



AVMA guidelines for the use of telehealth in veterinary practice

IMPLEMENTING CONNECTED CARE





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To view hyperlinks found throughout these guidelines, go to avma.org/telehealth and download the electronic version.

INTRODUCTION

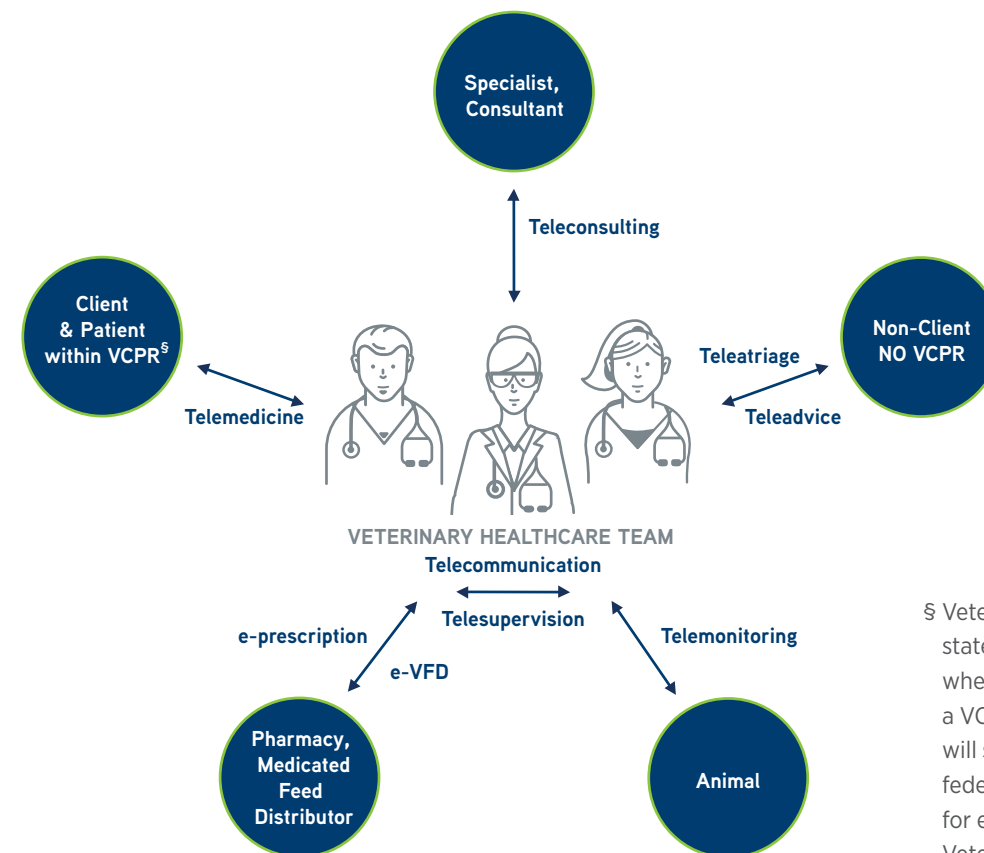
This document has been developed to help you thoughtfully integrate telehealth into your veterinary practice. Doing so provides an opportunity to improve access to your services, enhance the medical care you provide for your patients, and better support and strengthen your relationship with your clients.

ABOUT VETERINARY TELEHEALTH

Veterinary telehealth is the use of telecommunication and digital technologies to deliver and enhance veterinary services, including veterinary health information, medical care, and veterinary and client education. Technologies that support telehealth have been around in various forms since the mid to late 19th century. The earliest uses of telehealth likely involved transmission of veterinary health information via telegraph, and later over the telephone. While electronic transmission of veterinary health information has occurred in some form for decades, there is no question that the opportunity and ability to acquire, process, and transmit high volumes and quality of data, including health information, is increasing at an exponential rate. E-mail and text messaging, live audio and audio/video conferencing, store-and-forward electronic transmission of a variety of types of data, remote patient monitoring, electronic medical records, and artificial intelligence (AI)-assisted diagnostics are examples of modern technologies currently used in veterinary telehealth. Telehealth is a tool of practice, not a separate discipline within the profession.

DEFINITIONS

There is confusion surrounding the many terms that are used within the field of telehealth. While many are related, they each have a specific meaning.



§ Veterinarians should consult state requirements to determine whether it is possible to establish a VCPR electronically. If so, they will still need to comply with federal requirements for the VCPR for extralabel drug use or issuing Veterinary Feed Directives.

The terms used in this guidance have the following meanings:

Connected Care is the integration of digital technologies to enhance and support the veterinarian-client-patient relationship (VCPR) and facilitate proactive and ongoing care through improved communication, diagnosis, and monitoring. It is an approach to veterinary practice that is patient- and client-centered, and actively engages the entire veterinary healthcare team.

Telehealth is the overarching term that encompasses all uses of technology to remotely gather and deliver health information, advice, education, and care. Telehealth can be divided into categories based on who is involved in the communication. For communication between veterinarians and animal owners there are two important categories that are distinguished by whether a VCPR has been established:

- Without a VCPR, telehealth includes the delivery of general advice, educational information, and teletriage (to support the care of animals in emergency situations).
- Telemedicine includes the delivery of information specific to a particular patient, and is allowable only within the context of an established VCPR.

Teleadvice includes the provision of any health information, opinion, guidance or recommendation concerning prudent actions that are not specific to a particular patient's health, illness or injury. This general advice is not intended to diagnose, prognose, treat, correct, change, alleviate, or prevent animal disease, illness, pain, deformity, defect, injury, or other physical or mental conditions. Examples include recommendations made by veterinarians or non-veterinarians via phone, text or online that all animals should receive physical exams or premise visits as part of a comprehensive healthcare plan, or reference to the importance of attending to regular vaccination or parasite prevention as a key part of preventive care.

Telemedicine involves the use of a tool to exchange information about a patient's clinical health status electronically from one site to another. Examples include using technology to communicate with a client and visually observe the patient during a postoperative follow-up examination and discussion.

Teleconsulting refers to a primary care veterinarian using telehealth tools to communicate with a veterinary specialist or other qualified expert to gain insights and advice on the care of a patient.

Telemonitoring, mHealth or mobile health employs mobile devices. Some mHealth applications and wearables are designed to augment animal health care within VCPRs, while others are designed and marketed directly to consumers for their education and for animal monitoring without clinical input (outside of a VCPR).

