

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

**Breaking Down Silos: The Convergence of
Infectious Diseases and Noncommunicable Diseases**
A Workshop

Agenda
JUNE 11-12, 2019

The Rockefeller Foundation
420 Fifth Avenue
New York, NY

Objectives:

This 1.5-day public workshop will explore the growing understanding of how the interplay between humans and microbes affects host physiology and causes chronic diseases. The workshop will allow participants to gain a deeper understanding of the continuum between infectious and noncommunicable diseases, including how it provides new opportunities for prevention and treatment.

Specifically, this workshop will feature invited presentations and discussions including the following:

- Current knowledge on the known and suspected causal associations between micro-organisms and chronic diseases and conditions, as well as associated issues.
- The evolving understanding of how the microbiome affects the normal physiological functioning in humans and how these interactions vary depending on the population, geographic location, and other biological or environmental factors;
- Research needed to further understand the relationship between micro-organisms and chronic diseases and physiological functions;
- Opportunities for developing new approaches to prevent, detect, and mitigate chronic diseases and to reduce their public health impact and burden;
- Cutting edge methods and tools as well as study designs being used to explore links between chronic diseases and infectious diseases; and
- Mechanisms to leverage cross-sectoral collaborations and break down silos among various stakeholders from research to practice.

Workshop speakers and discussants will contribute perspectives from government, academia, private, and nonprofit sectors.

DAY 1 – TUESDAY, June 11, 2019

1:00pm ET **Welcome Remarks**

NAVEEN RAO

Managing Director for Health and Senior Advisor to the President

The Rockefeller Foundation

Workshop Overview and Goals

PETER DASZAK, *Chair of the Forum on Microbial Threats and Workshop*

President

EcoHealth Alliance

Keynote Addresses

The Current State of the Dual Global Collision and Burden of Infectious Diseases and Noncommunicable Diseases

TOLULLAH ONI

Clinical Senior Research Associate, MRC Epidemiology Unit

University of Cambridge

**The Global Syndemic of Infectious Diseases and Noncommunicable Diseases:
A New Approach to Tackling the Global Burden**

EMILY MENDENHALL

Provost's Distinguished Associate Professor

Georgetown University

1:50pm **Q&A**

Session I: Current State of the Science and Emerging Research

2:05pm Session I Part A Objectives:

- Examine emerging and novel research on possible associations between infections and NCDs, knowledge gaps, and overall implications for further research and practice
- Explore cutting edge methods and tools as well as study designs being used to explore links of emerging associations between infectious diseases and chronic diseases
- Understand methods and standards to identify causal links and their temporal relationships while minimizing the risks of interventions against unproven etiologies

Moderator: Julie Parsonnet, Stanford University

Part A Case Studies

Alzheimer's Disease and *P. gingivalis*

CASEY LYNCH

CEO & Cofounder

Cortexyme, Inc.

WORKSHOP ON THE CONVERGENCE OF INFECTIOUS & NONCOMMUNICABLE DISEASES

Epstein-Barr Virus and Autoimmune Diseases

JOHN B. HARLEY

Founding Director of the Center for Autoimmune Genomics and Etiology
Cincinnati Children's Hospital Medical Center

The Role of the Microbiome in Food Allergies

CATHRYN R. NAGLER

Bunning Food Allergy Professor and Professor of Pathology, Medicine, and Pediatrics
The University of Chicago

2:50pm **Q&A**

3:20pm **Break**

3:35pm Session I Part B Objectives:

- Understand the current knowledge on the known and suspected risk that chronic diseases pose to the development and severity of infectious diseases
- Discuss the implications of this association on public health policy and practice and how they can inform other research exploring the convergence

Moderator: Kent Kester, Sanofi Pasteur

Part B Case Studies

Metabolic Syndrome and the Risk for Enteric Infection

CHRISTOPH A. THAISS

Assistant Professor of Microbiology
University of Pennsylvania – Perelman School of Medicine

Diabetes Mellitus and Tuberculosis

JULIA CRITCHLEY

Professor of Epidemiology in the Population Health Research Institute
St. George's University of London

Nutrition and Influenza

MELINDA BECK

Associate Chair for Academics and Professor of Nutrition
University of North Carolina, Chapel Hill

4:20pm **Plenary Presentation**

A Microbial Dimension to Human Development and the Potential for New Approaches to Human Well-Being

ROB KNIGHT

Founding Director of the Center for Microbiome Innovation
University of California, San Diego

