From:	Courtnay Baskerville
Sent:	Thursday, 28 September 2023 10:49 AM
To:	Portfolio Committee 4
Subject:	CM: Re: Inquiry into the veterinary workforce shortage in New South Wales – Post-hearing responses – 30 August 2023
Attachments:	We found suspicious links; Supplementary Doc 1.pdf; Supplementary Doc 2.pdf; Supplementary Doc 3.pdf

Dear Sarah,

Thank you for your email re. post hearing responses for the inquiry into the veterinary workforce shortage. It doesn't appear as though the Veterinary Nursing Research Group (VNRG) has anything on notice, though on the day, it was mentioned that we may be asked to provide a response to our stance on the 16 recommendations put forth in the Australian Veterinary Association (AVA) submission. The VNRG welcomes the opportunity to address the recommendations pertinent to the Veterinary Nursing/Technology profession and have provided our responses below:

Terminology:

UK	Veterinary Nurse (VN) - Bachelor and Diploma level equivalent qualifications Registered Veterinary Nurse (RVN) - VNs must register to practice as a VN across the UK. UK qualified VNs are eligible for registration when an approved programme is completed and a registerable qualification has been received.
USA	Veterinary Technician (VT) - Diploma level equivalent qualification Veterinary Technologist (VT) - Bachelor level equivalent qualification Credentialed Veterinary Technician (CrVT) - in some states, VTs must register to practice as a VT in the USA. Veterinary Technicians/Technologists who have passed American Veterinary Association, Veterinary Technician National Exam and issued a credential to practice by the state regulatory authority
Australia	Veterinary Nurse - AQF level 4 through to AQF level 7 qualifications Veterinary Technologist - AQF level 7 qualification Registered Veterinary Nurse/Technician (RVN/T) - voluntary registration for VN/VTs through the Australian Veterinary Nurse and Technician Registration Scheme
VN/VT	Used to be inclusive of both professional titles

Recommendation 1: *The NSW Government commit to ongoing recognition and support of veterinarians to continue to build and maintain capacity for Emergency Animal Disease surveillance and response activities.*

VNRG response:

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The VNRG supports this recommendation and would like to add that recognition and support efforts should be inclusive of the VN/VT profession as the *veterinary team* are often required to respond to Emergency Animal Disease threats and outbreaks.

Relevant Veterinary Nursing Council of Australia (VNCA) Day One Competency (DOC) for VN/VT education standards:

"Comply with the requirements for reporting notifiable diseases and reportable diseases and injuries under DPI guidelines, Department of Agriculture and Water Resources, as well as the AUSVETPLAN" (VNCA, 2019)

Please also see Supplementary Doc 1 (attached) - relevant section "The Role of the Veterinary Nurse", page 82 and conclusion which states: *"Just as biosecurity requires cooperation and consistency of message at a national and international level, it also requires teamwork and vigilance within every veterinary practice in the UK. Within these teams, veterinary nurses play a vital role."*

Recommendation 2: The NSW Government consider the pressing concerns experienced by government veterinarians and conduct a comprehensive review and develop a proactive strategy to support the critical work of our government veterinarians, ensure the health of our livestock, and maintain our ability to respond effectively to biosecurity threats and animal welfare issues.

VNRG response:

The VNRG supports this and recommends appointment of government VN/VTs to support the work of veterinarians in government and spearhead collaborative care efforts to achieve goals towards enhanced animal welfare outcomes as well as ensuring the health of livestock and effective biosecurity strategies.

The World Health Organisation's Roles and Responsibilities of Government Chief Nursing and Midwifery Officers (GCNMO) Capacity Building Manual suggests that *"empowered and effective nursing and midwifery leadership is essential to mobilize appropriate resources, motivate and inspire practising nurses and midwives, and inform and shape health policy and strategy directions. [In 2001, WHO] called upon governments to create GCNMO positions and empower existing ones. This was in recognition of the increased demand – to have sufficient nurses and midwives both in numbers and quality to meet the health-care needs of individuals, families and communities around the world"* (WHO, 2015).

The VNRG would like to draw attention to our submission, page 3 paragraph 3 where we outline that *"whilst human health care sectors have recognised the importance of inclusive strategies and collaborative healthcare, little has been done to support the advancement of the VN/VT profession through similar strategies despite the RCVS Workforce Action Plan recommending the promotion of VNs through leadership"*. WHO (2015) goes on to recommend that GCNMOs are responsible for providing authentic leadership in nursing and here we propose that VN/VTs can also provide strategic leadership to benefit veterinary patients through the VN/VT profession.

Recommendation 3: The NSW Government commit funding to AVA's wellness initiative, THRIVE to support veterinarians and veterinary staff to lead satisfying, prosperous and healthy careers.

VNRG response:

The VNRG supports THRIVE and we look forward to opportunities for VN/VTs to contribute to this initiative. Considering the impact that veterinary occupational stressors also have on the VN/VT profession and findings suggesting that VNs are also subjected to verbal abuse from clients and other staff members (further detail provided below), we recommend that VN/VTs be invited to collaborate on the formulation of industry frameworks and guidelines to create safer practices for the larger veterinary team.

Recommendation 4: The NSW Government consider funding a public awareness campaign to address the rising rates of verbal and physical assault of veterinary teams and to educate the community on the impact of their actions. For example, similar to the [NSW Ambulance 'It's Never Okay'](#) campaign.

VNRG response:

The VNRG supports this initiative recognising that VN/VTs are also exposed to verbal and physical assaults from the public and other staff members with one study suggesting that 40.5% of VNs surveyed had experienced physical or verbal violence, or sexual harassment. Among the respondents who had experienced verbal violence, 17 were abused by male clients, 12 by female clients, 28 by hospital directors, and 22 by other staff members (Supplementary Doc 2 attached).

Recommendation 5: The NSW Government consider funding for the profession to provide work integrated learning (WIL) opportunities for overseas veterinarians wishing to work in NSW as well as funding to assist international NSW applicants undertake the Australian veterinary examination process without financial hardship.

VNRG response:

The VNRG supports this initiative

Recommendation 6: The NSW Government support changes to visa provisions including lifting of the age cap for permanent residency to be in line with the human medical field.

VNRG response:

The VNRG supports this initiative and would also like to highlight the AVA's short-term strategy for the *"reduction of barriers to assist overseas trained veterinarians and veterinary nurses [/Veterinary Technicians] to enter Australia and achieve permanent residence"* (AVA Submission, page 10, paragraph 4 bullet point 2). The AVA goes on to state that "*currently the pathway to permanent residency for veterinary nurses is difficult, onerous, and expensive to undertake, and very few overseas veterinary nurses pursue permanent residency. We would like to see long term modification of policy settings to strengthen skilled migrant pathways to permanent residency for veterinary nurses*" (AVA Submission, page 38, paragraph 5).

Recommendation 7: The NSW Government provide resources to fund a think tank to develop an afterhours model that is sustainable for the profession and allows veterinary services to be delivered to the NSW community in both urban and rural areas 24/7.

VNRG response:

The VNRG looks forward to opportunities for VN/VTs to explore ways in which the profession can support the delivery of telehealth initiatives. In 2021, the American Animal Hospital Association in collaboration with the American Veterinary Medical Association created Telehealth guidelines for small animal practice. These guidelines are inclusive of the VT profession and have been attached here as supplementary information (Supplementary Doc 3).

Recommendation 8: *The NSW Government Veterinary professionals are extended the same opportunities as other professions that are being encouraged to move to regional, rural and remote areas.*

VNRG response:

The VNRG supports this initiative and would like to highlight that as the industry largely operates at a ratio of two VN/VTs to one veterinarian (VNCA Industry Survey Report 2021), strategies that aim to address the shortage of veterinarians working in regional, rural and remote areas must coincide with initiatives to mobilise the VN/VT workforce to these areas also.

Recommendation 9: *The AVA calls upon the NSW Government to explore solutions that support the veterinary sector in its role with stray animals, addressing the key issues outlined and promoting overall animal health, welfare, and public health.*

VNRG response:

The VNRG supports this initiative

Recommendation 10: *The NSW Government commits funding to develop and implement a framework that provides regulatory and appropriate financial support to the provision of veterinary services for lost, stray and homeless animals, injured wildlife and during emergency situations provided by all sectors of the profession (charities and the private veterinary sector).*

VNRG response:

The VNRG supports this initiative

Recommendation 11: *The NSW Government through funding encourages industry and the veterinary profession to collaborate and develop a framework or solution that will improve integration of veterinary services into animal production systems that is workable for all parties.*

VNRG response:

The VNRG supports this initiative

Recommendation 12: *The NSW Government support extending access to the national Translating and Interpreting Service for veterinarians.*

VNRG response:

The VNRG supports this initiative

Recommendation 13: *The NSW Government provide funding to resource the development of prioritisation and planning of the longer-term strategies that will have the most effective workforce outcomes for all stakeholders the veterinary profession serves and the profession itself.*

VNRG response:

The VNRG supports this funding recommendation and we look forward to opportunities for VN/VTs to contribute to longer-term strategies for effective workforce outcomes. As we mention in our submission "*any long-term, lasting solutions will require a collaborative approach with the VN/VT profession as it is clear that as we unpack the remit of VN/VTs in clinical practice, the contributions of this group have played heavily in shaping modern veterinary medicine and must continue to do so*" (VNRG submission, page 6, paragraph 1)

Recommendation 14: *The NSW Government commit to legislative and regulatory reform to safeguard the role of the veterinary profession in the delivery of animal health and welfare, whilst making it adaptable to a constantly changing environment. This could be achieved by a review of the veterinary practice act and consider the interactions with other legislation including the prevention of cruelty to animals act.*

VNRG response:

The VNRG supports this initiative and would like to highlight the importance of legislative and regulatory reform to be inclusive of the VN/VT profession. We propose this for 4 key reasons:

1. To clarify the scope of practice for VN/VTs so that educational providers can develop curricula which will ensure all graduates met the expectations of the veterinary industry
2. To enhance the utilisation of VN/VTs in practice to reduce veterinarian workload pressures in practice and curb the dissatisfaction crisis of the VN/VT profession to positively impact the attrition of VN/VTs
3. To ensure all workers operating as VN/VTs have appropriate qualifications to enhance patient outcomes and ensure that veterinary care meets the increasing expectations of the community
4. To secure representation of VN/VTs on state veterinary regulatory boards so that VN/VTs can contribute to collaborative veterinary care approaches and work on strategies to improve outcomes for the veterinary team

Recommendation 15: *The NSW Government considers funding around educational fee relief to encourage early career veterinarians to work in rural NSW.*

VNRG response:

Comment as above (VNRG response - Recommendation 8): due to effective VN/VT to veterinarian staff ratios, strategies that aim to address the shortage of veterinarians working in regional, rural and remote areas must coincide with initiatives to mobilise the VN/VT workforce to these areas also.

Recommendation 16: *The NSW Government includes veterinarians in existing mechanisms to sustain medical and paramedical workers in rural areas of NSW.*

VNRG response:

Comment as above (VNRG response - Recommendation 8 and 15)

Further to the recommendations above, the VNRG would like to comment on the AVA's response to TOR 1.d: the role of, and challenges affecting, veterinary nurses. The VNRG supports the AVA's recommendation for mandatory registration and title protection for VN/VTs as well as a regulated veterinary team.

In consideration of our comments above regarding effective VN/VT to veterinarian staff ratios, the VNRG would like to highlight alarming findings from the US which forecasts significant shortages of VTs (Supplementary Doc 4). The recently published guidelines from the American Animal Hospital Association (AAHA) on the appropriate utilisation of registered veterinary technicians states that *"based on the anticipated growth of the pet healthcare market, the Mars Veterinary Health studies estimate that by 2030, veterinary medicine will require 132,885 CrVTs to meet growing healthcare demands. The American Association of Veterinary Medical Colleges proposes a shortage of more than 50,000 CrVTs by that time at current graduation rates.* Authors go on to state that *"improved CrVT utilization is now and will remain a key strategy for counteracting these concerning shortfalls".*

The AVA in their submission notes that *"at present, many procedures carried out by these individuals [VN/VTs] require unnecessary direct supervision by the veterinarian, where direction or a lower level of supervision is more appropriate. This places an increased workload and responsibility and cost on the veterinarian. In countries such as the UK where registration occurs, the work and responsibility within the veterinary practice is more spread across the veterinary practice personnel than what currently occurs in NSW"* (AVA Submission, page 41, paragraph 3). The VNRG would like to again refer to the AAHA guidelines on the utilisation of CrVTs, and note that whilst the AVA has considered the impact that appropriate utilisation of VN/VTs has to reduce the workload, responsibility and cost on the veterinarian, authors of the AAHA guidelines suggest that appropriate utilisation will also *"support professional longevity for VTs by utilizing them to the full extent of their abilities to decrease career dissatisfaction and abandonment"* (Supplementary Doc 4).

