



VET REPORT VITALS

MEET THE AUTHOR



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Rachel Beck is a certified veterinary technician and credentialed project manager on the Veterinary Medical Programs team at Banfield Pet Hospital. She currently leads a team of project managers who specialize in implementation. Having been in the veterinary field for over 15 years, she has served roles both in hospitals and at Banfield's central office. She is passionate about engaging the whole veterinary team in proactive health and wellness as well as about career pathing for paraprofessionals in the industry. She resides in Portland, Oregon, with her significant other and 2 cats.

What Does a Rise in Antimicrobial Resistance Mean?

IMPLICATIONS OF ANTIMICROBIAL RESISTANCE FOR COMPANION ANIMAL PRACTICE

Antimicrobial resistance (AMR) arises when bacteria develop the ability to grow in the presence of antimicrobial drugs. This phenomenon is a natural evolutionary process of bacteria but develops more rapidly through misuse and overuse of antimicrobials.¹ Resistance minimizes the medication options to treat bacterial infections and can challenge veterinarians' ability to provide effective therapy.

Antimicrobial-resistant bacteria pose disease management concerns not only because resistant organisms can be directly transmitted between hosts, but also because resistance may be transmitted between bacterial species. Evidence indicates that antimicrobial-resistant bacteria are transmitted bidirectionally between humans and household animals.

Welcome to **VET Report Vitals**, a column focused on the results of the groundbreaking *Banfield Veterinary Emerging Topics (VET) Report™* "Are We Doing Our Part to Prevent Superbugs? Antimicrobial Usage Patterns Among Companion Animal Veterinarians." This report, a collaboration between the NAVC and Banfield Pet Hospital, focuses on a critical topic: antimicrobial resistance (AMR). It aims to promote prudent antimicrobial use among companion animal practitioners by contributing a baseline of antimicrobial usage data to the discussion on how to achieve better concordance with published guidelines.

This article examines the issue of AMR within the larger "One Health" context by exploring the implications of AMR for veterinary practitioners, clients, and patients. An upcoming article will discuss effective strategies for improving guideline concordance in daily practice.

Antimicrobial resistance (AMR) arises when bacteria develop the ability to grow in the presence of antimicrobial drugs.



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This has implications for the health of companion animal patients, their owners, and their caretakers. Infection with resistant organisms can lead to longer and more severe infections, increased mortality, and higher costs for treatment.^{1,2} The growing threat of AMR has contributed to an increased scrutiny of antibiotic use practices in both human and veterinary medicine (FIGURE 1).

Given the importance of antimicrobial drugs in combatting infectious disease, the veterinary profession will undoubtedly continue to use antimicrobials to promote animal health. However, given the implications for companion animal veterinary practice and public health, antimicrobial use will ideally become more judicious and specific to minimize AMR. Although the concept of judicious use of antibiotics

has been clearly defined³ and recommendations for antimicrobial use in certain companion animal disease situations have been developed,^{4,5} there remain opportunities to promote better awareness of and alignment with these guidelines.⁶

THE TEAM APPROACH

As a veterinary technician, you may be wondering how you can promote prudent use of antimicrobials in your practice. From the receptionist to the veterinary assistant, the entire team can play an important role in antimicrobial stewardship.

Veterinary Technicians

Veterinary technicians have a unique role on the team that enables them to recognize risk factors for infection

THE IMPLICATIONS	WHAT DOES A RISE IN AMR MEAN?
<p>Clients</p> <ul style="list-style-type: none">  Less effective treatments for sick pets  Increased veterinary bills  Risk of AMR transmission from their pets 	<p>Veterinarians</p> <ul style="list-style-type: none">  Decreasing efficacy of available drugs  Threatens freedom to practice as we choose  Zoonotic spread of AMR

FIGURE 1. The implications of antimicrobial resistance.

(BOX 1), support veterinarians in antimicrobial stewardship, and act as primary client educators. Although the veterinarian is responsible for the diagnosis and treatment plan, veterinary technicians assist with diagnosis and care and can help prevent nosocomial infections in the clinic, thus reducing the potential need for antimicrobials. Specific examples of supporting antimicrobial stewardship include⁷:

- Performing diagnostics to aid in establishing a definitive diagnosis
- Knowing proper protocols for culture and susceptibility testing and Gram stains
- Providing supportive or symptomatic care
- Protecting sterile field during clean surgical procedures

Client education is key to both preventing the need for antimicrobials and reinforcing the treatment plan **(BOX 2)**, which could include symptomatic care for patients not needing antimicrobials or proper antimicrobial administration, when appropriate.

Receptionists

The receptionist is the first and last team member clients usually have contact with in the clinic. This sets receptionists apart as the team members who can begin setting expectations for clients **(BOX 2)** and who can reinforce the treatment plan and home care instructions at the end of the visit. For this reason, receptionists should be educated on the importance of AMR and be able to address basic questions or concerns that clients may have. With receptionist support, the client can better receive and understand the concept of judicious use of antimicrobials.