Teletriage is the safe, appropriate, and timely assessment and management (immediate referral to a veterinarian or not) of animal patients via electronic consultation with their owners. In assessing a patient's condition electronically, the assessor determines urgency and the need for immediate referral to a veterinarian, based on the owner's (or responsible party's) report of history and clinical signs, sometimes supplemented by visual (e.g., photographs, video) information. A diagnosis is not rendered. The essence of teletriage is to make good and safe decisions regarding a patient's disposition (immediate referral to a veterinarian or not), under conditions of uncertainty and urgency.

Telesupervision is the supervision of individuals using mediums such as audio or audio/video conference, text messaging and email. Clinical supervision is integral to continuing professional development of health professionals. While telesupervision may be useful in any context, its value is amplified for health professionals working in rural and remote areas where in-person access to supervisors within the local

work environment is often diminished. While telesupervision offers innovative means to undertake clinical supervision, there remain gaps in the regulatory parameters of use in clinical practice. State regulators will need to address whether telesupervision is considered direct or indirect supervision, or some new, to-be-defined category of supervision. Telesupervision involving the practice of veterinary medicine should not be undertaken without a clear regulatory framework in place.

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WHAT CAN BE ACCOMPLISHED THROUGH TELEHEALTH TECHNOLOGY?

You likely have been using telehealth throughout your veterinary career. Every time you take a phone call from a client whose animal you recently saw in your practice as a means to follow up on a case, you are practicing telemedicine. You have likely struggled, at times, to determine whether a patient needed to be re-evaluated sooner than planned. By adding audio/video conferencing to the equation, you now have information from two more senses (sight and sound) and the potential to obtain visuals of the patient, in addition to the owner's description of progress (or not), to help you make that decision. Information from remote monitoring, as well as from AI-assisted diagnostics, may further support your clinical acuity in making decisions and delivering good recommendations for your patients' care.

POTENTIAL APPLICATIONS OF TELEHEALTH IN YOUR PRACTICE

How might telehealth be integrated into your practice? It could take many forms, depending on the needs of your current and potential clients, and those clients' level of interest and comfort with electronic technology and communications. Here are some possible applications to consider as you decide how telehealth might support delivery of services for your existing patients and clients, as well as potential patients and clients.

Sharing general animal health information

Veterinarians and their teams already offer general, non-patient-specific information (teleadvice) over the phone, and via text, email, and their practice website or social media pages. Often this information is provided free of charge. Offering more structured teleadvice services can provide an opportunity for veterinarians and their team members (e.g., veterinary technicians, veterinary assistants) to use and be compensated properly for their training and skills, and can also create unique opportunities to attract new clients, particularly if your veterinary hospital has one or more areas of special interest or particular expertise and that is evident in your offerings.

Expanding access to veterinary care

Despite all the advances in veterinary medicine, there are still clients who struggle to access routine veterinary care for their animals for a variety of reasons. Excessive distances, available transportation (including availability and ease of transportation for the patient), disability, language barriers, and financial issues are some examples of roadblocks. Today's high-quality telecommunication tools and software applications can provide almost seamless communication between clients and veterinary healthcare teams at a distance, making it easier for clients to access veterinary expertise.

If you have clients for whom recurring trips to the veterinary hospital serve as a deterrent to accessing veterinary care, consider customizing a telemedicine offering that makes your services more convenient for them to utilize. Many services are possible with telemedicine, as long as a VCPR that satisfies state and federal requirements is in place, and the attending veterinarian is comfortable assessing the patient remotely and feels able to exercise good clinical judgment in caring for the patient.

Potential clients may benefit from educational offerings addressing the importance of preventive care or safety for and around animals.

After-hours care

Clients want and expect 24/7 services, including veterinary care. Traditionally, access to after-hours care has meant that the client leaves a message with an answering service and waits for the veterinarian to call them back. Today's client generally expects more. Implementing teletriage services can help meet client expectations and patient needs, assist in scheduling with prioritization given to urgent cases, while also allowing veterinarians to better manage their work-life balance.

Implementation of telehealth within a practice should stay focused on three goals:

1) Improve the level of care for the patient, 2) Increase access of underserved populations to veterinary medical care and 3) improve utilization of all members of the veterinary healthcare team.



Assessing client compliance and patient progress

Evaluating progress after treatment - including checking client compliance with your recommendations and adjusting those recommendations as needed - is critical for successful outcomes. Using tools of telemedicine can enhance continuity of care. For example, you can use photos and video to help evaluate healing of incision sites; video to monitor the patient's gait and overall mobility; video to see the patient's general demeanor and evidence of return to normalcy after treatment; and electronic transfer of herd records to keep an eye on health and production. Such consultations can be conducted in real time or asynchronously depending on needs and preference. Cases that may lend themselves to electronic appointments include, but may not be limited to, medical rechecks (e.g., chronic dermatological cases; gastrointestinal issues pending additional workup; osteoarthritis; herd or other animal group record evaluations; including assessments of regularly collected laboratory, health, and production data), post-surgical evaluations; follow-up behavioral consults; and digital necropsy (a standard set of images is obtained during the procedure and shared with the veterinarian). Using tools of telemedicine can support coordination with onsite paraprofessionals, such as the exchange of diagnostic images and case status between veterinarians and farriers involved in the management of certain conditions of the equine foot. Telehealth tools can also be used to provide clients with up-to-date information about hospitalized patients, including - for longer term patients - an opportunity to view their animal and see what progress has been made during the course of treatment.

Palliative care

When the stress of a trip to the hospital might exacerbate an animal's already deteriorating health, telemedicine provides a convenient way to check in on these patients. This is especially helpful for patients when clients might otherwise forego a veterinary hospital visit because of the frequency of visits required and time limitations, challenges the animals themselves may present for transportation (e.g., cats who dislike both the carrier and the vehicle ride), and/or how the animal reacts to hospital visits overall. A telemedicine evaluation allows you to get a general sense of the animal's overall wellbeing and can help determine whether treatment plans should be adjusted or an in-person examination is needed.

Artificial intelligence-assisted diagnostics

Virtually every area of life has been touched by AI, enhancing our understanding of complex issues and increasing the likelihood of better outcomes because large amounts of data can be more rigorously analyzed. With its robust ability to integrate and learn from large sets of clinical data, AI can serve roles in diagnosis, clinical decision making, and personalized patient care. Veterinary medicine is experiencing rapid advancements in AI, including deep learning, machine learning, natural language processing, and robotics, with current applications in the areas of triage, image interpretation (radiologic and pathologic), disease/condition diagnosis, patient monitoring, drug development, and even robotic surgery. Applying AI to health care supports veterinarians, including those in both primary care and specialty practices, by better integrating information and increasing the accuracy of a diagnosis, reducing the likelihood of errors in diagnosis, and earlier identification of subtle changes in patient health that can lead to more proactive intervention.

