Farm bill changes the game on hemp

Cannabis sativa L no longer defined as illegal substance as long as products derived from it contain less than 0.3% THC. **By Katie James**

Hemp, cannabidiol, CBD—regardless of what it’s called, products containing compounds derived from the cannabis plant are a hot topic in both animal and human health for their potential benefits. But the murky legal status and regulations surrounding the flood of these products to the market make it difficult for veterinary practitioners to advise pet owners who may want to give them to their pet. That may soon change.

In December, HR 2, the Agriculture Improvement Act of 2018, also known as the Farm Bill, was signed into law, and it includes provision to remove industrial hemp, or Cannabis sativa L, and its derivatives from the Controlled Substance Act. More specifically, products that contain compounds derived from the plant that contain

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---

Relax your brain by fighting against decision fatigue

page 28

‘I got thyroid cancer’: A technician warns her colleagues

page 18

Shutting down angry tirades in the workplace

page 36

Don’t fear the down dog in your general practice

page M1
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Decision fatigue: Choose to take note

Too many choices leads to a tired brain and poor well-being.

**B**lue Apron saved my marriage. Those are the words I remember most from the lecture given by Beckie Mosser, RVT, at the AVMA Convention last year. The story was compelling, and her husband used to come home from work, exhausted and starving, and argue about what to make for dinner. After they signed up for a meal-delivery service, those hangry discussions disappeared and they could simply focus on cooking together. The moral of the story is that you can improve your life by putting some decisions on auto-pilot, because making tens of thousands of decisions every day fatigues the brain and depletes the emotions.

Mosser’s explanation of the concept of decision fatigue resonated with me, and I thought it might with you too. The result is on page 28—I hope you decide to check it out!
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Street address: PLEASE SELECT ONE ▶️ Work address ▶️ Home address

Country

Email address (for confirmation, proceedings links, etc.)

Daytime telephone number with area code

Veterinarians: Associates & practice owners

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Practice Managers/Technicians / Assistants

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Guests

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less than 0.3 percent of tetrahydrocannabinol (THC), the psychoactive compound found in the plant, will be legal. Those that contain a higher percentage of THC will still be subject to Schedule I controlled substance regulations, according to an announcement about the bill from the AVMA.

The bill notes that while it loosens the regulations for cannabis in the Controlled Substance Act, regulations established in the federal Food, Drug and Cosmetic Act and the Public Health Service Act have not been removed or altered, which will allow the FDA to still monitor label claims for products containing Cannabis sativa L and provide regulatory guidance.

The FDA released a lengthy statement from Commissioner Scott Gottlieb, MD, about the removal of the substance from the act, clarifying the agency’s authority over products containing industrial hemp.

“In short, we treat products containing cannabis or cannabis-derived compounds as we do any other FDA-regulated products—meaning they’re subject to the same authorities and requirements as FDA-regulated products containing any other substance,” says Dr. Gottlieb in the statement.

He also discusses products not approved by the FDA that claim to contain cannabis-derived compounds, such as CBD. “Among other things, the FDA requires a cannabis product (hemp-derived or otherwise) that is marketed with a claim of therapeutic benefit, or with any other disease claim, to be approved by the FDA for its intended use before it may be introduced into interstate commerce. This is the same standard to which we hold any product marketed as a drug for human or animal use.”

Products containing cannabis-derived ingredients that claim to diagnose, mitigate, cure or prevent diseases are considered new drugs or new animal drugs and must go through the proper FDA drug approval process before they can be marketed to human or animal patients in the United States. Failure to follow this process is illegal, the statement notes.

The agency says it plans to create clear pathways through its approval process for companies wishing to introduce new products into the marketplace. It also plans to hold a public meeting for stakeholders to discuss cannabis and its derivatives and its place in human and animal health, the statement concludes.

“We recognize the potential opportunities that cannabis or cannabis-derived compounds could offer and acknowledge the significant interest in these possibilities. We’re committed to pursuing an efficient regulatory framework for allowing product developers that meet the requirements under our authorities to lawfully market these types of products,” says Dr. Gottlieb.

What does this mean for practitioners? It just might mean that the next time a pet owner comes into your hospital asking for guidance on CBD chews for Max’s osteoarthritis, you may not have to dance around the subject uncomfortably. As the AVMA puts it, “This has implications for the potential use of these products for a variety of purposes.”

The AVMA has also created a quick sheet of all the animal health-related items in the Farm Bill, which can be accessed at avma.org.
Vet student faces fraud charges

Tuskegee vet school student indicted in Alabama, North Carolina for allegedly selling rescue horses for slaughter. By Anissa Fritz, Contributing Writer

Fallon Blackwood, a 24-year-old veterinary student at Tuskegee University, was indicted in October of 2018 by the state of Alabama on 13 counts of acquiring a horse under false pretense with the intent to defraud. Blackwood has similar charges against her in North Carolina. Reports on sites such as netposse.com, the online home of Stolen Horse International, accuse Blackwood of offering to rehome horses in need but actually selling them to slaughterhouses for cash instead.

The 13th count of the indictment involves the experience of Lindsay Rosentrator, who spoke with dvm360 recently about her dealings with Blackwood. Rosentrator says she went to school for equine training and was about to start rotations because she was about to start rotations in vet school, which was going to entail everything, Rosentrator says. 

The day Blackwood came to Rosentrator’s residence to view Willie, she arrived with a trailer, Rosentrator says. Blackwood wanted to take Willie that day, but Rosentrator says they hadn’t agreed to that. She told Blackwood she wasn’t ready—she needed more time and didn’t have a formal contract written up. But Blackwood had a rebuttal to that. She told Blackwood she was on call every weekend. So she wasn’t going to be able to get away again soon since we were a three-hour drive for her,” Rosentrator says.

Rosentrator says Blackwood came across as patient, mature and introverted. She said she thought Blackwood, being a veterinary student, would be able to offer her horse a great home, and that she needed to take advantage of the opportunity before it was gone. “That’s what made my decision have to be so quick,” Rosentrator says. “She’s very convincing.”

Using a spiral notebook she had in her car, Rosentrator wrote up an informal contract stating that Blackwood would be receiving ownership of Willie for zero dollars and if anything were to happen, Rosentrator would have first right of refusal to take the horse back from Blackwood. Later that evening, Rosentrator emailed a digitized copy of the agreement to Blackwood to sign. She never sent it back.

In the following weeks, Rosentrator says she reached out to Blackwood a few times, asking for pictures of Willie. But Blackwood wouldn’t comply, claiming she was in class, off the property or busy. It was then that Rosentrator went online and found that Blackwood allegedly did business with kill-buyers, according to several rescue groups.

“I could never fathom doing that to any kind of animal. I didn’t realize that someone going to school to protect and help animals could do something so heinous,” Rosentrator says.

Blackwood is now tied to more than 50 missing horse reports from Stolen Horse International.

Pamela Miller, reports manager at Stolen Horse International, says people like Blackwood are often looking for a quick way to make money.

“It’s probably to pay for her veterinary school ... She got all these horses for free. So she turned around and either sold them at an auction house or worked with a kill-buyer to have them shipped down to Mexico,” Miller says. According to Miller, horses brought to slaughterhouses in Mexico are sold for approximately 50 cents a pound. She estimates that over 95 percent of the horses in the cases against Blackwood had medication in their systems, meaning they shouldn’t have been slaughtered for consumption. Willie, for example, was on ringbone medications.

“The medication that was in that horse’s body is now being consumed by individuals or animals. It’s not healthy. It can cause [the consumer] medical problems,” Miller says.

According to the online reports, Blackwood used the same story for all of the horses she obtained. After identifying horses in need of homes on Facebook and Craigslist, she messaged the owners claiming to need a pasture mate for her own horse. She told the owners she didn’t have any money but the horse would be under the best medical care because she was a vet student.

Both Rosentrator and Miller recommend that before completing a rehoming transaction, horse owners obtain background checks and call the organization in question as well as any references. In addition, Miller suggests microchipping the horse and taking pictures of the individual taking the horse. Blackwood was arrested at an Alabama rodeo on January 15. She quickly posted $15,000 bail from Blount County Jail and has returned to class, according to local media reports.
A medical student walks into a ZOO

What happens when an Ivy League student does a rotation at a zoo? A new One Health opportunity is born. By Ericka Cherry

The Franklin Park Zoo is not where you’d expect to find a Harvard Medical School student, but Gilad Evrony, MD, PhD, is prone to out-of-the-box thinking. Inspired by Barbara Natterson-Horowitz, MD, and Kathryn Bowers’ 2013 book Zoobiquity—an examination of how animal and human commonalities can be used to diagnose, treat and heal patients of all species—Dr. Evrony embarked on an independent study that can only be described as wild.

“I was fascinated by the world of physiology across the animal kingdom, so I called up the zoo in Boston and spoke with the head of veterinary medicine about doing a rotation with them,” Dr. Evrony says.

The call Dr. Evrony made to Eric Baitchman, DVM, DACZM, vice president of animal health and conservation, ended up being serendipitous. Dr. Baitchman was pondering a similar program where medical students would shadow members of the zoo’s animal health team.

Once word got out, other students began doing rotations with the zoo as an independent study option. Dr. Baitchman’s experience with Dr. Evrony convinced him that this elective could be valuable to other students. So, working with the Harvard Medical School faculty, Dr. Baitchman helped formalize the elective offering in the school’s course catalog in 2017.

“It is my sincere hope that as these students continue through their careers, they see beyond the single patient they are treating and see all their patients within the context of the ecosystem they live in,” Dr. Baitchman says. “If the future physicians that we are teaching at the zoo go on to promote the global benefits of biodiversity preservation for human health, it could have a profound impact.”

At its core, One Health—and Harvard Medical School’s One Health clinical elective—addresses the connection between humans, animals...
and the environment. It seeks to create the optimal health for all species within a shared environment.

For Dr. Evrony, the experience opened his eyes to a wider world of cross-pollinating possibilities: “When I came back to the world as a medical student, I began to see all these possibilities for research. There’s so much diversity out there that human doctors don’t experience. Metaphorically speaking, the veterinarians and I spoke the same language; we just spoke it with different accents.”

And what if this type of rotation isn’t available to medical students at other institutions?

It would seem fairly simple to create opportunities for medical students to interact veterinary students at the same university. But as Marcy Souza, DVM, MPH, DABVP (avian), DACVPM, associate professor in the Department of Public Health at the University of Tennessee, points out, that isn’t always possible.

“A lot of veterinary schools are located on agricultural campuses, so veterinary and medical students are geographically separated from each other,” Dr. Souza says. “But I’ve always wondered what good would come out of combining veterinary and medical schools in the early years.”

Jennifer Chatfield, DVM, DACZM, staff veterinarian at 41 Conservation Center, an instructor for federal emergency management courses and a regional commander for the National Disaster Medicine System Team, thinks medical students should consider small animal practices for a similar opportunity.

“Sixty-five percent of American households live with an animal, so it would be useful for medical students to interface with a regular practitioner,” Dr. Chatfield says. “It makes me think of this case where doctors were having a difficult time diagnosing a patient. While the patient was in the hospital, her dog was taken to the vet and diagnosed with leptos. If the doctors had thought to ask her if she had a dog, her diagnosis might have come sooner. It’s all about understanding that patients don’t live in a vacuum.”

These real-life connections happen at the Franklin Park Zoo during the One Health Clinical Elective all the time. Students come to Dr. Batchman during the course of their rotation with unique research proposals. He mentions one memorable proposal that considered using new genomic sequencing technology to better characterize immunologic differences between amphibian species that are sensitive or resistant to chytridiomycosis, a devastating disease that results in the decline of wild amphibians worldwide.

“The massive decline in amphibians in the tropics, and the resultant loss of biodiversity in those ecosystems, has important implications for human and ecosystem health. This is a direct application of One Health,” Dr. Batchman says.

One Health depends on the collaboration between veterinarians and physicians, whether the collaboration happens during the examination of a Baird’s tapir at the Franklin Park Zoo or in a simple conversation with a classmate in the university.

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Lyme spreads to areas thought to be low-risk

Disease in dogs may mean higher threat to people, researchers say.

The Companion Animal Parasite Council (CAPC) recently released a study that shows that Lyme disease is spreading to regions not previously thought to be at risk for tick-borne disease. States such as Illinois, Iowa, North Dakota, Ohio, Michigan, Tennessee and West Virginia have all seen an increase in the prevalence of Lyme disease, according to a release discussing the study, which CAPC conducted from January 2012 to December 2016. Results from the study were recently published in Environmetrics.

“The results show increasing risk for Lyme disease in endemic areas and pinpoint regions in the U.S. where Lyme is spreading—areas not historically considered endemic,” says Michael Yabsley, PhD, a professor in the Department of Population Health, College of Veterinary Medicine and Warnell School of Forestry and Natural Resources at the University of Georgia. “This expanding risk of Lyme disease demands heightened vigilance in protecting both our pets and our families.”

Results suggest that canine prevalence rates for Lyme disease are rising and in areas traditionally not considered to be of high Lyme risk, suggesting that human risk may also be increasing. Significant increases in canine Lyme prevalence have been seen in some areas that are not yet reporting significant human incidence. Researchers speculate that canine prevalence is more sensitive to changes in Lyme risk and could serve as an early warning system for changes in human risk.

The study was created to investigate regional trends in the prevalence of antibodies to Borrelia burgdorferi, the disease-causing bacterium of Lyme disease, according to the release. To conduct the research, the CAPC team analyzed more than 16 million Lyme tests from domestic dogs in the U.S. over 60 months. The serologic data was provided by IDEXX Laboratories.

“CAPC research shows the risk for Lyme disease is not static. The way it’s changing varies spatially across the country,” says Christopher McMahan, associate professor in the department of mathematical sciences at Clemson University, in the release. Crucial in the fight against Lyme, Yabsley says, is year-round tick protection. Different species of ticks are active all 12 months of the year, and ticks that transmit Lyme are active at different times in the year in different regions, the release states. For instance, as you move further south, adult ticks are more active in the winter.

“I’ve been practicing for over 34 years in Nashville where many people don’t think Lyme disease is a concern. But I’ve seen canine Lyme increasing for several years and regularly test and vaccinate for the disease,” says Craig Prior, BVSC, CVJ, a veterinarian and former owner of VCA Murphy Road Animal Hospital in Nashville, Tennessee. “Many people tend to believe that if they don’t go on hikes or spend time in wooded areas, they aren’t at risk for Lyme. Ticks are everywhere—including suburban and gated communities where deer, raccoons, opossums, birds and other hosts frequent back yards. That’s why CAPC recommends year-round tick prevention for dogs—and cats—and regular screening to protect dogs from this debilitating disease that can be extremely hard to treat.”
NVA congratulates Angelina Morgan on winning the 2018 dvm360/VHMA Practice Manager of the Year.