4:55pm **Q&A**

WORKSHOP ON THE CONVERGENCE OF INFECTIOUS & NONCOMMUNICABLE DISEASES

- 5:25pm **Observations from Day 1**
PETER DASZAK, *Chair of the Forum on Microbial Threats and Workshop*
President
EcoHealth Alliance
- 5:30pm **Adjourn**
- 5:35pm **Reception**

DAY 2 – WEDNESDAY, June 12, 2019

- 8:30am **Welcome and Recap Day 1**
PETER DASZAK, *Chair of the Forum on Microbial Threats and Workshop*
President
EcoHealth Alliance

Session II: Confronting “The Blind People and the Elephant” Metaphor to Bridge the Silos

- 8:40am Session II Objectives:
- Understand priorities and concerns about the convergence from the respective fields of infectious disease and NCDs
 - Examine how to link and leverage disparate information produced by each field to address the convergence
 - Discuss and explore critical actions that can bridge silos and be used to accelerate progress that the respective fields of infectious disease and NCDs have already achieved

Moderator: Bridget B. Kelly, Burke Kelly Consulting

Panel Discussion

NELSON SEWANKAMBO
President
African Medical Schools Association

RACHEL NUGENT
Vice President, Chronic Noncommunicable Diseases Global Initiative
RTI International

DENNIS CARROLL
Director, Emerging Threats Division
U.S. Agency for International Development

GENE BUKHMAN
Director, Program in Global NCDs and Social Change
Harvard Medical School

9:20am **Q&A**

10:00am **Break**

Session III: Integrating and Revamping Health Care Delivery Models and Interventions

10:15am Session III Objectives:

- Discuss how health systems are responding to the dual burden and how to leverage existing structures and build local capacity
- Present examples where integration of care has been successful in increasing quality and access of care through innovative models that incorporate community-based and people-centered approaches
- Explore how primary care can help address the convergence in low- and middle-income countries
- Highlight new approaches needed for prevention and control at the local and country levels

Moderator: Marcos Espinal, Pan American Health Organization

Presentations and Panel Discussion

HIV/NCD Integration Platforms

MIRIAM RABKIN

Associate Professor of Medicine and Epidemiology
Columbia University Mailman School of Public Health

The AMPATH model

SYLVESTER KIMAIYO

Executive Director
AMPATH, Kenya

Addressing the Convergence with Integration Science

GENE BUKHMAN

Director, Program in Global NCDs and Social Change
Harvard Medical School

Mass Administration of Antibiotics as an Intervention to Reduce Child Mortality

CATHERINE OLDENBURG

Assistant Professor, Francis I. Proctor Foundation
University of California, San Francisco

11:15am **Q&A**

12:00pm **Lunch**

Session IV: Moving Forward – Implications for Research and Public Health Practice

1:00pm Session IV Objectives:

- Explore opportunities for developing new research and approaches to public health practice to prevent, detect, and mitigate the convergence between infections and chronic diseases that would help to reduce public health impact and burden
- Synthesize priority actions that could have a significant impact on this convergence and how efforts might synergize with global health initiatives such as Universal Health Coverage and the Sustainable Development Goals
- Discuss strategies to leverage cross-sectoral collaborations and break down silos among various stakeholders from research to practice

Moderator: Bridget B. Kelly, Burke Kelly Consulting

Part A: Table Group Discussion

The workshop presentations have covered a range of issues on the convergence of infectious diseases and NCDs, including the link between infectious diseases and the development of NCDs; the new understandings of how changes in the microbiome along the life course may lead to chronic diseases; and the increased risk and severity that emerging infections pose in populations with high burden of NCDs.

Taking those into consideration, each table group will reflect on the following questions:

- What strategies and actions need to be prioritized
 - 1) to fill the research gaps and advance the research agenda for the convergence of infectious diseases and NCDs, and
 - 2) to effectively translate research into policy and practice?

1:50pm **Report Back and Discussion**

Moderator: Mosa Moshabela, University of KwaZulu-Natal, South Africa

2:45pm **Part B: Visionary Statements on the Top Priorities for Next Steps**

JAY K. VARMA

Senior Advisor

Africa Centres for Disease Control and Prevention

K. SRINATH REDDY

President

Public Health Foundation of India

PATRICIA J. GARCIA

Professor

Cayetano Heredia University - School of Public Health, Peru

3:40 pm **Final Synthesis and Discussion with Audience**

WORKSHOP ON THE CONVERGENCE OF INFECTIOUS & NONCOMMUNICABLE DISEASES

4:20pm

Closing Remarks

PETER DASZAK, *Chair of the Forum on Microbial Threats and Workshop*
President
EcoHealth Alliance

4:30pm

Adjourn