Remote patient monitoring

Remote patient monitoring (RPM) uses digital technologies to collect medical and other types of health data from patients in one location and electronically transmit that information securely to healthcare providers in a different location for assessment and recommendations. It can be used by veterinarians and their clients to increase the amount of information available about a patient's health and, thereby, improve diagnostic and treatment decisions and assess client compliance with recommendations.

- Synchronous or real-time monitoring/communication is where video or other data are shared and evaluated in real-time. Live video streaming is the most common approach to synchronous RPM, but a variety of technologies are available that can deliver information about an animal's environment, feed consumption, activity, and physiological parameters (e.g., heart rhythm, temperature) in real time.
- Asynchronous monitoring/communication is where video or other data are recorded and then sent to the veterinarian at a later time.

Examples of RPM being used in veterinary medicine include microchips that also measure body temperature, with the potential for earlier detection of certain diseases and stressors; continuous monitoring of glucose concentrations in diabetic patients; time lapse videography to evaluate lying time in dairy cattle as a measure of cow comfort; the use of smart-sensing technologies to provide critical environmental information in poultry production facilities; electronic feeding stations that record individual animal feeding patterns and daily intake; evaluation of lameness in a variety of veterinary patients via accelerometer-based monitors or cameras; and assessment of growth rate and external parasite loads of finfish via video sampling. Some veterinarians even use video monitors in their hospital so that they can keep an eye on their hospitalized patients or those continuing to recover from anesthesia even when they are not in the immediate vicinity.

Sometimes veterinary paraprofessionals or clients may directly participate in such monitoring, such as when technology is employed that allows a stethoscope or similar monitor to be positioned on the patient with the sounds and, sometimes, an ECG tracing then transmitted electronically to the veterinarian.

Specialty consultations

Creative and appropriate use of telehealth can improve access to specialists for primary care veterinarians and their patients/clients. Live video teleconference and e-consultation can be used by primary care veterinarians to connect with providers of specialized services for real-time support. Such consultations are enhanced by electronic technology that allows rapid sharing of medical records, high-quality radiologic images and other test results. And, just as for primary care veterinarians, telemedicine allows specialists who have established a VCPR to better connect with their patients and clients and manage chronic cases.

Three-way consultations including the client, primary veterinarian, and specialist may be considered in situations where the specialist needs to interact remotely with the client and/or patient, but where the specialist has not been able to establish a VCPR. Such an approach can help with access to specialists in areas where a particular specialty is currently unavailable or existing specialists are overutilized impacting their ability to schedule

in-person appointments in a timely fashion. State and federal regulations should be clearly understood in these situations before taking this approach.

Education

Connected Care provides multiple opportunities to support your client education efforts. Informed clients better understand their animals' health status and may be more likely to comply with your recommendations with a net improvement in patient outcomes. A thoughtful approach to client education can also improve utilization of the training, skills, and time of the entire veterinary healthcare team.

- Digital diagnostics — Digital microscopes and otoscopes can provide clients with a real-time view of exactly what the veterinarian is seeing, and digital stethoscopes allow clients to hear exactly what the veterinarian is hearing. These tools can provide great support for client understanding of their animals' health concerns and make them more amenable to following your advice. While still somewhat expensive for routine veterinary use, digitally enabled drug containers with accompanying smartphone applications provide reminders when it's time to administer medication and can also provide a gentle compliance assist.
- Client webinars — For years it has been common for veterinarians to offer educational classes in the clinic or in community venues, such as the local library. Now these same types of classes can be offered via live and/or recorded webinars or livestreams and videos delivered via social media. Live presentations allow clients to interact with the presenter, while recorded ones offer the convenience of viewing whenever the client has time. Webinars can be used to provide general health or animal care information (e.g., importance of regular examinations and preventive care, basic house/behavioral training, grooming and hoof care, holiday hazard proofing) or may be customized to target clients, individually or in groups, whose animals may have a commonly encountered medical condition the management of which benefits from more complete understanding (e.g., endocrine conditions, such as diabetes; renal disease; laminitis). Multiple members of your veterinary healthcare team can and should participate in providing this

education, consistent with their training and within their scope of practice.

- Individual client instruction — Veterinary technicians and veterinary assistants can use tools of telehealth to review with clients how to administer subcutaneous fluids, ophthalmic ointment, and other medications; provide routine dental care; care for wounds and manage bandages, splints/casts, or external fixators; understand and manage their animal's undesired behavior; and implement nutritional recommendations. As always, the role of the team member in providing these services needs to be consistent with their scope of practice.

Don't forget that tools of telehealth can also be used to deliver and receive education for members of the veterinary healthcare team. Examples include arrangements with specialists that permit referring veterinarians to participate in daily or weekly rounds and learn more about complex cases, remote video instruction provided by vendors that supports better use of diagnostic equipment and more accurate interpretation of test results, and real-time viewing and discussion of unusual cases with surgeons, pathologists, behaviorists, or rehabilitation specialists.

THE PATH TO IMPLEMENTATION

Telehealth services can expand access to veterinary care, support better patient triage, improve clinical outcomes, and benefit patients, animal owners, and the veterinary practice. In addition to recognizing the opportunities presented by Connected Care, below you will find some additional things to consider as you implement telehealth successfully in your practice.

KNOW THE RULES

You might already have some solid ideas about how you'd like to incorporate Connected Care into your practice. Even if that's the case, it's critical that you first familiarize yourself with the rules that govern the use of telehealth, including the regulatory and legal landscape around the delivery of telemedicine. In addition to helping to protect you, your patients and your clients, doing the following will ensure you don't spend valuable time pursuing services that cannot be legally offered in your area.