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Did it happen if it wasn’t posted on social media? 
How veterinary professionals behave online

Your colleagues are checking social media more times each day than a year ago, according to recently updated, exclusive dvm360 research study “What Vets Think.”

In our annual study of “What Vets Think” we took a hard look at how veterinary professionals are managing their work and life online. Like much of the world, the industry relies on digital resources to function. And while veterinary professionals across generations are using social media at about the same rates year over year, we see that frequency has increased. Last year, 50 percent of veterinary professionals checked their feeds several times a day. This year, that rose to 55 percent, with about 19 percent of respondents reporting they check it “(So) many times a day.”

Given it’s a competitive market, where vet professionals are constantly bombarded by messaging from all sorts of competing sources, we wondered: What are the go-to resources, platforms and channels? What serves them best?

Here the generational breakdown is particularly interesting, with millennial professionals classifying peer connections as much more important than connecting with clients (although that percentage has increased slightly since last year). Another generational split to note is how millennial professionals are looking to social media to follow industry influencers at a much higher rate than previous generations.

Which platforms are favored by different generations? We’re particularly excited to report that millennial veterinary professionals are using Instagram as much as they are—13 percent more than last year, and 12 percent more than the rest of the survey respondents. At the moment, @dvm360mag Instagram has over 5,000 followers (currently blowing the competition out of the water).

*The 2018 What Vets Think study was distributed in September 2018 and garnered 1,057 total responses. The margin of error is 3%.

How much of the market is using social media?

91% of millennials
88% of gen x
78% of baby boomers

Which media channels are veterinary professionals using most?

Live events: 91%
Vet eNewsletters: 73%
Vet websites: 63%
Prof. magazines: 56%
Vet apps: 52%
Social media: 51%

How do different generations prioritize their social media use?

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<th>Gen X</th>
<th>Baby boomers</th>
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<td>Connect with clients</td>
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<td>Follow leaders in the community</td>
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Of total respondents

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<td>31%</td>
<td>47%</td>
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We both squeezed into a little dark room while she explained dipping the films in developer and fixer. I'll never forget that chemical smell and the fact that there was no ventilation in that room. That was it—the X-ray was done.

We both squeezed into a little dark room while she explained dipping the films in developer and fixer. I'll never forget that chemical smell and the fact that there was no ventilation in that room. Then we hung the films to dry. I was so proud to move on to the next level of my training and to become a veterinary technician.

Little did I know that for years no one was looking out for me—or my thyroid. No one was explaining the dangers of what can happen to my thyroid with constant radiation exposure. I did finish school, and I did become a registered veterinary technician in Ohio. We did briefly skim over radiation safety. We were also told that this was low-level radiation. We had radiation badges, but they weren’t emphasized. In fact, when we went to clinicals, we didn’t take them with us, so I don’t remember how our radiation was monitored during internships.

‘You were criticized if you dared to reach for a glove’

In my first job as an RVT, the manager told me I would get a badge eventually. Just take the X-rays, I was told, and they would order me one. I don’t know if they ever did order one, because I never saw it.

I tried to wear gloves, because I remember in school the awful pictures of people who didn’t wear gloves and their hands becoming disfigured. Holding wiggly pets with gloves was a challenge. I was told to take off the gloves so I could better keep the pet still. There were no thyroid collars to be found.

Later, I moved on to a specialty and emergency facility with all the advanced machines and monitors. This practice had specialty veterinarians and an MRI machine. We did get X-ray badges at this facility. They were all lined up nicely on the wall as you walked into the big area where they take X-rays.

There was no door and no way to let anyone know when someone was taking X-rays. Someone just had to yell, “Shooting!” before hitting the pedal. No one ever bothered to move those badges. They always stayed in perfect alphabetical order. Thyroid collars were still unheard of, and you

I got sick after decades of taking radiographs as a veterinary technician. Learn from my mistakes. Protect yourself. by Naomi Strollo, RVT
were criticized if you ever dared to reach for a glove. Some veterinarians didn’t like how we positioned the pets on the table, and they would walk in and hold them how they liked it. We would tell them to leave, but they had us shoot the film anyway. They said it’s not enough radiation to do anything. Some stood behind those wearing lead aprons, thinking this was all the protection they needed. Looking back at how unsafe that was, I never would have hit that pedal.

The next clinic I worked at was another fast-paced small animal practice. This radiology room actually had doors. They did have badges, but we never saw them. They weren’t even displayed all the time. Sometimes they were there, sometimes they weren’t. I never saw a thyroid collar, and the gloves looked as perfect as the day they were purchased years before.

‘I followed his rules—most of the time’

At another practice, it was mandatory that all radiographs be taken with thyroid collar, gloves and gown. Badges were worn at all times throughout the hospital—you put them on when you started that day and took them off when you left. The management posted radiation levels every month.

I was shocked. It seemed overdue to me. I didn’t understand why this veterinarian was going to extremes about X-rays. I followed his rules—most of the time. I scoffed at his being overly cautious. If I didn’t get the perfect view, I blamed him for making me wear the stupid gloves.

Then I started to see my radiation number increase. I knew those little badges actually meant something. I wondered how much radiation exposure I had over my entire veterinary career. I didn’t know what I was supposed to have my radiation company contact my old employer to transfer information to a new employer.

For more than 15 years, I worked two jobs, in general practice and in emergency. I easily took 30-plus X-rays a day, each patient getting a minimum of three views. Add on additional films because patients moved or the veterinarian wanted more views. Trauma patients would get three for the abdomen, three for the thorax, plus extremities and pelvis views. Some shifts I just left on the apron for hours because I was taking so many.

I got thyroid cancer

Now, with 24 years of taking X-rays, I wish I had taken radiation safety more seriously. I’ve had a full thyroidectomy due to thyroid cancer. Nineteen lymph nodes were positive for cancer and it spread to the left side of my chest. I don’t have a family history of thyroid disease or any other medical explanation. My doctors have concluded that it’s work-related from years of taking radiographs without the proper protection or monitoring.

If I could pass one message onto veterinary assistants, technicians and future technicians, it’s this: Please take the lead seriously. Wear it! Wear your badges! Transfer your radiation numbers. That number should follow you your whole career. Just because you change jobs doesn’t erase all your radiation exposure. If employers don’t want to work with you, then fight for yourself. Stand up for your health and your future!

I don’t blame my past employers. It was a different time. Recently, I heard about an office manager telling a new employee to use another employee’s badge until her X-ray badge came in. I refused to let her take a single X-ray, and I told her to refuse. I’m more educated now, and I spread this to fellow veterinary practice coworkers. We must protect ourselves—and each other.

Know your rights. Stand up for yourself. Don’t be the only veterinary team member taking radiographs all night. Keep track of how many you take per shift and demand equal radiation exposure to all. You must be your biggest advocate. Because when you’re going through cancer treatment, your past employers and veterinarians won’t be there holding your hand.

Naomi Strollo, RVT, is Fear Free Certified and has been working in the veterinary field for more than 24 years. She practices emergency medicine and is a freelance writer.

ProZinc approved for dogs

Product becomes just the second approved insulin for use in cases of canine diabetes.

Nearly a decade ago, ProZinc (protamine zinc recombinant human insulin) was approved by the FDA for the reduction of hyperglycemia and associated clinical signs in cats with diabetes mellitus. Last week, the FDA announced that the product is now approved for use in dogs as well, making it the second approved product available to veterinarians for managing canine diabetes. Vetsulin (porcine insulin zinc suspension), manufactured by Merck Animal Health, is the other.

Available by prescription only, ProZinc comes in 10-ml multidose vials at a concentration of 40 IU/ml. It is administered via subcutaneous injection using a U-40 syringe, according to an FDA release. The recommended starting dose in dogs is 0.2 to 0.5 IU/pound of body weight (0.5-1.0 IU/kg) once daily. The starting dose for cats is 0.1 to 0.3 IU/pound (0.2-0.7 IU/kg) given twice daily. In both species, the drug should be given with or just after a meal.

The FDA says that because compounded drugs vary in quality and potency, it strongly encourages the use of FDA-approved veterinary insulin for newly diagnosed diabetic dogs or when transitioning patients between products. Pets given any insulin product should be re-evaluated at appropriate intervals with the dose and frequency adjusted as needed based on clinical signs and laboratory parameters until adequate glycemic control has been attained.

ProZinc is contraindicated in dogs and cats sensitive to protamine zinc recombinant human insulin or any other ingredients in ProZinc. The drug should not be given during episodes of hypoglycemia. Adverse effects in the canine clinical trial included lethargy, anorexia, hypoglycemia, vomiting, seizures, shakiness, diarrhea and ataxia.
If the Coyne Veterinary Center in Crown Point, Indiana, had a job description, as any good team member does, it would say: Attract clients. Other requirements: Make technicians’ jobs easier, support an appointment-free environment and, of course, give clients the wow effect.

“We wanted the type of hospital that attracts the best people, who are proud and want to do their best job,” says John Coyne, DVM, owner of nine veterinary practices in Chicago and northwestern Indiana. “People say it feels like coming into a Marriott hotel at our practice. Our job is to make the client-patient relationship the best it can be, and it starts with building a practice that allows us to offer the best care possible.”

As Regional Director Jamie Josephson, CVPM, says, “The team working here had already mentored under Dr. Coyne and they understand our practice model. Dr. Coyne builds the hospital and gets clients in the doors, then it’s our job to take care of the clients and pets and keep them coming back.”

Coyne Veterinary Center earned the title of Hospital of the Year for practices 8,000-square-feet or larger in the 2019 dvm360 Hospital Design Competition, earning high praise for an efficient floor plan, excellent finishes and signage, a beautiful reception area and unique exterior design.

Building for success
Coyne Veterinary Center doesn’t take appointments. Dr. Coyne admits that the concept sounds scary to people but it works. “We wanted the type of hospital that attracts the best people, who are proud and want to do their best job,” says John Coyne, DVM, practice owner.

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By Sarah A. Moser

By the numbers

Coyne Veterinary Center: Crown Point

Owners: Drs. John Coyne and Jeremy Bushas
Number of doctors: 3 full-time, 1 part-time
Exam rooms: 11
Total cost: $3,686,386
Cost per square foot: $235.80
Square footage: 15,633
Structure type: Freestanding, new
Architect: Michael Mathtys, Linden Group Architects

This Indiana hospital, which won our top design award for hospitals over 8,000 square feet, supports the team and keeps wait times to a minimum, all while wowing clients with its beauty.

By Sarah A. Moser

Coyne Veterinary Center: Crown Point from the exterior.

ALL PHOTOS COURTESY OF PAUL STRABBING, PAUL STRABBING PHOTOGRAPHY.
who aren’t used to it, but that’s the way he was taught when he started in veterinary medicine 45 years ago—and he’s stuck with it. But it means he has to design his practices to support this business philosophy.

“Are we busy? Yes. It’s a challenge not to make clients wait too long,” says Dr. Coyne. “But clients love the flexibility and we’ve been able to grow well because of this structure.”

To keep waiting to a minimum, the practice includes 11 exam rooms, more than most practices offer, with three full-time veterinarians and 30 full-time team members. The exam rooms are set up to check clients out at the end of an appointment, minimizing a backlog at the reception desk. Technicians are authorized to draw blood, set catheters, take radiographs, and perform ECGs and ultrasounds to keep things moving along. “Not only does this help our client flow and speed up appointments, it also empowers our technicians and lets doctors be doctors,” says Dr. Coyne.

“Technicians appreciate it and it shows they’re an important part of the team.” A centrally located computerized pharmacy, a space for in-house blood work and a “fishbowl” doctors’ office also improve the client flow. Dr. Coyne says the practice does a great deal of in-house diagnostics under the philosophy that they can get answers
more quickly, treat pets sooner and keep clients from waiting so long.

Even so, there are often two to six clients waiting in the lobby at any time. Again, Dr. Coyne designed the practice with this in mind, putting an adoption center on prominent display. He has included an adoption center in all of his hospitals since the very beginning, starting with stray animals he would bring in and rehome.

“We just love animals and want to help find every pet a forever home,” he says. Another benefit is that the puppies and kittens on display entertain waiting clients. Dr. Coyne says that 75 percent of the animals adopted from his facilities remain with them as patients. “Our adoptions are priced economically, and this service ties us to the community,” he says. “If you’re going to be in the community, you need to be a functional part of it. Adoptions are a way to show that you’re happy to be there and appreciate the opportunity to serve.”

Coyne Veterinary Center works with more than 75 rescue groups across its nine hospitals. A bonding room was added to this latest facility to allow for meet-and-greets with pets up for adoption.

Menu of services

Restaurants, salons and spas all offer menus, making it easy for a client to know what’s offered. After a number of clients came into Dr. Coyne’s practice asking if he offered specific veterinary services, he decided to create a “menu” of sorts for the practice. “We take it for granted that our practices offer so many services, but clients don’t always know,” he says.

That’s how the signage throughout the hospital came to be. At each area of the hospital, clients can find an accounting of the services provided—just like a menu.

The dvm360 Hospital Design Competition judges applauded the signage, noting the unique way it’s displayed.

Sarah A. Moser is a freelance writer in Lenexa, Kansas.
The adoption center fills several needs, most importantly that of helping pets find forever homes. Dr. Coyne says the area also entertains waiting clients, and gives adoptable pets an entertaining view as well. A bonding room gives potential pet parents a place to get to know pets and make sure the fit is good for each other.

A view of part of the treatment area.

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Are practice teams in balance?

Tucked away among data on revenue and client numbers in the latest Veterinary Hospital Managers Association (VHMA) Insiders’ Insights report were numbers on a hot topic these days: the feelings and well-being of veterinarians and their practice teams.

The monthly report, culled from surveys from managers and practice owners who are VHMA members along with expert advice from Karen Felsted, CPA, MS, DVM, CVPM, CVA, asked, “How are you and your team doing?”

Editor’s note: If you’d like to figure out the problems team members face in their jobs and ways to help them cope with them, visit our relevant content at dvm360.com/life-balance.

What practice managers and practice owners said about themselves and their coworkers ...

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<th>Managers</th>
<th>Their DVM teams</th>
<th>Their support staff</th>
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<td>Happy at work the majority of the time</td>
<td>81%</td>
<td>75%</td>
<td>78%</td>
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<td>Stress level at work that’s easy to manage</td>
<td>53%</td>
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<td>Ample opportunity to do work they enjoy</td>
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<td>Supported at work professionally</td>
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Bipartisan U.S. House bill out of Florida would make animal cruelty a federal offense

Florida lawmakers hope to close loophole making videos—but not torture—a national felony.

