

# Science@CornellVet

A science blog straight from the students and trainees of Cornell Vet

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## Telemedicine: connecting around the corner or across the globe

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### The doctor is online

Imagine you are mowing the lawn and you see your elderly neighbor's dog take a hard roll down a hill and break his leg. Thankfully, you are there to take your neighbor and her dog to your veterinarian as your neighbor is no longer able to drive. After a short surgical repair, the dog is already on the mend but your neighbor is more worried than ever. She will now need a ride to all of her dog's subsequent checkups and suture removal, not to mention any unscheduled trips if there are complications.

What if she could videoconference with your veterinarian to show them how her dog is doing at home? What if a licensed veterinary technician (LVT) could come help evaluate her dog's progress and remove her dog's sutures at the appropriate time? What if this LVT could transport the dog to the veterinary hospital for further treatment if any complications arose?

These "what ifs" are the reality in similar scenarios in human medicine thanks to the relatively new practice of telemedicine. Many definitions of telemedicine exist, though the American Telemedicine Association (ATA) generally defines the term as referring to the practice of medicine remotely via electronic means. The practice of telemedicine between veterinarians and pet owners is still in the beginning stages, and many believe that its adoption can't come soon enough.

### Veterinary-specific challenges

Dr. Charlotte Lacroix, a veterinarian and Vice Chair of the Veterinary Innovation Council (VIC), an arm of the North American Veterinary Community, recently discussed telemedicine and its use in veterinary medicine with Cornell's student chapter of the Veterinary Business Management Association. The VIC, in collaboration with other key industry leaders, is currently conducting pilot studies in locations in which state and local laws regarding the establishment of a Veterinarian-Client-Patient Relationship (VCPR) are most conducive to practicing telemedicine.

In most states, the practice of veterinary medicine requires a Veterinarian-Client-Patient Relationship, or VCPR. Though the specific definitions of valid VCPRs differ by state, they generally include the following:

The veterinarian has assumed responsibility for the following:

- making clinical decisions regarding the pet's health and discussing potential courses of treatment including risks and benefits of various options
- making sure the client understands the agreed-upon course of treatment
- overseeing the agreed-upon treatment, including client compliance and helping the client find emergency care options if necessary
- keeping records of the pet's medical care

The client has agreed to do the following:

allow the veterinarian to assume the above responsibilities for their pet

follow the veterinarian's recommended advice after reaching an agreement regarding care for the pet

However, laws differ in the specifics regarding whether there are explicit rules stating:

(1) that the VCPR cannot be established solely by telephonic or electronic communication

and/or

(2) that the VCPR cannot be established without the veterinarian performing a physical exam.

In locations without either of these restrictions, the flexibility creates more possibilities for an on-site veterinary technician to perform the physical exam and use that information to inform the veterinarian's recommendations for that pet's care. If the pilot studies are successful, this will help encourage changes to laws in other locations to allow for telemedicine to be practiced in more areas of the U.S. and the world.

### **Financially sound**

Dr. Lacroix, who also owns and manages Veterinary Business Advisors, Inc., a consulting firm serving diverse veterinary practice needs, is confident telemedicine is a smart financial move for veterinarians and clients alike, "Telemedicine will significantly impact the number of pets we can care for and the number of clients we can educate." Veterinarians are able to reach more patients and save on overhead costs by connecting online, and clients share the savings of time and money by not having to transport their pets to the clinic. The pets, too, will likely appreciate having to make fewer trips to the vet, especially those that are especially fearful, geriatric, or sensitive to travel or environmental changes (like fish or birds).

### **Opportunities for veterinary technicians**

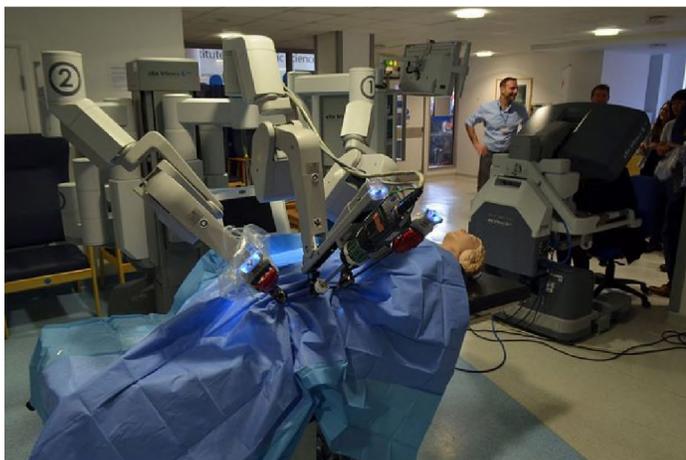
In addition to the advantages for veterinarians and clients, telemedicine also elevates the role of the veterinary technician. In the proposed telemedicine model of a veterinary technician seeing patients on-site with electronic communication back to the veterinarian, the veterinary technician role is enhanced in terms of responsibility, prestige, and salary.

### **How can we bring telemedicine to Cornell?**

Unsurprisingly, telemedicine is already central on Cornell's radar. Many clinicians in various specialties already practice veterinarian-to-veterinarian forms of telemedicine to help general practitioners manage difficult cases. As the use of veterinary telemedicine expands further, John Graves, assistant director of educational technology and innovation at Cornell College of Veterinary Medicine, is leading the push to ensure that Cornell is poised to be a leader in its use.

Graves became involved in telemedicine while managing communication and collaboration technologies at Yale University and experienced a fully implemented system at the Icahn School of Medicine at Mount Sinai (ISMMS) where state-of-the-art technology is used to practice doctor-to-doctor and doctor to patient telemedicine, including live-streaming cardiac surgeries to auditoriums in which other cardiologists could watch the surgery, monitor the vitals of the patient, and ask questions of the surgeon in real time. *(See video below of a live-streaming surgery—please note there is some visible blood that appears in the video)*

July 2017 Peripheral Interventions Live Case



At ISMMS, Graves witnessed the future through observing the top DaVinc robot surgeons in the world and the technology necessary to keep a surgeon and surgical robot connected across thousands of miles. Graves also experienced the impact of a telemedicine outreach to Harlem in which doctors remotely saw patients that were unable to travel to a doctor.

To make sure Cornell CVM has similar options in the future, Graves has overseen the technology implementation in the CVM Class Expansion project with a forward-thinking eye. "I have the patience and foresight required to be a change agent," says Graves.

All tutor rooms and lecture halls have been outfitted with fiber connections for the necessary bandwidth and speed needed for reliable, quality connections with clients and collaborators down campus or across an ocean. "The benefits include standardizing medicine, giving access to experts that are somewhere else.... There are so many things that telemedicine could accomplish; I think it's too compelling of a scenario to not pursue it. We're preparing for it here at the College."

Telemedicine promises to extend the reach of veterinary care to more pets and clients than ever before. Clients that are limited by their mobility, location, financial constraints, and even job schedules may be better served by adding electronic communication as a means of care.

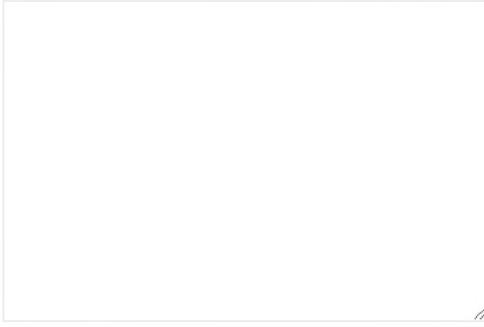
Please stay tuned to see how Cornell helps shape the future of veterinary medicine.

*-by Michelle White, DVM, PhD Candidate, Department of Comparative Biomedical Sciences*

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