- Familiarize yourself with the [AVMA Policy on Telemedicine](#).
- Understand how the VCPR and licensing requirements apply to the provision of telehealth services, particularly telemedicine services (see below).
- Review federal, state and local requirements, so that you are familiar with the statutes, regulations, and rules that apply in your area. Such information is often located in:
 - State veterinary practice acts
 - State pharmacy laws
 - State licensure requirements
 - State veterinary telehealth laws
 - [State VCPR requirements](#)
 - [Federal VCPR requirements](#)
 - Federal/[state](#)/local record retention requirements
 - [State veterinary client/patient confidentiality laws](#)
 - State and federal controlled substances laws

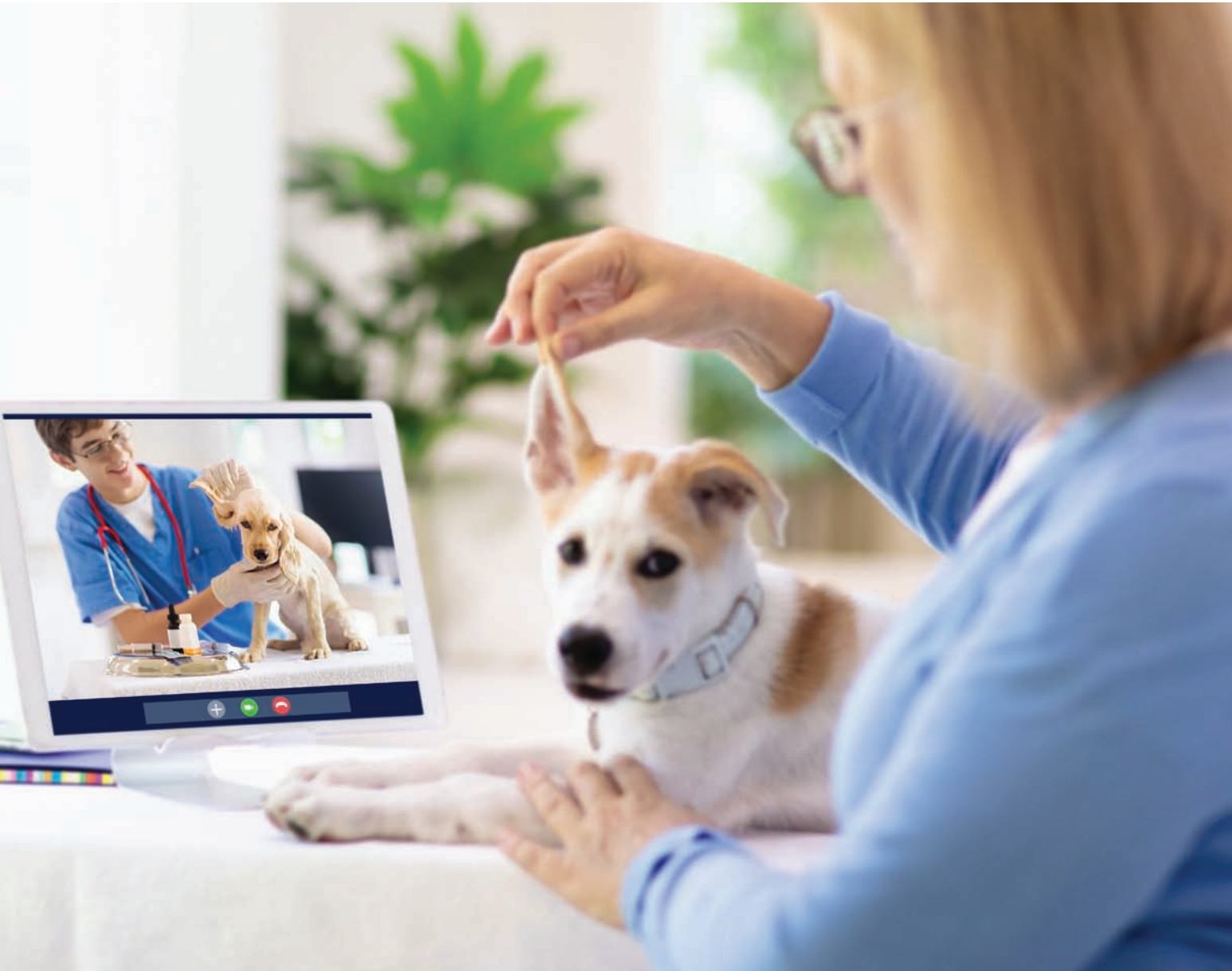
Be sure to not only review applicable statutes, but also the regulations, rules and policies that may be in place to implement them.

TELEHEALTH AND THE VCPR

Having a VCPR in place is critical whenever practicing veterinary medicine, whether you are practicing in person or remotely using telemedicine. The [AVMA Model Veterinary Practice Act](#), which many governmental bodies use as a guide when establishing or revising laws governing veterinary practice, includes the following definition of the VCPR:

The veterinarian-client-patient relationship is the basis for veterinary care. To establish such a relationship the following conditions must be satisfied:

1. *The licensed veterinarian has assumed the responsibility for making medical judgments regarding the health of the patient(s) and the need for medical therapy and has instructed the client on a course of therapy appropriate to the circumstance.*



2. *There is sufficient knowledge of the patient(s) by the veterinarian to initiate at least a general or preliminary diagnosis of the medical condition(s) of the patient(s).*
3. *The client has agreed to follow the licensed veterinarian's recommendations.*
4. *The licensed veterinarian is readily available for follow up evaluation or has arranged for:*
 - a. *Emergency or urgent care coverage, or*
 - b. *Continuing care and treatment has been designated by the veterinarian with the prior relationship to a licensed veterinarian who has access to the patient's medical records and/or who can provide reasonable and appropriate medical care.*
5. *The veterinarian provides oversight of treatment.*
6. *Such a relationship can exist only when the veterinarian has performed a timely physical examination of the patient(s) or is personally acquainted with the keeping and care of the patient(s) by virtue of medically appropriate and timely visits to the operation where the patient(s) is(are) kept, or both.*
7. *Patient records are maintained.*

“A VCPR cannot be established solely through telemedicine.”
 – 2017 FDA letter to AVMA from Dr. Stephen Solomon, Director, Center for Veterinary Medicine. Applicable to extralabel drug use and VFDs.

Both the licensed veterinarian and the client have the right to establish or decline a veterinarian-client-patient relationship within the guidelines set forth in the AVMA Principles of Veterinary Medical Ethics.

A licensed veterinarian who in good faith engages in the practice of veterinary medicine by rendering or attempting to render emergency or urgent care to a patient when a client cannot be identified, and a veterinarian-client-patient relationship is not established, should not be subject to penalty based solely on the veterinarian's inability to establish a veterinarian-client-patient relationship.

