

# Veterinary Research News

## Bad medicine or natural remedy?

Veterinarians are likely to see more and more cases of accidental marijuana poisoning, particularly in states where the use of cannabis for human medicinal or recreational purposes has become legal, experts say. Nevertheless, support for cannabis's potential as a veterinary drug is gaining ground.

The American Holistic VMA is the first, and so far only, veterinary organization that officially encourages researching the safety, dosing, and uses of cannabis in animals.

This past July, the AHVMA adopted a position that states in part: "There is a growing body of veterinary evidence that cannabis can reduce pain and nausea in chronically ill or suffering animals, often without the dulling effects of narcotics. This herb may be able to improve the quality of life for many patients, even in the face of life-threatening illnesses."

The AHVMA cautioned veterinarians to follow state and local laws regarding cannabis.

Twenty-three U.S. states and the District of Columbia have enacted laws allowing the use of medical marijuana. Colorado and Washington have also decriminalized recreational marijuana use.

Dr. Justine A. Lee, a diplomate of both the American College of Veterinary Emergency and Critical Care and American Board of Toxicology, expects marijuana poisoning will become a more common veterinary diagnosis.

She cited a study reported in 2012 in the *Journal of Veterinary Emergency and Critical Care* in which cases of marijuana toxicosis at two Colorado veterinary hospitals quadrupled over a five-year period during which the number of state medical marijuana registrations increased by more than 100 percent. Two dogs died after eating baked goods containing tetrahydrocannabinol, the active ingredient in cannabis, the study stated.

The typical marijuana overdose involves a dog that has accidentally

consumed an owner's drugs or food cooked with THC, according to Dr. Lee, a consultant for the American Society for the Prevention of Cruelty to Animals' Animal Poison Control Center. Signs include incontinence, low or high heart rate, respiratory depression, and unconsciousness. Potential adverse effects include seizures, agitation, and pneumonia.

"Tetrahydrocannabinol has a relatively high LD<sub>50</sub>, so the likelihood that the dog is going to die from it is rare," Dr. Lee explained. "But dogs develop clinical signs at very low doses, so they can become quite symptomatic quite early."

As for anecdotal reports of cannabis successfully treating everything from pain and nausea to anxiety and allergies in cats, dogs, and horses, Dr. Lee doesn't doubt THC possesses properties effective to treat some conditions in some animals. But the lack of scientific evidence prevents her from endorsing the drug's use in veterinary medicine.

"We don't know the therapeutic dose. We don't even know its toxic dose," Dr. Lee said.

Still, there's a segment of the veterinary profession that believes cannabinoids can be an effective treatment when a patient isn't responding to approved animal drugs. Dr. Robert Silver, chief medical officer for a veterinary nutraceutical company, has been studying the phytochemistry underlying the medicinal benefits of cannabis since 2006 when his home state of Colorado legalized the drug for medicinal use.

He found several studies in which cannabis, usually injectable THC, had been given to dogs and cats. From this body of data, Dr. Silver says he's identified potential starting points for experimental cannabis dosages for clinical applications in dogs and cats.

The literature shows dogs have the same endocannabinoid receptors that let humans benefit from the therapeutic effects of cannabis, Dr. Silver added. Dogs have a higher concentration of these receptors in the hindbrain, which is why they develop more severe neurologic effects, such as static ataxia, and need to be dosed with THC much more cautiously than other species do, he said.



## Targeted feral cat sterilization yields lower euthanasia rates

A University of Florida study of a feline trap-neuter-return program found that a targeted approach helped effectively manage the feral cat population and reduce shelter euthanasia rates in the area.

Results of the two-year study showed that neutering feral cats in a region of historically high animal-control impoundments led to a steep decline in the number of cats that were admitted to and euthanized at the local shelter. The study, "Effect of high-impact targeted trap-neuter-return and adoption of community cats on cat intake to a shelter," was published online this September in the open-access *The Veterinary Journal*.

During the study, 2,366 stray and feral community cats—approximately 54 percent of the estimated feral cat population in the targeted area—were trapped and neutered. Afterward, they were returned to their environment or adopted.

