

Veterinary Research News

Southern specialty

Mississippi State University College of Veterinary Medicine is located in a rural area and does not have a medical school to partner with on campus, and yet, it has a 64-slice CT scanner, a 3-T MRI scanner, a 4-D ultrasound machine, and a linear accelerator that is so precise its beam can target a tumor within 5 millimeters.

This wealth of diagnostic and treatment equipment came to be started when the veterinary college's administration established in 2008 a 509(a)2 nonprofit corporation, MSU CVM-Clinical Outreach Services, to develop and manage private specialty clinics that would enhance teaching and student learning. When the opportunity to collaborate with a human medical facility became available in 2010, the college created the Veterinary Specialty Center.

The VSC houses a neurology and neurosurgery service and imaging, ophthalmology, and cancer treatment services for veterinary patients. The imaging equipment and the linear accelerator are scheduled on an as-needed basis for VSC use while research patients are scheduled after hours. Protocols have been developed to effectively sanitize the equipment between use by patients, including human and animal patients.

The caseload at the VSC varies day to day, from four or five up to 20. Last year, the VSC saw around 1,000 patients and performed over 250 MRI scans. Common cases include emergency disk problems, encephalitis, strokes, and cerebral hemorrhages; brain cancer accounts for about 20 percent of the cases.

Part of what has made the VSC such a success has been its service chief, Dr. Andy Shores, a clinical professor of neurology and neurosurgery. One translational medicine research

project Dr. Shores is working on relates to his Small Animal Coma Scale.

The scale has been validated by numerous studies, but Dr. Shores said the problem remains that the veterinary field has plenty of interesting cases but not enough to support a case study. So, he and Dr. Simon Platt at the University of Georgia, with the help of a software engineer, developed a smartphone app to create that critical mass. Veterinarians—preferably those working in emergency clinics—register through the app, and, using the scale to look at each component of their case, they input data.

"The idea is you score it and the information goes into the database here," and then the database notifies whomever has subscribed to the app, Dr. Shores said. The app asks for case information on the patient, the treatment received, and blood pressure. Two weeks later, the app asks for the outcome of the case.

Dr. Shores and a neurosurgeon at the University of Alabama at Birmingham, Dr. M.R. Chambers, who

has MD and DVM degrees, are also looking at the molecular genetics of meningiomas in humans and dogs. They're finishing the first phase of the project, and Dr. Betty Chow, an oncology intern at MSU, reported on the results at the American College of Veterinary Internal Medicine meeting in June. They're also considering putting together a proposal to analyze viral vectors as therapeutic agents for glioblastomas.

But patients aren't the only ones benefiting from the center's presence. Up to now, fourth-year students could choose to go to the VSC as a two-week elective, but starting this past summer, it became a four-week required rotation that includes didactic lectures and case rounds focusing on radiation oncology, ophthalmology, and neurology. Dean Kent Hoblet says every day, the college discovers a new benefit from the VSC, whether it's giving students more exposure to the private practice setting or facilitating one-health research.



The linear accelerator at the Mississippi State University Veterinary Specialty Center has an onboard CT scanner and digital X-ray machine, allowing veterinarians to monitor the changing shape and depth of a tumor with each treatment

Obama enacts veterinary mobility law

President Barack Obama on Aug. 1 signed into law an AVMA-driven bill permitting veterinarians to legally transport controlled substances across state lines and administer them to patients outside locations they have registered with the Drug Enforcement Administration.

The Veterinary Medicine Mobility Act amends the Controlled Substances Act so veterinarians can carry and dispense controlled substances as part of the usual course of their veterinary practice beyond the primary locations they have registered with the DEA.

Veterinarians can also hold controlled substances registrations in multiple states, regardless of where their principal place of business is located. The Senate passed the VMMA earlier this year, followed by the House in July.

The DEA had long seen veterinarians' proverbial black bag as an extension of their office and recognized that there are occasions when an animal patient cannot be brought to a veterinarian's registered location. But the agency had signaled a new disposition toward enforcing a provision of the Controlled Substances Act against veterinarians to restrict the use and dispensing of controlled substances to registered locations.