We largely consider that mandatory registration, title protection and legislation to underpin the work of the VN/VT, will have a lasting and positive impact on the VN/VT profession and thus, the veterinary workforce and the VNRG hopes that NSW will consider this as an integral first step to address the veterinary workforce shortage.

Thank you and should you require any further information or clarification on any of the above, please do not hesitate to contact Courtnay Baskerville, Chair VNRG.

Kind regards,

Courtnay on behalf of the VNRG

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CPD article

Pet travel: the lesser known threats to UK pets

Increased pet travel, human migration and climate change are leading to the rapid spread of parasitic diseases and their vectors. This, in turn, increases the risk of pets and their owners encountering these agents while abroad and bringing them back to the UK. In addition, legal and illegal imports of dogs from continental Europe are also increasing the likelihood of novel parasites being introduced. Some of these, such as *Leishmania infantum*, are unlikely to establish as the UK neither possesses their vectors nor has ideal conditions for their establishment. Mosquitoes, fruit flies and ticks, however, are already common across the British Isles and can transmit a number of parasites with veterinary and zoonotic significance. The fluid nature of parasite distributions means that an increasing range of parasites need to be considered and general principals in control and biosecurity implemented. Veterinary nurses are key players in the fight to keep exotic diseases out of the UK. This article considers some of the control measures required to protect the UK and its pets as well as some of the more novel parasites that have entered the UK in travelled and imported pets.

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Immediate pet travel considerations most frequently concern tapeworm, ticks, rabies and pet passports. It is essential that pet owners abide with legislation when travelling abroad with their pets, but prevention against parasites, disease and spread into the UK goes far beyond legal requirements. The fluid nature of parasite distributions means that an increasing range of parasites need to be considered and general principals in parasite control and biosecurity implemented. This article considers some of these control measures as well as some of the more novel parasites that have entered the UK in travelled and imported pets in the past 12 months.

The Pet Travel Scheme

The Pet Travel Scheme (PETS) is designed to protect countries against the introduction of zoonotic disease. This legislation also serves two-fold to protect pets from disease, but there is significantly more that can be done to protect pets. For example, tick protection was removed from PETS in 2012 after the risk of *Rhipicephalus sanguineus* ticks entering and establishing in the UK was deemed negligible. The ability of mandatory tick treatment to prevent zoonotic tick-borne diseases entering the UK was also considered questionable. However, removing the tick prevention from PETS has contributed to the UK border being unprotected against the entry of tick-borne parasites such as *Babesia* spp.

and *Ehrlichia canis*, both of which pose significant risk to UK pets. Pet travel advice should consider both mandatory and advisory parasite control measures in order to fully protect both the pet and the UK from exotic disease. The current PETS legislation is summarised in *Table 1*. It is important to always check the pet travel requirements of the country being visited and remember that the Republic of Ireland, the Channel Islands and the Isle of Man have their own regulations for pets travelling from outside of the UK.

The usual suspects

Although they are not the focus of this article, it is important not to forget those commonly considered parasites and the diseases they cause while travelling abroad. Namely, *Echinococcus multilocularis*, *Dirofilaria immitis*, *Leishmania infantum* and various tick-borne diseases (these, and other important parasites and diseases are summarised in *Table 2*). Perhaps that of greatest threat is *E. multilocularis*. The ecological theory of biological invasions states that the risk of a disease establishing in the UK is determined by the propagule pressure and the habitat suitability (both climate and vector availability). Habitat suitability for *E. multilocularis* is very high in the UK due to an abundance of foxes and the optimal habitat for the microtine vole intermediate hosts (Craig, 2014). There is a 98% risk of one dog out of 10 000 returning to the UK with *E. multilocularis* if no

tapeworm treatment is administered (Torgerson and Craig, 2009). The 5-day window following the mandatory tapeworm treatment allows increased opportunities for reinfection and for pet passports to be signed in a greater number of countries before (re)entry to the UK, thus increasing the risk of entry into the UK.

Another parasite advantaged by the 2012 amendment to PETS is the tick. The removal of the mandatory tick treatment in PETS caused much controversy before, and after, the legislative amendment, with associations such as European Scientific Counsel Companion Animal Parasites (ESCCAP UK & Ireland), British Small Animal Veterinary Association (BSAVA) and British Veterinary Association (BVA) all opposing the change. It was predicted that with the removal of the mandatory tick treatment it would only be a matter of time before exotic tick-borne diseases established in the UK. The removal of the compulsory tick treatment was one of a number of factors that has contributed to the increased risk of novel ticks and tick-borne diseases entering the UK. Recent surveys have shown that the incidence of ticks is increasing throughout Europe, with *Dermacentor reticulatus* extending its range south and into Scandinavia, while *R. sanguineus* is extending into Eastern and Central Europe. This is bringing both of these ticks into popular UK holiday destinations such as France and countries from which pets are frequently imported such as Romania (Wright, 2016). In spring 2016, *Babesia canis* was diagnosed in a number of untraveled dogs in Essex and DNA testing showed that there were endemic *D. reticulatus* ticks carrying the parasite (Swainsbury et al, 2016).

The lesser known threats

Climate has previously dictated that serious fly-borne parasites are not of concern in the UK. However, with increased pet travel and the migration of fly-borne diseases migrating further north in Europe, these parasites are becoming very real risks to the UK's biosecurity. Two such parasites are *Dirofilaria repens* and *Thelazia callipaeda*.

Dirofilaria repens

The vectors for *D. repens* (*Aedes*, *Culex* and *Anopheles* mosquito species) are already endemic in the UK, however, the UK has typically not had a suitable climate for the establishment of *D. repens*; the development of *Dirofilaria* species L1 microfilariae to L3 larvae requires 29 days at a constant 18ºC (Lloyd, 2011). *D. repens* is widespread across Europe, as far north as France and Belarus (*Figure 1*). *D. immitis* and *D. repens* both have similar development requirements, although *D. repens* does seem to have less stringent temperature requirements meaning that it is more likely to establish in the UK (Morgan, 2016).

Definitive hosts include dogs, cats and other domestic and wild carnivores. Humans can also be infected and *D. repens* is considered the most significant *Dirofilaria* species responsible for human infections in Europe (ESCCAP UK & Ireland, 2016). Transmission occurs when L1 microfilariae are excreted into the blood stream of the host by adult worms already present. Mosquitoes ingest L1 microfilariae while feeding and L3 larvae develop within the vector, which are then transmitted into the subcutaneous tissues of new hosts via their saliva while feeding. Here they reach maturity, sometimes causing pruritus, dermal swelling or subcutaneous nodules. In rare cases, adult worms migrate to the eyes of the host where they may be visible and may cause conjunctivitis. Prevalence of dirofilariosis in cats tends to be only one tenth of that in dogs and typically occurs in areas of high canine infection rates (ESCCAP, 2012).

Table 1. Travel rules for UK dogs, cats and ferrets as stated by the Pet Travel Scheme (PETS)	
Pet Requirement	Additional details
Before travel	
Microchip	Before rabies vaccination
Rabies vaccination	At least 21 full days before travel (day of vaccination counts as day 0). Pets must be at least 12 weeks old. Travel from non-EU/unlisted countries also requires blood serology testing after rabies vaccination
EU Pet Passport (or Official Veterinary Certificate)	
During travel	
Pet must travel within 5 days of owner/accompanying person	If the pet is not travelling with the owner, the owner must authorise the person responsible for the pet in writing prior to travel
Owner must sign a declaration stating there is no intention to sell or transfer ownership of the pet	
Echinococcus multilocularis (tapeworm) treatment with praziquantel or equivalent	24–120 hours (1–5 days) before re-entry time into the UK (or Finland, Ireland, Malta or Norway)
Travel with an approved transport company via an authorised route	
(GOV.UK, 2016)	

Table 2. Companion animal parasites and diseases when travelling abroad

Parasite	Disease	Definitive hosts	Intermediate hosts	Transmission	Possible clinical signs	Control
				THE USUAL SUSPECTS		
Echinococcus multilocularis	Alveolar echinococcosis in humans	Foxes, dogs, (cats)	Voles, rodents, humans	Intermediate hosts — ingestion of eggs passed in the faeces of canids. Definitive hosts predation of rodents (microtine voles)	No clinical signs in the canine or feline definitive host. Metastatic and infiltrative spread primarily in the liver in intermediate host	In endemic areas, pets should be treated at 30 day intervals with an effective anthelmintic containing praziquantel. Dogs should be treated again with praziquantel within 30 days of return to the UK. This is in addition to the compulsory treatment
Dirofilaria immitis	Dirofilariosis	Dogs, cats, foxes, ferrets humans	Mosquitoes — vector-borne disease (VBD)	L3 infective larvae in the body of the mosquito are transmitted to definitive hosts during feeding. The larvae undertake an extensive migration through body tissues to reach the pulmonary arteries and the right side of the heart where they develop to the adult stage and reproduce	Primarily cardiac signs in dogs, respiratory in cats. Infections may be subclinical	Monthly treatment with a macrocyclic lactone to prevent adult heartworm infection developing (many efficacious products licensed). Treatment should begin at least 1 week prior to exposure to infected mosquitoes and end at least 1 month after last exposure to infected mosquitoes
Babesia spp.	Babesiosis	Dogs, wolves, foxes, cats (*Babesia felis* cases mostly in South Africa to date)	*Dermacentor reticulatus* and *Rhipicephalus sanguineus* ticks depending on *Babesia* species — vector unknown for *Babesia felis*	After a tick feeds on an infected host, *Babesia* spp. stages penetrate the gut of the tick, multiply and migrate. Sporozoites are then transmitted to new hosts through the tick's saliva when they take a blood meal	May be subclinical. Signs include fever, lethargy, anorexia, depression, anaemia, sickness, red coloured urine, renal failure	Risk of infection can be significantly reduced by effective tick control. Chemoprophylaxis with a product that repels, expels or rapidly kills ticks. Monitor pets for ticks every 24 hours and remove any ticks found with a tick hook using a 'twist and pull' action to avoid leaving in mouthparts
Ehrlichia canis	Canine monocytic ehrlichiosis	Dogs, wolves, foxes, (cats)	*Rhipicephalus sanguineus* ticks — VBD	After feeding on an infected host, the bacteria are then transmitted to new hosts through the tick's saliva when they take a blood meal	Various. Including apathy, depression, anorexia, dyspnoea, anaemia, fever epistaxis and vomiting. Dogs may appear clinically normal	Risk of infection can be significantly reduced by effective tick control. Chemoprophylaxis with a product that repels, expels or rapidly kills ticks. Transmission has been demonstrated to be within hours so a repellent should be used where possible and where *E. canis* is endemic. Monitor pets for ticks every 24 hours and remove any ticks found with a tick hook using a 'twist and pull' action to avoid leaving in mouthparts
Leishmania spp.	Leishmaniosis	Dogs, cats, foxes, humans	Sandflies — VBD	Parasites present in the superficial dermis of infected dogs fall into the well of blood created by the sandfly's mouthparts when feeding. After migration to the salivary glands of the sandfly, promastigotes are released into the superficial dermis of the dog during a subsequent blood meal. These then form amastigotes in macrophages that infect a wide variety of tissues	Many infected hosts will not show clinical signs. Cutaneous lesions, enlargement of lymph nodes, weight loss, anorexia and muscle weakness, potential for kidney and heart failure	Prevention of sandfly bites via application of a licensed pyrethroid fly repellent in dogs, deltamethrin collar or licensed permethrin spot on preparation every 2–3 weeks. No product is licensed for sandfly protection in cats but a flumethrin collar has been shown to be efficacious and safe. Avoid hosts being outside during dawn and dusk which are optimal sandfly feeding times. Vaccine is available in dogs which can help prevent disease

Table 2 Continued. Companion animal parasites and diseases when travelling abroad

