

Scary viruses, killer tapeworms and nostril ticks: emerging infections in a changing global environment

The race is on to discover the world's pathogens, driven by new diagnostic technologies and unprecedented access to remote locations. However, would a comprehensive list of all the world's pathogens be sufficient to prevent future pandemics? Emerging methods in ecology, evolutionary biology, epidemiology and the social sciences have the potential to inform a full assessment of how pathogens might move from animal populations into and throughout human societies. This talk describes several examples of how combinations of such methods have revealed novel pathogens and their ecological transmission pathways, sometimes by design and sometimes fortuitously. The examples highlight how disparate fields of study within the biological and social sciences can merge to inform the study of disease ecology in ways not fully attainable by either set of disciplines alone. A re-focusing of efforts by biologists and social scientists working together may ultimately provide the level of "pandemic preparedness" needed in today's rapidly changing global environment.