Under this stricter interpretation of the act, veterinarians would also have been required to have a physical address in each state where they have a controlled substances registration.

For more than a year, the AVMA spoke with the DEA and members of

Congress to explain how the agency's interpretation of the act hindered veterinarians from providing total veterinary care.

A legislative remedy was proposed in April 2013 with the introduction of the VMMA in the House by veterinarians and congressmen Kurt Schrader and Ted Yoho. The following June, Jerry Moran of Kansas and Angus King of Maine co-sponsored the Senate version of the bill.

Shortage of saline solution continues for months

A shortage of saline solution for intravenous administration—particularly 0.9 percent sodium chloride solution, or normal saline solution—has continued for months.

On Jan. 17, the Food and Drug Administration reported that the agency was aware of the situation. The FDA stated: "The shortage has been triggered by a range of factors including a reported increased demand by hospitals, potentially related to the flu season"

The agency has been working with the three U.S. manufacturers of the products—Baxter Healthcare Corp., B. Braun Medical Inc., and Hospira Inc.—to help preserve the supply.

On March 28, the FDA announced that Fresenius Kabi USA LLC would temporarily distribute normal saline solution in the United States from the company's manufacturing facility in Norway. The agency stated that it also was working with Fresenius Medical Care, which supplies normal saline solution to dialysis centers.

On April 28, the FDA announced that Baxter Healthcare would temporarily distribute normal saline solution in the United States from the company's manufacturing facility in Spain.

The product most affected by the shortage is 1,000 mL bags of sodium chloride solution, according to the American Society of Health-System Pharmacists' Drug Shortages Resource Center.

Much more information is available at www.ashp.org/menu/DrugShortages/CurrentShortages.

AVMA launches Personal Financial Planning Tool

Members of the AVMA and Student AVMA who want to build a personal budget can now turn to the new AVMA Personal Financial Planning Tool at www.avma.org/mybudget.

The Association launched the PFP Tool on July 25 during the first day of the AVMA Annual Convention in Denver. The tool, a free benefit for AVMA and SAVMA members, targets veterinary students and early-career veterinarians.

The AVMA Early Career Development Committee identified money matters as one area where early-career veterinarians desire assistance. While the PFP Tool can help veterinarians at any career stage with assessing their financial status, the tool allows new veterinarians to calculate the salary they need to service student debt and pay off that debt in a reasonable amount of time. The tool features line items for professional expenses such as association dues, licensing fees, and continuing education.

The AVMA optimized the PFP Tool for tablets as well as desktop computers. Each budget saves to the user's member number, and the user can return at any time to complete or update figures. Users can print their budget and save it to their computer. The tool also provides links to other financial resources

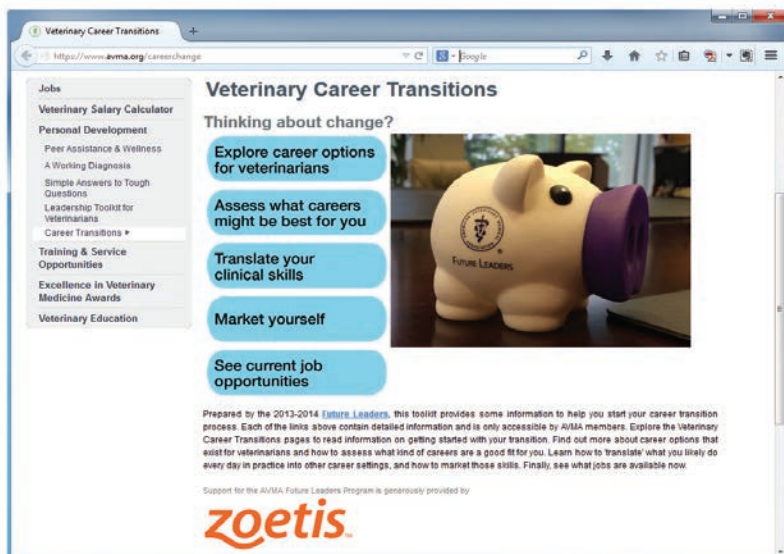
In addition, users of the tool can submit their budgets anonymously to contribute to a database because another goal is for the tool eventually to provide aggregate data about users' income and expenses searchable by graduation year, occupation type, and ZIP code.