Many states have adopted this definition of the VCPR, or a very similar one, as a component of their state veterinary practice act or regulations. In addition, federal law requires a veterinarian to establish a VCPR before undertaking any [extralabel drug use in animals](#), issuing a [Veterinary Feed Directive](#), or the [creation and use of certain types of biologics](#). It is also important for veterinarians to understand that they must comply with the federal law requiring a VCPR under these circumstances, regardless of how a state may ultimately define a VCPR in state law or regulation.

Given current technological capabilities, available research, and the existing state and federal regulatory landscape, the AVMA believes veterinary telemedicine should only be conducted within an existing VCPR. An exception may be made for advice given in an emergency until a patient can be seen by a veterinarian. Ultimately, how a state defines the VCPR, the congruence of that state VCPR with federal requirements, and whether or not a VCPR exists in a given situation based on those definitions, determine what services can be offered.

Within an established VCPR

A variety of telehealth and telemedicine service models are available to veterinarians and veterinary practices. Client-facing telemedicine services may include use of tools that allow the veterinarian to remotely and securely gather essential patient health information from the animal owner or another caretaker; access the patient's medical records; and conduct a virtual evaluation of the patient through real-time video or transmitted photographs or other data.

Without an established VCPR

The veterinarian may provide non-patient-specific advice, but must stay clear of diagnosing, prognosing, or treating patients. Two exceptions may apply: (1) your state law allows a VCPR to be established electronically, you have met the requirements for doing so, and activities that would invoke a requirement for adherence

to the federal VCPR are not conducted or (2) advice given in an emergency until a patient can be seen by a veterinarian. Non-client electronic communications that include the provision of non-patient-specific advice and general educational content are usually acceptable.

LICENSURE CONSIDERATIONS WHEN USING TELEMEDICINE

Treating patients across state lines

One of the many benefits of telemedicine is that it collapses distances and makes it easier for veterinarians to work with patients and clients who are physically remote from the clinic. When conducting telemedicine consults across state lines, it is advisable and *may be required* for the veterinarian to be licensed both in the state where they are located and the state where the patient(s) is located. Should issues arise, being licensed in both states ensures the veterinarian is legally authorized to practice. Just like an appropriately established VCPR, licensure in both states protects veterinarians, patients, and clients.

Consulting with specialists

A primary care veterinarian working within a VCPR may use his/her professional discretion to consult with specialists or other consultants. In such cases, the veterinarian who is asking for the specialty advice must have a VCPR in place, as well as the necessary license(s) to practice. The AVMA believes the consulting specialist should not need to meet these same requirements, so long as they are working through the primary care veterinarian. If the consultant were to begin treating the patient independently of the primary care veterinarian, then the consultant would need to establish a separate VCPR and be licensed within the patient's state.

Ultimately, veterinarians need to review state veterinary practice acts in both the state where they are located and the state where their patient(s) is located, if different, to ensure they and any consultants with whom they may be working are meeting VCPR and licensing requirements in each of the respective states that are pertinent to the situation in which they are providing services.

