The hospital’s more than 120 board-certified faculty and staff veterinarians, along with a team of 350 highly-trained staff members, saw approximately 50,000 patients for the year. Training in each of these patient visits were our 109 house officer veterinarians (residents, fellows, interns) and the 134 members of the Class of 2017. Our clinicians are innovators of some of the most cutting-edge procedures in veterinary medicine. The hospital has more specialty services than any teaching hospital in the country. Many services saw double-digit percentage increases in caseload: neurology, equine ophthalmology, behavior, zoological medicine, cardiology, nutrition, equine reproduction, community surgery, and radiation oncology.

Highlights of the year include:

**New Hospital Administrator**
Joy Hoover, MBA, was appointed as Hospital Administrator. In this position, she oversees the management and fiscal integrity of the hospital, as well as a wide range of operational, financial, staff personnel, programmatic, facilities, equipment, compliance, and academic support issues. She has direct fiscal and operational management responsibility for all non-academic services, balancing business operations with providing support for clinical teaching, research, and service activities.

**Students Complete Studies**
134 students completed their DVM degrees, culminating their studies with a rigorous 59-week final year of clinical training in the teaching hospital. The students received hands-on training from some of the top veterinary professionals in their respective fields. SVM graduates have nearly a 100% placement rate into professional veterinary jobs upon graduation, with most choosing private practice, internships, and research positions.

**House Officers Present Research**
The 39th Annual Gerald V. Ling House Officer Seminar Day was held in March and featured short presentations by hospital house officers (interns, fellows, residents) on their research studies. The day-long event attended by faculty, staff, students and guests highlighted 47 studies covering a wide array of topics including chemotherapy treatments, cone beam CT technology, ultrasound-guided stem cell administration, and 3D printing for surgical planning. UC Davis, with the largest resident training program of any veterinary hospital in the country, is able to offer unique research and publishing opportunities not available elsewhere to veterinarians pursuing advanced training at teaching hospitals. Currently, 109 house officers are receiving advanced training at the hospital in one- to four-year programs.

**Caseload by Species**
Dogs continue to make up the majority of the hospital’s caseload. On any given day, we treat approximately 125 small animals and up to 40 large animals. Patients come from all over California, as well as neighboring states of Nevada, Arizona, Oregon, and throughout the Western United States. As one of the preeminent veterinary hospitals in the world, it is not unusual for clients from around the globe to seek treatment for their animals at UC Davis.

**Orthopedic Surgeons Regrow Leg Bones**
Dr. Amy Kapatkin and the Orthopedic Surgery Service have implemented the use of a bone growth-stimulating medicine to repair bone injuries in dogs’ legs. The technique has been successful in 11 dogs, with nine returning to full function and two with acceptable function. All 11 cases involved dogs with nonunion fractures in their limbs, meaning previous attempts to repair their breaks failed to unite the bone as one again. All dogs in the study had at least one previous surgery, while some had as many as five previous attempts to heal their bone properly.
Collaborative Stem Cell Therapy Continues Success
Drs. Boaz Arzi and Frank Verstraete of the Dentistry and Oral Surgery Service, along with researcher Dr. Dori Borjesson, continue to have success with a novel stem cell approach to treating feline chronic gingivostomatitis (FCGS). None of the standard treatments for FCGS that are currently available are ideal, predictable and without possible complications. Successful implementation of the stem cell therapy has resulted in complete remission of the disease in many cats in the study, and may change the accepted protocol of treatment. The treatment holds hope for humans suffering a similar oral disease, as veterinarians are collaborating with physicians on translational research of the therapy.

PET Scanning Breakthroughs
UC Davis veterinarians, led by Drs. Mathieu Spriet and Pablo Espinosa, are making breakthroughs in their discoveries of the diagnostic capabilities of positron emission tomography (PET) through a clinical trial and other research focused on advancing the clinical applications of this new modality. Images of PET scans digitally fused with CT scans detect lesions not visible on CT scans alone, and are leading to treatment plans for horses with lameness injuries that were previously undetectable or unable to pinpoint.