U.S. Reps. Vern Buchanan (R-FL) and Ted Deutch (D-FL) on Jan. 23 introduced the Preventing Animal Cruelty and Torture (PACT) Act to outlaw animal cruelty and make it easier to prosecute those responsible, according to a release from Buchanan’s office.

While Congress passed legislation in 2010 to prohibit the creation and distribution of so-called “animal crush videos”—in which individuals kill, mutilate or torture animals and release the videos to the internet—the underlying acts themselves are still legal under federal law, the release states.

The PACT Act would close that loophole. Specifically, it would amend the federal criminal code to prohibit intentional acts of crushing, burning, drowning, suffocating, impaling or otherwise subjecting animals to serious bodily harm. Those convicted would face federal felony charges, fines and up to seven years in prison, the release states.

While all 50 states now consider animal cruelty a felony, a federal regulation is necessary, lawmakers say. “By building on state and local laws, Congress should act to guarantee a level of protection for animals across the country by criminalizing these inhumane acts,” Deutch says in the release about the bill. “We’ve acted in the past to stop the horrific trend of animal abuse videos; now it’s time to make the underlying acts of cruelty a crime as well.”

The bill contains exceptions for normal veterinary care, hunting and conduct necessary to protect life or property from a serious threat caused by an animal, according to the release.

An identical bill passed the Senate during the last session of Congress but failed to move out of committee in the House.
IMPORTANT SAFETY INFORMATION: METACAM (meloxicam oral suspension) and PREVICOX (firocoxib) are for use in dogs only. METACAM (meloxicam) Solution for Injection is approved for use in dogs or cats. Repeated use of meloxicam in cats has been associated with acute renal failure and death. Do not administer additional injectable or oral meloxicam to cats. As a class, cyclooxygenase inhibitory NSAIDs like METACAM and PREVICOX may be associated with gastrointestinal, kidney, or liver side effects. Dogs should be evaluated for pre-existing conditions and currently prescribed medications prior to treatment with METACAM or PREVICOX, then monitored regularly while on therapy. Concurrent use with another NSAID, corticosteroid, or nephrotoxic medication should be avoided or monitored closely.

For more information on products mentioned in this ad, please see full prescribing information.
Embrace Pet Insurance assembles the top five veterinary claims of 2018, with GI topping the charts for dogs and cats. (Ithching to know what’s second…?)

In a list of top five claims for dogs and cats as reported by Embrace Pet Insurance, the most common condition is a gastrointestinal issue. This could include vomiting, diarrhea or constipation. The second most common condition is degenerative or inflammatory joint disease. The third most common condition is dermatological issues. The fourth most common condition is a neoplastic disease and the fifth most common condition is a cardiac issue.

The top five conditions for dogs as reported by Embrace Pet Insurance are:
1. Gastrointestinal issues
2. Degenerative or inflammatory joint disease
3. Dermatological issues
4. Neoplastic disease
5. Cardiac issues

The top five conditions for cats as reported by Embrace Pet Insurance are:
1. Gastrointestinal issues
2. Degenerative or inflammatory joint disease
3. Dermatological issues
4. Urinary tract issues
5. Cardiac issues

These findings are based on claims filed during 2018 and may not reflect the prevalence of diseases in dogs and cats in general. However, they do provide insight into the types of conditions that are most commonly treated by veterinarians and pet owners.

The most common gastrointestinal issues reported by Embrace Pet Insurance include:
- Vomiting
- Diarrhea
- Constipation
- Gastrointestinal ulcers
- Inflammatory bowel disease

The most common degenerative or inflammatory joint diseases reported by Embrace Pet Insurance include:
- Osteoarthritis
- Hip dysplasia
- Elbow dysplasia
- Shoulder dysplasia
- Wobbler syndrome

The most common dermatological issues reported by Embrace Pet Insurance include:
- Allergies
- Atopic dermatitis
- Seborrheic dermatitis
- Pyoderma
- Dermatitis

The most common neoplastic diseases reported by Embrace Pet Insurance include:
- Skin tumors
- Bone tumors
- Soft tissue tumors
- Lymphoma
- Leukemia

The most common cardiac issues reported by Embrace Pet Insurance include:
- Heart failure
- Myocardial infarction
- Arrhythmias
- Pericarditis
- Cardiomyopathy

It is important for pet owners to be aware of these conditions and to consult with their veterinarian if they notice any symptoms in their pet. Early detection and treatment can improve outcomes and quality of life for pets affected by these conditions.
Heartworm 2020 aims to boost the number of protected dogs by 50K

In the wake of a recent report from the American Heartworm Society (AHS) showing a 21 percent rise in heartworm incidence in three years, the maker of Heartgard Plus (ivermectin-pyrantel) has kicked off Heartworm 2020, a campaign designed to increase the number of dogs receiving heartworm prevention in 2019.

Heartworm 2020 challenges each veterinary clinic to add 20 new dogs to year-round heartworm disease prevention by Jan. 1, 2020, according to materials from Boehringer Ingelheim Animal Health, the manufacturer of Heartgard Plus. The program officially kicked off during the VMX conference in Orlando, Florida, in January.

“If every clinic does their part to get 20 new dogs on prevention, that means 583,240 more dogs will be protected from this potentially deadly disease in 2019 than were protected in 2018,” says Sarah Cloud, Heartgard brand director, in a release.

To help clinics meet the goal, the company is providing heartworm disease education tools and incentives for pet owners. Clinics will also receive tracking tools and educational resources for team members. Starting in March, each clinic that participates can enter the Heartworm 2020 contest for a chance to win such prizes as a top-of-the-line washer-dryer set and a Roomba robot vacuum—items that can be used at home or in the clinic—or company representatives told dvm360.

There is still a perception that heartworm disease doesn’t impact certain regions or that dogs are only at risk during summer, and the AHS data indicates that just isn’t the case,” says Zach Mills, DVM, head of US Pet Veterinary Professional Services for Boehringer Ingelheim, in the release.

“Heartworm 2020 will help educate pet owners so that they understand why prevention is so important.”

Details about Heartworm 2020 is available at heartgardclinic.com or from company sales representatives.
Quiz: Caring for you
How well are you taking care of the engine that keeps your patients healthy? (That’s you, by the way.) Test yourself at dvm360.com/selfcarequiz.

Jumpstart your brain:
The fight against decision fatigue

Decision-making shortcuts can ward off mental fatigue in your life and veterinary practice. By Beckie Mossor, RVT

Think about the number of decisions you make in a day. Would you guess it to be in the thousands? If so, you’re like most people, and you’re guessing low. The reality is that the average adult makes an estimated 35,000 decisions a day—more than 200 of those about food alone!

In a society where daily life involves an overwhelming number of choices, decision fatigue is a concept that resonates. It’s also a burgeoning area of psychological research. And as the field emerges, psychologists and scientists are discovering correlations between the number of decisions a person makes and the quality of those decisions. In other words, the more choices you face in a given day, the crappier your decisions turn out to be.

The good news is that you can create habits that reduce the number of decisions you have to make, which conserves your resources for the important stuff. It starts with simple awareness. Let’s take a closer look.

What is decision fatigue, anyway?

Psychology defines decision fatigue as the pattern of deteriorating quality of a person’s decisions after a long session of decision making. When our cognitive resources are exhausted, the quality of our decisions, self-control and task orientation decreases. We can also suffer from decreased self-control, along with a reduced capacity and willingness to perform.

Psychologists and neuroscientists studying the effects of decision making on the brain and body are examining everything from fine-motor skills and math abilities to food choices, figuring out how decision fatigue can deplete mental stamina.

To snooze or not to snooze?

Decision fatigue is the worst when we have too many decisions to make in a short amount of time. That said, decision fatigue affects individuals differently, and other factors like sleep, nutrition and stress also help determine our mental stamina.

Experts don’t clearly understand how much a single decision contributes to fatigue, but there’s some evidence that larger and more important decisions take the greatest toll. Therefore, the “cost” (monetary, emotional or otherwise) of a decision may influence the amount of fatigue imposed on the brain. An even more direct correlation exists between the number of decisions made in a period of time. When buying a car, people are more likely to choose the default options package if they’re asked to make this decision at the end of the purchasing process rather than the beginning, showing less engagement and more reliance on decision shortcuts.

Our daily decisions begin as early as whether to snooze the alarm clock. Then it’s on to what to wear, what to eat, is there time to do dishes before leaving, what’s the best route to work today—all before leaving the house. Next we face an onslaught of decisions at work, we’re bombarded with product choices from countless retailers,
and we fill the gaps with social media: Do I keep scrolling? Do I give that a like or a love? Which game should I play on the subway home? By the end of the day, it’s easy to see how we’ve made more than 35,000 decisions.

Decision fatigue takes some unique forms in the veterinary profession. From the front desk to the very back of the hospital, decisions drive our daily flow and success in practice. There’s no shortage of decisions to make—whether it’s prioritization of tasks and clients or determining the best equipment for the job, next task on our list or optimal path to the desired outcome.

Even after we’ve made a decision, we tend to overanalyze the outcome, contributing further to our fatigue level. When we give additional mental energy to a decision we’ve already made, we draw energy from our stamina for future decisions.

**Facing the consequences of decision fatigue**

Decision fatigue may mean we order pizza instead of preparing a healthy dinner or spend too much money shopping online when we get home from work. Manufacturers and marketing experts have even learned to capitalize on our decision fatigue. Using online tools can reduce many unnecessary decisions. Grocery shopping online reduces split-second decisions (and unnecessary purchases) by eliminating browsing through the grocery store. Purchase just what’s needed and save time by not having to shop. Use navigation tools like Waze to eliminate decisions about traffic. By eliminating unnecessary errands, apps like these reduce mental expenditure.

**Make decisions ahead of time for mental peace**

Fortunately, there are a number of simple steps we can all take to decrease the number of choices we have to make and increase our available mental resources for the day’s most important decisions.

1. **Eliminate unnecessary decisions.** Steve Jobs, Barack Obama, Mark Zuckerberg and countless other successful individuals wore some version of the same outfit every day. This is simply to eliminate the decision about what to wear. If a workplace requires uniforms, there’s one less decision to make. Even if our veterinary clinic doesn’t have uniforms, we can “assign” ourselves a set of scrubs for each day or pick a weekly wardrobe (and remember to change every week!).
2. **Plan your meals.** Determining what to eat and when can eliminate a large portion of the 200-plus food choices we make in a day. That’s a lot of mental reserves! There are many great meal planning apps, books, menus and meal-delivery services. Use these tools to cut down on decisions about what to eat.
3. **Take advantage of technology.** Using online tools can reduce many unnecessary decisions. Grocery shopping online reduces split-second decisions (and unnecessary purchases) by eliminating browsing through the grocery store. Purchase just what’s needed and save time by not having to shop. Use navigation tools like Waze to eliminate decisions about traffic. By eliminating unnecessary errands, apps like these reduce mental expenditure.

**Stick to your decisions.** Once you’ve made a decision, stick to it whenever possible. You’ll be helping to train your brain that once it’s done it’s done, which will strengthen your ability to move forward mentally and not second-guess yourself, which drains capacity.

4. **Prioritize self-care.** The truth is, you can’t pour from an empty cup. Rest and rejuvenation just are not optional—you must prioritize them. Good nutrition and mental rest through meditation practice are two ways you can help to build your ability to mentally override racing thoughts, decreasing your mental depletion.

There will always be decisions to make, unexpected priorities and the need to change. But understanding the toll of unnecessary mental strain can help create awareness. Finding areas to decrease decision making will boost our ability to make quality decisions throughout the day, stay on track with decisions and self-control, and increase personal care. When we create self-determined decisions, a cycle of positive momentum begins.

Beckie Mossor, RVT, is the director of operations at 3K9 Working Dogs, which trains eligible canines to work in service, therapy, conservation and search and rescue programs.

**References**

This is the moment you’ve planned for—it’s time to, for example, integrate a shiny, new radiography unit into your veterinary practice. Whether you’re finally making the switch from film to digital, or upgrading your existing digital unit, you’re getting ready to make a decision that will have a sizable impact on your team. And the last thing you want to do is throw a major investment against the wall to see if it sticks.

It’s no surprise that the main deciding factor for this purchase centers on capturing the revenue. Formulas are everywhere online to help advise you on calculating your ROI. I think that’s the easy part: fee setting, schmee setting. The way I see it, you can only price out your services within the limit of your market and demographic. To practice owners and administrators, the “value” of a cool new radiography unit means enhancing patient care, paying it off in a reasonable amount of time and adding to the bottom line. Value, however, means something different to everyone, and “everyone” includes the members of your team. So, before you embark on a number-crunching journey, it’s in your best interest to diagnose the value of our new radiography unit to your team.

Teams, not fees, make equipment successful

If you want to make the most of a new purchase, you want your practice team on board and using it to its full potential. Here are my three steps to think about to get there. By Angelina Morgan, CVPM

**Step 1. Engage the people who are going to use it**
They’re on the frontline using the new equipment, and they’re the best people to help you identify obstacles that could stand in the way of success. Start with your doctors. Their input and buy-in for pricing strategies and protocols are the most influential. Without their buy-in and their understanding of any new protocol changes, you risk implementing something that the doctors feel they need to create work-arounds for.

Give your veterinary technicians and assistants a voice in the planning phase. Ask them to highlight features they feel will help them provide the best patient care while considering their skills and contribution.

And what about the front desk? Is your reception team a part of capturing charges and making sure services rendered are accounted for?

Do you have inventory, maintenance or janitorial staff who will be essential in overall care of your new equipment?
Don’t leave any position in your practice out of this exciting new enhancement! Once you’ve gathered the pertinent information to spark excitement throughout your practice, you’re ready to hold a company meeting to announce all the ways you’ve listened to what they have to say. One way to engage a team is to ask for, listen to and validate their needs and concerns.

**Step 2. Communicate the ‘why’ to your team to avoid people assuming things**

It’s a given that you’re not going to be able to address 100 percent of everyone’s concerns or ideas. But it doesn’t mean you have to lose buy-in. This is where you want to be transparent and provide the reasons behind the final decisions. Be sure to connect how the new protocols and charges will provide sustainable growth for the practice overall. This could be the possibility of future equipment, increasing staff numbers, bonus structures or educational opportunities.

If you don’t clearly communicate the hospital’s “why,” team members will need to draw their own conclusions. If you don’t clearly communicate the hospital’s “why,” team members will need to draw their own conclusions. And veterinary practice team members tend to be really imaginative when left to their own assumptions, so think smarter and stay in front of them.

If you find that the best decisions for the success of your new unit don’t fall in line with some team members’ strong opinions, it may be in your benefit to meet with those people individually for a more direct conversation. Make sure they know the non-negotiables and what impact they have for the practice while still keeping your lines of communication open.