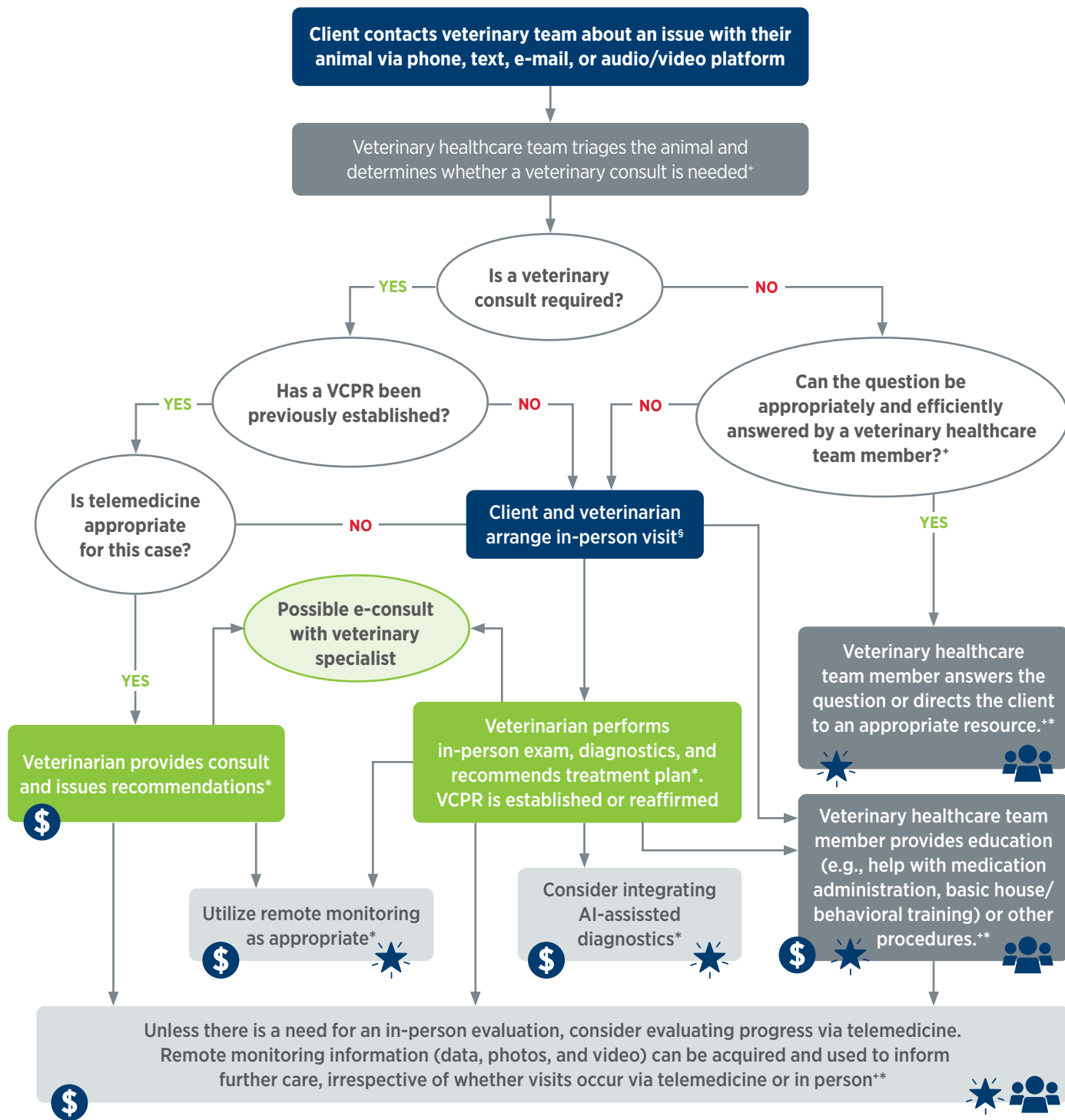
DEFINE YOUR SERVICE OFFERINGS AND INTEGRATE THEM INTO YOUR PRACTICE OPERATIONS

Once you understand the laws, regulations, and rules that apply to telehealth and, specifically, to telemedicine, you're ready to decide on the type(s) of services you want to implement. The options are numerous (see "Clinical scenarios supporting applications of telehealth" found on the AVMA telehealth resource webpage titled "[Service models for veterinary telemedicine](#)" for examples), and you can pick and choose those that make the most sense for your practice. Don't forget that your services can be implemented over time—you don't have to do everything right now. Be sure to keep track of outcomes for your patients, clients and healthcare team so that you can determine which services are netting the most value for your practice. Give consideration to demand, in addition to need.

You will also need to think about how Connected Care fits into your clinic operations and workflow. Considerations include, but are not limited to: space; technology; scheduling; approach to diagnostic workups (how/when do remotely acquired data and AI play a role?); translation of information into the medical record; staff training; client awareness, understanding and consent; and invoicing. For success, telehealth needs to be mainstreamed into your approach; it should not be pigeon-holed as a "different" way of taking care of patients and clients. In-person visits and telehealth then become seamless partners in delivering cohesive, high-quality patient care.

On the next page is one example of what an integrated workflow might look like. It includes potential applications of telehealth, such as teletriage, telemedicine, AI-assisted diagnostics, RPM, specialty consultation, and client education, while supporting the engagement of your entire veterinary healthcare team.

Sample Practice Workflow



* All interactions should be captured in the medical record
 + Any assessment or procedures performed by a member of the veterinary healthcare team must be within the team member's scope of practice.
 § Pertains to situations where a VCPR must be established via an in-person examination

Potential telehealth income Increases efficiency Better utilize veterinary healthcare team

CHECK YOUR LIABILITY COVERAGE

In most instances there is no additional liability coverage required for veterinarians who offer telehealth services, including telemedicine. However, it's wise to check with your professional liability insurance carrier. Make sure you clearly describe what services you are offering, including the use of any equipment or software, and who will be engaged in delivering those services, because the coverage required for various types of activities (including who needs that coverage) may be different, particularly if members of your team may be traveling to locations outside the regular place of business. If you have obtained your liability insurance through the AVMA PLIT, the [AVMA PLIT website](http://www.avma.org/telehealth) is a good place to start.

EVALUATE TECHNOLOGY AND SERVICE PROVIDERS

Different telehealth services require different types of hardware, software and office support.

Client communication platforms

Some veterinarians communicate with their clients using technologies that already exist in their practice, such as smartphones and general audio- and video-conferencing platforms. Other practices may choose to use a telehealth-specific client communication platform that integrates with their practice management software, schedulers and payment systems. In all cases, be sure you are appropriately integrating information gained through these communication tools into your patients' medical records and that the security and privacy associated with those communications meets ethical and regulatory requirements.

If you are considering partnering with a provider of a telehealth-specific client communication platform, it is important to understand each provider's capabilities, limitations, and costs. Are you wanting communication with your clients to be asynchronous, synchronous or both? Do you want a built-in payment system or do you want to bill from your practice? Make sure the platform works with the technology available to you and your client, including hardware, operating system, your practice management software (if you are wanting integration), and internet service. Some client communication platform providers employ veterinarians or veterinary technicians to assist with triage and/or providing general advice for clients. This may be offered during normal business hours or after hours, with patients

for which an in-person visit seems appropriate redirected to your clinic for an appointment or to an emergency facility when calls are received outside of normal business hours. Telehealth-specific client communication platforms may require an ongoing monthly or per-use investment in addition to new hardware. Another consideration is the amount of support available from the provider during implementation and use. As is typical of new technologies, telehealth-specific client communication platforms are continually evolving, so check with the provider to be sure you understand how they upgrade and how those upgrades are passed on to you. A practical Service Provider Evaluation Checklist is available on the AVMA website, at www.avma.org/telehealth, to help you with this assessment. The AVMA has also put together a [table](#) of available telehealth-specific client communication platform providers with a breakdown of what they offer, also available on the website.

Artificial Intelligence-assisted diagnostic products

AI-assisted diagnostic products typically employ predictive analysis algorithms to filter, organize and search for patterns in big data sets from multiple sources. As such, they provide a probability analysis that can help veterinarians make better informed decisions more rapidly.

When determining whether to add an AI-assisted diagnostic product to the technologies in your practice, there is some basic information you should gather. For example, who is the intended user of the product (e.g., veterinarian, technician, client); what disease/need does it target and for what population of patients; whether additional data processing is required to fully take advantage of the product; and how it supports your decision making. In addition, you should ask about the data set it is using to provide its assist (e.g., how well does the data set fit the patient population for which you want to use the tool in your practice); what happens to any data you enter into the system, including security around that data; the anticipated accuracy of the product and what steps the vendor takes to continually improve and update it; and what kind of vendor support is provided for its use.

It's important to remember that AI-assisted diagnostic products are not a replacement for your expertise or the expertise of consultants (veterinary specialists and others). Care must be taken when interpreting AI-assisted diagnostic results.

Remote patient monitoring

Remote monitors, including wearable devices, collect and support the analysis of data (both synchronous and asynchronous) that healthcare providers, including veterinarians, can use to make informed decisions that may lead to better patient care and outcomes. Most RPM technologies include the following components: sensors on a device that are enabled by wireless communication to measure desired physical parameters; local data storage at the remote site that interfaces between the sensors and a centralized data repository; a centralized data repository where larger amounts of data are collected and analyzed; and diagnostic application software connected with the central depository that creates intervention alerts based on the data analysis. Data and alerts from RPM may be accessed by multiple types of devices, including smartphones, personal computers, laptops and tablets.

When implementing RPM, a few considerations are key. First, the technology must be easy for both clients and veterinarians to adopt and continue using. The equipment and user interface must be intuitive, the set up must be easy, and the patient data delivered by the remote monitor should be well-organized and simple to evaluate. Second, like other aspects of telehealth, to deliver on its promise, RPM must be integrated into your practice's workflow and operations. RPM only works if you pay attention and are prepared to act on the information being provided. Third, much RPM is dependent on a wireless telecommunications infrastructure, which may not be available in some areas. And, finally, since RPM involves transmission of patient and client data across networks, information security needs to be addressed as well.

