



Canine and Feline Research

Animal hospice and palliative care: Veterinarians' experiences and preferred practices



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ABSTRACT

Given that veterinary hospice and palliative care is still in its infancy, little is currently known about veterinarians' attitudes toward, experiences with, and preferred practices relating to the provision of hospice and palliative care. This research effort seeks to fill this void by presenting the results of a survey of members of the International Association for Animal Hospice and Palliative Care. The results from the electronic survey yielded 137 responses. The average number of companion animals euthanized annually by each veterinarian was 239, with the majority of veterinarians performing the euthanasia in the client's home. Most veterinarians prefer that other animals be present for euthanasia of a pet. Most pet owners stay for the procedure (two-step method of euthanasia protocol most frequently used), and most clients ask the veterinary practice to cremate the dead animal's remains. The respondents from the survey are aware of their role in relation to grief and tend to provide the client with grief support resources. Veterinarians would have preferred more orientation in veterinary school regarding issues on end of life.

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Introduction

Deciding how to manage a pet near the end of life (EOL) can be a stressful and difficult process for human caregivers. A caregiver's psychological well-being can be negatively affected when caring for terminally ill companion animals (Shanan, 2015) as they have a strong need to provide care that reflects and is consistent with their feelings of attachment to their animals (Adams et al., 2000). It is in this context that veterinarians shepherd human caregivers through the decision-making process to address the difficult questions associated with EOL care: What is the quality of life (QOL) of the animal? Should the animal undergo palliative and hospice care, a palliated natural death or is it time to euthanize? If euthanasia is the option selected, when should it happen? Should euthanasia take place at home or at the veterinary clinic? Will support be available to the client after the procedure is over? Veterinarians trained in hospice and palliative care—a veterinary specialty still in its infancy—are particularly well suited to address these questions.

Animal hospice care is an emerging veterinary specialty that was begun in the 1980s, following the hospice model for humans, which was started in the United Kingdom by Dame Cicely Saunders in the late 1960s, before moving to the United States in the early 1970s. Veterinary hospice programs were formally sanctioned in the United States by the American Veterinary Medical Association (AVMA) when the Veterinary Hospice Care Guidelines were adopted in 2001 and later revised by the AVMA in 2007 (Marocchino, 2011). The focus of animal hospice is similar to hospice for humans—to die peacefully at home and in due time (Hewson, 2015) while balancing the needs of the patient, caregiver, and other family members (Marocchino). The term “pawspice” was coined by oncology veterinarian Alice Villalobos to describe the transfer of principles and practices from human to veterinary medicine (Downing et al., 2011). Veterinary hospice requires veterinarians to be aware of the psychological, social, emotional, and spiritual needs of the caregiver and animal (Marocchino). This awareness is made possible by and depends on the extent to which care is embedded within an interdisciplinary team, so that the veterinarian, veterinary technician, and human client can work collaboratively to develop an EOL care plan that reflects the goals and preferences of the family within the parameters of the best veterinary medical standards.

Alongside the modern hospice movement came palliative care, a word coined by Canadian urological surgeon Balfour Mount in the 1970s. Palliative care is designed to give the patient as pain-free an

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experience as possible while respecting the needs of the patient and the client. The objective is to allow the patient to live out the final days in as comfortable and dignified a manner as is possible. Palliative care is not limited to animals with a terminal illness, however, but should be used with any illness, given its objective of comfort and pain relief. Hospice is basically palliative care at the EOL (Goldberg, 2016). However, it is critical that the provision of palliative and hospice care not be left in the hands of well-intentioned pet owners who are not trained in recognizing animal suffering and treating pain in animals (Nolen, 2007).

Euthanasia has historically been the preferred method in veterinary care for ending the suffering of a companion animal with a life-limiting illness. If the caregiver prefers natural death for the pet, such is acceptable in animal hospice and palliative care only as long as the animal can be maintained in a reasonably comfortable and pain-free state (Shanan, 2015). If natural death is the human client's preference, it is often accomplished through palliated sedation, which involves the use of specific sedatives to relieve intolerable suffering from refractory symptoms by reducing a patient's level of consciousness (Alonso-Babarro, 2010). Palliated sedation and euthanasia are morally distinct practices (Maltoni et al., 2014), and all veterinarians, as we will show below, are not in agreement that palliated sedation is appropriate for EOL care.

