

All Systems Considered: Systems thinking approach to mitigate antibiotic resistant pathogens

Antibiotic resistance is identified by the World Health Organization as a significant threat to global health and food security. Bacteria are able to naturally confer resistance to each other, but this process has been accelerated through the misuse of antibiotics in medical practice and agriculture. Emerging multidrug-resistant pathogens pose a challenge to global health since there are few, if any, treatment options for these types of infections. To address this worldwide issue, disparate sectors from government, agriculture, healthcare, and others must come together to forge solutions that will prevent further spread of these infections. This challenge requires a broad framework such as systems thinking to address all aspects of this global problem. Systems thinking provides a holistic approach to problem-solving that is able to find solutions that may not have otherwise emerged. For challenges such as antibiotic resistance, this approach operationalizes policy solutions to address complex interactions at a systemic level.

Learning Objectives:

Identify systematic approaches to prevent antibiotic resistance.

Explain the global challenge of antibiotic resistance.

Evaluate the impact of systems thinking on the public health concern of antibiotic resistance.