Parasite	Disease	Definitive hosts	Intermediate hosts	Transmission	Possible clinical signs	Control
				THE LESSER KNOWN THREATS		
Dirofilaria repens	Dirofilariosis	Dogs, foxes, humans (cats)	Mosquitoes — VBD	Mosquitoes ingest L1 microfilariae while feeding and L3 larvae develop within the vector, which are then transmitted into the subcutaneous tissues of new hosts via their saliva while feeding. Here they reach maturity	Dermatitis, conjunctivitis, skin nodules, aberrant worm migration to a variety of organs	Monthly use of a licensed moxidectin/imidacloprid spot on product while in endemic countries. Avoidance of peak mosquito feeding times
Thelazia callipaeda	Thelaziosis	Dogs, foxes, cats, humans	Fruit flies — VBD	The intermediate host fly ingests L1 larvae from a definitive host while feeding on lacrimal secretions from the eyes. L1 larvae then develop over a period of 14+ days to L3 larvae which are deposited to a new host when feeding and mature in the conjunctival sac	Conjunctivitis, keratitis, epiphora and tear overflow onto the face, eyelid odema, corneal ulceration, blindness	No licensed treatment for prevention although milbemycin oxime may be beneficial as it has some efficacy in treatment. Fly repellents will reduce exposure
Spirocerca lupi	Spirocercosis	Dogs, foxes, (cats)	Coprophagous beetles	Definitive hosts become infected through the ingestion of coprophagous beetles infected with L3 *S. lupi* larvae. This may occur through direct predation or through the consumption of contaminated foodstuffs. The larvae penetrate the stomach wall and migrate to the thoracic aorta via the gastric arteries. The larvae then moult to L4 larvae and immature adults. There is then a further migration after 3–4 months to the oesophagus where they mature in granulomatous nodules that form around them as part of the host inflammatory response	Retching, regurgitation, signs associated with oesophageal sarcoma, sudden death from aortic aneurism, spinal pain	Monthly use of a licensed moxidectin/imidacloprid spot on product while in endemic countries or in dogs with a predilection for eating invertebrates in countries where cases have been reported
Linguatula serrata	Linguatulosis	Dogs, foxes, humans	Ruminants, horses, rabbits, humans	Definitive hosts — infected through consumption of raw offal. Intermediate hosts — infected through ingestion of eggs in environment or on contaminated pets or foodstuffs	Nasal discharge, coughing, retching, aberrant larvae in anterior chamber of eye, visceral pain	Avoiding eating raw or undercooked offal in endemic countries, good hand hygiene, avoid facial licking from infected dogs
Tick-borne encephaltitis	Encephalitis	Dogs, foxes, cats, ruminants, horses, wildlife, humans	*Ixodes ricinus* ticks	Viral infection transmitted when ticks feed	Central nervous systemn (CNS) signs, fever, death	Risk of infection can be significantly reduced by effective tick control. Chemoprophylaxis with a product that repels, expels or rapidly kills ticks. Monitor pets for ticks every 24 hours and remove any ticks found with a tick hook using a 'twist and pull' action to avoid leaving in mouthparts. Avoidance of prolonged time in woodland in endemic countries

(ESCCAP, 2010; ESCCAP, 2012; ESCCAP, 2016; ESCCAP UK & Ireland, 2016)

Thelazia callipaeda

T. callipaeda, also known as the 'oriental eye worm' due to its high incidence in Asia, is a zoonotic vector-borne nematode which resides in the conjunctival sac of definitive hosts (domestic and wild carnivores, rabbits and humans) (Mihalca et al, 2015). The parasite is found widely in Asia and has been spreading through Europe in recent years. The vector in Europe is the drosophilid fruit fly, *Phortica variagata*. The intermediate host fly ingests L1 larvae from a definitive host while feeding on lacrimal secretions from the eyes. L1 larvae then develop over a period of 14+ days to L3 larvae which are deposited to a new host when feeding and mature in the conjunctival sac (Graham-Brown et al, 2016). Although often apathogenic, ocular thelaziosis can commonly cause conjunctivitis, keratitis, epiphora and tear overflow onto the face, eyelid oedema, corneal ulceration and, in serious cases, blindness (Graham-Brown et al, 2016).

T. callipaeda was first reported in Europe in Italy and since 2007 autochthonous cases have spread east and northwards, being reported in France, Germany, Switzerland, Spain and Portugal, and more recently into Eastern Europe, including Romania, in 2014 (Mihalca et al, 2015). In endemic areas 60% of dogs have *T. callipaeda* adults in their eyes (Lloyd, 2011), but clinical cases of ocular thelaziosis have also been reported in cats in many endemic countries (Mihalca et al, 2015).

In 2016, the UK saw its first case of ocular thelaziosis in a dog imported from Romania 6 weeks previously (Graham-Brown et al, 2016). Although this case was considered to be imported, it illustrates how easily *T. callipaeda* can enter the UK. PETS has never included a requirement for nematode treatment and the *P. variagata* intermediate host is widespread in the UK (Morgan, 2016). Increasing pet movement, especially from Eastern Europe, means that without rapid detection and treatment of cases, it is only a matter of time before *T. callipaeda* establishes in the UK.

Linguatula serrata

This parasite is known as a 'tongue worm', but is actually a pentastomid and is now thought to be more closely related to arthropods than true worms. The adult parasite is an elongated tongue-shape (*Figure 2*) and is found in the nasal cavities or sinuses of dogs and foxes. Infection occurs through the ingestion of nymphs in raw offal of infected intermediate hosts such as ruminants, rabbits and horses. Eggs from the adult parasite are passed in the faeces or nasal secretions of infected dogs and are immediately infective. Adult parasites are large with females typically 30–130 mm in length. Although the parasite has been reported in UK foxes (Lapage, 1968), it is thought to be rare, however, there has been a sharp increase in clinical cases reported in UK dogs in 2016. These have been in imported stray dogs from Romania, where raw meat is routinely fed. The concern with this sharp increase in cases is the zoonotic potential of the parasite. Although in endemic countries zoonotic

Figure 1. Approximate distribution of Dirofilaria immitis *and* Dirofilaria repens *in Europe as of 2015 (courtesy of ESCCAP).*

Figure 2. Linguatula serrata *adult (courtesy of Pedro Serra and NWL labs).*

infection occurs primarily through the ingestion of raw or undercooked viscera, it can also occur through ingestion of eggs in the environment or in mucoid discharge from infected dogs' noses. This can lead to a variety of clinical presentations including naso-pharyngitis, blocked nasal passages, visceral pain and aberrant larval migration to the anterior chamber of the eye (Koehsler et al, 2011).

Spirocerca lupi

Spirocerca lupi is a spiruroid nematode inhabiting granulomatous nodules in the oesophagus of dogs and rarely cats. Transmission occurs through the predation or accidental ingestion of coprophagus beetles. It is found widely through the Southern USA, India, Israel, Japan and South Africa (Van der Merwe et al, 2008). Infections may be subclinical, but can lead to significant and potentially fatal disease syndromes including aortic aneurisms, oesophageal obstruction, progression of nodules to oesophageal sarcoma and thoracic spondylosis. *S. lupi* has not been considered

a significant pathogen for pets travelling from the UK to Europe due to its low prevalence in most European countries. Although it is known to be prevalent in Greece, this appears to be predominantly among hunting dogs rather than pets, and wildlife reservoirs are known in more temperate parts of Europe such as Poland. However, cases have now been reported in untraveled domestic dogs in Spain, France and Italy (Giannelli et al, 2014). The threat that this represents to travelling dogs from the UK is unquantified and it is unclear whether this represents genuine spread or increased reporting. If cases continue to occur in countries where UK dogs frequently travel then the risk of UK dogs developing clinical infections, or introducing the parasite into the UK, increases. A case in an untraveled dog and cat in the UK has been reported (Wright et al, 2016), and while not thought to be endemic in the UK, increased vigilance for this parasite is required.

Tick-borne encephalitis (TBE)

TBE is a virus transmitted by feeding *Ixodes ricinus* ticks, although it has also been transmitted through unpasteurised milk and through exposure to infected tissues in abattoirs. It may infect a variety of mammalian hosts including dogs, foxes and ruminants. It is a potentially severe zoonosis with infections most commonly resulting in a transient fever, but sometimes progressing to menigioencephaltitis and central nervous system (CNS) signs. Although human infection is uncommon with 1 case per 10 000 hours spent in woodland activity, it can be fatal and so concern about its spread through Europe has been high (Amicizia et al, 2013). In Europe, it is a parasite predominantly of Eastern Europe and the Mediterranean but it has been moving north and west in its distribution with cases beginning to emerge in Scandinavia, Austria and Holland (Pettersson et al, 2014). *I. ricinus* is endemic in the UK so infected ticks or pets entering the country could lead to establishment of infection in native ticks.

What precautions can be taken?

Specific control measures for the parasites described are summarised in *Table 2*. To limit the risk of the introduction of novel parasitic infections into the UK and keep travelling pets safe it is also vital that a number of general preventative control measures are in place:

- Rapid detection of imported cases — it is important that relevant clinical signs are rapidly investigated in pets imported from, or having travelled, abroad. Although veterinary professionals may not immediately recognise clinical signs associated with all foreign parasitic disease, by identifying the countries that the pets have visited and having an up-to-date knowledge of parasite distributions, it can be established if clinical signs are likely to be connected to parasitic disease. Relevant tests can then be carried out.
- Routine screening of imported pets — imported pets may be subclinical carriers for parasites and then develop clinical signs at a later date or act as reservoirs of infection. Routine screening through blood tests and faecal testing for parasites in the country of origin will help to put control measures in place and initiate early treatment if required. It will also help to prepare new owners for possible future disease.
- Correct pet travel advice for owners taking pets abroad — adequate preventative measures must be advised for pets travelling abroad. This includes considering the parasites endemic in the destination country, any other countries they travelled through, as well as lifestyle factors such as whether the pet frequently swims or hunts.
- Recording of vectors and parasitic disease cases — sharing of surveillance information is increasingly important as the distribution of many parasites in Europe and their vectors is very fluid. This process needs to take place at all levels. Organisations and data collection services such APHA, Public Health England (PHE), SAVSNET and DACTARI need to collate data to build up a picture of parasite distributions. It is vital that all veterinary professionals, including nurses, record cases to build up a database of cases. Tick identification and recording is also important. This can be done in house using tools such as the tick identification key at the University of Bristol website, or ticks can be sent to PHE for identification as part of their tick surveillance survey. Pets entering the UK should be checked for ticks and any found should be identified and reported.

The role of the veterinary nurse

The veterinary nurse plays a vital role in delivering the aforementioned services in practice and maintaining UK biosecurity and travelling pet health as a result. Veterinary nurses are usually the first point of call for pet owners visiting the practice, whether for routine check-ups, pet travel advice or veterinary diagnosis. They are therefore likely to be at the forefront of recognising clinical signs in newly imported pets, carrying out diagnostic tests, communicating risks and compliance with pet owners.

- Pet travel clinics — many practices offer a pet travel clinic led by a veterinary nurse to prospective travellers. These offer a first stage assessment of the risks and requirements when travelling abroad and are the first step in creating tailored parasite control plans for the pet before, during and after travel. Pet travel clinics should cover both the mandatory PETS requirements as well as advisory preventative measures to protect both pets and the UK from exotic disease.
- Recording of cases — the job of reporting exotic vectors or disease cases often falls to the veterinary nurse. It is an essential service to monitor disease and to asses risks to the UK's biosecurity.
- Recognising exotic disease cases — veterinary nurses must be prepared for a variety of parasitic diseases to be presented to veterinary practices in travelled and

imported pets and for UK pets to be exposed to a wide range of infections while abroad. But not only should veterinary practices remain vigilant for clinical signs, they should be aware of the risk of subclinical carriers. Nurses play an important role in conveying these risks and encouraging screening and compliance, especially to new owners of imported pets.

Conclusion

PETS is only designed to keep the UK free from specific zoonotic parasitic diseases and veterinary professionals and pet owners have an important role to play in ensuring that the UK and its pets are protected. It is important to consider that not all pets infected with exotic diseases will present clinical signs and so screening of all travelled and imported pets is essential to fully understand the health of the pet. Just as biosecurity requires cooperation and consistency of message at a national and international level, it also requires teamwork and vigilance within every veterinary practice in the UK. Within these teams, veterinary nurses play a vital role. VN

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KEY POINTS

- The Pet Travel Scheme is only designed to prevent the entry of specific zoonotic diseases into the UK.
- There is strong evidence for the spread of parasitic diseases northwards in Europe and into popular holiday and pet import destinations.
- The UK is therefore at ever increasing risk from exotic parasites and disease.
- Increased vigilance for relevant clinical signs and routine diagnostic screening in imported dogs, recording of exotic clinical cases and accurate pet travel advice is more important than ever.
- Pet travel advice should consider both mandatory and advisory parasite control measures in order to fully protect both the pet and the UK from exotic disease.
- The veterinary nurse plays a vital role in delivering key services in practice and maintaining biosecurity and travelling pet health as a result.

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A survey assessing the prevalence of in-hospital violence against veterinary nurses working in small animal hospitals

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Abstract

Background: In recent years, due to a strong concern about this issue, many studies have been conducted on in-hospital violence directed at medical personnel working in the field of human medicine. However, no such survey has been conducted in veterinary medicine to date. Veterinary nurses play an important role in small animal hospitals. This study aimed to investigate whether in-hospital violence occurred against veterinary nurses in small animal hospitals.

Aim: We conducted a questionnaire survey among veterinary nurses working in small animal hospitals to assess their experience of being subjected to in-hospital violence (verbal and physical).

Methods: The target period for this survey was 1 year before the completion of the questionnaire. A total of 134 nurses gave their consent to participate in this survey, and 126 survey responses were included in the final analysis (valid response rate: 94.0%). Incomplete responses were excluded from the analysis.