Given the relative novelty of veterinary hospice and palliative care, there is little known about how the aforementioned ideals of hospice and palliative care are translated into practice. The objective of this research is to describe veterinarians' experiences with and preferred practices related to the provision of palliative care, hospice, palliated sedation, and euthanasia, so that we can better understand the current state of EOL veterinary care in the United States.

Materials and methods

Survey solicitation was distributed via e-mail list-serve on February 6, 2017, to approximately 400 members of the International Association of Animal Hospice and Palliative Care (IAAHPC) regarding their experiences and preferences in providing EOL care to companion animals. Approximately 95% of those members are practicing veterinarians or veterinary technicians, and thus, 380 of the IAAHPC members were eligible to participate in this study. A follow-up e-mail solicitation was distributed via e-mail on March 2, 2017. A solicitation to this survey was also posted on the IAAHPC's Facebook page on February 2, 2017. A follower of the IAAHPC on Facebook indicated that she had shared the solicitation to participate in our study on the Facebook page for VetTechLife.com.

The research study was reviewed and approved (IRB-2015-4-28-114909) by the College of Charleston's Institutional Review Board (FWA 00000772). The survey asked each respondent how many animals she/he euthanized each year, species, other animals nearby, place of euthanasia, whether owners stay with the pet, encourage other animals to be present, disposition of the dead animal's remains, follow-up regarding grief of client, definition of hospice and palliative care, palliated sedation, assessment tools for measuring QOL, euthanasia protocols, pain management services, satisfaction with vet school training for EOL issues, and several demographic variables.

Results

The survey was accessed electronically by 214 individuals, 137 of whom submitted a partially or fully completed survey. Because the survey solicitation was posted and shared via social media, it is not possible to calculate a response rate as the population size cannot be finitely measured.

The demographics of those responding to the survey revealed 92% female, 73% younger than 55 years of age, 54% graduated before 1999, DVM degrees earned from 25 of the then 28 U.S. vet schools (now 30), DVM degrees earned from 7 different international schools, and 4 degrees earned from different veterinary tech programs. The professional status composition was 74% full-time veterinarians, 14% part-time vets, 8% vet techs, and 4% "other." Regarding where they work, 53% are in a mobile veterinary practice, 25% in a clinic-based practice, 13% in a mobile veterinary and clinic-based practice, and 9% "other." Regional distribution of respondents revealed the highest number (36%) live in the West, followed by 28% in the South, with the Midwest and Northeast each having 13%, and 10% live outside the United States.

Euthanasia

Regarding the companion animals euthanized by respondents in a typical year, 62% are dogs and 36% cats, with others being mammals/pocket pets (ferrets, guinea pigs, and hamsters), potbelly pigs, parrots, and chickens. The average number of animals euthanized per veterinarian in a typical year was 239 (with a range between 4 and 1,000). In performing euthanasia during a typical year, the veterinarians in 30% (median) of the cases felt that they knew the animal and its family well.

Forty-seven percent of the time, other animals were nearby the animal being euthanized. The overwhelming majority of veterinarians stated that they prefer that other animals be present for euthanasia, yet a small minority discourage this. Reasons given for encouraging the presence of other animals included "it often helps the pet to be calmer," "helps comfort the animal being euthanized," "helps give closure to both the other animals and the pet owners," "sometimes the bonded pets can do better if they can see that their companion has died," and "other animals look for the deceased companion a shorter time if they are allowed to say goodbye." Of the few respondents who prefer that other animals not be present, their rationale included "being present adds to confusion and maybe even fear," "stress from the pet owners causes the other animals to be so stressed," and "don't like having distraction of another pet, thus feel more comfortable focusing solely on the dying patient."