Dr. Levy and her team found that in the target area, animal control cat intake declined 70 percent from a baseline of 13 cats per 1,000 residents to four cats per 1,000 residents at the end of the study. In the rest of the county, cat intake declined only 13 percent from a baseline of 16 cats per 1,000 residents to 14 cats per 1,000 residents.

In the target area, euthanasia declined 95 percent from a baseline of eight cats per 1,000 residents to less than one per 1,000 residents at the end of the study. In the nontarget area, cat euthanasia declined 30 percent from a baseline of 10 cats



Courtesy of the UF CVM

A study out of the University of Florida College of Veterinary Medicine showed marked decreases in shelter intake and euthanasia of feral cats in an area of intensive cat neutering and adoption, compared with figures for the rest of the Florida county.

per 1,000 residents to seven cats per 1,000 residents.

## Exhibition gains momentum

A traveling exhibition about the human-animal bond and veterinary medicine has proved to be popular with the public and the profession.

Between the July 20, 2013, launch and Sept. 7, 2014, more than 129,000 people visited "Animal Connections: Our Journey Together" at 41 events in 36 cities in 23 states.

The Smithsonian Institution Traveling Exhibition Service created the exhibition to mark the 150th anniversary of the AVMA in 2013. "Animal Connections" is made possible through the support of founding sponsor Zoetis Inc., the American Veterinary Medical



Courtesy of MRA

The "Animal Connections" exhibition travels through Utah in September en route to an event.

Foundation, and the AVMA. The AVMF and state VMAs recruit veterinarians to serve as guides for the exhibition.

The 2014 stops have included zoos, museums, expositions, parks, veterinary colleges, veterinary conferences, and county and state fairs. Nearly 6,000 people visited the exhibition at the AVMA Annual Convention in July in Denver. The exhibition attracted almost 14,000 visitors in three days at the Iowa State Fair, about 16,000 visitors in three days at the Wisconsin State Fair, and more than 31,000 visitors in six days at the New York State Fair.

Veterinarians who would like to volunteer if the exhibition comes to their area should contact Jody Beckford with the AVMF at 847-285-6709 or [jbeckford@avma.org](mailto:jbeckford@avma.org).

Information about "Animal Connections," including a list of upcoming stops, is at [www.animalconnections.com](http://www.animalconnections.com). The website also provides related resources such as links to AVMA classroom materials and the AVMA Animal Hospital video game.

## AVMA economics division analyzes problems, causes

With the AVMA Veterinary Economics Division now fully staffed, veterinarians can expect answers to some of their biggest concerns—with the help of data veterinarians themselves will provide.

The AVMA Board of Directors created the division in 2011 as part of an effort to study perceived economic problems throughout the veterinary profession and, if verified, provide strategies to resolve them.

Bridgette Bain, PhD, is the division's statistical data analyst, and Ross Knippenberg, PhD, is the economic analyst.

One current project is the workforce model, which pools several variables to project the supply of and demand for veterinary services in the U.S. Three other projects are designed to examine practice profitability and veterinarian employment.

Despite the division's progress, it remains a challenge to convey the economic data's meaning to veterinarians. The division also lacks information from various demographic subgroups. Division director Michael Dicks, PhD, said one impediment is the way data were previously collected and their lack of actionable information.

The veterinary community's lack of confidence in preliminary study results has been an issue arising largely from veterinarians thinking the conclusions are not applicable to their geographic regions. Dr. Dicks said, however, the problem lies in data gaps—only one in five veterinarians responds to the division's surveys, which could leave entire regions undocumented.

"The way that they can help us is just to keep an open mind and engage us," Dr. Dicks said. His goal is to produce hard facts that do not attempt to steer veterinarians toward any one opinion.

## AVMF adds to its charitable programs

The American Veterinary Medical Foundation announced the launch of its Veterinary Care Charitable Fund July 27 during the AVMA Annual Convention.

With the fund, the AVMF aims to serve as an umbrella charitable organization to accept donations and make payments directly to veterinarians for care they provide to pets of their



Photo by Malinda Larkin

Rick Yount, the founder of Warrior Canine Connection, interacts with Huff during his presentation announcing a new AVMF program that can help provide funding for veterinary care of military service dogs.

clients who do not have the means or ability to afford certain treatments.

