

Mitigating Arboviral Threats and Strengthening Public Health Preparedness

**Forum for Microbial Threats, Health and Medicine Division,
National Academies of Science, Engineering, Medicine**

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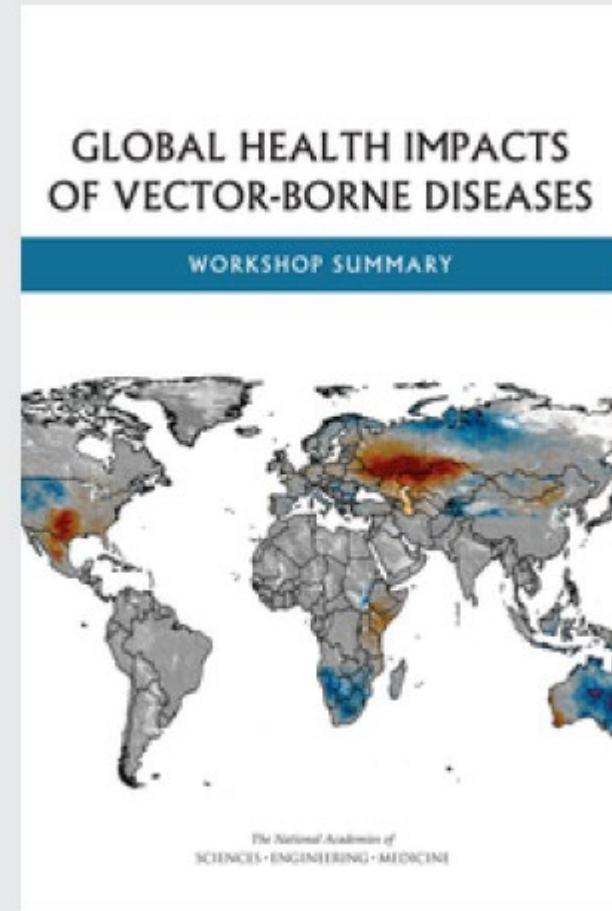
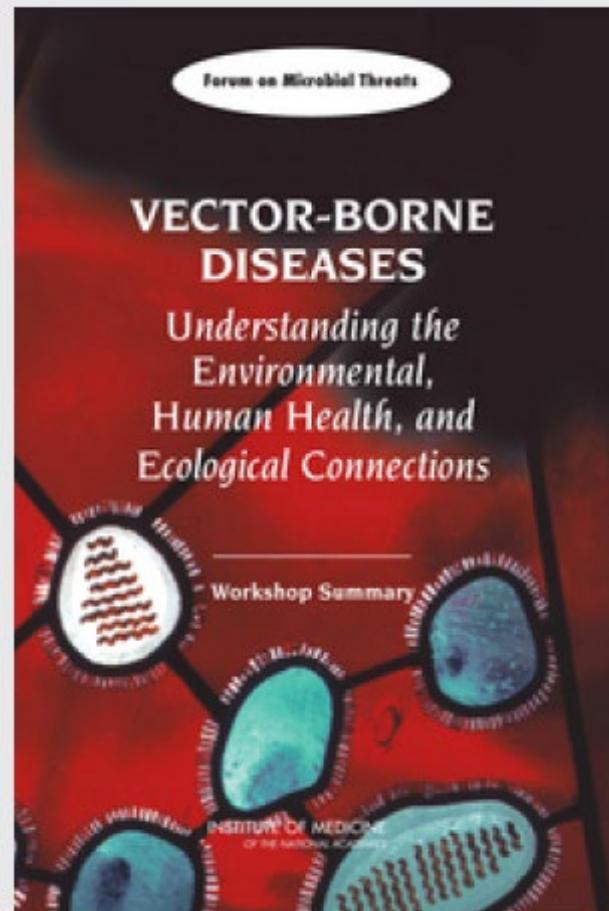
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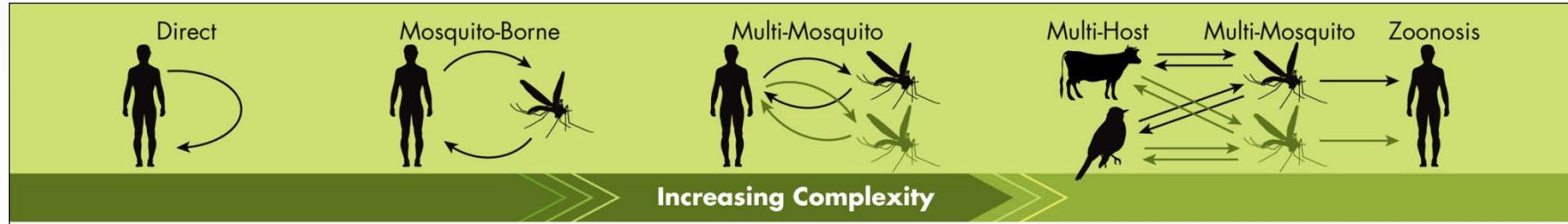
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The Problem

- Arbovirus: arthropod-borne virus
- ~ 4 billion people are at risk of infection and 700,000 deaths per year
- Their geographic distribution and disease burden are expanding
- They pose an epidemic threat as exemplified by Zika, chikungunya, West Nile, dengue, and yellow fever outbreaks
- Previous forum workshops on vector-borne disease were held in 2007 and 2014



The Challenge: Complexity of Arbovirus Transmission



- The diversity and complexity of arboviral transmission cycles, ecology, and epidemiology are challenges to their effective control.

The Opportunity: A Pivotal Time in Arboviral Disease Prevention

- During the past decade there has been remarkable progress developing new tools and strategies to prevent arboviral disease.
- We now envision a path forward that will protect people, diminish arboviral threats, and avert future outbreaks.
- **Goal of this workshop:** To identify and communicate the critical actions needed to translate these breakthroughs into public health success.

Day 1: Current Landscape, Risk Assessment, and Interventions

- **Advancing Global Arbovirus Research Priorities:** Identify synergistic goals and actions among global arboviral initiatives.
- **Current and Emerging Threats from Arboviral Disease:** Define the current and future landscape of arboviral diseases, identify knowledge gaps, and characterize key challenges for disease prevention.
- **Assessing and Detecting Arboviral Risk:** Describe innovation in providing actionable evidence; i.e., assessing the disease landscape and how that information can be used to guide and evaluate interventions.
- **Response to Arboviral Threats:** Review the breakthroughs that will enable more effective prevention of arboviral disease.
- **Lessons Learned from Previous Outbreaks:** Incorporate insights from previous outbreaks and the COVID-19 pandemic that will potentiate future responses to arboviral disease.

Day 2: Innovation for Arbovirus Mitigation

- **Arbovirus Spillover and Spread:** Review the underlying processes of pathogen spillover and their associated health risks, identify pressure points for intervention, and tackle effective implementation at scale.
- **Urban Development and Management:** Present a new paradigm, outside the traditional biomedical framework and grounded in the construction and management of the built environment for sustained arboviral disease control.
- **Strengthening Preparedness for Arboviral Diseases:** Identify the essential features of an effective, equitable, sustained, multi-level response to arboviral threats.
- **Synthesis and Close:** Go beyond conventional thinking and present a broader, compelling vision for how sustainable arboviral disease prevention can be achieved.