Place of euthanasia and disposition of the body

Sixty-two percent of respondents report that euthanasia was typically performed in the client's home, 21% in the veterinary clinic, and 6% in the emergency veterinary clinic. During the euthanasia procedure, the client stayed with their companion animal 83% of the time, stayed outside the room 2% of the time, 4% of pet owners left the animal with the veterinarian, whereas 12% of the owners were away from the area and were not able to be present for the euthanasia. Fifty-three percent of the time, animal remains are left with the vet to cremate with the cremains picked up later, 18% are left with the veterinarian for her to dispose, and 12% are taken away by the owner. Overall, 74% of the euthanized animals were cremated, 13% were buried in the ground, and a few were donated to a veterinary medical school.

Euthanasia protocol

We asked respondents which euthanasia protocol they preferred, presuming they were performing a trouble-free euthanasia. The two-step method of sedation and euthanasia was preferred by 65% of responding veterinarians, followed by the three-step method (18%) of sedation, anesthesia, and euthanasia, and then the one-step method (2%), with only one percent using

the four-step method (premeditation, sedation, anesthetization, and euthanasia). Nine percent of respondents use an alternative version of the two-step method (heavy sedation equivalent to anesthetization or anesthetization followed by euthanasia), whereas the remaining respondents use a combination of methods (5%), depending on the degree of difficulty involved in the euthanasia.

Most respondents preferred the two-step protocol because it was “quick and easy,” gives a “very smooth transition for the pet and the owner,” and “seems to really help the pet and client to relax.” One veterinarian said, “The 3- and 4-step methods seem like overkill.” Several respondents noted that they euthanize in the pet’s home by themselves and thus prefer to sedate the animal first to better control her/him and then euthanize. Others felt that the “longer” protocols were too discomforting for the pet owners to watch. One veterinarian said, “With sedation, I have found euthanasia to be a quiet, peaceful, and a dignified transition of life to death, and in doing so have improved the quality of the care the family and their loved ones receive exponentially.”

Euthanasia versus palliated natural death: An ethical quandary for veterinarians?

Veterinarians were asked to describe their ethical objection(s), if any, to facilitating a palliated natural death as opposed to euthanizing a sick animal. The definition of palliated natural death provided to respondents is, “Sedating a sick animal until natural death occurs as opposed to ‘euthanasia,’ which involves the administration of appropriate drugs to bring about the death of the animal within minutes.” Although two respondents had not previously heard of palliated natural death, most respondents expressed unconditional (5%) or conditional approval (61%) for facilitating a palliated natural death to a client’s animal under specific circumstances (see Table 1) and out of respect for the human clients’ wishes.

For example, one respondent wrote the following:

This is a gray area for me...palliated natural death should be available only under the humane conditions of aggressively managing the pain, stress, hygiene and emotional needs of...the patient and under 24-hour supportive care by family and/or the hospice team. I have only had one family follow through in providing for their pet at this intense level, and it was a remarkable experience. I do not see many families with the time and resources to follow through with good intentions, and suffering becomes a great concern.

Table 1
Veterinarians’ support for palliated natural death

| | |
|--|-----|
| Unconditional approval | 5% |
| Conditional approval | 61% |
| So long as pain can be managed | 33% |
| Owners willing/able to provide appropriate care | 16% |
| Respect for owners’ wishes | 12% |
| Appropriate health condition (no respiratory disease) | 7% |
| If for no longer than 2-3 days | 5% |
| Owner needs to fully understand what this entails | 4% |
| Owner understands stages of death/signs of suffering | 4% |
| Disapproval | 34% |
| Cannot be certain about animal’s experience/suffering | 17% |
| Treatment is unpredictable, likely to cause suffering | 15% |
| Prolongs low or no QOL | 13% |
| Selfish of owner, not in pet’s best interest | 9% |
| Not comfortable leaving controlled drugs with human client | 9% |
| Can go on for days and weeks (“Yikes!”) | 6% |
| Human clients not properly trained for this kind of care | 6% |

Those respondents who disapprove of palliated natural death (34%) do so because they report it is too difficult to manage without causing unnecessary suffering and, similarly, because we do not know well enough how the animal is feeling so as to guide this treatment. Palliated natural death is, for several of our respondents, a selfish act by pet owners that prolongs an animal’s low QOL. One veterinarian summed up her disapproval in the following way:

A “natural death” is not always pretty and not always well managed in veterinary medicine because of pricing and lack of available drugs for owners to be able to use without a veterinarian present. I think the cost factor of having a veterinarian at a home, every day, often several times a day to administer the medications we know will be appropriate (injectable opioids, intravenous sedatives etc.), prohibits a good, quality palliated natural death.

