



Overview

Antimicrobial resistance (AMR) occurs when bacteria, viruses, fungi, or parasites evolve to resist the drugs designed to kill them. AMR is one of the greatest threats to global health, food security, and development. The World Health Organization classifies AMR as a top global public health emergency — not a future risk, but a present crisis.

■ **The scale of the problem:** AMR causes an estimated 1.3 million direct deaths annually worldwide. By 2050, drug-resistant infections could kill 10 million people per year — more than cancer. In the U.S., at least 2.8 million AMR infections occur annually, causing 35,000+ deaths.

Why Pets Are Part of the AMR Story

Resistance does not stay in one place. Resistant bacteria move freely between companion animals, humans, livestock, and the environment. Several key AMR pathogens are shared across species:

- **MRSA (Methicillin-Resistant Staphylococcus aureus):** Documented in dogs and cats; bidirectional transmission with owners; household clusters of MRSA can involve both humans and pets
- **MRSP (Methicillin-Resistant Staphylococcus pseudintermedius):** A dog-specific staph that is now resistant to most common antibiotics; increasingly difficult to treat skin and ear infections
- **Extended-Spectrum Beta-Lactamase (ESBL) E. coli:** Multi-drug resistant E. coli found in pet gut flora; can transfer resistance genes to other bacteria
- **Resistant Salmonella and Campylobacter:** Often acquired from contaminated raw pet food; can cause treatment-resistant GI illness in people

Antibiotic Stewardship for Pet Owners

Never use human antibiotics on pets: Dosing, drug selection, and formulation differ significantly between species. Using leftover human antibiotics on a pet — or vice versa — risks underdosing, toxicity, and resistance selection.

Complete the full course: Stopping antibiotics early when a pet "looks better" is one of the most common drivers of resistance. Partial treatment kills sensitive bacteria and leaves resistant ones behind.

Don't push for antibiotics for viral infections: Antibiotics do not treat viruses. Using them for a viral cold "just in case" selects for resistance with no benefit.

Support culture and sensitivity testing: For recurrent or non-resolving infections, culture and sensitivity (C&S;) testing identifies the specific bacteria and which antibiotics it is resistant to — guiding targeted therapy and avoiding broad-spectrum overuse.



■ **One Health and AMR:** The same resistance genes circulate in hospitals, veterinary clinics, farms, waterways, and wildlife. Antibiotic stewardship in veterinary medicine is not separate from human medicine — it is the same fight. Every responsible prescribing decision your vet makes is an act of One Health stewardship.

■ **If your pet has a recurring or stubborn infection, ask about culture testing.** Targeted antibiotics are more effective and less resistance-generating than empirical broad-spectrum treatment. X VetCare is committed to responsible antibiotic use.

■ Final Summary

Antimicrobial resistance is a shared threat — and a shared responsibility. Responsible antibiotic use in your pet directly contributes to the effectiveness of antibiotics for everyone, human and animal alike.

■ Related XVC Guides:

- [Zoonotic Diseases Overview](#) · [What Is One Health?](#)
- [Common Conditions — Skin & Ear Infections](#) · [Food Safety & Pet Nutrition](#)



This resource may be shared for personal, educational, or non-commercial use provided it remains unmodified and Xavier's Veterinary Care is credited as the original source. Commercial reproduction or resale without written permission is prohibited. For diagnosis & prescriptions, consult a licensed veterinarian.
© 2026 Xavier's Veterinary Care.