Michael Cathey, AVMF executive director, explained that clinics often have angel funds to cover special-needs cases that come through the door. The Foundation allows contributions to its fund to be tax-deductible—meaning that money will not have to be claimed as income for the veterinarians. Donations received by the AVMF fund for a particular clinic can be used at the veterinarian's discretion. The AVMF will not charge an annual fee, but it will ask that practices allow a small portion of donated funds to go to other animal care initiatives rather than their practice.

The AVMF also launched an offshoot of the Veterinary Care Charitable Fund, called the Drs. Chandra and Mahendra Varia Animal Care Fund. The Varia fund will help practitioners in eastern Kentucky assist low-income clients in affording their pets' care. Dr. Chandra Varia, widow of Dr. Mahendra Varia (Bombay '58), has asked that the money not be touched for three years so that it can be invested and grow. But she has agreed to give money toward regular events in the area to help these veterinary clients in need. A one-health event in September kicked off the initiative.

### Future Leaders focus on career transitions, wellness

The 2013-2014 AVMA Future Leaders Program was focused on

career transitions, and as part of that, the Future Leaders conducted a random survey earlier this year of 2,000 AVMA members. Of the 17 percent who responded, close to a third indicated they were considering a career transition in the future. Most of them were looking to move from clinical practice into either industry or academia.

The class also held a half-day symposium during the AVMA Annual Convention on the topic of career transitions. The goal of the symposium was to illustrate to veterinarians in any stage of their career how they can transition away from traditional clinical practice if they so desire. Also, the sessions touched on stumbling blocks that have been hit by those who have gone through the process before.

The Future Leaders also created an online toolkit at [www.avma.org/careerchange](http://www.avma.org/careerchange) to provide information to AVMA members interested in beginning the career transition process.

The user-friendly content provides insight into subjects such as personal assessment, career options, and successful marketing as well as an introduction to Prosper, the piggybank mascot that represents "change."

Members of the new 2014-2015 class are as follows: Drs. Erin Brannick of Newark, Delaware; Caitlin DeWilde of St. Louis; Erin Frey of Raleigh, North Carolina; Tracy Gluckman of Phoenix; Kris Helke of Charleston, South Carolina; Jeremy Keen of Jackson, Tennessee; Michelle Larsen of Phoenix; Stephanie L. Mont of San Antonio; Matthew D. Rosenbaum of Germantown, Tennessee; and Julie Stafford of John Day, Oregon.

Their anticipated project will focus on wellness.

### AVSAB adopts position paper on breed-specific legislation

The American Veterinary Society of Animal Behavior has expressed concern about various communities' reliance on breed-specific legislation—legislation to control, limit, or prevent ownership of specific dog breeds or mixes—as a tool to decrease the risk and incidence of dog bites.

The AVSAB adopted a position paper on breed-specific legislation July 25 during the 2014 Veterinary Behav-

ior Symposium, held in conjunction with the AVMA Annual Convention in Denver. Members of the AVSAB and diplomates of the American College of Veterinary Behaviorists attended the event.

The position statement was co-authored by ACVB diplomate Dr. Sagi Denenberg and Steve Dale, a certified animal behavior consultant.

Targeted to the public, the AVSAB position paper supports the use of appropriate legislation regarding dangerous dogs as long as it is education-based and not breed-specific.

Dale said, "Research is all over the map on this. We've sniffed it out so it's all in one place. The hope is that veterinarians will be called upon as experts and use this document to discourage a breed ban in some places and help to rescind them in others.

"This document is important to help educate the public and eradicate myths regarding dogs referred to as pit bulls. By AVSAB publishing this document, I have no doubt animal lives will be saved."

To download the position paper, go to [www.avsonline.org](http://www.avsonline.org), click on "Resources" and then "Position Statements," and scroll to the bottom.