QOL measurement assessment tools and pain management services

Fifteen percent of respondents report not using any QOL assessment tools in their practice. Remaining respondents were asked to select from a list which QOL scales they used. By far, Villalobos’ HHHHMM Scale was utilized most frequently (59%), followed by the Lap of Love QOL Scale (13%), Colorado State University Pain Scale (3%), Journeys QOL Scale (2%), the Nelson and Zito QOL Scale (1%), and the UT Social Work Scale (1%). Some respondents stated that they have clients track good and bad days on a calendar. Some encourage clients to use at home an assessment tool posted on their website. A few veterinarians said they use the assessment tool as a starting point to engage in EOL discussions with the client.

The respondents were provided with a list of veterinary pain management practices and asked to indicate the practices from that list they offered to clients. The most frequently used pain management techniques were pharmaceutical treatments (98%), weight optimization (73%), acupuncture (52%), therapeutic laser (43%), physical therapy (41%), thermal modification (30%), massage (29%), transcutaneous electrical nerve stimulation (14%), chiropractic adjustment (13%), and pulsed magnetic therapy (8%). Twenty seven percent of respondents use “other” pain management techniques including environmental modifications to the home (e.g., installing nonslip rugs on wood floors/stairways), Reiki, and essential oils, herbs, and supplements. Other practices were named by a single respondent (e.g., harp enrichment therapy).

Where veterinarians receive training on palliative care delivery

Seventy-one percent of respondents reported that they were very unsatisfied or unsatisfied with the level of hospice and palliative care training received in their veterinary medical school or veterinary technician program. Only 7% reported being very satisfied or satisfied with that training.

We provided respondents with a list of sources of professional development, asking them to rate the influence each source has had on their development of skills and knowledge related to their delivery of veterinary hospice and palliative care. Informal interactions with colleagues outside of conferences was selected most often (69%), followed (in order) by conferences hosted by the IAAHPC (58%), guidelines/materials published by professional associations (50%), the IAAHPC palliative care certification course (42%), published literature in veterinary journals (40%), veterinary conferences other than those hosted by the IAAHPC (36%), veterinary medical school/veterinary technician training programs (36%), and work with a paid consultant (33%).

Twenty-three respondents also indicated “other” sources that contribute to their professional development in hospice and palliative care. These other sources included personal experience (e.g., trial and error in professional practice) (30%), literature, conferences and training in the field of human hospice and palliative care (13%), the Lap of Love’s training and certification program (9%), the Veterinary Information Network (9%), acupuncture training (4%), a mentor’s guidance (4%), and online continuing education opportunities (4%).

Managing clients’ grief

We provided respondents with a list of practices that some veterinarians engage in to help human clients manage the loss of their pet. Respondents were asked to rate whether they engaged in each of those practices “never,” “rarely,” “sometimes,” “often,” or “always.” After the death of the companion animal, 16% of veterinarians report that they “often” or “always” telephone the human client a day or two later; 57% telephone the client “sometimes” or “rarely” and 27% never call the client after the animal’s death. The majority (61%) “always” or “often” provide the client with a list of grief support resources in the community. Ninety percent always send a sympathy card, and nearly 90% provide the client with a clay paw print of the deceased pet (69% do so “always” or “often”). Seventeen percent “always” or “often” make a donation to a local shelter or animal rescue in memory of the deceased animal (48% never do). Twenty-nine percent of respondents always provide clients with a copy of the “Rainbow Bridge” poem (40% never do).