Results: It was seen that 51 people (40.5%) reported having experienced incidents of verbal or physical violence or sexual harassment.

Conclusion: Based on these results, we suggest measures that will help ensure that the staff can provide veterinary care without worrying about their safety and well-being.

Keywords: In-hospital violence, Small animal hospital, Veterinary nurse.

Introduction

In recent years, due to a strong concern about this issue, many studies have been conducted on in-hospital violence directed at medical personnel working in the field of human medicine (Inoue *et al*., 2006; Fujita *et al*., 2012; Sato *et al*., 2013; Fujimoto *et al*., 2019). Previous studies have reported that 33–47% of the nurses they surveyed had experienced workplace violence during the previous 12 months (Fujita *et al*., 2012; Sato *et al*., 2013; Fujimoto *et al*., 2019). This survey and other similar focused studies sought to clarify the actual prevalence and severity of in-hospital violence.

Medical treatments for small animals (dogs, cats, etc.) have advanced sharply in recent years, and owners' attachment to their pets has deepened. Therefore, owners expect high quality service and care from animal hospitals. Given such expectations, a similar potential exists for violence toward veterinary medical personnel. However, to date, no detailed study has assessed the prevalence and severity of violence in veterinary hospitals. The veterinary nurse, as a staff member assisting the veterinarian in small animal medical treatment, visits small animal medical facilities to consult veterinary medical care procedures (often, these visits involve interactions with pet owners). Veterinary nurses play an important role in modern veterinary medicine. In-hospital violence has become a major problem for nurses who provide medical care to humans and has led to the establishment of *Guidelines for Countermeasures against Violence in Health and Welfare Facilities* by the Japan Nursing Association. Recently, several occupational health surveys have been conducted in several veterinary hospitals; however, there are no detailed reports addressing in-hospital verbal abuse, violence, and sexual harassment against veterinary nurses (van Soest and Fritschi, 2004; D'Souza *et al*., 2009; Sánchez *et al*., 2018). To meet this need, we conducted a questionnaire-based survey of veterinary nurses to determine the frequency and severity of in-hospital violence against personnel in small animal hospitals. This paper presents the questionnaire method, findings, and conclusion.

Materials and Methods

This is a preliminary study and, based on previous reports (D'Souza *et al*., 2009; Foster and Maples, 2014), we determined a sample size of approximately 110 was sufficient initial data. There has been no previous research on hospital violence in veterinary medicine; therefore, we created a new questionnaire. We defined "violence" in this study using the *Framework Guidelines for Addressing Workplace Violence in the Health Sector*

as set out by the International Labor Office, International Council of Nurses, World Health Organization, and Public Services International (ILO *et al*., 2002). We also prepared an investigative questionnaire that fully considered participants' privacy. After approval by the university's ethics committee, the questionnaire was distributed at various meetings and seminars for veterinary nurses. The completed forms were collected in sealed response envelopes. The survey covered 12 months immediately preceding the completion of the questionnaire. The study was conducted in the following periods: September to November 2014, February 2015, and July 2015. In total, 134 veterinary nurses agreed to participate in the survey. After excluding forms with incomplete answers, the final number of participants whose responses were analyzed was 126 (121 women and 5 men; valid response rate: 94.0%).

Ethical approval and consent to participate
This study was approved as a social science project by our university's ethics committee, and written informed consent was obtained from all participants.

Results and Discussion

In response to the question, "Have you experienced any incidents of physical or verbal violence, or sexual harassment?" 51 (40.5%) responded "yes." Among these types of violence, "verbal violence" was the most common, as it was experienced by 39.7% of the respondents. In response to the question, "What kind of violence have you experienced?" 31 respondents indicated that they were "screamed at," 27 respondents were "insulted," and 21 were verbally abused in normal speaking tones. Among the respondents who had experienced verbal violence, 17 were abused by male clients, 12 by female clients, 28 by hospital directors, and 22 by staff. Respondents' reported coping methods included consultations with the hospital director, colleagues/seniors, friends, and family. Eleven participants reported doing nothing and 4 of these 11 worried that complaining could have adverse effects on their employment. Just over 7% (7.14%) of the participants answered "yes" to the question "Have you ever experienced physical violence?" Incidents of physical violence included being pressed, having their arm or hand grabbed, being knocked out or "knocked," and having objects thrown at them. "Staff" was the most frequent answer to the question "Who inflicted the physical violence?" The stated reasons for physical violence included "character of staff," "insufficient communication," and "I'm bad" in order of prevalence. Three respondents answered the question "How did you deal with physical violence" with "I spoke to the director." Two replied, "I spoke to a colleague/senior," and three replied, "I spoke to friends and family." Three said, "I asked the other party to stop the violence." Three responded, "I did nothing." Nearly 10% (9.52%) answered "yes" to the question "Have you ever been sexually harassed?" Comments about the respondent's face or body were the most common type of sexual harassment. Five of these incidents involved a male client, director, or staff member. In addition, 31% of the respondents answered, "I did not experience violence, but did experience a dangerous situation that could have become violent." In response to the question, "Do you have a manual for organizational efforts?" 93.7% answered "no." In response to the question, "Are employees required to report violence?" 92.1% answered "not required." "Do you want to strengthen the management system?" 60.3% answered "yes."

This survey revealed the frequency and severity of physical and verbal violence and sexual harassment among veterinary nurses. In the free description section, some respondents stated that "(violence in words) has become a daily routine." Others describe situations in which they have been "ambushed" and "subjected to physical violence during an examination." We assume that these situations are severe. In previous surveys of nonveterinary hospital nurses, 33%–47% of the respondents had experienced workplace violence during the previous 12 months (Fujita *et al*., 2012; Sato *et al*., 2013; Fujimoto *et al*., 2019; Kobayashi *et al*., 2020). However, further research is needed to establish whether the in-hospital violence experienced by veterinary nurses is of the same magnitude as that experienced by nurses in human medicine.

The *Journal of Occupational Health* has reported a new concept for analyzing workplace violence against nurses (Al-Qadi, 2021) that outlines necessary factors' study designers must consider when conducting further analyses in the future. A previous study demonstrated that mental healthcare nurses in Japan who experienced workplace violence themselves had poorer mental health and experienced more burnout (Kobayashi *et al*., 2020). Similarly, burnout among veterinary nurses has also received attention (Thompson-Hughes, 2019), suggesting that a reduction in workplace violence against veterinary nurses may reduce the number who experience burnout. Regarding the question of who inflicts abuse, we received a wide range of responses from directors, staff members, and clients. The design of this survey, did not allow us to rule out respondents referring to their director as "staff." Therefore, it was not possible to distinguish whether references to colleagues or senior staff members were referred to veterinarians or veterinary nurses. Liu *et al*. (2018) reported that perceived organizational support served as a mediator between workplace violence, job satisfaction, burnout, and turnover intention, and significantly reduced the latter (Liu *et al*., 2018). Therefore, the directors of small animal hospitals should understand the importance of visibly providing organizational support to nurses experiencing workplace violence. A study conducted by the Japanese Nursing Association in the fiscal year 2003 found that the factors underlying violence suffered by staff included a lack of communication among staff members, response to patients, and educational

deficiencies (Japanese Nursing Association, 2004). These are key areas for directors to focus on. Even in small animal hospitals, addressing in-hospital violence when assailants and victims are both members of the organization require a deeper understanding of the issue, necessitating further study. While further studies are needed, responses to this survey suggest a need to direct management attention to such violence so that appropriate remedial or preventive measures can be taken. The *Manual of Medical Safety Measures for Medical Professionals* edited by the Japan Medical Association describes a need for systematic efforts "to create an environment in which staff can work with peace of mind" in the section discussing measures against in-hospital violence and crime prevention. In hospitals with orphan medical practices, organizations are encouraged to take measures against in-hospital violence.

Perceptions of words and actions as in-hospital violence may differ among perpetrators and victims. Therefore, it is necessary for organizations to take measures to facilitate communication between both parties. For this reason, it is essential for veterinary nurses to receive adequate education and training on medical treatments and technologies, and on the regular, effective communication with clients and staff. Small animal hospitals often have fewer personnel than hospitals treating humans, which may lead to in-hospital violence.

There are some limitations to be considered in this study: firstly, there are approximately 28,500 veterinary nurses in Japan, of which this study surveyed only 134 (approximately 0.5%). Further studies will need significantly larger sample sizes in order to better describe national trends. Secondly, the surveys conducted in this study occurred between 2014 and 2015, making the study results somewhat outdated. Current analytical methods and changing social trends may produce different results if the study were to be conducted today. However, to the best of our knowledge, this is the first study of its type reporting on in-hospital violence against veterinary nurses. The limitations of the study data merely highlight the crucial need for further investigation of veterinary hospital workplace violence in Japan with larger sample sizes and more up-to-date data.

Based on the results of this survey, we would next like to investigate the status of the current management systems of small animal hospitals in terms of their role in the prevalence and prevention of workplace violence, and recommend measures to help create environments in which staff can feel safer and more comfortable while providing veterinary care. In addition, we would like to continue accumulating survey responses to clarify the current situation further.

Conflict of interest
The authors declare that they have no competing interests.

Authors' contributions
SY conceived and designed the experiments. SY performed data collection. SY and MY analyzed the data and wrote the manuscript. SY approved data analysis. All the authors contributed equally to this work and approved the final manuscript.

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Telehealth Guidelines

for Small-Animal Practice

Incorporating Connected Care

AAHA
The Standard of
Veterinary Excellence

AVMA
Our Passion. Our Profession.

The AAHA/AVMA Telehealth Guidelines Task Force

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Contents

Abstract

AAHA and the AVMA are very pleased to present these jointly produced Telehealth Guidelines for Small-Animal Practice in response to member requests.

They are designed to support the AVMA's *Guidelines for the Use of Telehealth in Veterinary Practice*, which can be found at avma.org/telehealth. Understanding how COVID-19 accelerated consumer expectations for on-demand and virtual services in every aspect of life, a Task Force of experts was convened to develop this content and ensure its relevance for veterinary practices. The result: a "how-to" resource offering step-by-step, ready-to-implement recommendations to better integrate Connected Care (telehealth) into small-animal practice. Topics include considerations for technology and platform selection, external and internal marketing strategies, and a look at how new technologies have the potential to improve patient outcomes. How to identify a

Telehealth Champion, streamline workflow, and monetize services are also discussed. Throughout, references are made to components of telehealth, including teleadvice, teletriage, telemedicine, telemonitoring, and teleconsulting (see Figure 1). For additional resources, visit aaha.org/telehealth.

Establishing a veterinarian-client-patient relationship (VCPR) is not discussed within this document. For information about state-level VCPR requirements, please contact your state board of veterinary medicine. Veterinarians must follow federal VCPR requirements for extralabel drug use and issuing Veterinary Feed Directives.

FIGURE 1 | **Components of Telehealth in Small-Animal Practice**
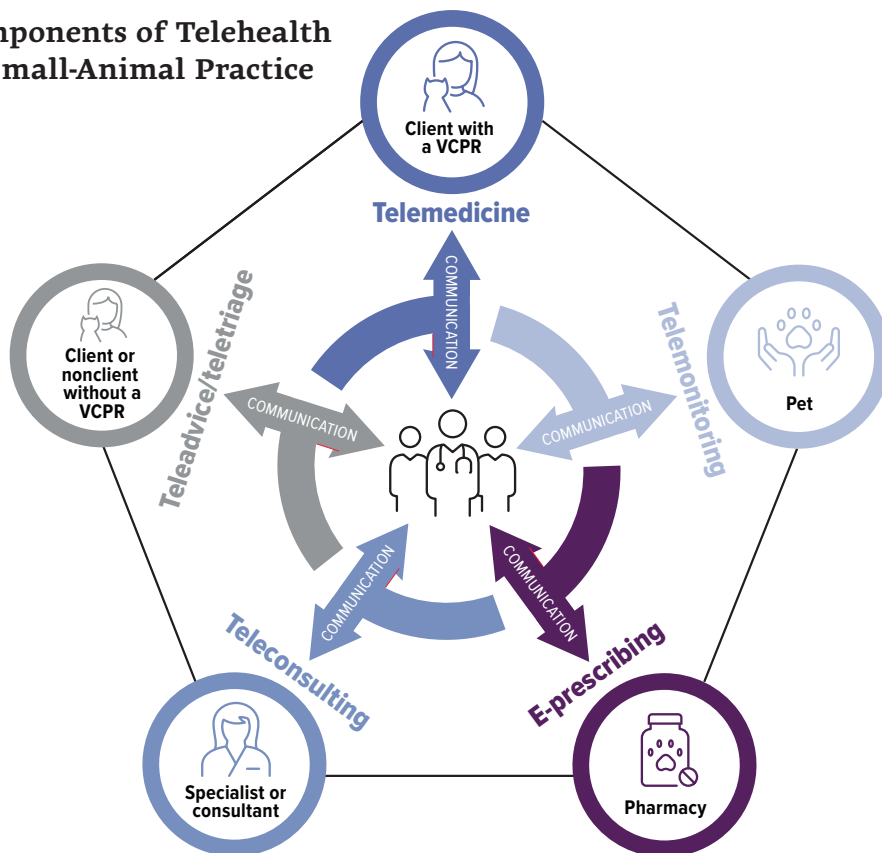
Dear Colleagues:

There may never have been a more challenging, or more appropriate, time to increase our attention to patient- and client-centered Connected Care than right now. We've all had to think beyond our norms and beyond our walls to meet patients and clients where they are while protecting and leveraging our healthcare teams to the fullest.

