These Are Not the Microbes You’re Looking For: Using Indicators and Surrogates to Understand Pathogen Behavior in the Environment

Lisa Casanova, PhD  
Associate Professor and Interim Director  
Division of Environmental Health  
Georgia State University School of Public Health  
Atlanta, GA

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Synopsis
Understanding pathogen behavior and transmission in the environment is critical to preventing environmental transmission of infectious diseases through water, food, air, and fomites. Many of the pathogens and key exposure pathways we are most interested in are extremely difficult to study under natural conditions. The use of indicator and surrogate organisms can help us understand pathogen behavior and complex transmission cycles that shape a variety of public health problems, from contaminated water to healthcare acquired infections.

Bio
Dr. Casanova is an environmental microbiologist. She holds a B.S. in microbiology from the University of Arizona and an M.S. and Ph.D in Environmental Health Sciences from the University of North Carolina Chapel Hill. At GSU she leads a microbiology research laboratory focused on the fate and transmission of infectious diseases in the environment and teaches environmental health, microbiology, epidemiology, and risk assessment. Her research interests include water quality, healthcare associated infections, healthcare worker occupational health, transmission of viruses in the built environment, and quantitative microbial risk assessment.