Respondents also wrote in “other” practices not listed on the survey that they use to manage clients’ grief. Of the 72 “other” practices mentioned, providing the human client with fur clippings of the deceased pet was most common (14%), followed by checking in with clients via e-mail or text (12%), providing clients with grief literature (11%), giving client a charm, prayer flag, or other memento (10%), offering clients the opportunity to participate in a free grief-counseling session (7%), providing clients with an ink nose or paw print of their deceased pet (7%), and sending flowers to the client (6%), and three respondents (4%) create an online or Facebook memorial of the deceased pet that is shared with the pet owner.

Discussion

Dogs and cats are the animals with which these veterinarians work the most, with an average of 239 euthanasia procedures performed per year per veterinarian. This average is beyond that of recent studies of veterinarians (average = 117 and 90, respectively) likely due to the fact that EOL care is the focus of our respondents’ work (Dickinson and Hoffmann, 2016; Dickinson et al., 2011). The majority of respondents go to the home of the client to euthanize an animal, which is not surprising given the majority of veterinarians we surveyed are in a mobile veterinary practice. This is not unlike with humans where the preferred place to die is at home, surrounded by those things with which one is familiar, and not in a sterile clinical/hospital setting with which one is not familiar.

Most respondents indicate they use QOL assessment tools to help clients make decisions about EOL care for these companion animals and report these tools as helpful in communicating with clients. QOL, however, is not easy to measure, as it encompasses numerous factors to quantify, yet such tools as Villalobos’ HHHHHMM Scale may help evaluate QOL more objectively (Downing et al., 2011), which is perhaps why this scale was most preferred by respondents. Downing et al. suggests that veterinarians should discuss with owners the QOL of the pet in terms of what the patient does now versus what it did before the illness. Does the pet still greet the owner at the door when she comes in? Does the pet still play with toys or other pets? Such

queries—implicit to the HHHHHMM scale—could give the veterinarian a good measure of the degree of severity of an illness and help guide the caregiver’s decision-making.

When euthanasia is the agreed-upon option for a companion animal, the euthanasia protocol preferred by the majority of these veterinarians is the two-step method of sedation and euthanasia. Historically, veterinarians had given a single injection of euthanasia solution to end an animal’s life, yet because companion animals are typically considered to be family members, extra sensitivity during euthanasia is needed. Providing a pre-euthanasia sedative and analgesic allows the patient and owner comfortable, peaceful, and pain-free transition time (Jones, 2014).

When performing euthanasia on a companion animal, the majority of these veterinarians prefer that other animals in the household be present, contradicting the stance of the AVMA and the American Animal Hospital Association, which recommend not euthanizing an animal in the presence of other animals (Dickinson and Hoffmann, 2016). These veterinarians feel that for both the client and the animal, there is comfort in being surrounded by other animals at the time of death. Such a preference seems to correspond with the world of humans as obituaries very often state “the deceased was surrounded by family at the time of death.” It makes sense then that 83% of owners stay for the euthanasia procedure, similar to the 82% and 74%, respectively, who stayed with their animals as reported in earlier studies (Dickinson and Hoffmann, 2017; Dickinson et al., 2011).

Cremation is the final disposition of dead animal remains for most of the veterinarians involved in this study. Such a trend also exists in the world of humans in many countries of the world, including the United States where today cremation of dead humans has surpassed 50%, well above the 10% of the 1970s (Leming and Dickinson, 2016). Cremation for companion animals left with the veterinarian was 53% in this study, very close to another study in the United States, which was 63% (Dickinson, 2014) and 61% in a study of 567 pet owners (Dickinson and Hoffmann, 2016).

The veterinarians we surveyed (71%) were not satisfied with education they received in their veterinary programs for preparing them to deal with EOL issues—only 7% reported being very satisfied or satisfied with that training. These results are similar to the findings of an earlier study of U.S. veterinarians revealed that only 33% of respondents felt well prepared by their veterinary training to deal with EOL issues and 75% of the 349 veterinarians agreed that veterinary schools should place more emphasis on communication skills with owners of terminally ill animals (Dickinson et al., 2011).