**Step 3. Empower the team to use the new equipment in every way possible**

How many times have you seen a passionate technicians learn new information regarding a medication and turn that new knowledge into confidence? Knowledge, passion and confidence combined create an unflappable sense of empowerment.

In this empowerment stage, you can keep your employees engaged by fully comparing and contrasting the old unit’s features to the new unit’s features. Get creative with them and make their learning fun. Invite a radiologist to present an on-site lunch-and-learn to provide applicable skills in real time. Fully understanding the new equipment will help the team develop their own “why” as they see the enhancements they’re bringing to patient diagnostics. Employees understanding the “why” feel more empowered to educate their clients, resulting in higher client compliance.

Yes, you’ve got to figure out what to charge for your services to make sure a new piece of equipment makes financial sense. But it doesn’t matter how strategically you price your services if your team can’t communicate the value to your clients. Before you overemphasize the numbers, take time to engage, communicate and empower.

The 2018 dvm360/VHMA Practice Manager of the Year, Angelina Morgan, CVPM, is hospital administrator at Pet+ERs two locations in Towson and Columbia, Maryland.
We no longer live in a time when the health professions and environmental sciences can function as separate entities. People, animals and plants constitute a single interdependent, global ecosystem. Biological threats—naturally occurring, accidental and deliberate—are among the most serious dangers facing the nation and the world.\textsuperscript{1} Approximately 75 percent of emerging infectious diseases in humans are zoonotic, and most have wildlife reservoirs, yet the human and animal health professions as well as the environmental sciences remain uncoordinated. Veterinary medicine is largely overlooked in human health, as is evident from the small numbers of veterinarians employed in the global health sector.\textsuperscript{2} There is a critical need for veterinarians with a deep understanding of transdisciplinary, multispecies medicine that is not being achieved with the traditional system of veterinary education.\textsuperscript{3} Given the fact that approximately 70 percent of U.S. veterinary graduates enter clinical practice, veterinary education is designed predominantly around individual animal medicine, especially companion animals.\textsuperscript{3} In the over-crowded curriculum, there is no room for in-depth One Health education. The academic institutions need to find new ways of thinking about One Health and devising workable solutions. The academic institutions need to find new ways of thinking about One Health and devising workable solutions. The academic institutions need to find new ways of thinking about One Health and devising workable solutions. The academic institutions need to find new ways of thinking about One Health and devising workable solutions. The academic institutions need to find new ways of thinking about One Health and devising workable solutions. The academic institutions need to find new ways of thinking about One Health and devising workable solutions.
they can create educational programs that will produce a cadre of veterinarians thoroughly educated and trained for leadership roles in ecological health sciences and who will advance the role of veterinary medicine in global society.

The White House announced in September a new national biodefense strategy4 that includes “advancing and sustaining a highly skilled public and veterinary health workforce” as well as “promoting global health security and trans-disciplinary collaboration.” It’s not clear when this initiative will begin and whether changes to veterinary education are intended. However, the program offers the likelihood of our profession having a larger footprint in the global health arena and offers justification and possible funding for the educational initiatives we’re suggesting.

We believe that One Health education in the veterinary curriculum should be two-tiered, with those who will work at the frontiers of ecological medicine receiving a specialized education, while the majority are educated generally:

**General:** Integrate One Health principles into all four years of veterinary education, thus ensuring that all graduates understand the connection between the practice of veterinary medicine and environmental health, regardless of their career focus. This goal can be reached through minor changes in the veterinary curriculum.

**Specific:** Provide advanced education and training in interdisciplinary environmental health sciences to a chosen subset of veterinary students. This cannot be done using the traditional all-purpose model of veterinary education—only through curricular differentiation (i.e. tracking).3,5

**Proposed One Health track**

After completing years one and two of the standard veterinary curriculum, select students would be enrolled in a three-year DVM-MS One Health program (see figure on page 34). Selection criteria and enrollment numbers would be the prerogative of each college. (Interest in careers other than private practice seems to be growing,5 so colleges should target these students.)

Year three of the DVM-MS program would cover advanced multispecies, multidiscipline clinical courses required for the DVM degree, plus elective courses in environmental health.

Year four would entail a 12-month nonthesis master’s degree program in One Health, incorporating such areas as human and comparative medicine, environmental sciences, animal conservation, epidemiology, disease ecology, microbiology, toxicology, zoonoses and emerging infections, agroterrorism, food safety and security, and sociology. The year would be taught jointly by veterinary college faculty, medical school faculty, environmental scientists and conservation biologists, as appropriate.

Year five of the DVM-MS program would be a year of core and elective rotations in medicine and surgery required for the DVM degree. Some segments would be located at the veterinary teaching hospital, while others would be extramural, including environmental health locations. This arrangement would permit the establishment of standardized, constantly rotating externships. Every student should undertake at least one major international assignment.

In some instances, it may be possible to award academic credit for students’
The degree must be worth it

The combined DVM-MS degree in One Health would provide significant advantages for veterinary graduates to enter directly into the public sector. Nevertheless, the extra time and money are considerable. An important benefit of this model is that the MS degree is earned in just one year, compared to an independent master’s degree that typically would take two years to complete.

Another cost-saving measure would be to cut preveterinary education from four years to two years. In addition, students could undertake up to six months’ paid employment during the summer months between academic years one and two, and two and three.

Participating colleges could offer student stipends, tuition waivers and travel allowances using income derived from grants and philanthropic endowments. Where possible, student awards could be structured so they’re matched, in cash or in kind, by extramural host organizations. An excellent strategy would be to form a consortium of veterinary colleges, medical schools and environmental science departments that would create a fully integrated One Health curriculum and secure multiple resources and opportunities beyond what any institution could achieve individually. Participants would be true partners rather than competitors.

An important role of academia is to offer continuing education and training to practicing veterinarians. Thus, the veterinary colleges should:

* Give occasional seminars in One Health to local veterinary associations.
* Provide certificate-granting extended education for veterinarians wishing to explore new career opportunities in population health sciences.
* Permit veterinarians who are able to invest the time and expense to enroll in Year 4 of the dual-degree program and earn the MS degree in One Health.

It would be essential for each participating college to appoint an experienced faculty member as leader of its One Health education initiatives. Success would depend on exceptional interinstitutional and interpersonal trust and cooperation.

A ‘new medicine’

Veterinary medicine is justifiably proud of its history of providing excellent service to society. However, the profession clings relentlessly to its past successes, even amidst compelling evidence of the need to change. There is little sense of urgency, which is why the profession continues to talk about One Health instead of practicing it. Change takes more than good intentions. If our socioeconomic environment is holding us back, we must do everything within our power to change it. If we cannot change the environment, we need to change ourselves. This is not without risk. Even when it is for the better, radical change is always accompanied by temporary loss of security. The profession’s future depends on closing the gap between what we are and what we could become. Veterinary medicine has barely scratched the surface of its One Health potential.

During the past half century, the veterinary profession has advanced in two remarkable ways. One is the immense growth in our understanding of health and disease—what we call medicine. The other is our recognition of the interdependence of human, animal and environmental biology—what we call One Health. That’s a “new medicine” in the making, but one slow to develop, having been achieved in varying degrees at only a few academic institutions.1,2,3 The veterinary colleges have a duty to produce appropriate numbers of veterinary graduates with the qualifications needed to fill the many roles for veterinarians in society, including One Health/ecological medicine. It is conceivable that this field could eventually develop into a veterinary specialty college.4 And it is possible for veterinary medicine to lead the medical world in this endeavor if it chooses to do so.5

The curriculum we have described is not the only possible representation of multidisciplinary health education, but to succeed, unwavering support from leaders of the AVMA, AAVMC and other governing bodies will be essential. The future success of veterinary medicine depends on all of us.

> “It is no use saying, ‘We are doing our best. You have got to succeed in doing what is necessary.’” —Winston Churchill

### References


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### An important benefit of this DVM-MS model is that the MS degree is earned in just one year. Another cost-saving measure would be to cut preveterinary education from four years to two years.

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**S1 | S2**

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<tr>
<th>DVM-MS (OH) Degrees Awarded</th>
<th>DVM-MS (OH)</th>
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<tr>
<td>Year 1 (9 months)</td>
<td>Biomedical sciences and pathobiology</td>
<td>Biomedical sciences and pathobiology</td>
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<tr>
<td>Year 2 (9 months)</td>
<td>Clinical skills and population; Health sciences</td>
<td>Integrated human, animal and environmental health sciences</td>
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<tr>
<td>Year 3 (9 months)</td>
<td>Year 4 (12 months)</td>
<td>Year 5 (12 months)</td>
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<tr>
<td>Biomedical sciences and pathobiology</td>
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**KEY:**

* S1, S2 = Summer sessions
* OH = One Health
Signs of chronic pain can appear to be cognitive dysfunction

This veterinarian likes the acronym DISHAA shared for signs of cognitive dysfunction in pets, but he also wants everyone to realize how similar those signs are to those of chronic pain.

**DISHAA:**

**D** - Disorientation

**I** - Interactions

**S** - Sleep-wake cycle

**H** - House soiling

**A** - Activity level

**A** - Anxiety level

I found the article by Julie Albright, MA, DVM, DACVB, “The Winter Years: Managing pets with cognitive dysfunction” (December 2018), very informative and helpful. As I read through the explanation of the DISHAA acronym, which was initially created by Gary Landsberg, DVM, DACVB, DECAWBM (companion animals), it made me realize how similar signs of cognitive issues are to chronic pain issues.

- **Disorientation** is sometimes seen in dogs that’ve had long-standing pain issues, where the pain occupies their thoughts in every waking moment.
- **Interactions** such as disinterest in games and social times are also diminished as the pet has to deal with chronic pain.
- **Sleep-wake cycle** can be secondary to finding a comfortable position to sleep in, as any of us with an acute or chronic pain condition can attest to.
- **House soiling** can occur as cats and dogs have trouble finding their owners to let them know they need to go out (in the case of dogs) and get to the litter box (in the case of cats).
- **Activity level changes** for obvious pain-related problems with ambulation.
- **Anxiety level changes** as pets find themselves less able to join in on social interactions, use stairs, walk across slippery surfaces and so on.

The DISHAA acronym is great, but let’s always keep chronic pain in the back of our minds as a possible contributor to these signs.

— Michael Petty, DVM, CVBP, CVMA, CCRT, CAAPM, Arbor Pointe Veterinary Hospital, Canton, Michigan
Shutting down angry tirades at work

If casual comments offend someone in the workplace—even if they’re made in jest—steps need to be taken.

Hayes Animal Care Clinic has grown a lot, now employing six veterinarians and a large support staff. This increase in staff has come with a shift in dynamics. The team of veterinarians comprises four younger women and two older men, which is reflective of most veterinary facilities since the profession is now made up mostly of women.

In addition, behavior that was appropriate in the past is no longer acceptable: inappropriate “water cooler comments” and covert workplace romances. These practices were never admirable, but they happened.

Dr. Sam Kind has worked at Hayes Animal Care for 25 years. Despite his clinical expertise, his social skills remain lackluster. Over the years, when he has made inappropriate comments, staff have shrugged it off, saying, “That’s just Dr. Kind being Dr. Kind.” Not this time.

During a break at the clinic, Dr. Kind decides to regale the staff with his thoughts about political activists. He says that if he were ever threatened in the clinic by what he calls “extremists,” he would bring in his gun and let them know where he stands. While the majority of the staff know Dr. Kind as a gentle man who blusters frequently, two of the newer, younger staff members don’t. Shortly after the incident, the two team members express that Dr. Kind’s gun comments have created a hostile work environment. These issues are brought to the attention of Dr. Hayes, the clinic owner.

Dr. Hayes meets with Dr. Kind to discuss the incident. Dr. Hayes, who has been a longtime colleague and friend of Dr. Kind’s, states that as the owner of the clinic he is obligated to discuss the accusations with him. Dr. Kind is immediately defensive. He wants to know who made these accusations. He says his comments were clearly in jest.

Due to privacy issues, Dr. Hayes can’t reveal the names of the team members. He expresses his belief that the comments were tongue-in-cheek, as Dr. Kind claimed. Nevertheless, he continues, any discussion in the workplace that creates an uncomfortable or threatening environment isn’t tolerable.

Dr. Kind stomps out of the meeting. In the weeks that follow, it becomes clear that Dr. Kind now resents his coworkers. In addition, he repeatedly questions the staff about who complained so he can “put them at ease.” As a result, Dr. Hayes has another conversation with his friend and colleague. He tells Dr. Kind that this workplace transgression is not the end of the world. He advises Dr. Kind to note it, avoid such rhetoric in the future and put it behind him. Unfortunately, Dr. Kind can’t do it. After 25 years of practice at the Hayes Animal Care Clinic, he announces his retirement.

Dr. Hayes doesn’t discourage him. He sees this as an example of an old dog who can’t learn (or accept) new tricks. Dr. Hayes knows the workplace is changing, and he thinks a more tolerant, sensitive approach to workplace behavior is a good thing, not a burden.

Do you agree with Dr. Hayes or were Dr. Kind’s comments taken too seriously? Let us know at dvmnews@ubm.com.

Dr. Rosenberg’s response

Workplace behavior has changed. Some critique the newfound emphasis on political correctness, claiming it removes the personal touch and fun from the workplace, but I disagree. Everyone in our field should be able to go to work feeling comfortable and safe while caring for patients. Not everyone enjoys off-color jokes and risqué remarks. I’m not saying these things need to be totally eliminated, but offensive rhetoric shouldn’t be allowed. I hope Dr. Hayes and Dr. Kind can continue to be friends.

Dr. Marc Rosenberg is director of the Voorhees Veterinary Center in Voorhees, N.J. Although many of his scenarios in “The Dilemma” are based on real-life events, the veterinary practices, doctors and employees described are fictional.
Service dogs’ benefits transcend physical assistance to help with emotions, study finds

Purdue veterinary researchers document service dogs’ impact on psychosocial health of both recipients as well as their family members.  

By Theresa L. Entriken, DVM, Kristi Reimer Fender

The Purdue University College of Veterinary Medicine presented research findings recently indicating that service dogs may have measurable effects on the psychosocial health of people with physical disabili-
ties or chronic conditions.

The study, funded by Elanco Animal Health, used standardized measures to examine the relationship between the human-animal bond and psycho-
social outcomes among people with service dogs. Results were published in the January 2019 issue of Disability Health, used standardized measures to examine the relationship between the human-animal bond and psycho-
social outcomes among people with service dogs. Results were published in the January 2019 issue of Disability Health. Results showed that before acquiring a service dog, 22% of recipients anticipated that public education/ awareness about service dogs and their rights related to access would be a drawback, but that after acquiring a service dog, 44% of recipients report-
ed this as a drawback.