One Health Approach to Battling Cancer
Dr. Michael Kent of the Oncology Service is collaborating with radiation oncologists at the UC Davis Comprehensive Cancer Center. The clinicians developed a unique strategy to simultaneously advance a novel cancer treatment for animals and humans. With its internationally renowned school of veterinary medicine and its NCI-designated human cancer center, UC Davis is uniquely positioned to evaluate novel treatments for companion dogs with spontaneous tumors that may ultimately be effective in human patients with cancer.

High-Tech Approach to Solving Equine Breathing Issues
Equine specialists are utilizing overground videoendoscopy to help diagnose upper airway respiratory disorders in horses. One of the added benefits of utilizing this new technology is being able to exercise the horse in its normal environment, such as a track or an arena rather than on a treadmill, which can be dangerous and frightening for inexperienced horses. During the procedure, a videoendoscopy system is used to capture video of the larynx while a horse is exercised. The video is fed live to a monitor for clinicians to view laryngeal function.

Cardiologists Make Breakthrough Discovery
Dr. Josh Stern of the Cardiology Service, working with a team of researchers and physicians, discovered a new drug to treat hypertrophic cardiomyopathy (HCM). HCM affects both animals and humans and is the most common heart disease in cats. The drug, MYK-461, was shown to normalize left ventricular function in five cats with HCM. The novel drug is the first in its class and uniquely addresses the functional changes that are seen in human and feline HCM. With this proof of concept that the drug is viable for use in cats, UC Davis hopes to conduct a clinical trial in the near future, which could determine if MYK-461 has the potential to become the accepted protocol for care of cats with HCM.

Paralyzed Cat Walks Again
The Neurology Service helped Gray the cat walk again. Gray, a 9-month-old male cat, was brought to UC Davis from Hawaii after becoming acutely paralyzed. Neurosurgeons operated on Gray within hours of him landing in California. They removed an infected part of his vertebrae and decompressed his spinal cord. Gray slowly began to rebuild strength and was walking again within three weeks of his surgery. The story was so uplifting, it received coverage from several national media outlets.
Advanced Blood Purification

Drs. Larry Cowgill and Carrie Palm, with the Blood Purification and Hemodialysis Unit of the Internal Medicine Service, continue to advance the use of therapeutic plasma exchange (TPE). TPE has made headway in veterinary medicine over the past few years as a state-of-the-art blood purification procedure, joining the ranks of hemodialysis and hemoperfusion. TPE is an apheresis (removal of impurities from blood) treatment in which plasma contaminated with damaging auto-antibodies, toxins or abnormal proteins is separated from the patient’s flowing blood and exchanged with donor plasma that is returned to the patient to render the patient less susceptible to or free from immunologic attack or other pathologic processes.

Equine Specialists Serve at Breeders’ Cup

The annual Breeders’ Cup World Championships returned to Santa Anita Park in Arcadia, California in early November, and faculty and staff served as on-track emergency medical specialists. UC Davis board-certified surgeons and critical care specialists are routinely invited to the Breeders’ Cup whenever the world-renowned race takes place in California. This year, Drs. Julie Dechant and Scott Katzman, along with Gabe Gil—service coordinator for the hospital’s Equine Surgery and Lameness Service—were on hand to provide any needed emergency intervention.

Livestock Veterinarians Care for State Fair Animals

Livestock veterinarians provided care for exhibitors of the California State Fair. Our team performed entrance health checks on all animals being shown and were onsite throughout the fair to assist with any veterinary emergency needs. This engagement provided our students a tremendous hands-on experience handling a large volume of animals in one setting. With many of the show animals belonging to 4H and FFA members, this interaction allowed for an opportunity to showcase the school to aspiring veterinary students.