Consider starting with a pilot for patients or facilities where you anticipate a good return on investment (e.g., weight management, diabetics, milk production monitoring) and then expand after you have had an opportunity to reflect on its success (or not). Think about whether you will supply the equipment or it will be purchased by your client upon your recommendation. You'll also want to consider whether your fees for reviewing and analyzing patient data can be captured within existing service fees or whether a separate fee for such services makes sense for your practice.

TRAIN STAFF, MARKET YOUR SERVICES AND ENGAGE CLIENTS

Implementing new telehealth services is an excellent way to more fully utilize the expertise of the veterinary healthcare team. Make sure the entire team is on board with delivering the new services and knows their role in providing and marketing them. Training your hospital staff will be key so that every one of your team members understands the why, what, and how of you offering these services for your patients and clients.

As with any new product or service, you need to let both existing and potential new clients know about the new telehealth services you are offering. Put together a communication plan to get the word out and generate interest. Create marketing materials, such as in-clinic displays, email to all existing clients, digital displays for your practice website, and promotion via your social media channels. Consider developing a script for your veterinary healthcare team to use when communicating with clients via phone or text about your new service(s). For example: "Our doctors are now available for telemedicine consultations" or "We have integrated new digital tools into our practice to support better patient care. Our new services include AI-assisted diagnostics and remote patient monitoring..." In-person conversations with clients, colleagues and friends can also help you spread the word.

SET EXPECTATIONS

Your first telehealth engagement with a client might be their first time ever using such services. As with any new experience, there will be questions and teachable moments for everyone involved. Before any client makes use of your telehealth services, make sure they are educated about the advantages and disadvantages of using such services in veterinary health care and what to expect from each. Using simple language that your client can easily understand, explain:



- How your telehealth offerings work, including scheduling, needed technology for telemedicine consults, availability of doctors, turnaround time on AI-supported diagnostic services, what the potential is for RPM, and billing/payment for those services.
- The scope of the services, and what will be involved in evaluating patient progress.
- What your expectations are for communication between visits.
- The role of any third-party services or products you will be using (e.g., client communication platform, AI-supported diagnostic product, RPM product/service).
- Record keeping, privacy, and security, including any potential risks. Discuss how patient and client information will be collected and stored and describe the security precautions you take to help ensure confidentiality.
- The potential for technical failure, and outline an explicit emergency plan, particularly for clients in settings where in-person access to the veterinarian/practice may be more difficult.
- Procedures for coordinating care with other professionals.
- Prescribing policies, including adherence to state/territorial and federal regulations and limitations.
- The conditions under which telemedicine services may be terminated and a recommendation made for in-person care.

TECHNOLOGY AND WORKSPACE NEEDS SPECIFIC TO TELEMEDICINE

Client-facing telemedicine models exist that allow the veterinarian to remotely and securely gather essential veterinary medical information from the animal(s) owner (or other caretaker), access the patient's/herd's medical records, and gather additional information about the patient through video, photographs, RPM, or other means. How extensively you want to incorporate these technologies into your practice is up to you, so long as there is a VCPR in place that follows state and federal requirements.

Delivering an extraordinary client experience takes preparation and planning. This is especially important when you are implementing new services intended to

enhance the high-quality veterinary care your patients need and your clients have come to expect. To make telemedicine successful for your practice, you need to ensure that both the setting and tools are optimized for seamless communication and effective interaction with clients and patients. Arrangements that keep the clients' and patients' experience as their focus generally meet with the most success.

Below you will find technology and workspace considerations that will help you conduct successful telemedicine consultations.

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CLINIC SETTING

When communicating with clients through synchronous communication platforms, choose a location that provides privacy, avoids distractions and background noise, has adequate lighting, and otherwise supports quality communication and consultation. Consider whether and how an existing examination room(s) or workspace might be adapted to accommodate telehealth. If space is limited, you might consider a mobile solution (e.g., a telehealth cart) that can be moved from one location to another to support flexibility.

Privacy The room you use for virtual consults should assure privacy for your client. Prevent unauthorized access and interruptions, and make sure your team members know not to open the door when it is closed for a consultation.

Noise Soundproofing should be sufficient that you can focus fully on your patients' and clients' needs, and provide privacy for your clients when they are speaking with you.

Furnishings/appearance The setting should be designed for both comfort and professional interaction. Especially if you conduct video consults, the room should convey a professional atmosphere.

Lighting Ensure lighting is sufficient to allow your client to see you easily, and for you to clearly and effectively view the video screen or other hardware you will use for the consultation.

Video setup Place your camera on a secure, stable platform to avoid any wobbling during videoconferencing. Position the camera so that your face will be clearly visible to your client, with the camera at eye level. If you are performing an in-person examination of a patient and are streaming the examination to the client, you may wish to use a camera that pans, tilts, and zooms for maximum flexibility in viewing. As for any veterinarian-client-patient interaction, a summary should be entered in the medical record.

EQUIPMENT

You don't have to break the bank when choosing equipment. However, your equipment must allow you to efficiently and effectively receive needed electronic data (e.g., medical records, images, activity data), deliver a high-quality medical consultation, and project a professional demeanor to clients. Use modern telecommunication equipment, such as smartphones, tablets, or laptops with high-quality audio and video capabilities and secure data storage (including off site).

If you are conducting video consultations, make sure your viewing screen is large enough to see patients clearly. A small smartphone screen might suffice for remote face-to-face communication with your client, but you will probably want a larger monitor if you need to view your patients' activity or evaluate wounds, incisions, behavior, or environment.

Many AI-supported diagnostic products can be used with most current equipment, but make sure you verify how this works. RPM devices may transmit data directly to you, or your client may need to send you the data or authorize your access to it. It is important to understand how data transfer occurs, what equipment is needed, whether/how the data will be stored in the patient's record, and how the data is secured.

If you are using a third-party application/service, ask your vendor what additional equipment is needed to properly support the service. Also consider if you will need to execute appropriate service contracts for hardware and software.

CONNECTIVITY AND SECURITY

Connectivity is critical.

This means reliable internet service and adequate bandwidth, resolution, and speed for clinical consultations. You can test your connection and bandwidth with free online testing sites. Searching keywords like "speed test" will help you locate these sites.