There's been renewed consideration of how Connected Care utilizes familiar digital tools, including texts, video messaging, websites, and social media to interact remotely and on-demand 24/7.

But by fully engaging your practice in Connected Care—which integrates digital technologies for improved communication, diagnosis, and monitoring— you can open up even bigger opportunities and propel your practice into a more competitive future.

Ask yourself, are we using

- streaming video in exam rooms to allow owners to be "present" as diagnoses and decisions are made?
- photos and videos of patients to support our assessments?
- video systems to monitor patients' behavior in their homes?
- remote monitoring technology to track patients' vital signs, glucose levels, exercise, and sleep?
- artificial intelligence to support our diagnostic work?

What about online patient education that establishes you as a trusted authority available for ongoing, personalized healthcare guidance, as opposed to a random web search? Or how about new technologies that enable you to consult with specialists anywhere in the world, expanding the value of your connected practice?

The key to making Connected Care work is involving your entire healthcare team. Veterinary technicians and assistants can share their expertise and skills, providing support on everything from housetraining puppies to appropriate nutrition to how to administer insulin injections.

And Connected Care means the front-desk staff has time to offer that extra word of encouragement a client might need because the practice has streamlined routine scheduling, forms, histories, and billing to make client relations a priority.

Integrating the tools of Connected Care into your practice is not difficult. You can choose to use as few or as many as you like over time. You want to choose what is right for *your* team and *your* circumstances to meet *your* goals.

Step one is getting started, and that's why we've put together this resource to support your success.

There are practical, step-by-step recommendations for approaching each decision point and tips based on the experiences of others. Each section can stand alone, or you can read this start to finish, and you might even pick up some pointers you hadn't thought about for things you're already doing. We encourage you to pass this resource around your practice to start conversations on how you all can embrace Connected Care more fully.

There is no better time to take that first step.

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Introduction

Telehealth is not something that's coming—it's here! And the truth is you're already doing it, whether you're currently using video technology to connect with your clients and patients or not. Every phone call, email, and text is part of telehealth. Automating prescription refills or sending a radiograph for a second opinion—telehealth. Electronic transfer of medical records—telehealth.

What most practices don't have, however, is a well-thought-out approach that streamlines processes to make Connected Care seamless for staff, clients, and patients. We understand that even thinking about telehealth can be exhausting these days, but to remain competitive it's a must.

That's where this resource can help, by offering step-by-step outlines to follow. It will take you from assessing your needs to considering technology products (including platforms), and from developing workflows to creating marketing messages. Naturally, we hope you will read this cover to cover, but you can also choose which sections are most relevant to you. You can return to a topic when you have questions, or review others as needed. Whenever you see this symbol ☼ you'll find helpful tips from our experts.

And there's something for those of you who have already embraced telehealth and its many components as well. No matter how far along you are in integrating Connected Care, there's always a next step to consider to improve the health of your patients, your relationship with your clients, and the sustainability of your practice.

Every phone call, email, and text is part of telehealth.
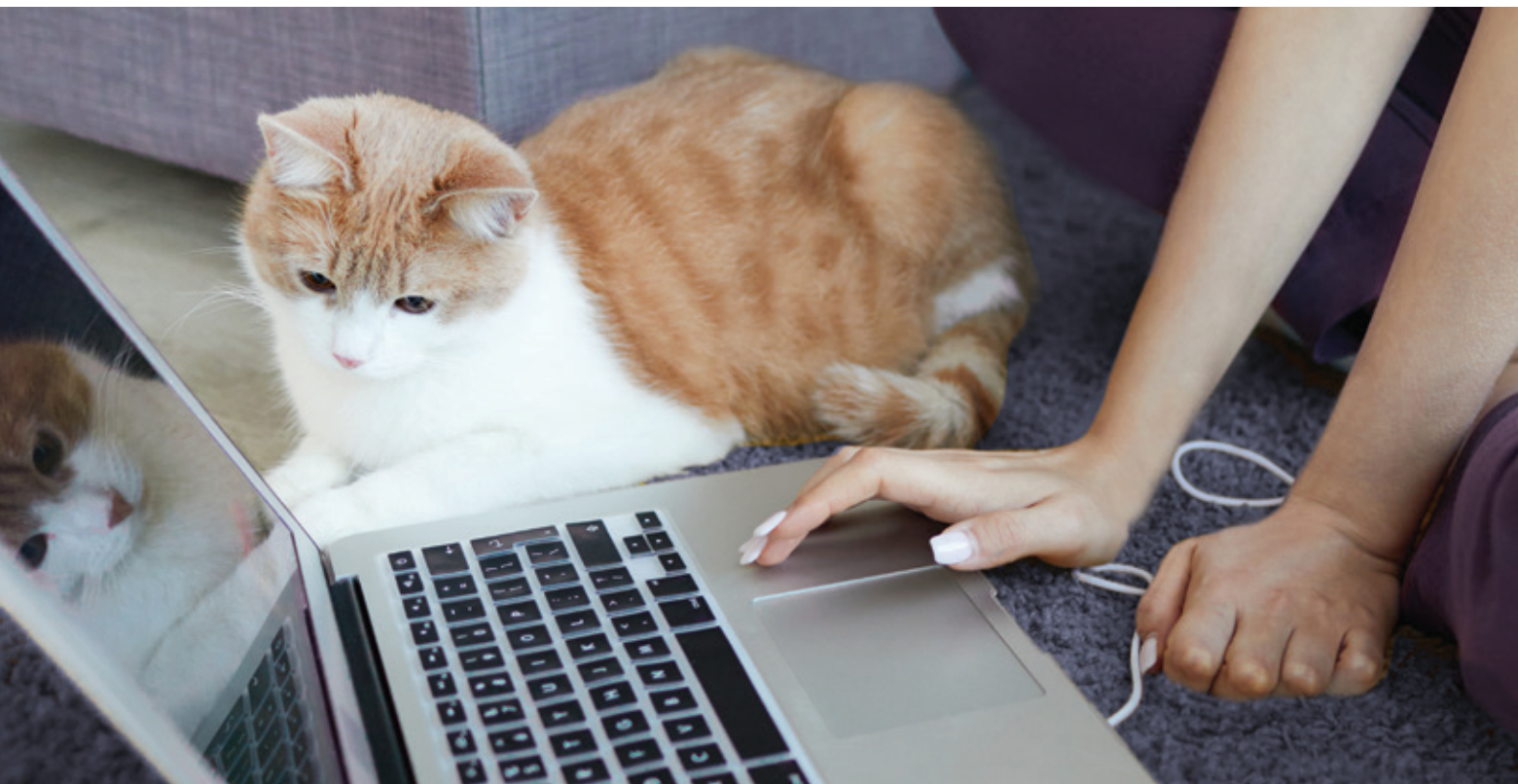
Aspiring to Connected Care

"Connected Care" is the integration of digital technologies to enhance and support the veterinarian-client-patient relationship to facilitate continuity of care through improved communication, diagnosis, and monitoring. It is about patient- and client-centered practice. It's about meeting your clients and your patients where they are, rather than limiting your connection to the few minutes they spend in your exam room.

Digital tools provide an opportunity to identify potential or real health concerns in patients more quickly, to more accurately pinpoint the cause of those concerns, and to initiate earlier intervention, monitor owner compliance with veterinary recommendations, and track patient progress in a more timely and consistent way.

Review the following scenarios. Which actions are you already taking? Which others could benefit your practice?

Examples of When Telehealth Might Be Used

When clients call to ask for advice and you determine that an in-person visit is not required, consider offering a telehealth consult to allow the client the chance to interact with the doctor and resolve any concerns they may have about their pet.

When tech-savvy clients express interest in wearable tech for their pets, ask how you might help them interpret the data.

When considering a specialist consult, offer clients a three-way teleconsult between them, you, and the specialist.

Ask your diagnostic service providers if they are utilizing artificial intelligence (AI). Offer to send them data (with appropriate security protections) to feed into their AI systems to help make them "smarter" and clinically useful.

When pets have hospital stays (dentals, surgery, boarding), have your team text clients frequent status updates so they know how their pet is doing.

When your veterinary healthcare team delivers a specialized service, consider making those paid services and determine which ones might be facilitated as a telehealth service.

When scheduling follow-up assessments, consider whether a paid video consult would be appropriate and offer that to clients as a convenient means to continuity of care.

Before clients leave the hospital, be sure to forward-book their next appointment so they know you care about the long-term health of their pet.

Integrating Telehealth into Your Practice

These seven steps serve as a foundation to help with practical implementation, whether you are just beginning to consciously structure your telehealth services or are expanding your offerings. They are enhanced with examples to deepen your understanding of the choices you have in adapting telehealth to meet the goals for your practice. The following three topics—technology products, including platforms; monetization; and communicating the benefits of telehealth services—each have their own section after these steps.

1. **Identify a Telehealth Champion**
2. **Determine Needs and Opportunities**
3. **Develop Service Plans**
4. **Design the Workflow**
5. **Prepare Your Team and Clients**
6. **Implement Your Program**
7. **Evaluate and Improve**

TIP: Buying equipment is not the first step! You should start with a Telehealth Champion to demonstrate value for your staff and to engage their support toward common goals.

STEP ONE

Identify a Telehealth Champion

Implementing or expanding Connected Care is an organizational change, and the success of your program will depend more on people than it will on technology. Certainly, selecting the right technology is vital for service delivery, but it is your team who facilitates change and ensures consistency with the vision and mission of your practice.

ACTION ITEMS

- Identify a Telehealth Champion who is a true agent of change with the vision and passion to bring it about, instill enthusiasm in others, and lead your team (see Figure 2).
- Recognize that your Telehealth Champion is the primary advocate for your program and that success depends upon the full support of the wider organization—do what is necessary to ensure the Telehealth Champion and other advocates succeed.
- Assess available resources (e.g., time, funds, equipment, training).

FIGURE 2 | **Telehealth Champion**

Successful Telehealth Champions:
- ✓ Solve problems
- ✓ Support effective workflow
- ✓ Keep their focus on the goals
- ✓ Communicate often and clearly
- ✓ Provide training
- ✓ Motivate
- ✓ Multitask

For additional resources to support your Telehealth Champion, visit aaha.org/telehealth

Your Telehealth Champion is your team's key enthusiast for telehealth, point person for troubleshooting during the implementation process, and continuing advocate for its successful marketing to clients and staff.

Any practice member who believes in telehealth can be the Telehealth Champion! Whether it's a practice manager, customer service representative, technician, or veterinarian, it just takes enthusiasm and the willingness to help with selecting technology products, determining the telehealth workflow and staffing, and assisting with problems as they arise.

STEP TWO

Determine Needs and Opportunities

Telehealth has a wide variety of applications and uses from front-desk scheduling, prescription refills, and billing all the way to patient evaluations and follow-ups. Understanding your practice's specific needs and your clients' aspirations is central in the planning phase to making wise telehealth service choices.

ACTION ITEMS

- Convene a focus group that includes a cross section of your clients and veterinary team members to better understand what they see as opportunities and areas of need.
- Determine which of the identified areas can be addressed by telehealth. *Examples* of pain points might be barriers to in-person visits, hours of current operation, low compliance with follow-ups, staff shortages, and compassion fatigue. *Examples* of opportunities might be integrating AI-assisted diagnostic services, ongoing remote monitoring to improve patient assessments and outcomes, or teleconsultations with specialists to expand

your services beyond your clinic walls for complex cases.
- Identify anything that would impact your ability to move forward with delivering telehealth services and consider possible solutions. *Example*: You would like to identify an appropriate location to conduct telehealth consultations and recognize you will need proper lighting, quality audio, a viewing monitor, and potentially other electronic equipment. You would also like to incorporate an exam table for those times when the patient may be present in your practice and you want to communicate with an owner remotely. One option is to outfit an existing patient exam room appropriately so that it may be used for both in-person visits and telehealth consultations. Reviewing space use, however, you see you also have two part-time staff on alternate schedules who could share an office, freeing space for repurposing.
- Assess your available resources and prioritize your telehealth options and objectives around the most urgent needs or greatest demand.

