

# Antimicrobial Stewardship

by Justin Welsh

A document entitled “Roadmap for Reducing the Need for Antibiotics” from HealthforAnimals, the global organization for animal health companies, explains nicely in its introduction the concept of Antimicrobial Stewardship:

**"Antibiotics are a cornerstone of modern medicine and public health.**

*Their importance to human and animal health cannot be understated, which is why antimicrobial resistance (AMR) is such an urgent global threat. When bacteria develop tolerance or resistance to antibiotics, we risk returning to a time when animals – and people – fell seriously ill or even died from simple, treatable infections.*

**Antibiotics are the only way to treat a bacterial disease. There is no alternative.**

*As the producers of animal medicines and other animal health products, our industry equips veterinarians to deal with animal disease. Reducing antibiotic use without first tackling disease rates would mean sick animals go untreated, causing unnecessary suffering and increased risk to other animals and people.*

**But we can exploit the full spectrum of our veterinary tools to reduce the need for antibiotics.**

*By better protecting animals from the threat of disease, identifying health issues earlier and treating them quickly and responsibly, we can bring down disease levels and with it, the need for antibiotics. This requires maximizing the long-term and preventative health benefits of vaccination, nutrition, biosecurity, disease surveillance diagnostics and other animal health technologies.*

*The ability to manage and control animal disease has profound consequences for human health and development, from ensuring the safety of proteins such as meat, milk, fish and eggs to reducing the risk to people of bacterial animal-borne diseases. And, while the links between antibiotics in animals and growing levels of resistance remain complex, AMR affects us all."*

This introduction encapsulates many of the issues surrounding this very complex topic. Antimicrobial stewardship in short is an effort we ALL need to be a part

of. Livestock producers, veterinarians, MD's, Animal health companies, pet owners, and human patients are all key players in this critical effort to retain the effectiveness of antibiotics. The fact is that the list of new antibiotics isn't growing. So, what do we do?

That answer is well described in the “Roadmap” document and revolves around three pillars: Prevention, Detection and Treatment.

Efforts in antimicrobial stewardship will not be successful unless we prevent disease. Three key components of prevention are vaccination, biosecurity and animal well-being. Important vaccine topics are implementing proper vaccination protocols, providing veterinarian/vaccine access to underserved populations, and working with regulatory bodies to allow use of the newest vaccine technologies. Better consumer understanding of biosecurity needs for livestock and training for animal handlers in biosecurity are also needs. Finally, animal well-being promotes healthier animals. Continued research into nutrition, immune function and best practices in animal handling all help prevent disease and thus the need for antibiotics.

We also must monitor animal disease and antibiotic usage. Utilizing new technology to see disease occurrence trends and geographies, monitoring and sharing resistance data and how antibiotics are used will be necessary for success. Individual animal monitoring along with better, faster, more specific diagnostic tools will all have positive implications in antibiotic stewardship.

Disease will continue to occur and thus the need for treatment will continue as well. Antibiotics are a key part of animal well-being. Through better training and diagnostics, veterinarians and animal caretakers will be able to make treatment decisions that are more individualized and focused to use the right antibiotic at the right dose, time and route.

Continued efforts to improve prevention, monitoring and treatment of disease in both animals and humans are hallmarks of a OneHealth approach to antimicrobial stewardship. Retaining the use and usefulness of antibiotics will require all of us to change our view of how we approach animal disease. Continuing to do the same thing and expecting a different result is the definition of... well, I think you get the point.

**Editor's Note:** Justin Welsh, DVM, is the executive director of livestock technical services, Merck Animal Health.

The full “Roadmap for Reducing the Need for Antibiotics” can be found at [HealthForAnimals.org/antibiotics.html](https://HealthForAnimals.org/antibiotics.html).

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