O’Haire admitted that some of the results were surprising, such as the absence of a measurable benefit for social companionship associated with owning a service dog. But the fact that results were not positive across the board was evidence of the study’s reliability, she said. “If we had seen a correlation in every category, we might have suspected our study design,” she said.

Caregivers in the households of the people served by the dogs were also part of the study, and their results reflected the same effects—they reported the same benefits—so that public education and access, lifestyle adjustments, and dog care and behavior. Results showed that before acquiring a service dog, 22% of recipients anticipated that public education/ awareness about service dogs and their rights related to access would be a drawback, but that after acquiring a service dog, 44% of recipients reported this as a drawback.

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What **mediation** means for contracts

Why does my employment contract want me to waive my right to jury trial, and what does it mean for me as an associate?

You’ve been working at a nice multidoctor veterinary practice for the last five years and you really like it. The owner is an older gentleman but still sharp, and he keeps up with the latest developments in the field. One morning, he introduces you to the transition staff from PVP (Perfect Veterinary Practitioners, LLC), which, you learn, now owns the clinic.

The new management team explains to you that you’ll be asked to sign a new employment contract that is the same, or even a little bit better, than the one you had with your old boss. You decide to give PVP the benefit of the doubt, and you head home to read over the new contract.

The document seems pretty much as advertised. You find a couple of points you want to clarify with the new corporate owners, but aside from that, you’re pretty happy.

But wait! What’s this? There’s one sentence you find extremely concerning. And why is it written in boldface, large font and italics? It says this: “By signing this agreement, you acknowledge that disputes hereunder will be resolved by arbitration and you hereby waive your right to a jury trial.”

The hair on the back of your neck is at attention. You think, “OK, so this big company is giving me an extra day of CE and a small bump in pay, but in exchange they want me to relinquish my constitutional rights? No way!”

**Don’t just quit**

Before you decide to reject an otherwise acceptable employment offer from any potential employer, private or corporate, let’s go over some fundamental facts about jurisdiction and waiver language in veterinary employment contracts.

First, recognize that I have used the

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LETTER OF THE LAW | Christopher J. Allen, DVM, JD
above “corporate” example because, at least currently, associate candidates are far more likely to find a jury trial waiver or a mandatory arbitration clause (or both) in a contract proposed by a corporate hospital chain than one presented by a private partnership.

This isn’t because consolidators are trying to pull a fast one. It’s probably because corporations are more acutely aware of how the legal process operates. So, what do they know that the average veterinarian doesn’t?

**Realities of litigation**

There are only a few issues that are likely to generate a trial-worthy dispute between an associate veterinarian and her employer. At the top of the list is noncompetition language. One side says it’s enforceable; the other says it’s overly burdensome.

The second issue is the dispute over compensation. For example, Dr. A is discharged without notice, and PVP says the firing was for cause, so Dr. A isentitled to any severance. Dr. A says there was no cause, so she wants the 90 days’ severance as called for in the contract. Amount in controversy? Twenty-five percent of a year’s pay (say, about $30,000). Not consequential. But not exactly a double homicide.

**Does a jury trial sound like fun?**

An aggrieved associate under contract, or her aggrieved employer, may decide to head to court over one of these two common disputes. Dr. A will likely pay hundreds of dollars per hour to engage a litigation attorney. PVP will spend a lot too, either for outside litigation counsel or perhaps for in-house counsel hourly pay.

Many motions and discovery sessions are scheduled as the case grinds its way forward. If the case is to be tried by a judge, it’s very time-consuming. If one of the parties demands a jury be selected, the cost may be more than double.

Meanwhile, how does all this look from the associate’s perspective? In the case of the noncompete, she probably won’t be able to take a job within the contractually proscribed noncompete region until the case is first approved by a judge to go on the trial calendar and then works its way to the top of that calendar.

And don’t forget: That same court likely hears not only contract disputes, but also cases about assault, murder, drug, conspiracy fraud and other criminal matters. And those cases are subject to the constitutional requirement of a “speedy trial.” So PVP and Dr. A just wait in line.

**So, what exactly is PVP asking?**

Some employment contracts include a simple jury trial waiver. This means that a dispute under the employment contract would be heard by a judge. This waiver can be a disadvantage to either party in a noncompetition dispute. Judges in these cases have a great deal of discretion, and one man’s reasonable noncompete might be five miles while another man’s reasonable noncompete might be eight. A given judge may be a great believer in employees’ rights. But she might also believe that when a person signs an agreement, they should abide by it.

In summary, trials are expensive and take a long time. And neither judges nor juries can be counted on to look favorably on you as “that poor, innocent young DVM who was bamboozled into signing a contract she didn’t understand.” So in our example above, PVP has proposed a potentially mutually beneficial alternative.

**Alternate dispute resolution**

Arbitration is a well-established system for resolving disagreements between parties without the costs in time and money associated with litigation. And the process isn’t just used for “little cases”—it shows up in disputes involving publicly traded corporations and even foreign corporations and individuals.

An arbitration is carried out by an arbitrator who is usually selected by the parties involved. The selected person is usually an attorney, and he or she is required to follow strict guidelines with respect to fairness, impartiality and fiduciary duty.

The established rules of evidence existing in the jurisdiction where the arbitration is carried out may be more or less followed, but there is more latitude in arbitration than under the rules of evidence in either a state or federal venue.

**Courts may still be involved**

Even in employment disputes within the framework of a veterinary employment agreement, a judge is sometimes involved. This occurs most commonly in two instances.

First, the parties may not be able to agree on an arbitrator. In that instance, a judge may become involved in appointing a person to fill this role.

Second—and this is most common in the noncompetition contract language realm—the employer may have included language in the associate’s contract providing that it retains the right to go to a judge for a temporary restraining order (TRO) to prevent an associate from continuing to violate a noncompetition or nonsolicitation term in the agreement.

After issuance of the requested TRO, the final resolution as to whether the associate is or is not in violation of an enforceable noncompetition would be up to an arbitrator.

**What’s up with all the bold type?**

Arbitration certainly has its place in resolution of legal disputes. It can save potential litigants, and the court system, a great deal of time and money.

But be aware: Agreeing to give up an important legal right such as a judge or a jury trial of your rights is a big deal. Anybody thinking of signing away the right should carefully consider in light of the anticipated expense as well as any tactical disadvantage such a waiver might involve.

However, at the same time, consider the worst of all possible worlds: I recently was involved in a noncompete lawsuit in New York that would have involved a jury—except that the judge was so busy and his calendar so backed up that he demanded the parties hold settlement conferences before he would allow the case to go on the trial calendar.

This amounted to the most expensive version of mandatory arbitration on the market today, since the attorneys had no arbitrator and were being paid by the hour to battle.

Dr. Christopher Allen is president of Associates in Veterinary Law PC, which provides legal and consulting services to veterinarians. Call (607) 754-1510 or e-mail info@veterinarylaw.com.
CAUTION: Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian.

INDICATIONS: For use in dogs to prevent canine heartworm disease by eliminating the tissue stage of heartworm larvae D. immitis. For the treatment and control of intestinal nematodes (Dirofilaria immitis, Toxocara canis, Toxascaris leonina) and hookworms (Enterobius vermicularis, Necator Americanus, Ancylostoma braziliense).

DOSAGE: HEARTGARD Plus (ivermectin/pyrantel) should be administered at monthly intervals at or before the recommended minimum time post-infection for a month (30 days) after infection and, as a result, prevent the development of the adult stage. HEARTGARD Plus is efficacious in the prevention of heartworm disease in dogs when administered according to the package directions. Heartworm disease prevention programs should be initiated a minimum of a month (30 days) after infection with Dirofilaria immitis. Clients should be advised of measures to be taken to prevent reinfection with heartworms.

CAUTION: HEARTGARD Plus is contraindicated for dogs 6 weeks of age or older for dogs over 100 lb or for the appropriate combination of these chemicals.

ADMINISTRATION: Remove only one chewable at a time from the foil-backed blister card. Return the card with the remaining chewables to its box to protect the product from light. Because heartworms are transmitted by biting flies, the treatment should be administered to ensure that the dog is treated for heartworms. Dogs that are treated with HEARTGARD Plus, pyrantel the product can be offered to the dog by hand. Alternatively, it may be added to a small amount of dog food. The chewable should be administered in a manner that encourages the dog to chew, rather than to swallow without chewing. Chewables may be broken into pieces and fed to dogs that normally swallow treats whole.

Care should be taken that the dog consumes the complete dose, and treated animals should be observed for a few minutes after administration to ensure that the part of the dose is not lost or rejected. If it is suspected that any of the dose has been lost, withholding of the dose is recommended.

HEARTGARD Plus should be given at monthly intervals during the period of the year when mosquitoes (flying, potentially carrying infectious heartworm larvae) are active. The initial dose must be given within a month (30 days) after the dog’s first exposure to mosquitoes. The final dose must be given within a month (30 days) after the dog’s last exposure to mosquitoes.

When replacing another heartworm preventive product in a heartworm preventive program, the first dose of HEARTGARD Plus must be given within a month (30 days) of the last dose of the former medication.

If the interval between doses exceeds a month (30 days) or there is no adult heartworm prevention for a month (30 days) after infection and, as a result, prevent the development of the adult stage. HEARTGARD Plus should be used for heartworm prevention in dogs that are not on a heartworm prevention program at the time of the last dose of the former medication.

When initiating a program with HEARTGARD Plus and of the recommended dosage regimen. The following adverse reactions have been reported following the use of HEARTGARD:

- Depression/lethargy, vomiting, anorexia, diarrhea, mydriasis, ataxia, staggering, convulsions and hypersalivation.
- In clinical field trials with HEARTGARD Plus, vomiting or diarrhea within 24 hours of dosing was rarely observed (1.1% of administered doses).

- The dose regimens of HEARTGARD Plus and HEARTGARD are the same with regard to ivermectin (6 mcg/kg).

- The administration of HEARTGARD Plus to its box to protect the product from light. Because most dogs find HEARTGARD Plus palatable, the product can be given by hand. Alternatively, it may be added to a small amount of dog food. The chewable should be administered in a manner that encourages the dog to chew, rather than to swallow without chewing. Chewables may be broken into pieces and fed to dogs that normally swallow treats whole.

Keep this and all drugs out of the reach of children.

In case of ingestion by humans, clients should be advised to contact a physician immediately. Physicians may contact a Poison Control Center for advice concerning causes of ingestion by humans.

Some between 78% - 79% (20° C - 25° C). Exposure between 88° F - 107° F (31° C - 42° C) is not recommended. Protect product from light.

ADVERSE REACTIONS: In clinical field trials with HEARTGARD Plus, vomiting or diarrhea within 24 hours of dosing was rarely observed (1.1% of administered doses). The following adverse reactions have been reported following the use of HEARTGARD: Depression/lack of activity, vomiting, anorexia, diarrhea, mydriasis, ataxia, staggering, convulsions and hypersalivation.

- The problem with advising and “helping” others is that when someone takes our advice, they can be more of an ego boost and less an altruistic act. We can start to believe we’re the best and smartest at ... well, everything!

- We'll, I did it again. I found myself voluntering unsolicited advice to my son. You know, those times when you hear yourself say to a child, “You should...” or “If it was up to me...”

- Unfortunately, he knows I have a history of this, and he can say to himself, “There he goes again! Perhaps you’ve had a similar experience. Perhaps you know something about the issue at hand that another doesn’t know. After all, you just want to help!”

- Most of us like helping other people. We all love giving advice. Please understand, I mean well. We realize we all mean well when we give advice. We all like to think someone we know solved their problem because of our advice. We want to be perceived as wise and we like to impart our wisdom. But don’t equate advice with wisdom. Don’t fall into the trap of thinking that your advice is wisdom.

- Don’t think of advice shared as an altruistic act. We can start to believe that as a certain world leader says, “We’re the best and smartest at ... well, everything!”

- And it was 6th-century BCE Chinese philosopher Confucius who told us long ago, “If you’re the smartest

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<th>Dog Weight</th>
<th>Chewable Per Month</th>
<th>Ivermectin Content</th>
<th>Pyrantel Content</th>
<th>Color Coding for Backing and Carton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 25 lb</td>
<td>1</td>
<td>88 mcg</td>
<td>57 mg</td>
<td>Blue</td>
</tr>
<tr>
<td>26 to 50 lb</td>
<td>2</td>
<td>136 mcg</td>
<td>114 mg</td>
<td>Green</td>
</tr>
<tr>
<td>51 to 100 lb</td>
<td>1</td>
<td>272 mcg</td>
<td>227 mg</td>
<td>Brown</td>
</tr>
</tbody>
</table>

If you like telling friends, family and colleagues what to do—and as a smart, solution-driven veterinary professional, you just might—it’s time to ask whether it’s what people you care about actually want or need in conversations with you.
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person in the room, then you’re in the wrong room.”

A friend once told me, “People don’t ask for advice because they want advice. They want affirmation for what they’ve already decided.” In fact, much advice is useless at best and destructive at worst. By trying to be smart, we can create more damage. Lord of the Rings author J.R.R. Tolkien said, “Advice is a dangerous gift, even from the wise to the wise, and all courses may run ill.” In other words, things can go from bad to worse.

I know better, but I’m particularly bad about foisting my advice on people I really care about like family and friends. “You should do this.” “Have you tried that?” But misguided, particularly unsolicited, advice rarely adds much to the solution. Sometimes the best advice you can give is not providing any at all. But it isn’t that easy, is it? Listening and empathizing with the other person and emphasizing understanding can be more helpful than advice.

Advice only works in one case: when someone asks for it—and even then not so much. While they might need help or even guidance, it doesn’t mean they want our input right then. Sometimes people want to talk, not listen. Talking leads to self-reflection and gives people a chance to develop their own wisdom in time.

It doesn’t mean that wisdom is not a goal to be pursued, but as Carole King said in her 1971 song, “It’s going to take some time.”

Dr. Paul is the former executive director of the Companion Animal Parasite Council and a former president of the American Animal Hospital Association. He is currently the principal of MAGPIE Veterinary Consulting. He is retired from veterinary practice and lives in Anguilla, British West Indies.

Are you giving advice or leading your team?

Management involves making things happen. It refers to planning and implementation in order to build ideas into realities. The role of the leader is more ethereal: to inspire, motivate and create.

The core of management is stability-focused and directive in nature—it focuses on telling people what to do. A leader must inspire and convince people that following his or her leadership will result in everyone achieving their goal. While managers often take credit for successes of their team and place blame for shortcomings, a leader gives credit and accepts blame as part of the team.

The goal is to have the people you’re leading want what you want. How do you do that? If you’re lucky, you can use your natural charm and powers of persuasion, but not all leaders are inherently charismatic. You do have to be good with people—not by trying to build friendships, as a manager might do, but by developing a high “emotional quotient” level and cultivating sensitivity to others. These things come more naturally to some than to others, but they can all be learned.