Advancement of Minimally Invasive Surgeries

The Soft Tissue Surgery Service leads the way in minimally invasive surgeries and are at the forefront of developing new surgical procedures for small animal patients. Through the use of interventional radiology or laparoscopy, groundbreaking surgeries are being performed at UC Davis. Minimally invasive approaches are generally less painful for the patient and may reduce post-operative complications and recovery times.

Innovative Cancer Treatments

Dr. Michele Steffey of the Soft Tissue Surgery Service continues with innovative procedures in surgical and interventional oncology. Her use of cryoablation to treat intranasal tumors in dogs has attracted clients from across North America. In addition to cryoablation, she has recently obtained a microwave ablation unit, allowing the hospital to offer two different types of minimally invasive tumor ablation, according to the best choice for the individual patient and disease. Her use of intraoperative near-infrared imaging has provided improvements in operative sentinel lymph node mapping techniques, surgical treatment of chylothorax, and other applications, and is drawing the attention of other veterinary schools that are now implementing these operative imaging techniques in their clinics.

Expansion of Exotic Services

The Companion Exotic Animal Medicine and Surgery Service saw a much-needed expansion of their workspace. Three new examination rooms were constructed to greatly enhance the service’s capabilities for treating patients and provide dedicated examination space necessary for the best possible quality of exotics care. The new space is configured in ways to create positive workflow environments, allowing for various set-ups consistent with the differences in exotic patients. With the service seeing animals that weigh only a few ounces to animals that weigh a few hundred pounds, it’s important for the team to be able to examine those animals in spaces that allow for a variety of configurations. The location of new space also makes for easier transport of larger patients that may need help from the parking lot to examination rooms.
Top 10 Services by Caseload
The hospital’s caseload remains consistently high, and ranks as the largest caseload of any veterinary teaching hospital in the country. Complementary therapies in Small Animal Integrative Medicine and research into new treatment options in Oncology continue to raise the interest of those two services. Our Emergency Room, which is open 24/7/365, again saw a record number of patients for the year. Across the board, each service continues to grow, as UC Davis leads the way in veterinary care.

Translating the Future of Medicine
The Veterinary Center for Clinical Trials (VCCT) connected patients and referring veterinarians to investigators performing more than 60 ongoing clinical trials in multiple disciplines, including oncology, internal medicine, neurology, genetics, dentistry and dermatology. They collaborated with the UC Davis Clinical and Translational Science Center to create two informational videos that outline the benefits of translational medicine. Additionally, the VCCT is establishing three endowed funds that will support feline, equine and livestock clinical studies, allowing researchers to further delve into their areas of interest.

Thousands of Images Taken
The Diagnostic Imaging Service remains robust and performed 16,691 imaging procedures. The addition of a PET scanner for horse limbs (the first of its kind in the world) is already showing success, and has begun an exciting new era of advanced imaging. One of the first phases of the new Veterinary Medical Center will be the creation of an All Species Imaging Center.

On-site Laboratory Improves Patient Care
The hospital’s Clinical Diagnostic Laboratories performed nearly 75,000 tests, including 12,000 complete blood counts, 7,800 small animal chemistry panels, and 5,800 tests to determine the presence of antibodies against equine protozoal myeloencephalitis, a debilitating neurologic disease in horses. The on-site laboratory is an integral part of providing top-notch patient care, and allows clinicians the opportunity to quickly determine treatment plans.

Leading the Way to the Future of Veterinary Medicine
The hospital looks to the future and envisions a state-of-the-art Veterinary Medical Center to be constructed over the next decade, ultimately leading to the most comprehensive animal care facility in the world. The current clinical space was built in 1970 to see 3,000 patients per year. The team has long outgrown that space, and now sees more than 50,000 patients a year – a caseload increase of 1,567 percent. Workspace in those 47 years has only increased 66 percent. The need for a larger facility is long overdue. The VMC campaign will involve both new construction and renovation of existing workspace into a modern patient- and client-friendly environment.