Veterinary Assistants

Veterinary assistants' responsibilities commonly include providing a clean, safe environment for patients. This includes prevention of nosocomial infections through the following tasks:

BOX 1 Risk Factors for Infection⁷

- Failure to address preventive strategies
- Use of IV and urinary catheters
- Wounds
- Dilute urine
- Feline leukemia virus infection, feline immunodeficiency virus infection, or other diseases
- Endocrine disease
- Use of immunosuppressive drugs

- Proper cleaning of areas within the clinic, such as ensuring treatment and surgery areas are sanitized
- Ensuring good hygiene of pets under the clinic's care, such as keeping kennels and bedding clean

Veterinary assistants commonly keep the surgery suite clean and can monitor sterile technique, minimizing the risks for infection during surgery. They also have the ability to reinforce client education from the veterinarian, veterinary technician, and receptionist so that a consistent message is given throughout the visit.

CONCLUSION

Use of antimicrobials has serious implications for both veterinary and human healthcare. By taking a team approach, each team member can contribute to antimicrobial stewardship. For more information, see the companion piece on the implications of AMR for companion animal practitioners in the July/August issue of *Today's Veterinary Practice*. ■

BOX 2 Client Education Topics Relating to Antimicrobial Use

Preventive strategies⁷

- Husbandry and hygiene, especially in multipet households
- Routine physical examinations and screening diagnostics
- Vaccinations
- Parasite control
- Dental care
- Nutrition

Treatment plan

- Supportive or symptomatic care instructions
- Proper dosing, handling, administration, side effects, and discard instructions for antimicrobials
- Follow-up and retest instructions

Client expectations

- A physical examination is needed before determination of whether antimicrobials are appropriate
- Diagnostics are typically required before dispensation of antimicrobials
- Antimicrobials should be administered as prescribed and finished even if the clinical signs resolve

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Banfield has always been dedicated to using its extensive data to provide insights to the profession on topics that can improve veterinary care for pets. The first annual *Banfield Veterinary Emerging Topics (VET) Report*, supported by the collaborative educational efforts of the NAVC, focuses on a critical topic: antimicrobial resistance. It is titled "Are We Doing Our Part to Prevent Superbugs? Antimicrobial Usage Patterns Among Companion Animal Veterinarians."

"We are proud to team up with the NAVC on the 2017 VET Report to raise awareness about the critical topic of antimicrobial resistance in companion animal practice and how veterinarians can address it in their own practices," said Dr. Karen Faunt, Vice President of Medical Quality Advancement at Banfield Pet Hospital.

The full report is available at Banfield.com/VETReport or VetFolio.com/VETReport.



Passion, continued from page 7

feet in the surgery department of a specialty referral clinic doing—you guessed it—anesthesia. A lot had changed, but my education served me well. (I was intimidated by the radiology automatic processor because the last time I had worked in a clinic, we hand dipped our radiographs.) I decided to conquer one new task a week.

Eventually, I went for my VTS in anesthesia. This required a lot of hard work, time, and devotion to study, but the never-ending learning curve is part of this profession. And once I had my VTS, my husband convinced me it was time to share my knowledge with others. Despite my doubts, I landed a speaking engagement at Western Veterinary Conference! This opened up an entirely new passion. While I admit I don't care for the preparation, I love teaching others how to optimize veterinary anesthesia. I love knowing that patients will be better served when I share my knowledge with other technicians who have the same passions I have.

Why am I passionate about veterinary medicine? I have always liked the fast pace and the fact that nothing stays the same. When I was at the University of Illinois, we were doing cutting-edge medicine, but would I use those protocols today? No way! We now have superior analgesic options, and we are always finding new ways to use drugs. I am living proof you *can* teach an old dog new tricks.

My animals are still my passion. My husband and I usually have at least one rescue pet. (You know, *that* one from the clinic that no one else wants because it needs a lot of extra care.) We also now have two granddaughters. My hope is that they fearlessly follow their passions wherever that may lead them.

Who knew when I started out all those years ago that I would do anything but work in a general practice? Then, there were few veterinary technicians, but my oh my, how we have expanded our job opportunities, our continuing education choices, and our professional outlook. Being a veterinary technician is no longer a job, it is a career! I am so proud of my fellow technicians and how far we have come. As I contemplate retirement, I feel confident that the generations following me will continue to expand and improve this profession.

My takeaway message? If you follow your passions, you will never be disappointed. Never be afraid of learning and expanding your horizons. Be open to new ideas. If I had let fear determine my choices, I would never have pursued becoming a veterinary technician, worked at some amazing places, or found my husband and raised our children. We don't all have the same passions, but if you follow yours, they will serve you well.

And pass along your passion! ■