> **TIP:** Start small by focusing on your top priority, then scale into others as team and client adoption increases.

STEP THREE

Develop Service Plans

At this point, you are ready to make a decision about which telehealth services you want to implement based on priorities assigned during your needs and opportunities assessment. To move forward with the best chance of success, you must first understand what will be necessary organizationally, clinically, and technologically to develop your telehealth program. And, it's very important that everyone understands what the goals are and how success will be measured.

Any practice member who believes in telehealth can be the Telehealth Champion!

ACTION ITEMS

- Identify 3–5 short- and long-term goals, with measurable metrics, that are most important to your practice.
- Determine what data are needed to assess progress and how you will collect and evaluate it and at what frequency.
- Consider what capabilities and functions you need to deliver your desired telehealth services.
- Identify what technology and equipment are needed and if you can use existing resources or if you want or need to evaluate external providers (see the Considerations for Choosing Telehealth Technology section for more detail).
- Keep in mind that the best equipment or technology for your program might not necessarily be the most expensive or elaborate.
- Determine what telehealth services should be billable and at what rates. Decide which financial model associated with the delivery of telehealth you prefer (see the Monetizing Telehealth in Your Practice section for more detail).

> **TIP:** When partnering with technology providers, select a vendor that is worthy of a long-term relationship. Ensure they will provide support throughout your implementation and remain motivated to support successful outcomes for your practice.

STEP FOUR

Design the Workflow

Implementing new telehealth services in your practice may require modifying your workflow to ensure a positive experience for clients, patients, and the veterinary team. Logistics such as work and exam space; appointment scheduling; data monitoring; and management, staffing, and communication may

need to be adjusted. If you're just starting to expand, you may want to begin with appointments as that may create the least amount of workflow disruption, especially in the early stages.

ACTION ITEMS

- Review your existing clinical processes and workflow.
- Determine how you need to modify your workflow, then incorporate necessary changes to integrate telehealth into daily practice operations (Figure 3).
- Develop resources to incorporate the modified workflow within your practice, including policies, procedures, and protocols for when using telehealth tools is appropriate or not.
- Identify any standard operating procedures that will need to be modified (e.g., scheduling, approach to diagnostic workups, forms and reminders, staff training, consent, communication templates, invoicing).
- Determine how and when telehealth services will fit into your schedule (certain days, specific hours each day, exams at particular times with call-backs at others).
- Create a physical environment that will support successful delivery of the telehealth services you have chosen to integrate (e.g., ensure appropriate Wi-Fi connections and internet bandwidth; provide a visually appealing, well-lit, and quiet space for audio and video consultations).
- Develop client educational materials or source them from your vendors, if applicable, to help set expectations.

> **TIP:** Create telehealth policies, procedures, and protocols that are as close as possible to the practice's protocols for other types of services; recognizable protocols will lead to consistent clinical results and will instill comfort and confidence in your veterinary team.

FIGURE 3 | Sample Practice Workflow

Client contacts veterinary team about an issue with their pet via phone, text, email, or telehealth platform

Veterinary healthcare team triages the pet and determines whether a veterinary consult is needed[+]

Is a veterinary consult required?

YES — NO

Has a VCPR been previously established?[§]

YES — NO — NO

Can the question be appropriately and efficiently answered by a veterinary healthcare team member?[+]

Is telemedicine appropriate for this case?

NO → **Client brings the pet to the veterinary hospital**

YES

YES

Veterinary healthcare team member answers the question or directs the client to an appropriate resource[+*]

Veterinarian provides telemedicine consult with treatment and issues follow-up recommendations[*]

Possible e-consult with veterinary specialist

Veterinarian performs an in-person examination, provides treatment, and issues follow-up recommendations.[*] VCPR is established or reaffirmed

Veterinary healthcare team member provides education (e.g., help with medication administration, basic house/ behavioral training) or other procedures[+*]

Utilize remote monitoring as appropriate[*]

Consider integrating AI-assisted diagnostics[*]

Unless there is a need for an in-person evaluation, consider evaluating progress via telemedicine. Remote monitoring information (data, photos, and video) can be acquired and used to inform further care, irrespective of whether visits occur via telemedicine or in person[+*]

+ Any assessment or procedures performed by a member of the veterinary healthcare team must be within their scope of practice

§ 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 when using drugs extralabel or issuing Veterinary Feed Directives

* All interactions should be captured in the medical record

$ Generates revenue   Increases efficiency   Appropriately utilizes healthcare team

STEP FIVE

Prepare Your Team and Clients

Successful implementation or expansion of a telehealth program is a team effort. Success depends on buy-in and return on investment for both your veterinary team and your clients, and it's important that your patients actually benefit as well. Your goals should be for your team and clients to be engaged and active advocates of your telehealth services.

A client-centered approach to both education and adoption is important. How can you ensure the transition is seamless and frictionless? Think through the telehealth experience from the client's perspective and be prepared to respond to questions about when the use of telemedicine is appropriate, how to access the technology, and how to make appointments or schedule follow-ups. When introducing telehealth technology (e.g., wearables for remote monitoring) into your diagnostic or treatment plan, make sure clients understand how this technology has the potential to improve patient outcomes. Or, when you choose to integrate AI-assisted diagnostics to support in-house capabilities or share ECGs, radiographs, or lab results with specialists for a teleconsultation, point out how this expands your practice to a world of global experts.

ACTION ITEMS

Team Members

- Educate staff on the new workflows, clinical protocols, and operations.
- Ensure there is clarity about individual roles and responsibilities for team members (e.g., veterinarians, veterinary technicians, client service representatives).
- Identify the types of training needed and who is going to provide it.
- If you are introducing new technologies and your staff resources are limited, ask vendors about training support.
- Have one or more staff members who are unfamiliar with the technology test it. If they cannot easily use it, the technology may be too complicated.
- Conduct internal telehealth appointment "dry runs" prior to seeing actual clients. Use these as rehearsals and to make adjustments or troubleshoot any technology that needs to be recalibrated or repositioned, or for which additional training is needed.

TIP: Start by engaging your most enthusiastic team members to build momentum and collect successful case studies to share as encouragement for other team members.

Clients

- Develop marketing messages to highlight telehealth's benefits, including greater accessibility, convenience, more timely and accurate diagnosis, increased access to specialty care, and faster response times. Create or source from vendors client educational materials on how to use communication platforms; how to share photos, videos, and data from remote monitors for assessment; and best practices for successful appointment outcomes.
- Ensure client enthusiasm for telehealth by setting clear expectations up front—from what tools are available and how they can be used, to invoicing, to how technologies and consultations integrate with and support in-person visits.

> **TIP:** Consider having a team member offer less digitally savvy clients a practice telehealth session to help them prepare for their appointment.

STEP SIX

Implement Your Program

You are now ready to implement your program. All aspects should have been tested and tweaked.

ACTION ITEMS

- Be prepared to offer additional workflow and technical support to team members and clients during initial visits. Have a capture system for issues and comments alerting the Telehealth Champion to things that may need to be addressed.
- Be flexible and revise processes as you learn what works best. Communicate changes to everyone to ensure consistent quality.
- Communicate with clients at multiple touchpoints to promote continuing awareness and to drive engagement with your new offerings. *Example:* Use front-desk reminders, notes on invoices and receipts, videos on monitors in the waiting and exam rooms, and articles in newsletters. Email success stories and post testimonials on websites and on social media. When sharing success stories, be sure that you have complied with requirements for client/patient confidentiality and obtained written permission to share.

> **TIP:** Plan additional appointment time during the infancy of your program, or when you expand offerings, to allow for technology troubleshooting and getting comfortable with this new approach to patient evaluation and client interactions.

Success depends on buy-in and return on investment for both your veterinary team and your clients, and it's important that your patients actually benefit as well.

Evaluate and Improve

Define success early on and collect data from the beginning of your program. Starting with a clear vision of success allows the practice to highlight improvements made with each metric and, ultimately, the overall success of its telehealth services.

ACTION STEPS

- Data collection does not have to be difficult, especially when it is integrated as a part of workflows and operational processes up front. Some technology products have the means to track metrics built in.
- If a formal quality improvement process already exists in the practice, use it. Otherwise, develop one to regularly review performance, client and provider satisfaction and utilization, then evaluate the data and forward results to the appropriate staff for any needed adjustments.
- Each practice should identify its own metrics, but suggestions include numbers of telehealth interactions overall and broken down by the type of visit (e.g., surgical follow-up, dermatology consult, gastrointestinal issue, hospice care) or service (e.g., prescription refill, AI-assisted diagnostics, review of data from a remote monitoring device). Additionally, practices may want to log increased traffic on websites, blogs and vlogs, social media references, and client phone inquiries. Gathering demographics is important to gauge which groups your telehealth services are appealing to most so you can identify ways to share telehealth's value with those who may be less frequent users. Staff will be interested in ways telehealth is streamlining their work, allowing technicians to better utilize their skills, and improving positive results for patients.
- Electronic survey options are available that enable you to ask clients about their visit and can help you secure testimonials at little or no cost. Again, be sure you have obtained permission to use your clients' comments in any marketing material.
- Make sure while you are tracking client satisfaction, you are also tracking patient outcomes. Better patient care and results not only support your professional mission, they are also one of your best marketing tools.
- Review data with an open mind and adjust as necessary.

> **TIP:** Join forums for networking and connect with colleagues who have implemented telehealth in their practice to share ideas and lessons learned. Celebrate every success!

> Gathering demographics is important to gauge which groups your telehealth services are appealing to most so you can identify ways to share telehealth's value with those who may be less frequent users.

Frequently Asked Questions: **Implementation**

Q **There are so many telehealth options to consider. Which ones should our practice start with?**

A Because every practice is unique, there is no universal telehealth strategy. Asking clients what they need or want and identifying the challenges they want solved is a must, as is determining what is likely to best support better outcomes for your patients. Additionally, you must determine your practice goals as well as the problems you want to solve. For example, are you trying to attract millennials who account for the largest segment of pet ownership and are comfortable with technology? Are you wanting to overcome staff frustrations and administrative bottlenecks? Or are you hoping to introduce a new area of care, such as hospice care or behavior consults? Or do you want to expand your use of technology to remotely track patient activity for more accurate assessment and diagnosis? Once you have evaluated your resources and practice goals, you can tailor your approach. Remember there is no one right way to offer telehealth, and it must fit your practice, circumstances, and goals.

Q **I'm already overwhelmed. Now you're telling me I should spend time setting up telehealth?**

A First, remind yourself you're already doing telehealth and the objective is not to go from some uses to all possible choices at once, or maybe ever. Start slowly and grow as your comfort level and needs dictate. Identifying a Telehealth Champion to help set goals, evaluate and select technologies, train and motivate staff, and monitor effectiveness will be a huge help and a big factor in your success. Done well, telehealth can spread client touchpoints so they take place in the most efficient manner possible. Consider that telehealth allows you to leverage skilled technicians, your website, and other resources to provide information at times most convenient for you and your clients. More and better information and more frequent interactions can support improved preventive care and treatment compliance, meaning better outcomes for your patients. And, you can get compensated for many of the interactions you have been giving away for free.

Considerations for Choosing Telehealth Technology: Products and Platforms

After conducting a self-assessment and identifying the types of client services and interactions you want your practice to offer, your next big challenge is choosing the appropriate technology. There is no one-size-fits-all option, but there are choices that will work for you.

Telehealth technologies, including but not limited to communication platforms, AI-assisted diagnostic services, and wearable remote monitoring devices, are numerous and ever changing; new features may be added quickly and new products are created frequently. Consequently, this section will not discuss specific vendors but rather offer recommendations for how to evaluate them and determine which one might be right for you.

Review your assessment for what human and technology resources you currently have available, to help you determine what you can manage short term and where you'd like to be long term. You must also understand who is going to be using your technology and how you hope it will fit into your normal practice workflow.

A Few Fundamental Choices

- **What do you want now and in a year?**
  - Finding technology that offers the essentials for immediate use, but also includes more advanced tools you can grow into, is a great way to start. As with any new technology, the platforms are constantly adapting and new features are added on a regular basis, so check with the providers to understand what their upgrade deployment plans are to evaluate if they meet your practice's needs and goals.
  - Your telehealth team can be a single doctor or include every member of your staff. Starting small is recommended. If you need more than one team member contributing to your telehealth services, ensure any technology you are considering allows multiple log-ins and roles.

- **Do you want your communications to be asynchronous, synchronous, or both?**
  - Asynchronous communication, or communication between parties that is not live, may allow practices to be more efficient in managing their schedules by eliminating phone and email tag. It also provides more opportunities for marketing and engagement. Younger generations often prefer asynchronous communication like texting.
  - Synchronous communication may be required or be more appropriate for specific services including triage, video patient evaluations, real-time behavior observations, or compassionate quality of life consults for clients with pets receiving hospice care. Older clients may be more comfortable with phone and in-person communication. Some clients and veterinarians prefer live telemedicine evaluations because they feel more like an in-person visit.
  - Understanding how these forms of communication differ and what is appropriate in each situation is critical to achieving the goals of your telehealth program. (See Figure 4 for pros and cons of asynchronous and synchronous communication.)