While managers are often risk-averse—after all, risk makes their job harder—leaders are risk seekers. As leaders we frequently have to walk on thin ice—thoughtfully, carefully, but without fear. Again, sometimes our personal makeup in terms of risk tolerance plays a part in our suitability to be leaders but, as with people skills, the ability to wisely seek risk is a skill that can be cultivated.

One of the best books on leadership I have read is On Becoming a Leader by Warren Bennis. Even if you are an associate, read this and other resources and push yourself to lead. Your time will come.
The first 3 minutes: Recognizing a horse in shock

Use a stepwise triage exam and cardiovascular smarts to guide treatment. By Jennifer Gaumnitz

When you first approach a horse that may be in shock, “You’re asking yourself, ‘Is this patient cardiovascularly stable? Do I need to do something to keep it alive until I can figure out what’s going on?’” says Jarred Williams, DVM, PhD, DACVS, DACVCECC, a clinical assistant professor in Large Animal Emergency Medicine at the University of Georgia College of Veterinary Medicine. In his recent Fetch dvm360 conference session, Dr. Williams shared his strategy for identifying a horse in shock and ways to differentiate the types of shock, based on where the problem is in the horse’s cardiovascular circuit.

The definition of shock

When a horse is in shock, the bottom line is that its tissues are not being perfused adequately. Dr. Williams says, “The important thing about blood not getting where it needs to go is that red cells saturated with oxygen are also not getting there.” Although cells can survive without oxygen for some time through anaerobic metabolism, it comes down to the balance between how much ATP the cell is making versus how much ATP the cell is using. Dr. Williams says, “Technically speaking, shock is all about the ATP.” He acknowledges that you can’t say to clients, “I don’t think your horse’s cells are producing enough ATP!” Instead, you can say, “I don’t think blood flow is going where it needs to go well enough.”

Dr. Williams explains that a cell can make a ton of ATP, but without oxygen it can only make a little bit (32 to 36 ATP with aerobic metabolism versus approximately 4 ATP with anaerobic metabolism—remember studying the Krebs cycle in biochemistry class?). In a sick animal, you might have decreased oxygen delivery (DO2). The horse might be dull, depressed, barely moving, so its oxygen utilization (VO2) is also reduced. What’s important is the ratio of DO2 to VO2, Dr. Williams says.

“It’s like your bank account—it doesn’t really matter how much money you make,” he says. “It’s how much money is in your account at the end of the month. If you make $1 million a month, but spend $2 million a month, you’re going to be in the red quick. If you make $10, but don’t spend any of it, you’re going to stay in the black. All we really care about is that the DO2 stays above the VO2 in any scenario. If that happens, you’re normolactemic and likely perfusing adequately.

“The bottom line is when you’re not perfusing adequately, then your VO2 can exceed your DO2, and your cell needs may not being met,” Dr. Williams says. “That’s a state that you cannot survive for a prolonged period.”

The 3-minute triage

Dr. Williams says that when you perform your initial triage examination of a sick patient, you’re figuring out whether the horse is unstable and, if so, how you’re going to stabilize it (see the figure above). When a horse is not cardiovascularly stable, it needs to be stabilized before you can proceed with any other treatment. You need to quickly determine why it’s unstable, so you can determine the best way to stabilize it.

“Some treatments for shock would be the exact opposite treatment for other types of shock,” Dr. Williams says. “So, knowing what type of shock has occurred is vital.” Once the horse is stabilized, you can proceed and figure out what’s actually occurring with the horse to put it in that state in the first place.

Dr. Williams says one helpful part of the triage examination is looking at mentation: “When the horse walks through the door, does it seem mentally appropriate? Is it dull or depressed? Does it seem ataxic because of a primary neurologic problem, or is it ataxic out of weakness? Watching the horse walk in and seeing its demeanor, trying to extrapolate about blood flow to the brain is important.”

Dr. Williams says you may have learned to do triage examinations differently, but he always starts at the head: “I feel the ears and assess the horse’s peripheral temperature in relation to its core. I look at the eyes—are they sunken? I look at the gums, pick up the lips, check the capillary refill time (CRT). I feel under the horse’s face for a pulse. I’ll check the jugular refill time and listen to the heart for any arrhythmias. Does it sound muffled? Then I’ll work my way further down. I’ll feel the distal limbs for coolness. I typically listen to the GI tract because I’m right there, even though that’s not really part of a triage exam. Then I listen to the lungs and take a core temperature.”

Exploring the circuit

As you know, the cardiovascular system creates a closed circuit (see the figure on page 44). Blood leaves the right heart, goes to the lungs, picks up oxygen and goes back to the left heart. The left heart’s whole job is to send oxygenated blood to the tissues. After oxygen is delivered, deoxygenated blood goes back to the heart. Dr. Williams says, with different types of shock, there’s a problem somewhere in this circuit with the pump, the tubing or the fluid.

The pump

“Everything starts with the heart because that’s the pump,” says Dr. Williams. However, there’s not that much the heart can do to help perfusion. It can speed up or slow down; it can beat harder or slower (contractility); and it can help contribute to the amount of volume that comes out of it.

“That’s all the heart can control,” he says. “The heart is beholden to the volume that’s coming to it and the pressure it is beating against. The main aspects the heart can control are rate and contractility.”

The amount of blood that leaves the heart with one beat is the stroke volume. Cardiac output is how much blood leaves the heart in 1 minute. A normal horse’s cardiac output is 32 to 40 liters/minute.

“That’s an insane volume going through in a minute!” Dr. Williams says. “That’s a testament to how big the equine heart is.” And, if 32 to 40 liters are leaving the heart every minute, that means 32 to 40 liters are being delivered to the tissues every minute, as long as the circuit is closed. And three things determine stroke volume (how much blood leaves the heart with each beat): preload, afterload and contractility.
**Preload** is how much volume is coming into the heart. “You may not consciously think that you’re giving intravenous fluids because you want to affect preload, but that is what you’re doing—increasing the volume of fluid coming to the heart,” says Dr. Williams.

Afterload is the pressure against which the heart is beating. “Don’t view it as a load or volume that’s coming back after the beat,” he says. “Think about it as the pressure against which the heart is beating. It’s not truly a pressure, but decreasing afterload means that the heart can pump blood more easily. Increasing afterload means the heart is pumping against something and it’s more difficult for blood to leave the heart.” Less blood is going to leave the heart the more constricted large arteries after the heart are. Drugs that cause dilation can help reduce afterload.

Contractility is how hard the heart beats, which can increase or decrease. “When I exercise and feel my heart beating through my chest, that’s my body trying to increase stroke volume, so it can increase cardiac output, so I deliver oxygen better,” says Dr. Williams.

**The tubing**

“Shock is not just about the heart,” says Dr. Williams, “and actually, in horses, it’s rarely about the heart. We infrequently have cardiac problems in horses.” So, if it’s not the pump, you could have an issue with the tubing, he says.

There can be any sort of dysfunction in the arteries, which have muscular control and can constrict and dilate, and in the veins. If blood vessels aren’t doing their job, blood will only be delivered as far as the heart can pump it. “So you have pressure that leaves the heart and then tubing that takes the blood where it needs to be,” Dr. Williams explains.

**The fluid**

Fluid can be an issue too. “The vast majority of shocky animals you see are going to have hypovolemia, a loss of volume,” he says. “A loss of volume equals decreased stroke volume—decreased stroke volume because of decreased preload and decreased perfusion.”

Occasionally there’s adequate delivery of oxygen to the cells but the cells aren’t functioning correctly. Dr. Williams says that happens now and then with certain endotoxemia problems or ischemia-reperfusion injury leading to cellular dysfunction or “metabolic problems.”

Now, back to the triage exam: “With your triage exam, you’re really just asking, ‘Where on this circuit is the problem?’ There is a hierarchy of tissues needing perfusion: the most important are the brain, heart, and lungs; next is the kidneys; then the gastrointestinal tract and enterohepatic system; and then the periphery.

“It would make no sense to have abnormalities in the cardiovascular circuit and not try to steal blood from an area that doesn’t matter as much,” he says. “So, cold periphery, delayed CRT, that’s telling you that you might have an issue with circulation to places that matter.”

**The types of shock**

Dr. Williams says that if you understand the circuit, it’s easy to remember the types of shock: distributive, hypovolemic, obstructive, cardiogenic and metabolic/hypoxic.

Distributive shock is a tubing problem. “If the muscles in the arteries don’t constrict and dilate, blood is pumping into an open, floppy bag of a vessel,” he says. “The blood only goes as far as the heart can pump.” This shock occurs in cases of sepsis and SIRS (systemic inflammatory response syndrome) and in severe hypotensive patients.

Hypovolemic shock is a fluid problem. There’s not enough volume in the tubing. It’s the most common type of shock, and it can occur with dehydration. With hemorrhagic hypovolemia, there’s an open circuit, and the patient is losing blood somewhere.

Obstructive shock occurs when the circuit is obstructed. The obstruction can be intravascular or extravascular.

“You could have an obstruction within the vessels, a massive occlusion in a major vessel—like the vena cava,” he says. The circuit stops because of this intravascular obstruction.

An example of an extravascular obstruction is a colon that is enlarged by gas that pushes the abdominal wall out. “If you do a rectal exam, the colon is pushed back in the pelvic inlet. It pushes against the diaphragm and the patient has difficulty breathing. With enough pressure, the vena cava may be occluded, which decreases the return to the heart. Preload will drop, and you will have obstructive shock,” he explains. In dogs, this would be a gastric dilatation volvulus. Dr. Williams says that in horses you can see this with some pregnancies or with ascites.

Cardiogenic shock is a pump problem. This occurs mainly with congestive heart failure or a heart attack.

Metabolic or hypoxic shock is an oxygen problem. There are two forms of hypoxic shock—hypoxicemic and cytopathic. With hypoxicemic shock, desaturated blood failing to becoming saturated for some reason—whether that’s because of lung disease, altitude or shunting. “Everything is circulating just fine, but the body is delivering red cells that aren’t carrying much oxygen,” says Dr. Williams.

With cytopathic shock, there is cellular dysfunction: “This is the worst because the triage exam is going to look relatively normal,” he says. “They’re not hypovolemic. The tubing is fine, the heart is working. They’re delivering the oxygen to the cell, but the cell is not working. That’s a horrible problem.”

This happens with ischemia-reperfusion injury. “You cut off blood supply, protein gets denatured, and cell walls get broken,” he says. “Then when you get blood flow back, the cell doesn’t know what to do with it because the organelles are broken.”

Still, in all scenarios, regardless of why you have poor perfusion, the relationship between DO2 and VO2 is the key. “In equine patients, the DO2 is almost always lower than VO2 because of poor oxygen delivery,” he says. “It’s not usually because of increased oxygen utilization, at least not in sick patients.”

Sick animals try to decrease VO2 by not moving, Dr. Williams says: “That’s why animals with colitis, enteritis or pneumonia are lethargic. They don’t
have energy. They’re doing everything they can to send oxygenated blood to the vital organs to stay alive. That’s why the exam shows cold extremities and abnormal mucous membranes.

“What’s difficult is that sometimes the cardiovascular compensation for decreased stroke volume or decreased cardiac output—the increased heart rate—is sufficient,” he says. “The animal might be persistently tachycardic, not because of pain, but because that’s compensation. And you might be fooled and think it doesn’t look like it’s in shock.”

Dr. Williams believes that lactate concentration is one of the more valuable pieces of bloodwork: “As far as the quick, ‘Can I take a deep breath on this case?’ or ‘OMG, we need to do more!’ … lactate helps me more than anything outside of the physical examination.”

One way to confirm that a horse is not perfusing tissues adequately is to determine whether it’s hyperlactatemic. (Normal lactate concentration for a horse is less than 2 mmol/L.)

“When you’re hyperlactatemic, that’s the body tweeting that VO2 is higher than DO2,” Dr. Williams says. “When DO2 is higher than VO2, you’re in aerobic metabolism, and your cell will not create lactate—it doesn’t need to. However, when VO2 is higher than DO2, when you’re not perfusing adequately, you will go into anaerobic metabolism.”

Lactate is a byproduct of anaerobic metabolism. Therefore, identifying hyperlactatemia signals that the anaerobic process is happening: “When you see increased lactate, the cell is demonstrating that VO2 is winning, and DO2 is losing. This could be due to decreased DO2, as in most sick patients, or it can be due to increased VO2.” (Dr. Jarred Williams’ advice? Carry a lactometer.)

Summary
When you do your triage exam, you’re quickly ascertaining, “Do I think this horse is in shock?” The answer to this question may prompt referral or point to steps needed to stabilize the horse.

“It’s your quick examination that is so telling,” Dr. Williams says. “For me it’s the cold periphery, the delayed CRT and the delayed jugular refill—there’s not many reasons for that to happen.”

Once you recognize shock, you need to identify the type of shock. You need to know why the DO2 is decreased to know how to increase it.

In the field, treatment for shock is usually going to be fluid therapy, unless you’ve identified that it’s a heart problem and the horse should not be given fluids. Dr. Williams advises keeping catheters and hypertonic saline solution in your practice truck.

“When you identify shock and that it’s not cardiogenic, you can hang a liter of hypertonic saline solution while you do the rest of your exam,” he says. “That alone is going to help tremendously.”

The time it takes (45 minutes) to place a catheter and get fluids infusing gives you time to explain to owners: “This is what I think is going on, and we’re more stable than an hour ago.”

Dr. Williams says, at that time, you should be in a much better place to either refer the horse or move forward with diagnosis and treatment of the underlying problem.

Jarred Williams, DVM, PhD, DACVS, DACVECC, is a clinical assistant professor in Large Animal Emergency Medicine at the University of Georgia College of Veterinary Medicine. His clinical interests include surgery, gastrointestinal disease, trauma and emergency and critical care. His research interests include biomechanics.

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Be a better biller

Step No. 1 for equine veterinarians? Don’t bill in the first place. (But if you do, I’ve got advice for that too.)

By Kyle Palmer, CVT

For most equine practitioners, the further they get from providing direct care to patients, the less excited they get about their day. While that sentiment is understandable, there are a few nonmedical things that need to be a priority, and collecting payment for services rendered is at the top of that list. In a perfect world, it’d be as easy as handing the client a bill, receiving payment and zipping off to the next appointment. You and I know it’s not often that easy.

Choose a good policy—and stick with it

Before we get into the ways that clients try to dodge payment and how to avoid them, let’s start with the obvious. A client can’t hand you a check, cash or credit card if they’re not present during the appointment. With large boarding barns, training and breeding operations, the client may be in another town, another state or another country.