### Research symposium highlights students' work

The 2014 Meriel-National Institutes of Health Veterinary Scholars Symposium was held July 31-Aug. 3 at Cornell University. The event attracted 620 registered attendees from 10 countries, a mix of scientists and veterinary students who have been engaged in mentored research experiences over the course of the summer at U.S. and Canadian veterinary colleges. Veterinary



Photo by Michael P. Carroll

The 2014 Meriel-National Institutes of Health Veterinary Scholars Symposium saw 452 veterinary students present results from their summer research projects.

scholars shared their research findings in poster sessions and had the chance to interact with scientists from diverse fields at the symposium, which caps off their experience.

This year's keynote speaker was Barbara Natterson-Horowitz, MD, who published the book "Zoobiquity: The Astonishing Connection Between Human and Animal Health" and is the founder and chair of the Zoobiquity Conference.

The symposium also featured the Young Investigator Award Competition, sponsored by the AVMA and American Veterinary Medical Foundation. The Young Investigator Award is given to three graduate veterinarians pursuing advanced research training through doctoral or postdoctoral programs who presented their research at the symposium. First place went to Dr. Elizabeth More Lennon of North Carolina State University College of Veterinary Medicine for "Mast cells play a protective role in a model of inflammatory bowel disease." Second place was awarded to Dr. Blake "Eason" Hildreth III of The Ohio State University College of Veterinary Medicine, and third place went to Dr. Katherine M. Tolbert of the University of Tennessee College of Veterinary Medicine.

In addition, the 2014 Merial Veterinary Scholars Award went to Nida Intarapanich (Tufts '16) for her research project "Characterization and comparison of injuries caused by spontaneous vs. illegal organized dogfighting."

### Who's buying? Who's selling?

According to interviews with a handful of veterinary business advisers, the market for veterinary practices has undergone some profound changes in the past few decades.

For one thing, owning a practice is more difficult than it used to be 10 or more years ago, according to Dr. Karen E. Felsted, treasurer of the VetPartners association of practice consultants and president of Dr. Felsted Veterinary Consulting.

David McCormick, veterinary practice appraiser and practice man-



agement consultant for Simmons Veterinary Practice Sales & Appraisals, notes that while the market for practices may not be what it was 15 to 20 years ago, the economy has not had much of an impact, save for one area—sellers' willingness to retire. Many older owners have hung onto their practices longer to recoup retirement money they lost when the stock market tanked.

These conditions have created a serious seller's market. Melisa K. Edwards, vice president of veterinary practice finance at Bank of America, says for the past three years, there's been a drought of listings throughout the U.S. of good veterinary practices, which she defines as those with good cash flow and over \$500,000 in annual revenue.

"There are a number of younger doctors out there who realize the only way they are going to get ahead is to own a practice, and there are not a lot of listings," Edwards said.

However, she anticipates this pent-up supply will be unleashed on the market in three to five years "because at some point, (older owners) have to sell."

### Arizona veterinary program secures funding

A \$9 million gift from a private philanthropy will allow the University of Arizona to establish a veterinary degree program after two unsuccessful attempts at obtaining public funding for the endeavor.

The new Kemper and Ethel Marley Foundation Veterinary Medical and Surgical Program will be part of the School of Animal and Comparative Biomedical Sciences. The new program is anticipated to begin in fall 2015.

In 2012 and 2013, the Arizona board of regents requested funding from the state legislature for a veterinary degree program at UA and was twice denied. In the meantime, the Arizona program had asked for a consultative site visit by the AVMA Council on Education to determine its preparedness for a comprehensive site visit; the consultative visit took place this past January. Now the UA veterinary program is seeking a letter of reasonable assurance of accreditation.

First-year students will be taught by current faculty in the college's veterinary science programs at existing facilities.

The university plans to use \$3 million of the Marley Foundation's gift to build, refurbish, or renovate satellite locations in Douglas, Yuma, Maricopa, and the Verde Valley. In these settings, students will have the opportunity to learn about border health issues, rural medicine, food safety, large-scale animal production, and wildlife as well as the cattle and dairy industries.

This is the second major gift to the UA College of Agriculture and Life Sciences from the Marley Foundation. In 1993, it gave \$6 million to finish a laboratory building on campus.



Half of the expected University of Arizona veterinary class of 100 will come from outside the state, including foreign students

Courtesy of UA College of Agriculture and Life Sciences