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The Phenomenon of Antimicrobial Resistance: A One-Health Issue

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Unfortunately the debate about what we can best do as a society to tackle the problem of antimicrobial resistance can sometimes degenerate into the proverbial "blame-game". Various myths can feed the blame-game. Our purpose here is to help identify and debunk such myths in order to achieve the common goal of preserving these life-saving drugs for future human and animal health.

Myth: Antimicrobial resistance is the farmers' fault for using antibiotics in livestock

Myth: Antimicrobial resistance is the doctors' fault for over-prescribing antibiotics to their patients

Myth: Antimicrobial resistance is the fault of people who don't take their antibiotics correctly, or use them without a prescription

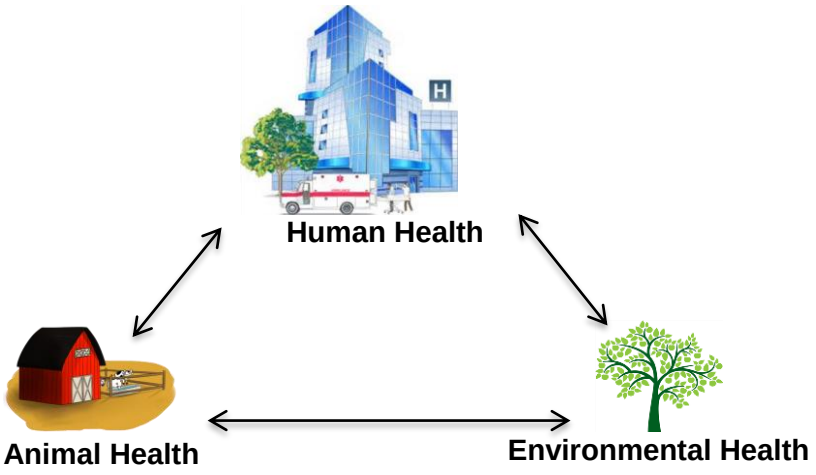
Myth: Antimicrobial resistance is an issue hyped-up by the media and not a real problem

Fact: Antimicrobial resistance is a one-health issue and we are all responsible for the stewardship of these life-saving drugs.

What is One-Health?

One health is the concept that human health, animal health, and environmental health are all interconnected and dependent on one another. It highlights the importance of working together to protect and preserve the health of people, livestock, and the environment.

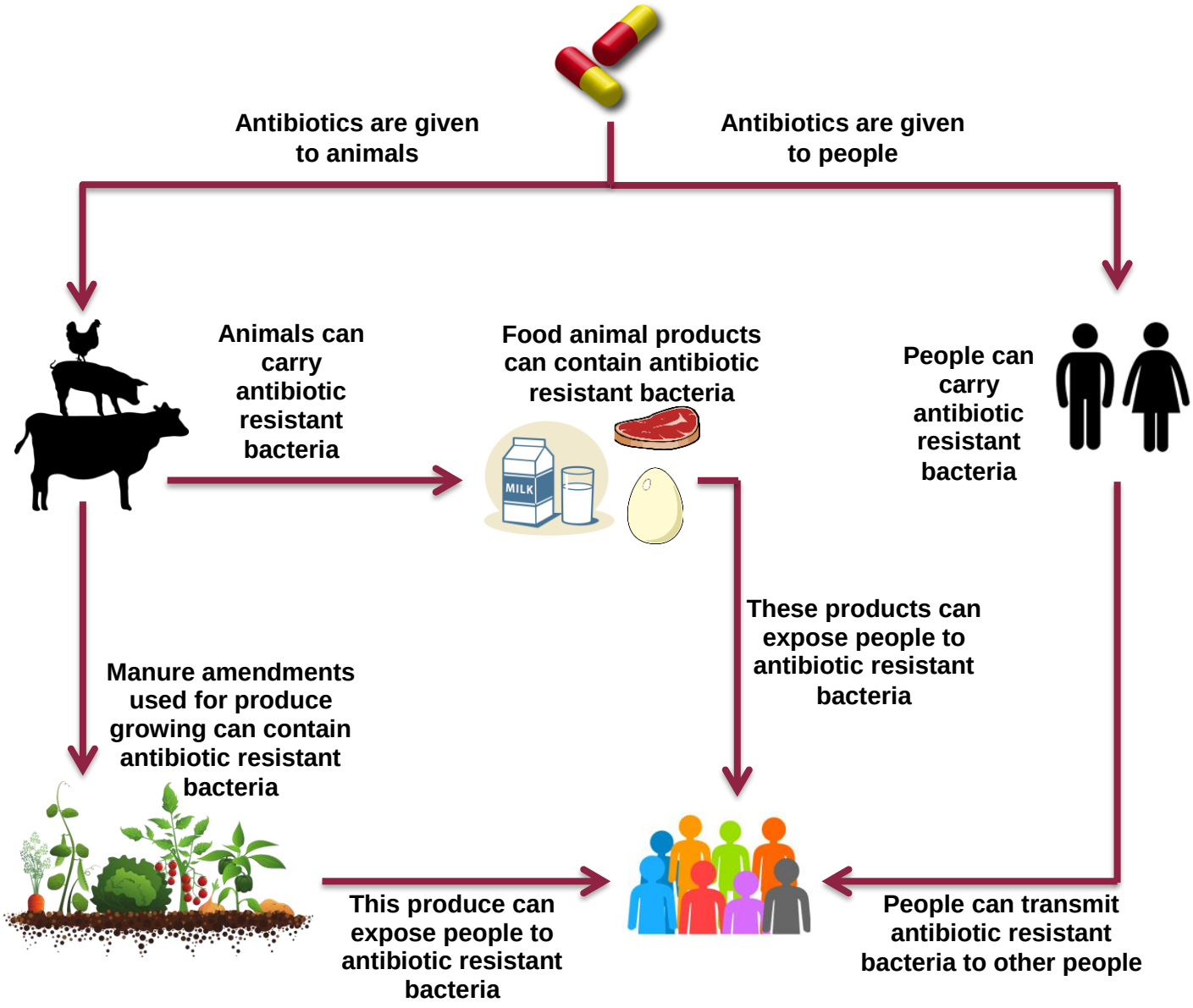
Antibiotic use affects the health of humans, animals, and the environment. Antibiotics have obvious benefits to animals and people because they kill pathogens that cause disease and provide vast economic benefits. These are ultimately benefits for all. While antibiotics link human, animal and environmental health in positive ways, they can also link them together in unfavorable ways. Humans, animals, and the environment can transfer pathogens



and antimicrobial resistant bacteria or genes between one another. Therefore, when using important drugs on one of the three areas of health, it is important to also consider the impact on the other two.

How do Antibiotics and Antibiotic Resistant Bacteria Link Humans, Livestock, and the Environment?

Antibiotics are given to both animals and people. Some bacteria, usually in the gut, can develop resistance to these antibiotics. Humans and animals can then spread resistant bacteria to other humans, animals, and the environment.



One-health emphasizes that the key to fighting antimicrobial resistance is to collaborate across disciplines in human health, animal health, and the environment in order to improve the health of all. Worldwide, there are initiatives to decrease antibiotic use such as funding new antibiotic drug development, implementing new laws like the Veterinary Feed Directive, and replacing antibiotics with vaccinations. These actions require effort from various people- biologists, public health workers, farmers, human and veterinary doctors, and environmental engineers are examples of just a few disciplines that can contribute to the fight. Rather than criticizing one another for the development of antimicrobial resistance, we should instead focus on where we all can take responsibility and make a difference. The solution to this problem is multifaceted and requires the effort and innovation of all three components of health to be successful.

References:

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