When scheduling the appointment, always ask if the owner will be present, and if not, who will be on hand to represent them. Find out who will be responsible for paying for the services and get a contact number if the horse owner is absent.

If you’re dealing with an absentee owner situation, make sure before you visit to render services that you’ve contacted them and required a credit card in advance. And don’t get your payment backwards: Yes, you can let them know the amount once it’s been charged, but don’t agree to provide the amount and wait for approval to run the card—you might not hear back in a timely manner and you’ll be on the hook waiting for payment.

It goes without saying that avoiding a “billing” policy in the first place is a terrific goal, but that may not be possible depending on your practice, so fighting each day to avoid billing on a case-by-case basis is vital. Mike Stewart, DVM at Silver Creek Equine in Silverton, Oregon, refers to it as being “coin operated,” and that’s a good philosophy to strive for.

Allowing clients to bill for services means that most of them will put you in the category of a “pay when we can” expense, meaning that they pay their mortgage, their auto loan, their credit card statement and probably almost everything else before they get around to paying you. Thirty days becomes 60 days, and eventually 90 days for some clients, and all of the sudden you’re carrying a lot of debt on the books.

Generally, some practices have a policy of asking each client if they’ll be paying with cash, check, credit or debit card when they schedule an appointment (or for a brick-and-mortar location, when they’re checked in upon arrival). While some staff may find this question uncomfortable, it shows that you expect to be paid at the time of service and it doesn’t run the risk of just singling out clients who’ve given you trouble in the past.

Asking this question of everyone also gives you a bit of leverage at the end.
of the appointment as clients can’t say they weren’t prepared to pay on-site. As is the case with most things, communication is crucial.

Better communication is cash in the bank
Here’s the groundwork for payment with every appointment: Always provide an estimate, always answer questions about fees when scheduling the appointment, and always provide an itemized invoice at the end of appointments. Having clients who expect and understand the fees plays a role in collecting payment. Assistants are great for this. The tail end of many equine appointments is a conversation about your findings and next steps, but before that conversation starts, let the client know you’re getting the charges ready (or your assistant is).

Mobile veterinarians who try to fit too many appointments throughout the day can be guilty of feeling that it’s easier to just send a bill and get on the road to the next stop than wait for the client to go get a checkbook/wallet. Skipping payment during visits may seem better, but that’s just appearances. No revenue is more predictable than what you’ve already generated, and the longer you let a client wait to pay, the less likely it is you’ll get paid.

Explain fees and answering questions about fees also allows for clients to send a spouse, child or any other party into the house or car to grab that checkbook/wallet while they engage in the post-exam discussion, which will get you back on the road sooner.

Pick your (payment) poison
Be ready at every appointment, every time to take payment. With mobile merchant processing technology around today, there’s no excuse for a practitioner not being able to swipe and take a card in the field (other than a lack of cellular service). Swipe and chip readers also prevent the hand recording, or imprinting, of a carboned credit card slip. Leaving the visit with a fully recorded credit or debit card number on file, along with an expiration date and security code, is a major liability for you as a business owner. Frankly, given the present threat of identity theft and hacking, I’m surprised clients are willing to provide you their information in that format. Moving away from merchant processing, some clients still want to pay with cash, and accordingly, you need to keep a small till available to make change.

Offering clients the choice between cash, check or credit/debit card is important, but don’t lose sight of the potential impact of each form of payment. Credit and debit card processing isn’t free—you can assume you’ll lose roughly 2 percent of revenue collected in that fashion via processing fees and the occasional chargeback. The risks of accepting checks are well known, and you’ll have to budget some amount of expected loss due to non-sufficient funds (NSF) or closed accounts. You’ll often recover most or all of these fees, but not without some time and trouble on your part. Finally, given the cost of merchant processing and the risk of accepting checks, it would seem that a perfect world would include a cash-only clientele. However, most banks have a cap on the amount of cash that can be deposited in a given month. Regardless of your policies, the cost of doing business has to include some of these items or you’re in for a big surprise down the line.

Getting paid after the fact
Even if you do everything perfectly, you’re likely to wind up with some accounts that are past due. Be aggressive, because they become exponentially harder to collect as time goes on.

First, create a payment policy if you don’t have one, and post it where everyone can see it (your reception area, your truck, your website): “We expect payment at the time of services.” Second, create an internal credit policy that establishes a schedule and strategy for responding to clients who owe you money. That second policy should remain internal, because clients who see it will think charging is acceptable.

Include details on your internal credit policy with any billing statement at the beginning of the month that’s 30 days past the first statement on a specific bill. The letter should outline your “payment at the time of service” policy as well as the steps that will be taken to collect the debt, requesting that they contact you right away to resolve it.

Keep it simple and friendly—these are still your clients after all, and at this stage, it may have just been an oversight. That said, I would add a $10 late fee at that time. If the bill hasn’t been paid at the next 30-day billing interval (and the client hasn’t phoned you as directed to resolve the matter), send another slightly different letter requesting that full payment be made immediately. This letter should be sharper in tone and once again should outline the steps that will take to collect the debt. This might include suspension of services, termination as a client or advancement to your next-level collections department (which may be outsourced). The second letter should come with an additional late fee of $10 attached.

If a client still hasn’t paid or phoned to make arrangements by the next 30-day interval (now a 90-day delinquent debt), it’s time to move to the next step, which should be a 14-day collection notice, an additional higher fee—try $50—and transfer to an aggressive stage of “in-house” collection that includes weekly calling. At this point, all services should be suspended and the client should be referred to an outside collection agency.

Collection agencies will be the first to tell you that the late fees and fee for transfer to in-house collections may not be something they can make stick. That’s perfectly fine—up until that point, use the late fees and other fees as leverage to incentivize the client to call and pay. Once you advance to the collections stage, make sure whoever is communicating with the client is aware of the debt-collecting guidelines that are applicable.

Collecting money is not a fun job, which makes avoiding owed debt in the first place so vital. When it does happen though, assign it to a great staff member who understands the law and turn them loose. Diligence and regular contact is the best way to collect old debt. Diligence and good communication is the best way to avoid it in the first place.

Kyle Palmer, CVT, is a Firstline Editorial Advisory Board member and the hospital administrator at Lake Grove Veterinary Clinic in Lake Oswego, Oregon.

Practice hacks
Don’t get payment twisted
Yes, you can call or email a horse owner off-site with the amount once you’ve charged it for services rendered, but don’t agree to provide the amount and wait for approval to run the card—you might not hear back in a timely manner and you’ll be on the hook waiting for payment.

Wait for payment … right now
Veterinarians who try to fit in too many appointments throughout the day can be guilty of feeling that it’s easier to just send a bill and get on the road to the next stop than wait for a client to get a checkbook/wallet. No revenue is more predictable than that which you’ve already generated, and the longer you allow a client to wait to pay, the less likely it is that you’ll get paid.

Don’t let pay get in the way
To facilitate payment, know the pros and cons of cash, personal check, credit card and debit card, and make sure you’re letting clients pay in the way they want.

Incentivize payment
Add a $10 late fee with the next statement at least 30 days after the first statement.
early a decade ago, the USDA approached the American Horse Council (AHC) with a question: If we have a disaster-level equine disease outbreak, what are you folks going to do about it?

The result was the creation of the National Equine Health Plan (NEHP), a document emphasizing the responsibilities of veterinarians, horse owners, regulatory officials and others in preventing and mitigating disease outbreaks. But the plan wasn’t finalized until 2017, and it took the cooperation and leadership of a number of key individuals to make it a reality.

Early development
Early on in the development process, USDA equine representatives and individuals at the AHC created a draft of the plan. Its stated mission was to protect the health and welfare of horses in the United States by describing the roles and responsibilities of the equine industry, the federal government, state equine health officials, veterinarians and the U.S. diagnostic laboratory networks. “The initial effort was to lay out all the stakeholders’ responsibilities so we all knew where we stood,” says Cliff Williamson, director of health and regulatory affairs for the AHC.

In 2011, a group met several times to begin, but they struggled to make things work. “Unfortunately, the initial drafts never hit the mark,” notes Williamson. “They were either too comprehensive or not comprehensive enough, too technical or not technical enough.”

Nat White, DVM, MS, DACVS, professor emeritus of equine surgery at the Virginia-Maryland College of Veterinary Medicine, echoes these thoughts. “The initial description of the plan was not acceptable,” he says. “It was not going to serve its purpose as a resource for everyone in the horse industry.”

When the initial work on the NEHP stalled, the AAEP set up a task force to evaluate biosecurity and communications in the plan. As a result, Williamson was recruited to draft the plan, the Equine Disease Communication Center (EDCC) was created as a communication hub for the process, and Dr. White assumed the role of EDCC director.

“White, with his longstanding AAEP leadership, stepped up and took it upon himself to lead the initiative of putting all the segments of the NEHP together,” Williamson says. He and Dr. White, along with Rory Carolyn, DVM, of the USDA, met and finally wrote the National Equine Health Plan as published in 2017. Contributing important input were individuals from the USDA, state animal health departments, the AAEP and the equine industry.
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“The National Equine Health Plan is a resource that veterinarians can use to educate their clients and for owners to use as a resource,” Dr. White adds.

Protecting the horse herd

The goal of the NEHP is to help decrease the risk of disease spread throughout the U.S. horse population. The EDCC is NEHP’s communication outlet, also providing administrative oversight and leadership.

According to the EDCC, the horse industry is unique because horses are transported with great frequency and over great distances. Interstate, intrastate and international transport of horses is common—hundreds of thousands of horses are routinely transported to shows and other competitions, to racetracks, to other farms for breeding and training, and to veterinary clinics for treatment.

This extensive movement of horses makes it essential that veterinarians and owners know how to prevent and mitigate disease outbreaks, whether they occur at the home stable or in new and stressful environments. It’s critical that veterinarians know what resources are available to help during disease outbreaks—which is where the NEHP comes in. According to Dr. White, the plan was purposefully kept as concise as possible, especially the roles and responsibilities of the various stakeholders, so the information would be easily accessible and relevant in a crisis.

How it all fits together

Here’s how the NEHP system works:

The AHC serves as the umbrella organization responsible for the leadership, fundraising and governmental relations for the EDCC, the communication arm of the NEHP. The AAEP Foundation serves as EDCC’s “bank,” so tax-deductible donations can be used directly to support the EDCC. The AAEP also provides office staff space and HR resources for the EDCC. The United States Equestrian Federation supports IT and is the home for the EDCC website.

The purpose of the EDCC is to get disease information out as soon as possible to the veterinary community and to horse owners to curtail health outbreaks and limit disease spread. Once the disease is under control, veterinarians, horse owners and other industry stakeholders can proceed with business as usual without fear of further disease spread or morbidity. This helps protect the horse economy.

For equine practitioners, a full exploration of the entire NEHP and the breadth of the roles of responsibilities for veterinarians—along with those of other major equine stakeholders—are available from the EDCC at equinediseasecc.org/national-equine-health-plan.

Ed Kane, PhD, is a researcher and consultant in animal nutrition. He is an author and editor on nutrition, physiology and veterinary medicine with a background in horses, pets and livestock.

Key NEHP goals

- Protect the health and welfare of horses in the U.S. and North America.
- Facilitate continued interstate and intrastate movement as well as international movement of horses safely without jeopardy of disease.
- Educate members of the equine industry on how to prevent and control disease during equine events and in the case of natural disaster.
- Ensure the availability of diagnostic testing and inspection information, which provides a way to rapidly disseminate accurate information about disease outbreaks.
- Provide guidelines for control, identification and containment of equine diseases.
- Educate owners and the equine industry on disease identification and prevention.

DVM responsibilities

Here are the specific roles and responsibilities for veterinarians in several categories:

Disease prevention

- Maintain knowledge of all aspects of equine disease prevention, monitoring, containment, mitigation, biosecurity and business continuity.
- Help educate horse owners and the industry about diseases and biosecurity.
- Promote disease prevention to horse owners.
- Assist horse owners and event organizers in developing disease prevention and disease control plans.
- Utilize cleaning and disinfection strategies between client horse visits.
- Maintain proper horse disease records in an electronically searchable format.
- Recommend isolation and diagnostic testing of all sick individual equines.
- Encourage appropriate vaccinations for the prevention of equine diseases.

Disease surveillance and monitoring

- Monitor equine disease prevalence and risk factors within the geographic area.
- Perform diagnostics to assess clinical situation.
- Monitor effectiveness of preventive and therapeutic measures.
- Identify and report suspected cases of reportable diseases to authorities.
- Understand the critical role private practitioners play in the National Comprehensive Equine Disease Surveillance System, which reports to veterinary diagnostic labs, academic institutions and other equine clinics.
- Deal with outbreak response, containment and mitigation.
- Report suspected reportable diseases to the appropriate animal health officials.
- Work with state animal health officials to monitor equine disease outbreaks.
- Direct stakeholders to sources of information and education, including the EDCC.
- At the request of state and federal officials, provide assistance during an equine disease response.
- Maintain a situational awareness of equine disease incidents and provide timely and accurate disease information updates to clients and to the EDCC.

Biosecurity

- Promote biosecurity to prevent infectious diseases.
- Recommend and initiate biosecurity during outbreaks.
- Conduct biosecurity risk assessments and develop a plan for facilities prior to an outbreak and a plan for horse gatherings.
- Educate horse owners and the equine industry about infectious diseases, prevention and biosecurity.

Diagnoses

- Work with diagnostic laboratories to ensure proper testing and sampling procedures.
- Collect and send samples from diseased animals.
- Report outcomes regarding cause of clinical presentations and determine if additional diagnostic testing is necessary to definitively diagnose a disease.

Epidemiology

- Provide pertinent equine disease data to epidemiologists.
- Assist in gathering such data during a disease outbreak.

Business continuity

- Maintain a working partnership with regulatory officials and stakeholders in the equine industry to develop disease response plans, paying particular attention to business continuity.

Drugs and vaccines

- Ensure the appropriate uses of antimicrobials, drugs and medicines to treat appropriate equine illnesses and injuries.

Funding needs

- Identify equine industry research needs and support funding of the EDCC.
VMX highlights: Vet product and company updates

The Orlando, Florida, conference formerly known as NAVC kicks off the new year for many in the animal health world. By Kristi Reimer Fender

While there didn’t seem to be as many new products and services launched at VMX 2019 as in previous years, the companies serving the veterinary market were still on hand to discuss their initiatives and efforts in the year ahead. Here are some highlights the dvm360 team picked up during the conference.

**Adequan Canine**

While not a new product, Adequan Canine (polysulfated glycosaminoglycan) has come back under the umbrella of its manufacturer, American Regent (formerly Luitpold), after a number of years when it was marketed and sold by other companies—first Novartis, then Elanco. Adequan is an FDA-approved injectable, disease-modifying osteoarthritis (OA) drug that inhibits the enzymes that break down cartilage in joints. American Regent plans to shine a spotlight on canine OA this year, especially multi-modal management strategies.

