



**NIAMRRE**

NATIONAL INSTITUTE OF  
ANTIMICROBIAL RESISTANCE  
RESEARCH & EDUCATION

# Antimicrobial Resistance and Residues

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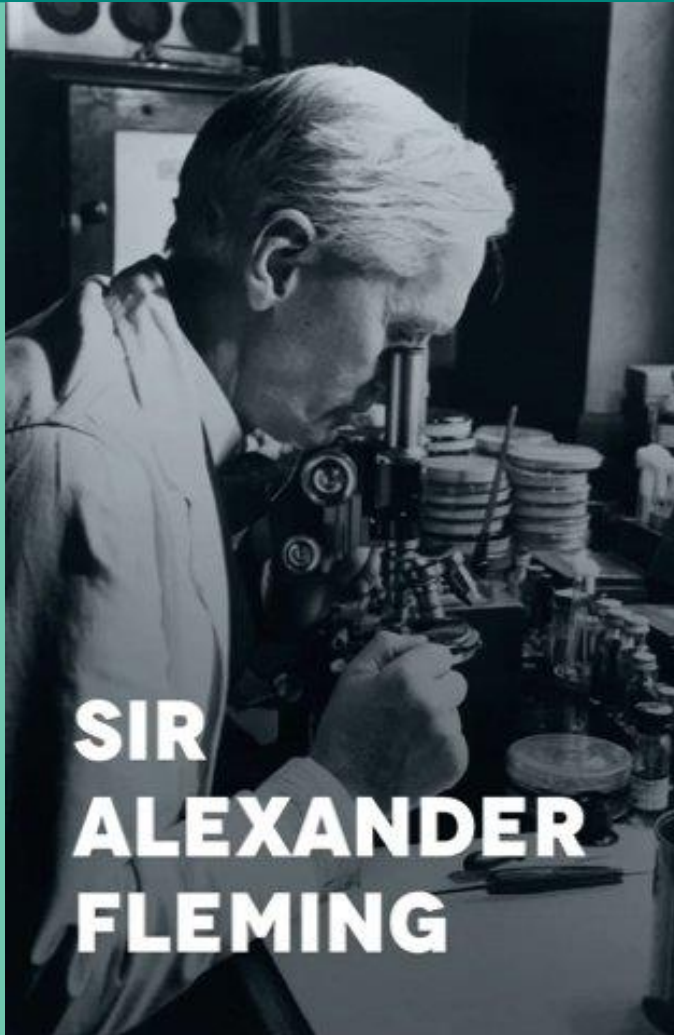
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# What Is AMR?

Antimicrobial resistance (AMR) happens when germs, like bacteria and fungi, develop the ability to defeat the drugs designed to kill them.

**Problem:** Bacteria are developing resistance faster than we are developing new antibiotics.

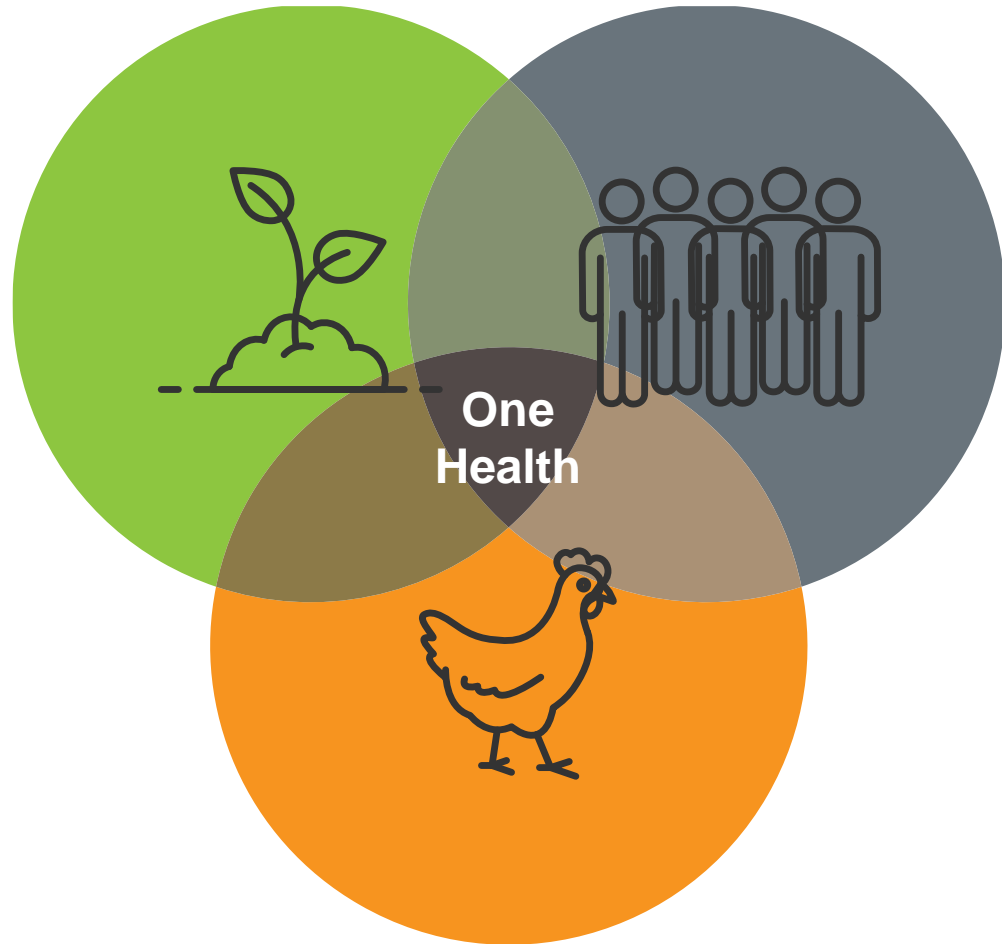




**SIR  
ALEXANDER  
FLEMING**

“The thoughtless person playing with penicillin treatment is morally responsible for the death of the man who succumbs to infection with the penicillin-resistant organism.”

# What Is "One Health?"



One Health is a collaborative, multisectoral, and transdisciplinary approach—working at the local, regional, national, and global levels—with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment.







## A Complex Web: Everything is Connected

Antibiotic resistance, when germs defeat the antibiotics designed to kill them, can develop and spread across settings. It can affect our progress in health care, food production, and life expectancy.

Antibiotic resistance is a One Health problem—the health of people is connected to the health of animals and the environment (soil, water).



**Resistance *is* Resistance**





# Connect



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