> Some clients and veterinarians prefer live telemedicine evaluations because they feel more like an in-person visit.

FIGURE 4 | Pros and Cons of Asynchronous and Synchronous Communication

Synchronous or asynchronous communications—or both? Reaching out to your clients requires different approaches and technologies depending on the circumstances. Many factors go into your choice including the urgency and complexity of your interaction, your need for audio or visual evaluation, your available tools and equipment, the demographics of your clients, and the level of interaction required. Pros and cons of each method are shown below.

Asynchronous Communication (text, email, voice messages, etc.)

Pros
Delayed reply may allow the veterinarian to gather all information and add clinical context (e.g., data review, consult with specialist).
It minimizes interruptions, which may improve individual productivity.
Information communicated in another language can be translated through various applications.
Information is generally stored and can be readily retrieved for medical record documentation.
Photo or video can be retaken to send best image (view, lighting).
It gives the ability to record image/video when pet is most clearly displaying clinical signs.
It allows transmission of images or large amounts of data for review at a convenient time (e.g. specialist consults; technologies that collect data over time, such as glucose monitors).

Cons
Delays in response may translate to delays in evaluation and treatment.
It is less personal—if communication is only via text, chat, or email, you miss the opportunity to ask clarifying questions and foster the relationship.
It may result in a lack of clear intent (inability to detect facial/vocal cues).
If a text, chat, or email is overlooked, it might leave the client with the impression that their message is not important or not urgent. This can lead to gaps in patient care, as well as miscommunication and frustration among the involved parties.
The animal owner interprets which images are needed/best, which may not be what is needed by the veterinarian.
It does not support use of more interactive remote monitoring technologies.

Synchronous Communication (live two-way audio/video)

	Pros
	It allows more in-depth interaction. Iterative interaction allows efficient exchange of information about the pet and the assessment. It provides the opportunity to acquire details pertinent to care during the session, seek additional information or data, and, potentially, make clinical decisions in real time.
	It allows for simultaneous, three-way engagement of veterinary specialists, primary veterinarian, and owner.
	It provides immediacy—real-time access to the veterinarian that supports response to urgent situations, even those that the client may not recognize as urgent.
	It allows for better clarification of intent (facial/vocal clues).
	It supports the use of interactive remote monitoring technologies.
	Audiovisual contact with client/patient may be required for prescribing of controlled substances.
	It allows for simultaneous engagement of language translators.
	Photos, videos, and documents can be uploaded by an owner before a scheduled appointment so the veterinarian can review; in some cases, the veterinarian can utilize screenshare to show the client abnormal findings found on images.
	It better maintains the concept of the veterinarian-client-patient relationship through real-time interaction.
	Synchronous video allows real-time monitoring of hospital patients.
	It provides the ability to see an animal's environment when needed (behavioral assessments).

	Cons
	Poor lighting, noise, and other distractions may impact the quality of communication.
	Pets may not be immediately cooperative.
	Video transmission may be affected by internet quality.
	It may be less amenable to transmission of large-set or longer-term remote monitoring data.
	Depending on the application used, interaction may not be automatically stored to support documentation for medical records.
	Integration with your practice management system (PMS) is variable and may have to be done manually.

- **What do I need to think about when selecting a platform for communicating with my clients?**
  - Make sure the platform you choose works with everyone's technology.
    - Do you practice in an area with great internet service, or in a rural area with no, low, or inconsistent signal strength? Attempting to integrate live video in an area with limited to no internet service is likely to fail, but text messaging might be possible.
  - Check to see if your platform works on all operating systems.
    - Some platforms are app-based only while others provide both downloadable content and applications for desktop use. Test usability on mobile phones and tablets. Make sure applications are compatible with Microsoft, Android, and Apple products. Downloading an application may be a barrier to use for some less tech-savvy clients.
  - Does the platform integrate with my practice management system (PMS), and what are the pros and cons of that?
    - Platforms that are compatible with your PMS can make you more efficient and usually provide a better experience for both the client and the practice team, but they are typically more expensive.
    - Platforms that integrate with your PMS may not adopt new features as quickly as those that do not.
    - When choosing a platform, ask if you can speak with current customers about their experiences.

- **How do I charge the client?**
  - If you are using Zoom or FaceTime, you'll need to find a separate payment provider, or your customer service representative can collect payment prior to or immediately following the appointment.
  - Many telehealth platforms have built-in payment systems, allowing you to automatically charge your client before or after the consultation, set pricing for different appointment types,

apply coupon codes, or charge by time. Some platforms may integrate more easily than others with your PMS.
  - If you are planning to offer services that include AI-assisted diagnostic services, ask the providers if they charge extra for that service or if it is included with the routine services you already receive from them.
  - If you are incorporating wearable remote monitoring devices into patient monitoring programs, you'll need to consider whether your fees for analyzing the patient data can be captured within existing service fees or if a separate fee makes sense for how you manage this at your practice.

- **How will the third-party provider charge?**
  - Some platforms charge per use, per doctor, per month, or a combination. Make sure you ask about fees and ensure there are no unexpected charges.

- There may be fees for both the platform vendor and for the credit card processor, so make sure you understand what you will be billed for each visit.
- You can expect higher costs for platforms that communicate directly with your PMS.

> **TIP:** Before you purchase any technology, ask for a full capability demonstration.

Security

While veterinary practices and veterinarians don't currently have to be HIPPA compliant, client confidentiality is required under many state veterinary practice acts, and business requirements for protecting the privacy of personal and financial information also apply. Therefore, practices should ensure communication and internal record systems, whether they are handling patient and client contact and health information or financial information, are secure and data are kept private.

- Data security implies protecting your essential business data from potential destruction caused by malware.
- Before deciding on a technology product, including platforms, be sure to ask how the data used by the system is accessed, stored, and secured.
- Pay particular attention to ensuring the security of your clients' credit cards and banking information.
- Ask providers what they do with the practice's and patients' data. Inquire if they are used for internal research and/or sold to third parties.

Auxiliary Vendor Services and Support
Teletriage and Teleadvice

Some client communication platform providers offer third-party general advice to your clients. This can be during normal business hours or after hours to help clients avoid unnecessary visits to the emergency

clinic and instead redirect them to your practice for an evaluation. While this does add to the cost of the platform, it may be a valuable service that benefits clients, patients, and practices.

Education and Marketing Support

Providers may offer free flyers, calendared social media posts, and educational and promotional support. They may also offer training and materials for team members as well as community educational items at little or no cost. Ask whether you can add your practice name or logo to educational websites or materials.

Evaluation Tools

- In addition to your own metrics, you may be able to take advantage of the data analysis tools that some technology providers offer to ensure you and your team are thoughtfully and appropriately utilizing the technology and tracking performance, including patient outcomes, client satisfaction, and financial return on investment.
- A good question to ask potential technology providers is how they measure their own accuracy and success and how they use that information to improve their products.

Continuing Support

- Ask providers about their customer service support:
  - Will representatives be available to you during implementation and for ongoing support? You want to make sure if you encounter a problem, they are committed to helping fix it.
  - Ask how often software updates happen and how they ensure minimal disruptions in service when updates are deployed.

> **TIP:** Ask for a trial period for the technology you are considering. Most vendors will be happy to let you try the system before committing to buy.

Frequently Asked Questions: Platforms

Q Do I have to use a "dedicated" platform to support telehealth communications?

A No! Many practices use a prepaid cell phone for the practice to provide text-based asynchronous telehealth services (including sending pictures and videos) and then use a free synchronous video platform (Zoom or FaceTime). You can start with these free solutions while you investigate established platforms that allow integrations with your PMS, schedulers, and payment systems.

In all cases, be sure that security protections associated with the technology/software meet ethical and regulatory requirements, and that you are appropriately integrating information gained through these communications into your patients' medical records.

Q What is the procedure for retaining medical records when I use a free audiovisual service?

A If you are utilizing a product that integrates directly into your PMS, this likely happens seamlessly between systems. However, if you are utilizing products or services that do not integrate into your PMS, you should create a process that allows you to capture information gained from or shared during your telehealth interactions (e.g., client communications, AI-assisted diagnostics, remote monitoring, specialty consultations) and either write summary notes in or append them to the patient's medical record as appropriate for your recordkeeping practices.

appropriate preventive care and manage chronic medical conditions such as diabetes, heart disease, and arthritis.

- Real-time facts can help clients understand the importance of adherence to medication and other treatment regimens, which may reduce hospital admissions and readmissions, leading to better outcomes and patient health.

- **Considerations for AI-Assisted Diagnostics**
  - Recent advances in AI research are now working their way into AI-assisted veterinary diagnostic services. Ask your diagnostic service providers which AI-assisted services they have available for use today.

> **TIP:** If clients have purchased wearables or remote monitors for their pet(s), discuss if, how, and when you would like to receive data and how you would use that information as part of a wellness or treatment plan.

Considering Other Technologies

Advances in telehealth technologies are helping shape the future of veterinary healthcare. Telemedicine consults, remote monitoring devices, and AI are all evolving to provide healthcare teams new ways to gain deeper levels of patient information that enhance diagnosis and treatment decisions, while also fostering client relationships.

- **Considerations for Remote Monitoring and Wearable Devices**
  - These devices can collect and analyze data both synchronously and asynchronously.
  - Data may be retrieved from remote locations on multiple devices including smartphones, personal computers, laptops, and tablets.
  - Tracking trends can help identify warning signs and trigger interventions before problems reach an acute stage.
  - The information obtained from these devices helps healthcare providers to identify

Monetizing Telehealth in Your Practice

Veterinarians are comfortable charging for in-person services but have a long-held tradition of providing phone consultations and responses to email and text questions for free. And even though most understand their advice and assessments don't lose their value because they're delivered virtually, it remains a challenge for many practices to monetize telehealth services.

Are clients really willing to pay? Which services would I charge for and how much for each service? Who bills and who collects, and what about security? What if I find on an initial assessment that my patient needs to be seen in person? So many questions—all with relatively straightforward answers.

Let's start at the beginning. Yes, clients are willing to pay for telehealth. Experiences with human telehealth are driving comfort with such services, and clients generally see the value in veterinary telehealth as they are able to more easily and conveniently access professionals they trust. A live video recheck that means not having to leave work to bring a dog across town or being able to get after-hours reassurance via phone about a cat under hospice care is valuable. Being able to send an e-prescription refill request on one's lunch break or email data for interpretation is valuable. Being able to update a patient history prior to an annual physical using a phone app or signing onto a three-way teleconsult with the veterinarian and an oncology specialist are valuable as well.

How to Charge and How to Collect Payment

There are numerous models available that can assist in monetizing your telehealth services.

- Charges can be based on
  - time spent
  - specific procedures
  - skill level of healthcare team member(s) involved

- Services can be incorporated
  - in wellness plans
  - in subscription bundles
  - in palliative care packages
  - or charged per use

ACTION ITEMS

- Determine your fees for telehealth services based on the time spent by the veterinarian and by members of the veterinary healthcare team, the cost of the services to the practice, the value of the services to the patient and client, and competitive considerations in the marketplace. Remember that your advice does not lose all value just because it is not provided in person.
- In general, most third-party platforms will have the client enter payment information when the appointment is scheduled (much like many on-demand transportation services obtain and retain your credit card information). Some platforms will automatically process the payment when the appointment begins; others will allow you to modify the fee or capture the payment at the end of the appointment. If you use a platform like Zoom or FaceTime, then you will need to determine if your customer service representative will collect payment at the time the appointment is scheduled or once it is completed.
- Make sure your staff and clients understand how appointments are billed. If you are concerned that a client may be a "no-show" for a virtual visit, then you may want to have the customer service representative collect payment when the appointment is scheduled.
- If you charge a technician fee for nutritional consultations or other services delivered by your support team members, consider the expanded range of services that you can make available through a telehealth service.
- As was discussed earlier in the context of implementing telehealth plans, it is important to

have policies and procedures for payments in place before monetizing any telehealth services. Will there be different fees for after-hours services? What happens if, while you are conducting a telemedicine evaluation, you determine the patient needs to be seen in person? Should you consider giving some type of credit for the in-person physical exam? What if there are technical difficulties during the virtual visit?

- If diagnostic service providers are charging additional fees for utilization of AI-assisted services, determine if those fees are reflected in the fees your practice charges your clients or if additional service fees should be added as part of your expanded offerings.

TIP: Create and circulate a script so everyone uses the same information when talking about fees for telehealth services. And, if charging for telehealth is a new process, pilot collecting fees internally before introducing services to clients.

