



# **SESSION 6: ENVISIONING THE FUTURE OF PATHOGEN GENOMICS**

**Accelerating the Use of Pathogen Genomics and Metagenomics  
in Public Health: A Workshop  
National Academy of Sciences, Engineering, and Medicine  
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# Observations

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- Pandemic threats begin as regional problems
- Most emerging infections are detected in high-income countries, but originate in low-income countries
- Early recognition and response with MCMs is main determinant of outcome

# Needs

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- Diversification of the public health workforce
- One health approach to surveillance of animals, the environment, and humans (periodic table of viruses)
- Comprehensive prototype pathogen approach for pandemic preparedness
- Distributed manufacturing surge capacity
- Improved systems for deployment and implementation
- Not only need multi-plex testing for cost savings but need multi-purpose use to support not only surveillance, but also discovery research, and clinical diagnostics

# Barriers

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- There are practical, medical, and moral imperatives to act, and technical capability exists, but practices and policies have not kept pace
  - Public health, business, and communication practices
  - Global, national, and institutional policies
- Failure to recognize mutual benefit to both HICs and LICs