Toolkit offers resources for career transitions

A new online toolkit from the 2013-2014 class of the AVMA Future Leaders Program offers resources to help AVMA members who are considering a career transition, particularly from general practice to another arena.

Almost 30 percent of veterinarians are considering a career transition now or in the future, according





to a survey by the 2013-2014 Future Leaders. Respondents indicated that they were contemplating transitions to careers ranging from working in veterinary specialties to positions in the animal health industry.

The toolkit at www.avma.org/careerchange is accessible only by AVMA members. The pages provide resources under the following headings:

- Explore career options for veterinarians—a list of career options and links to other online resources to help veterinarians with career transitions.
- Assess what careers might be best for you—two self-assessment tools from the Virginia-Maryland College of Veterinary Medicine's Center for Public and Corporate Veterinary Medicine.
- Translate your clinical skills—information about how practitioners can translate clinical skills into other settings, featuring a behavioral competency chart and sample competency-based resume.
- Market yourself—information about how veterinarians can define a career vision and plan; analyze their strengths, weaknesses, opportunities, and threats; set goals that are specific, measurable, attainable, reaching, and time-sensitive; schedule maintenance on their career plan; and market themselves.

- See current job opportunities—a link to job listings on the AVMA Veterinary Career Center.

Tramadol becomes controlled substance

The Drug Enforcement Administration has designated tramadol as a controlled substance, effective Aug. 18.

In a July 2 final rule designating tramadol as a schedule IV controlled substance, the DEA recognized the use of tramadol and tramadol-containing products for management of moderate to moderately severe pain. The DEA classified tramadol as an opioid because of the agency's findings that tramadol's pharmacological effects are similar to those of other opioids. In veterinary medicine, tramadol has been administered for pain control, especially in dogs and cats.

In comments on the proposal to classify tramadol as a schedule IV substance and in previous correspondence on opioid issues, the AVMA recognized public health concerns re-



garding drug abuse and misuse while also underscoring the importance of such products in veterinary practice. In line with federal findings, the AVMA emphasized how little diversion of drugs is associated with veterinary medicine.

The American Veterinary Distributors Association supported designation of tramadol as a controlled substance because variations in state laws covering tramadol have been logistically challenging for veterinary distributors.

Members of the AVMA can learn more about "Veterinary Compliance with the Controlled Substances Act and the DEA" by visiting www.avma.org/KB/Resources/Reference.

Guidelines address house soiling in cats

The American Association of Feline Practitioners and the International Society of Feline Medicine have released the AAFP and ISFM Guidelines for Diagnosing and Solving House-Soiling Behavior in Cats, which have been endorsed by the American Animal Hospital Association.

The guidelines convey scientifically documented information, when available, and provide practical insight that reflects the accumulated clinical experiences of the authors. The document emphasizes that house soiling is not a result of spite or anger toward the owner but a result of the cat's physical, social, or medical needs not being met. The guidelines replace the term "inappropriate urination" with the term "house soiling" because the latter implies no misconduct by the cat and thus could encourage owners to follow veterinary recommendations.

The document helps clinicians identify the causative factors of house soiling and includes a questionnaire for cat owners. Within the guidelines is an algorithm for the diagnosis and treatment of four basic categories of house soiling. The document offers two universal recommendations for the management of all cases of house soiling: optimizing the litter box and meeting the five pillars of feline environmental needs. The guidelines also include specific treatment suggestions

for each diagnostic category, take-home instructions for cat owners, and steps for practitioners to take if a client is considering euthanasia.

The guidelines appeared in the July issue of the *Journal of Feline Medicine and Surgery*. They are available at <http://bit.ly/1mc59fP>.

Law sends dogs, cats used in higher education on to rescues

A new Minnesota law requires facilities of higher education in the state that receive public money to offer dogs and cats used in science, education, or research to a rescue organization as an alternative to euthanasia.

The law appears to be the first of its kind in the country, according to the AVMA State Legislative and Regulatory Affairs Department.