**Blue Buffalo**

Blue Buffalo has soft-launched a new therapeutic diet: Blue Natural Veterinary Diet GI Low Fat. The diet features readily digestible proteins, carbohydrates and fats, and its low fat level makes it well-suited for dogs with digestive difficulties, according to Blue Buffalo. It’s also an option for acute diarrhea scenarios, when dogs need a mild food as they restabilize. Prebiotic fibers help balance and support gut health, company reps say.

In other Blue Buffalo news, the company has built a new manufacturing and R&D plant in Richmond, Indiana. With this facility joining the plant in Joplin, Missouri, Blue Buffalo will now be producing the majority of its food in house, representatives say.

**Bridge Club**

In honor of the one-year anniversary of the Bridge Club, a video-based community where veterinary professionals periodically gather to discuss industry hot topics, the founders have brought the annual membership rate down from $95 to $20.19 (for 2019—get it?). While participation in video conversations is free, membership allows users to access archived content. Topics on the docket for 2019 include Cushing’s disease, the Veterinary Nurse Initiative, the associate veterinarian shortage, and more.

**Zoetis**

While all’s mostly quiet on the diagnostics front as the Abaxis portfolio gets integrated, Zoetis in the meantime is emphasizing how its derm lineup can be used along the diagnostic path. Here’s how it works, they say: First you have to stop the itch—use Apoquel. Next look at parasites—that’s where Simparica comes in. Next address any infection—use Convenia. If the pet is still itchy, do a food trial for four to eight weeks. And finally, if there are still issues and you diagnose the patient with atopic dermatitis, that’s a job for Cytopoint. Zoetis is also focusing on felines this year with the launch of Revolution Plus (a topical combo of selamectin and selo- laner) and continuing its support of Pups4Patriots (veterans with PTSD) and K9 Courage (veterinary care for retired military and police dogs).

**IDEXX**

If you’re like us, you started to hear about Ivan Zak, DVM, creator of the Smart Flow patient management system, more and more often during the last few years. Well, IDEXX was hearing the same things, and the company scooped up Dr. Zak and made him general manager of its practice software division. Basically, Dr. Zak is hoping to fix every inefficiency a veterinary hospital can dream up. In his work as a consultant and working directly in practices, Dr. Zak noticed the same patterns of frustration across hospitals worldwide, and he’s trying to address them through Smart Flow, through his work with IDEXX and in getting useful apps and gadgets to integrate with what he’s built. “The future of technology is connectivity, not products,” he told the dvm360.
VMX: Laundry, loyalty and more

You have problems. And exhibit halls have solutions. Let's look at tackling dirty towels, jaded clients and the future of imaging.

**VMX show floor in January?**

Veterinary conference exhibit halls make strange bedfellows sometimes (hand lotions and therapy lasers?), so why not do the same thing right here with three new (or new to us) products and services we saw on the VMX show floor in January?

**The laundry quandary**

If you buy a consumer-grade washer and dryer from Home Depot or Lowe’s, your fraying towels and heavily soiled fabrics and round-the-clock loads will kill those machines. The good news? They’re relatively cheap. Place and replace replace ...

The rep with Continental at VMX said she understands the pain, and Continental has choices (no, that machine at right is not a Continental model).

Choice 1? A commercial-grade LG washer unit that will get the job done, lasting three years or so in the $3,000 range—good. Choice 2? A $6,000 commercial-grade washer unit with a five-year warranty and expected to last 15 to 20 years, even with brutal veterinary practice conditions—better. She also pitched that this monster special block of concrete to hold it during its fairly wicked cleaning vibrations. There’s no such thing as a guarantee in life, but it’s heartening to us at dvm360 that maybe there is a better way to run the laundry in back of house.

**Looking at loyalty**

One of the newest additions to the veterinary practice conditions—better. She also pitched that this monster special block of concrete to hold it during its fairly wicked cleaning vibrations. There’s no such thing as a guarantee in life, but it’s heartening to us at dvm360 that maybe there is a better way to run the laundry in back of house.

The Trupanion folks talked to us about their Trupanion Express Partner Program, where any veterinary practice that downloads the software gets a dedicated account manager to trouble-shoot and answer questions.

What is Trupanion Express, you ask? A software application that integrates with veterinary practice management software to enable direct-pay, meaning the pet owner is not out of pocket on the portion of the transaction covered by pet insurance, and the veterinarian gets paid almost immediately (usually within five minutes if everything gets entered right). Trupanion is also a major supporter of MightyVet, an industry initiative supporting well-being of the profession, with plans for webinars and symposia to happen throughout 2019.

**Covetrus**

Remember when Henry Schein Animal Health and Vets First Choice said they were going to merge and be called Vets First Corp.? Scratch that. Just before VMX, the two companies announced that the new standalone public company would, in fact, be called Covetrus. The new business will bring products, services and technology solutions together into a single platform, the company says—pharmaceuticals, tools to manage finances and client communications, and support to identify and fill gaps in care. Expect to hear more from Covetrus soon!

Henry Schein Animal Health booth (see part of the new company Covetrus, see above) is the smartphone “customer engagement platform” for pet owners, Petlocity.

The app effectively gamifies pet care with a loyalty program that lets pet owner rack up points and get a virtual pat on the back for doing right by their pet while you market medically necessary services your practice is looking to promote. (Double points to clients for dentals this month? You got it!) The app’s message center manages appointments, reminders, refill requests and other notifications and rewards.

The Petlocity rep’s official line is that veterinary clients using Petlocity spent twice as much, visited twice as often and returned to redeem those rewards within 60 days.

**Is the veterinary CT market heating up?**

We’re gonna plead our ignorance right now: Most of you have digital radiography, and those who don’t will get it soon. (I mean, film, really?) But, to be honest, we don’t know how hot the market is in veterinary practices for a CT scanner. We’re looking to find out, but we can say that every major exhibit hall from VMX to Fetch dvm360 has at least one (and often several) equipment manufacturers and licensees selling this next wave of veterinary medical technology.

Consider that a CT scanner can run about $250,000, and you have to wonder how many of these machines each community needs and how often you’ll do CT scans if you got one.

All that said, a CT unit from MyVet Imaging is on the way, promising human-grade images using human hospital’s “slice,” which we’re told is better than the “cone” (like radiography), creating a less “contrast-y image.” This unit will be fully commercially available by Q3 2019, and the rep says it’ll be priced under other manufacturers’ devices. His hope? General practices who shied away from the high price tag and the sense that only specialty hospitals needed a machine like this will consider it.

Does this signal CT’s closer entry into general practice, in hospitals of 15 to 20 instead of hospitals of 50 to 60? Time will tell. Who’s going first?
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## CALENDAR

**For a full listing of events in 2019, visit dvm360.com/calendar**

### Here are the CE opportunities coming in the next few months

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<th>Month</th>
<th>Event Description</th>
<th>Location</th>
<th>Date</th>
<th>Contact Information</th>
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<tr>
<td>March 15-17</td>
<td>28th Annual Food Animal Conference</td>
<td>Columbus, AL</td>
<td>(334) 603-6227</td>
<td>alvma.com</td>
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<tr>
<td>March 19</td>
<td>Updates in Soft Tissue Surgery and Behavior</td>
<td>Whistler, British Columbia</td>
<td>(888) 488-3882</td>
<td>vetvacation.com</td>
</tr>
<tr>
<td>March 27</td>
<td>How to Improve Business Outcomes Through Workplace</td>
<td>New Orleans, LA</td>
<td>(931) 438-0238</td>
<td>aav.org</td>
</tr>
<tr>
<td>March 29-31</td>
<td>The American Laser Study Club 2nd Annual Symposium</td>
<td>Phoenix, AZ</td>
<td>(866) 589-2722</td>
<td>americanlaser-study.org</td>
</tr>
<tr>
<td>April 4-6</td>
<td>Insight through Interaction: 2019 VHMA Management Exchange</td>
<td>Indianapolis, IN</td>
<td>(215) 746-2421</td>
<td>vhma.org</td>
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<tr>
<td>April 25-28</td>
<td>Uncharted Veterinary Conference</td>
<td>Greensville, SC</td>
<td>(800) 255-6864</td>
<td>unchartedvet.com</td>
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<tr>
<td>April 26-27</td>
<td>Internal Medicine Challenges for Advanced Practitioners (Equine)</td>
<td>Dover, NH</td>
<td>(888) 488-3882</td>
<td>vetpd.com</td>
</tr>
<tr>
<td>April 28-May 2</td>
<td>ICARE 2019 Int’l Conference on Avian, Repertological and Exotic Mammal Medicine</td>
<td>London, UK</td>
<td>+44 0 207 808 5650</td>
<td>icare2019.eu</td>
</tr>
<tr>
<td>May 2-5</td>
<td>Fetch dvm360 in Baltimore</td>
<td>Baltimore, MD</td>
<td>(800) 255-6864</td>
<td>fetchdvm360.com</td>
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<tr>
<td>May 14-16</td>
<td>Updates in Ophthalmology and Cardiology</td>
<td>Savannah, GA</td>
<td>(888) 488-3882</td>
<td>vetvacation.com</td>
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<tr>
<td>June 6-8</td>
<td>2019 ACVIM Forum</td>
<td>Phoenix, AZ</td>
<td>(303) 231-9933</td>
<td>avcim.org</td>
</tr>
<tr>
<td>June 17-19</td>
<td>Updates in Neurology &amp; Emergency Critical Care</td>
<td>Whitefish, MT</td>
<td>(888) 488-3882</td>
<td>vetvacation.com</td>
</tr>
<tr>
<td>July 10-12</td>
<td>Updates in Dermatology, Anesthesia and Emergency Critical Care</td>
<td>Vancouver, BC</td>
<td>(250) 661-2000</td>
<td>thesvconline.com</td>
</tr>
<tr>
<td>August 23-26</td>
<td>Fetch dvm360 in Kansas City</td>
<td>Kansas City, MO</td>
<td>(800) 255-6864</td>
<td>fetchdvm360.com</td>
</tr>
<tr>
<td>August 25</td>
<td>Southern Veterinary Conference</td>
<td>Birmingham, AL</td>
<td>(205) 655-2320</td>
<td>thesvconline.com</td>
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<tr>
<td>August 26-27</td>
<td>AVMA Convention</td>
<td>Washington, DC</td>
<td>(202) 629-3717</td>
<td>avma.org/examples</td>
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<tr>
<td>September 26-29</td>
<td>Southwest Veterinary Symposium</td>
<td>San Antonio, TX</td>
<td>(972) 664-9800</td>
<td>svws.org</td>
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<tr>
<td>September 28-30</td>
<td>Pacific Northwest Veterinary Conference</td>
<td>Tacoma, WA</td>
<td>(800) 399-7862</td>
<td></td>
</tr>
<tr>
<td>October 14-17</td>
<td>The Atlantic Coast Veterinary Conference</td>
<td>Atlantic City, NJ</td>
<td>(609) 325-4915</td>
<td>avcc.org</td>
</tr>
</tbody>
</table>
A different kind of roadblock

Our veterinary clinic is on the south side of Lamesa on the business route of Interstate 87—I mean right on that road. Nothing separates an unbound animal from cars going 50 miles per hour but about 20 yards of parking lot. This has always made me crazy with worry. I’ve learned to check gate latches over and over, make sure halters are buckled correctly, make sure doors are closed. But still, some of them just get away.

We were testing bulls in the food animal clinic one morning. The bulls don’t like this too much, and a particular one-ton Brangus was downright angry. I was working on a lameness case in the horse clinic for a couple of twentysomething cowboys from down south when the noise hit me.

It wasn’t so much what people were saying; it was the tone of their shouts that sent chills down my spine—terror and dread rolled into one. My location and my resourceful clients. Exciting morning for me and my resourceful clients.

As I sprinted out the front door, I saw the beginning of the calamity. Some-one had forgotten to close the gate at the end of the squeeze chute when the giant Brangus bull was released from his aggravating semen collection. He was totally angry … and free. All I could think was, “What kind of damage is gonna occur when this beast goes running against traffic on a highway loaded with fast-moving cars?”

The heroes of this story should be stated before the action begins. The two young cowboys had grown up with bad-humored bulls, and they took off running to their truck. One jumped in the driver’s seat, the other on the flatbed spinning a loop into his rope. I felt immediate relief having them as backup.

I started barking orders to anyone who could hear me. I was even telling clients to saddle their horses and told a tech to go saddle mine. We weren’t sure yet how much bluff and how much actual fight this critter was going to display, but we were about to find out.

The first person the bull encountered was a client standing next to his pickup. When the man saw him, he started waving his arms trying to scare the bull back to the pens. I cringed as it became apparent that this man was about to experience a whipping. The man, realizing there was nowhere to go, opened his truck door and tried to jump inside.

Too slow. The bull hooked him under the butt and knocked him off his feet. He then began pushing the man around the butt and knocked him off his feet. The bull then went to work on the pickup door, caving in the panel and shaking the vehicle like it was a toy.

Another client put his own between the bull and the highway to prevent disaster. The bull was not a bit distracted. He caved in the door of the second truck and ripped off a rearview mirror. Finally, the bull made it to the highway. Cars were driving south as it headed north. Drivers started slamming on brakes and swerving to avoid him. I could see the expressions on their faces: terror, anger, astonishment and relief.

I had almost run out of hope when I noticed the cavalry coming. The two twentysomethings were smart enough to leave the lot, go a few blocks north and then circle back south to head off the bull. They were positioned at just the right angle for the rope swinger on the flatbed to take action. He had that rascal roped so quick, I couldn’t believe it. He secured the rope to something on the truck bed, and it held fast. The bull came to a stop as all the slack was taken.

What the cowboys had not anticipated was the bull running around the truck. Of course, as he did, he caved in yet another door. They managed to pull him back to the clinic and we got him secured in a pen. We all high-fived the young cowboys and exclaimed over what heroes they were.

I never came up with a total of what that 30 minutes cost the clinic. There were several insurance companies involved and hours spent trying to make things right. The bull owner was kind and humiliated that his animal had acted so poorly. The clients were all still alive and understanding—even the fella we had to pull out from under his truck.

I told the city I’d put up a fence to keep this from happening again. They said it was too close to the road and I couldn’t. This means, if you ever drive by my clinic, you’d better slow down.

You never know when a bull might be running through the streets of Lamesa.

Bo Brock, DVM, owns Brock Veterinary Clinic in Lamesa, Texas. His latest book is Crowded in the Middle of Nowhere: Tales of Humor and Healing From Rural America.
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