doctor with a specialization in internal medicine at the Universidad Nacional de Asunción, Paraguay. He has extensive experience in epidemiological research and public health work in several countries including Mozambique, Brazil, Uruguay and Spain. Dr. Sequera is also an Adjunct Faculty in Public Health in the faculty of Medicine at the Universidad Nacional de Asunción, Paraguay.

**Brian Southwell, Ph.D.**, University of Pennsylvania, Communication, 2002, is Senior Director of the Science in the Public Sphere Program in RTI International's Center for Communication Science. He also is Adjunct Professor and Duke-RTI Scholar with Duke University and a graduate faculty member and Adjunct Associate Professor at the University of North Carolina at Chapel Hill. Southwell has published widely on topics such as public understanding of science and emerging infectious diseases and has extensive experience with stakeholder engagement strategies. Southwell has led a series of publications on medical misinformation, including the 2018 book, *Misinformation and Mass Audiences*. He co-founded the Duke Program on Medical Misinformation, a clinician training initiative to improve patient-provider conversations about misinformation. He also has organized several summits on trust in science and medical misinformation, such as the Misinformation Solutions Forum sponsored by the Rita Allen Foundation in conjunction with the Aspen Institute in Washington, D.C. Southwell is a frequent contributor to National Academies forums and events, including talks on topics such as misinformation, effective communication about obesity, and the future of clinical trials. In addition, Southwell created and hosts *The Measure of Everyday Life*, a public radio show that translates research for general audiences on WNCU, a station based at North Carolina Central University in Durham, NC.

**Stephen B. Thomas, PhD**, is Founding Director of the Maryland Center for Health Equity and Professor of Health Policy & Management in the School of Public Health, University of Maryland in College Park. Dr. Thomas is one of the nation's leading scholars on community based interventions to eliminate racial and ethnic health disparities including obesity, diabetes, hypertension, HIV AIDS and violence. He is a highly experienced Principal Investigator, having served as PI of multiple five year NIH-NIMHD P60 grants including "Excellence in Partnership through Community Outreach, Research on Health Disparities and Training (EXPORT)" (5P60 MD000207; 2002-2007), the Research Center of Excellence in Minority Health Disparities (7 P60 MD000207, 2007-2012), and with Dr. Quinn, as Joint PIs of the Center of Excellence in Race, Ethnicity and Health Disparities Research (P20 MD006737, 2012-2017, NIMHD). He has also served as PI (along with Dr. Quinn) on a prestigious Grand Opportunity ("GO") grant sponsored by the Office of the Director, NIH, NIMHD, and the American Recovery and Reinvestment Act (ARRA) titled "Bioethics Research Infrastructure Initiative: Building Trust between Minorities and Researchers" (7RC2MD004766). He has leadership experience on culturally tailored community based interventions where I was responsible for the recruitment and retention cores on these large multi-site clinical trials including, but not limited to, 1) Bypass Angioplasty Revascularization Investigation 2 Diabetes Trial (BARI 2D) NIH (2001-2009), 2) Viral Resistance to Antiviral Therapy of Chronic Hepatitis C or VIRAHEP-C. NIH-NIDDK (2002-2008), 3) AsthmaNetwork NIH-NHLBI (2009-2016) and 4) The UCSF Health ePeople Resource for Mobilized Research Institute: National Institute of Biomedical Imaging and Bioengineering (2015-2020). In each example, the recruitment and retention cores exceeded their respective goals for accrual of racial and ethnic minority study participants. Over the decades, I have developed a significant network of relationships and leadership roles across multiple health disparity influencing sectors including academic researchers; healthcare providers and service organizations; community leaders; national foundations; and local, state, and federal policy makers. He has specific expertise in the development, implementation and evaluation of community engaged minority health and health disparity interventions. He also has

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extensive experience in overcoming barriers associated with the legacy of the Syphilis Study Done at Tuskegee (1932-1972) and conducting scientifically sound and culturally tailored community-based interventions designed to eliminate racial and ethnic disparities to achieve health equity.

He was awarded the 2005 David Satcher Award from the Directors of Health Promotion and Education for his leadership in reducing health disparities through the improvement of health promotion and health education programs at the state and local levels and received the 2004 Alonzo Smyth Yerby Award from the Harvard School of Public Health for his work with people suffering the health effects of poverty.

He completed his BS degree from The Ohio State University, his MS degree from Illinois State University and his PhD degree from Southern Illinois University.

**K. “Vish” Viswanath, Ph.D.**, is Lee Kum Kee Professor of Health Communication in the Department of Social and Behavioral Sciences at the Harvard T. H. Chan School of Public Health (HSPH) and in the McGraw-Patterson Center for Population Sciences at the Dana-Farber Cancer Institute (DFCI). He is also the Faculty Director of the Health Communication Core of the Dana-Farber/Harvard Cancer Center (DF/HCC).

Dr. Viswanath’s work, drawing from literatures in communication science, social epidemiology, and social and health behavior sciences, focuses on translational communication science to influence public health policy and practice. His primary research is in documenting the relationship between communication inequalities, poverty and health disparities, and knowledge translation to address health disparities. He has written more than 270 journal articles and book chapters concerning communication inequalities and health disparities, knowledge translation, public health communication campaigns, e-health and digital divide, public health preparedness and the delivery of health communication interventions to underserved populations.

**Siouxsie Wiles, Ph.D.**, is an Associate Professor at the University of Auckland in New Zealand. She studied medical microbiology at the University of Edinburgh, followed by a PhD in microbiology at the Centre for Ecology and Hydrology in Oxford and Edinburgh Napier University. Dr Wiles has won numerous awards for both her science and her science communication, including the Prime Minister’s Science Prize, the Prime Minister’s Science Prize, and the Royal Society Te Apārangi’s Callaghan Medal. In 2019 she was appointed a member of the New Zealand Order of Merit for services to microbiology and science communication. When the pandemic arrived, Dr Wiles joined forces with Spinoff cartoonist Toby Morris to make the science of the pandemic clear and understandable. Their award-winning graphics have been translated into multiple languages and adapted by various governments and organisations. Dr Wiles was the Supreme Winner of the Stuff Westpac 2020 Women of Influence Award, named by the BBC as one of their 100 influential women of 2020, and in 2021 was named Kiwibank New Zealander of the Year.

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