Make sure your:

- **Internet and bandwidth** are adequate for the platform you are using. A bandwidth of at least 10 Mbps in both the downlink and uplink directions is recommended.
- **Internet connection** is reliable. This might mean using a wired connection rather than Wi-Fi.
- **Screen resolution** is sufficient to accomplish the purpose of the interaction. A minimum screen resolution of at least 640x360 is recommended.
- **Video speed** is at least 30 frames per second.
- **Network** is secure, not only during consultations, but whenever you are exchanging information electronically with your clients. Always use an encrypted network, with the highest encryption form available (WPA/WPA2 is current standard). In addition, online testing sites can help you test your firewall.
- **Service providers** protect client information and ask whether/how they use or sell any information, whether client-specific or anonymized.
- **Client's telephone number** is readily available in the case of a connection interruption, so you can re-establish contact.
- **Client** has approved, in writing, any use of client or patient information that you might share publicly as a teaching example or otherwise.

TEST YOUR SETUP

Once you have your workspace for virtual consultations set up and needed equipment in place, test it by conducting a few trial sessions with people who are offsite. Check sound and picture quality, network speed, and background noise levels. Make sure your camera can be positioned so that the veterinarian, another veterinary healthcare team member, and/or the patient are clearly visible. Use test cases to ensure you are able to transmit photos, videos, documents, and other data successfully.

YOUR CLIENT'S TECHNOLOGY NEEDS

Environment and technology are important on the receiving end of your consultation as well. Here's some advice you can share with clients before their first virtual consultation:

- Plan to be in a well-lit space. Avoid back-lighting.
- Choose a quiet spot without a lot of distractions. Look for a place where you won't be interrupted.
- If available, use a camera that can pan, tilt, and zoom for maximum flexibility in viewing. A smartphone generally provides this flexibility.
- Discuss privacy and security and advise clients to use a secure network connection.
- Share with your client the same technology requirements listed above for your clinic: bandwidth of at least 10 Mbps in both the downlink and uplink directions; screen resolution of at least 640x360; and video speed of at least 30 frames per second.
- Where practical, you may recommend preferred video conferencing software and/or audio/video hardware.

HAVE A BACKUP PLAN

In the event of a technology breakdown that disrupts a session, you should have a backup plan in place. The plan should be communicated to the client before the session begins.

Your backup plan for a video consultation should include making sure you have the client's phone number so that you may call them directly in the case of a disrupted consultation. A telephone connection provides an opportunity to troubleshoot the issue together. It may also include referring the client to another provider or completing the encounter by voice only, with the option to request an in-person visit.

MONETIZATION OF VETERINARY TELEHEALTH

How do you decide what your veterinary practice should charge for telemedicine services? The good news is that you can customize your approach to what's best for your patients, clients, veterinary healthcare team, and practice workflow. Pricing models to consider include:

- Pay per use (e.g., \$X per consultation, graduated fee depending on length of consultation)
- Bundled pricing (e.g., included in overall cost of veterinary healthcare plan [per visit, monthly, annual])
- Subscription pricing (e.g., \$Y per month/per animal for unlimited access to the service[s])

Each practice should independently determine its fees for various telemedicine services based on the time spent by the veterinarian and other veterinary healthcare team members, the costs of these services to the practice, the value of the services to the client and patient, and competitive considerations in the market.

DETERMINE A PRICING STRATEGY THAT WORKS FOR YOU

As with any other veterinary service, it is critically important to develop a telehealth pricing strategy that works for your practice. This means considering how each telehealth offering fits into the overall service mix you provide.

If you offer a veterinary healthcare plan that bundles preventive services, consider including an audio/video consultation as part of the plan. This allows you to promote virtual consults as a value-added service for clients, and provides flexibility in how clients can access your veterinary healthcare team when questions arise about their animals' health. For example, if your healthcare plans for patients are structured around life stage, you can consider adding a telemedicine consultation as one of the evaluations you recommend for senior patients, or a behavioral consult for clients with newly acquired animals. In the case of food animal or equine patients, costs for telehealth services can be integrated into existing retainer for service fees, individual consultation fees, or can be accounted for in your hourly rates.

Maybe you are considering telehealth as a strategy to expand access to veterinary services after hours. That might mean offering video consultations as a separate service, with pay-per-use, pay-per-time spent, or pay-per-animal/-group of animals pricing, or some other model of your own choosing. If your practice has a large number of clients who struggle to fit veterinary visits into busy schedules, or you or your clients need to travel a considerable distance for in-person evaluations, it may make sense to offer subscription pricing that allows telehealth to be a key part of the service model for clients who want that option and with whom you have an established [VCPR](#).

When pricing telemedicine visits, you'll also want to think about what is involved in that visit as compared with what happens during a hands-on, in-person visit. Some things to consider:

- What are your costs in offering telemedicine, and to what extent will your appointment schedule need to be adjusted to appropriately accommodate telemedicine consultations and in-person visits?
- Will the added flexibility offered by a telemedicine visit offset the perceived value of an in-person examination in your clients' minds?
- Should you consider an "introductory rate" for telemedicine visits to encourage clients to try them?
- If a telemedicine visit leads you to recommend an in-person exam, do you want to bundle the costs to avoid charging for two full separate exams (e.g., a recheck charge for the in-person examination, because the history and other basic information have already been obtained)?

Fees incurred for the use of AI-assisted diagnostic products or RPM equipment and data analysis may be charged separately or integrated into fees for the diagnostic or professional services they support.

There's no one-size-fits-all approach to monetizing telehealth. What's important is to consider the needs and interests of your clients and patients, as well as your veterinary healthcare team and practice. Just as is the case when you offer any other new service, you might want to test the waters to see how receptive your clients are to various approaches before settling on the best one for your practice.

VENDOR CONSIDERATIONS

If your clinic uses a telehealth product or service provider, it's important to consider how the vendor structures its fees when deciding on your own pricing model. Sometimes, if the platform itself uses a third-party payer, additional fees may be involved. Arrangements can vary greatly depending on the provider, so it's important to understand the details. It also is important to ensure that the fee arrangement with the service provider complies with applicable state law related to fee-splitting, kickbacks or other payments for referrals.

WILL INSURANCE COMPANIES COVER A TELEMEDICINE VISIT?

It is wise to advise clients who have purchased insurance to assist in caring for their animals to check with their insurance provider to determine whether and how telemedicine visits are covered.

ADDITIONAL RESOURCES

AVMA telehealth webcenter at www.avma.org/telehealth.

AAHA/AVMA Telehealth Guidelines for Small Animal Practice at www.aaha.org/telehealth.





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