The specific provision is as follows: "A higher education research facility that receives public money or a facility that provides research in collaboration with a higher education facility that confines dogs or cats for science, education, or research purposes and plans on euthanizing a dog or cat for other than science, education, or research purposes must first offer the dog or cat to an animal rescue organization. A facility that is required to offer dogs or cats to an animal rescue organization under this section may enter into an agreement with the animal rescue organization to protect the facility. A facility that provides a dog or cat to a rescue organization under this section is immune from any civil liability that otherwise might result from its actions, provided that the facility is acting in good faith."

PED vaccine gains conditional approval

A vaccine that gained conditional approval in June could protect herds against a virus that has killed millions of pigs since spring 2013.

Officials of the Department of Agriculture's Animal and Plant Health Inspection Service announced that the vaccine against the porcine epidemic diarrhea virus is intended to generate antibody production in sows, which transmit antibodies through milk to neonatal pigs. It is the first US A-licensed

vaccine against the virus, which can kill nearly all neonatal pigs in a herd and cause illness among others.

The conditional license from APHIS lets the developer, Harrisvaccines Inc. of Ames, Iowa, sell the vaccine. Such licenses are granted on the basis of expectations of safety, purity, and efficacy, the agency announced.

An announcement from Harrisvaccines indicates the company had sold approximately 2 million doses of the vaccine through prescriptions from late 2013 until the announcement in June, and the vaccine had been developed "in a matter of weeks after the outbreak."

Joelle R. Hayden, an APHIS spokeswoman, noted that the agency's regulations on biologics include an exemption that allows use of unapproved products when they are prepared by veterinarians for administration to their patients. Harrisvaccines used that exemption to distribute the products without APHIS oversight prior to the conditional approval.

Michigan State finds dean in emery

Dr. John C. Baker, a longtime faculty member at Michigan State University College of Veterinary Medicine, took over as dean of the college, effective June 20. Dr. Baker was asked to take the position by Provost June Youatt after the previous dean, Dr. Christopher M. Brown, stepped down.

Dr. Baker (Ohio '80), who has been a professor in the Department of Large Animal Clinical Sciences for the past 30 years, also served as the associate director of AgBioResearch at the university. He is a diplomate of the American College of Veterinary Internal Medicine.

While at Michigan State, Dr. Baker has served in a number of capacities, including associate dean for research and graduate studies within the veterinary college and acting director of AgBioResearch from 2004-2005.

Dr. Baker succeeds Dr. Brown, who has served as dean of the veteri-

nary college since 2006. His tenure saw the creation of the Learning and Assessment Center, a joint effort of the health professions colleges at MSU that allows students to practice communication and technical skills.

Dr. Brown (Liverpool '72), prior to becoming dean, chaired the Department of Veterinary Clinical Studies at the University of Guelph Ontario Veterinary College and was acting director of that college's Veterinary Teaching Hospital.

Dr. Brown also has served as a professor of large animal clinical sciences at Michigan State and is a diplomate of the ACVIM.

Ohio State expanding its veterinary hospital

The Ohio State University is moving forward with a \$30 million expansion and enhancement project for its Veterinary Medical Center, according to a university release. The approval by The Ohio State University Board of Trustees on June 6 allowed the project to begin in mid-August, with ground breaking taking place in September.

The trustees approved spending \$16.8 million on the first phase, during which the intensive care unit for the companion animal hospital will be renovated and a three-story, 57,000-square-foot faculty office building will be added to the east side of the existing structure that will not only incorporate faculty and staff offices but also conference spaces for meetings and teaching. It's expected to open in early 2016. Already, \$3 million has been spent on design of the first phase, and it will cost \$13.8 million for construction.

The College of Veterinary Medicine still needs to raise enough money for the second phase, which would add clinical, surgery, and treatment rooms; add a new lobby and reception area; and improve patient rooms and animal holding and admission and discharge areas.

The veterinary college has raised \$8.5 million so far and has sought a \$10 million loan from the university, to be repaid with donations and increases in operating income. If funding allows, two future phases would convert vacated faculty offices to more clinical and surgery space. 🇺🇸



Dr. John C. Baker