Make sure your staff and clients understand how appointments are billed.

Strong Client Relationships Pay Off

Telehealth interactions done well can leave pet owners feeling valued and that their pets' well-being is truly the focus of your practice. This influences client loyalty, which returns significant value through client retention for your practice.

You Are Worth It

Your medical knowledge is valuable no matter whether delivered in person or through telehealth.

Pet owners today have access to a nearly infinite amount of information via the internet, but they desire and are willing to pay for reliable, personalized guidance from their veterinarian. You have the advantage of knowing the client and the pet, and this relationship, coupled with medical advice they can trust because of your training and experience, is worth paying for.
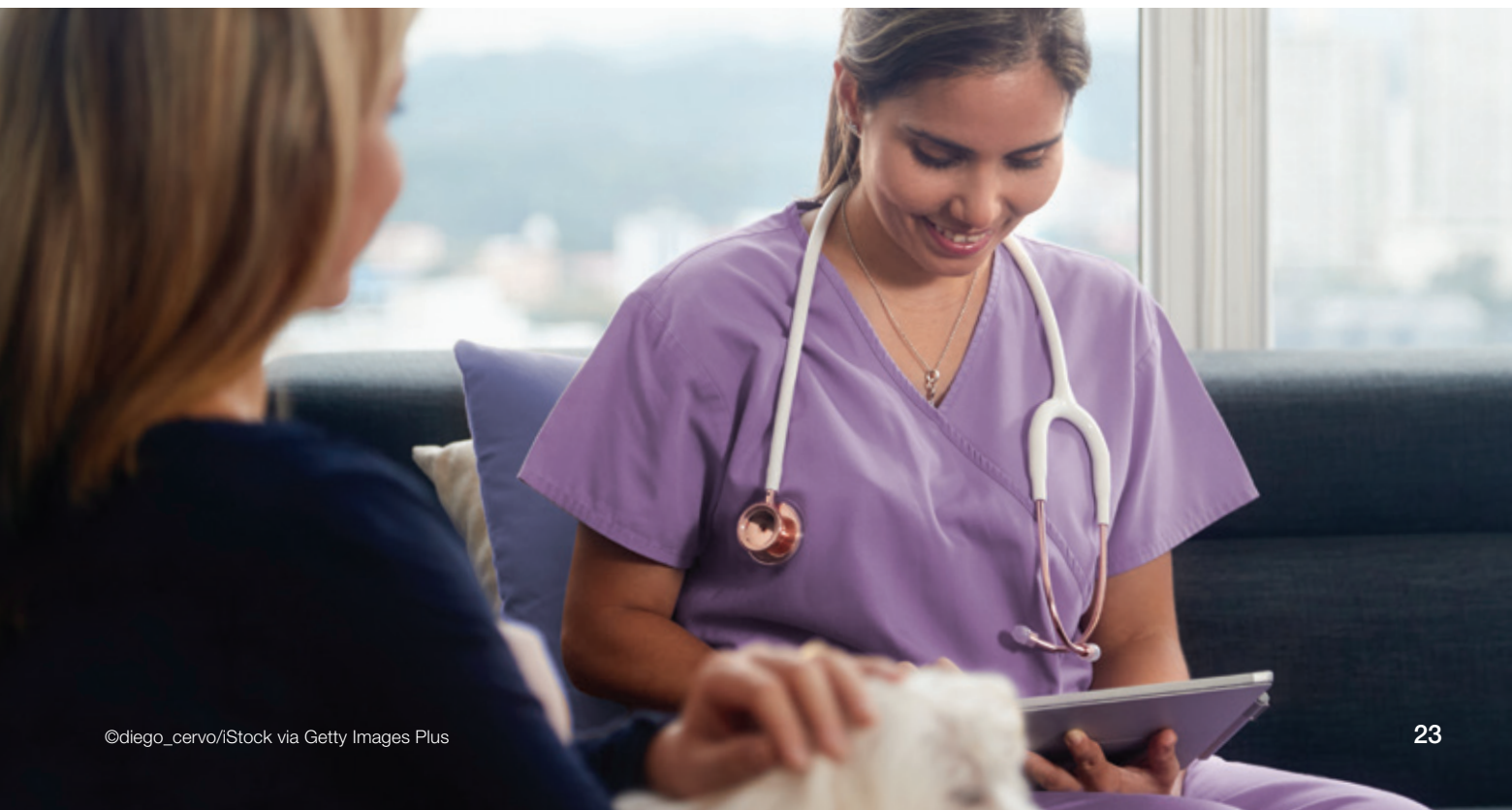
The Benefits of Loyalty

Being available to your clients outside of the practice walls in their time of need can increase their loyalty to you and drive a positive sequence of events:

- Having more touchpoints and communication builds trust.
- Clients who trust you are more likely to approve your recommendations, saving time and potentially leading to faster interventions.
- Clients who trust you may comply with treatment recommendations for better outcomes.
- Client retention improves when they trust you and can access your knowledge and compassion.

Consider this situation that typifies communications a practice might receive from a client:

I first noticed a raised, red sore on my cat's thigh two weeks ago after a recent vaccine appointment. It started getting smaller and looked less inflamed, but tonight, it looks bigger and angrier than it did when I first saw it. He doesn't seem to be in pain, but he is licking it a lot. I was wondering if there is an email I could send pictures to in order to avoid an in-person appointment. If it does need to be biopsied or to be examined in person, I will make an appointment, but he gets really nervous when he has to go in his carrier, so I'd prefer to avoid that unless it's necessary.

Until recently, such a client would only have had one option: to bring their pet to the clinic for an assessment. This client, however, can now be seen via a telemedicine appointment with the veterinarian and be provided with the facts needed to make the best decision for their cat. The appointment can also reinforce the veterinarian's authority as the trusted source of information for the client to turn to first in the future. Furthermore, the veterinarian can be compensated for the services.

Communicating the Benefits of Telehealth

Many people see telehealth solely as a live audio or video service, but conducting remote consultations is actually only a very small part of what telehealth is about. Instead, provision of telehealth services is most successful when it is focused on easing communication bottlenecks, improving clients' access to care and information, and capturing revenue usually given away for free.

Connected Care seeks to integrate all digital technologies to enhance and support the veterinarian-client-patient relationship through improved communication, diagnosis, and monitoring. It is thus of immense value for clients, patients, and the practice. In this section, you will find suggestions for promoting the benefits of telehealth to staff and clients.

> Effective marketing relies on promoting the benefits, not the features, of telehealth.

External Marketing

When marketing to your clients through social media, newsletters, email blasts, fliers, blogs, or direct mail, the benefits fall into four categories:

Convenience

- The ability to communicate asynchronously (at separate times as with texts or online forms), allows for the exchange of information at convenient moments without having missed callbacks or delays.
- Clients can send photos, videos, or reports from remote monitors, which can be reviewed and responded to or used to identify the need for an in-person examination. This ensures rapid feedback and timely intervention.

- Using available software technology, clients can also schedule appointments, fill out pre-examination histories, or request prescription refills when it works for them, whether that is late at night, while riding public transit, or during a break at work.
- When a veterinarian can arrange a live teleconsult with a specialist, the veterinarian and clients can get expert advice simultaneously without having to wait. This allows for earlier intervention.

Access

- If clients have disabilities, or they find it hard to take off work, hate traffic, live at a considerable distance, lack child care, or have a challenging pet to get into a carrier or a fragile one under hospice care, then telehealth services can help improve access.
- When your practice leverages technicians and assistants to provide results, instructions, or patient information via phone, text, or video conferences, clients have more touchpoints with the practice, which strengthens that relationship.
- Whether you use telemedicine to provide after-hours care or educational information, be sure to make clients aware of these opportunities.
- Beyond the walls of your practice, you can schedule teleconsultations with various specialists. This access to specialty care can potentially benefit patient treatment, recovery, and quality of life, which has significant value.

Time and Cost Savings

The tools and touchpoints mentioned above can cut down on clients' coming in for unnecessary appointments, saving them time and money and freeing up the practice schedule for patients that

need in-person exams. Other savings potentially can come through virtual rechecks or creating subscription pricing models for clients using telehealth.

Improved Diagnostics and Patient Monitoring

Clients pay attention to technology trends happening with their own healthcare and often ask their veterinarians which of these might be appropriate for their pets. With some of the new veterinary AI-assisted diagnostic services and remote monitoring devices, there is now an opportunity to promote these to your clients as an extension of your practice's services. The benefits of more accurate diagnoses, earlier intervention, and improved client compliance all support improving treatment outcomes for your patients and enhanced client experiences.

Internal Marketing

Your Telehealth Champion is responsible for internal marketing to staff, ensuring everyone understands how telehealth is being used to help clients and patients. Ideally, you'll want all staff to become enthusiastic advocates.

Improved Patient Care and Outcomes

The Telehealth Champion needs to share stories and metrics illustrating improved patient outcomes resulting from earlier intervention, better client compliance, and more timely follow-ups. It's important to track and

tell how remote monitoring data collection, specialist consults, and compassionate care for hospice patients are some of the ways technology and Connected Care are supporting the practice healthcare team deliver personalized patient care.

The Telehealth Champion also needs to track and share examples of the following benefits for the practice:

- **Client Relations**
  - Reduced bottlenecks, leading to more streamlined communications with clients
  - More time to show interest and compassion for patients and clients

- **Practice Sustainability**
  - Monetizing more client interactions
  - Opportunities for staff to use more of their skills
  - Potential for some staff to work remotely
  - Potentially greater control over work-life balance through improved workflow

> **TIP:** Your marketing doesn't have to be costly. Messages to both staff and clients just have to be clear and consistent, conveying that competence and caring are valued.

Frequently Asked Questions: **Marketing**

Q **How can I make sure everyone in our practice can speak effectively about our telehealth efforts?**

A Your Telehealth Champion should keep staff members informed about the services being offered, and any changes to those services. This can be done by circulating staff memos, creating scripts for support in answering specific questions (Figure 5), or developing lists of frequently asked questions (FAQs) with answers for distribution. Everyone loves success stories and you will need quotes for testimonials to support your marketing, so ask the staff to share these with your Telehealth Champion as well. Again, be sure to respect client and patient confidentiality and that you have obtained permission to use your clients' comments in any marketing material.

Q **I've never done video sessions and wonder how I can convey a good "webside" manner during a telehealth visit. I want to be the person my clients will feel confident in and comfortable with.**

A Before you start seeing patients and communicating with clients using video consultations, put the video in record mode and rehearse in front of the camera. Play it back to see how you come across. It may take several rehearsals before you feel at ease. It can be harder to exude warmth and create a personal connection when body language clues are limited. Show your client you're listening by nodding every so often when they are speaking. Make eye contact by looking into the camera lens, not at the client image on the screen. When you have to look away to consult a record, be sure to let your client know and ask permission as a courtesy. Watch for visual clues from your client and be mindful of the ones you are expressing. After your first few sessions, review the exam videos to see what you might want to improve, but know that as with anything else, you will naturally get better with practice.

FIGURE 5 | Sample Script for Marketing the Benefits of Telehealth Services to Clients

When introducing new procedures to clients, lead with a clear value proposition to support their adoption.

For example: We know it's difficult for you to get off work to bring your dog in, so how about we schedule a telemedicine appointment for you and Rex? You can send photos or a video of his surgery site to the doctor, who can see how things are healing before your virtual visit. That way, you won't have to come in if all is OK, which will save you time. Are you available this Thursday between 10 am and noon?

Conclusion

Demand for telehealth services is accelerating, and veterinary practices need to keep pace to remain relevant. The goal is not to replace necessary in-person consultations and exams, but to consider using technology for such services as

- Client education
- Some types of preventive care
- Postsurgical follow-ups
- Behavioral consults
- Monitoring chronic conditions
- Palliative/hospice care
- Nutritional consults
- Prescription and pet food refills
- Teletriage
- Specialist consults

The goal is offering improved access and convenience that provide pet owners with excellent customer service and high-quality patient care leading to better patient outcomes and increased client retention. The goal is using technology to streamline care so staff don't burn out, internal processes flow efficiently, and everyone's skills are maximized and monetized.

As we hope you can see, telehealth is not about the gadgets, it's about results and relationships. Staying connected with your clients and patients is critical. You want your clients to think of calling you first when they have questions or concerns. You want to be able to provide your clients answers and reassurance when they need it 24/7. Plan to provide telehealth services on your time and potentially use a third-party provider after hours so you don't have to always be on call and your clients can still receive services.

You don't have to take on all of telehealth at once. Assess your situation, your clients, your patients, and your resources. Determine how to incorporate Connected Care into your practice and what your desired return on investment looks like. Feel confident that making small adjustments now will provide huge dividends in improved patient outcomes, client retention, and staff satisfaction in the future.

The most important step you can take today is your next one! Visit aaha.org/telehealth for more resources.

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