Relating to the grief of clients after the death of a companion animal appears to be a priority of these veterinarians, as they offer help, whether it be from reading material or therapy programs. Although their formal education in veterinary science apparently did not well prepare these veterinarians and veterinary technicians to relate to EOL issues, they tend to show concern for their clients after the death of a pet, consistent with O’Dair’s suggestion that pet owners “should always be made aware that support is available to them after the euthanasia procedure, as well as how to access it if necessary” (O’Dair, 2015, p. 144).

Advancements in veterinary diagnostics and treatments have allowed companion animals to live longer, and it is the responsibility of those in the veterinary professions to ensure that the QOL is good (Jones, 2014). The potential for prolongation of suffering is real, and it is the duty of the veterinary community to acknowledge this and prevent it through education of veterinarians, veterinary technicians, and clients. These veterinarians are advocating for more orientation in their formal veterinary training on relating to clients and animals regarding EOL issues.

It is important that veterinary professionals be an advocate for the pet and, at the same time, educate pet owners, so that they make the right choices for EOL care for their companion animal. When

euthanasia is the choice and the client may feel guilty, the veterinarian should point out that euthanasia is a gift given to an animal, so that he is no longer suffering—the gift of not getting worse (Dickinson, 2014). Veterinarians should emphasize to their clients that the decision to euthanize was made out of love. Such a decision regarding euthanasia compels pet owners to come to grips with what sociologists call the “caring-killing paradox” (Pierce, 2012, p. 272). Giving themselves permission to aid in a companion animal's death process allows owners to take on the role of a positive facilitator. Veterinarians are in a position to acknowledge and honor the human-animal bond, thus by sharing in the decision-making regarding EOL issues help to assuage the pet owner's conscience. Such a communication effort should produce a win-win situation for the pet, the pet owner, and the veterinarian/veterinary technician.

The aforementioned findings are not without their limitations. Our small sample size and indeterminate population limits the generalizability of our findings. Similarly, the findings reported here are perhaps unique to veterinarians and veterinary technicians who specialize in hospice and palliative care and thus might not be generalizable to all veterinarians.

Future research needs to examine what are the practices and interaction patterns with human caregivers among veterinarians who are not trained in veterinary hospice and palliative care. What kind of instructions and guidance do nonhospice veterinarians provide to caregivers when they take a terminally ill pet home? Are they providing the necessary support and addressing the concerns and fears of the human caregiver when their pet is facing the EOL? Also, given that veterinarians report high levels of stress, burnout, and a greater risk for suicide than the general population (Mechan, 2014; Scotney et al., 2015; Skipper and Williams, 2012; VanderGriek et al., 2018), future research will need to examine the challenges hospice and palliative care veterinarians face as well as the benefits they experience in their work.

Ethical considerations

The authors have received no money for this research and are indebted to no one for this research endeavor.

Conflict of interest

The authors declare no conflicts of interest.

References

- Adams, C.L., Bonnett, B.N., Meek, A.H., 2000. Predictors of owner response to companion animal death in 177 clients from 14 practices in Ontario. *J. Am. Vet. Med. Assoc.* 217, 1303–1309.
- Alonso-Babarro, A., Varela-Cerdeira, M., Torres-Vigil, I., Roddriguez-Barrientos, R., Bruera, E., 2010. At-home palliative sedation for end-of-life cancer patients. *J. Palliat. Med.* 24, 486–492.
- Dickinson, G.E., 2014. Household Pet Euthanasia and Companion Animal Last Rites, 94. *Phi Kappa Phi Forum*, Baton Rouge, LA, pp. 4–6.
- Dickinson, G.E., Hoffmann, H.C., 2016. The difference between dead and away: an exploratory study of behavior change during companion animal euthanasia. *J. Vet. Behav.: Clin. Appl. Res.* 15, 61–65.
- Dickinson, G.E., Hoffmann, H.C., 2017. Saying goodbye to family: caretakers' experiences with euthanasia and honoring the legacy of companion animals. *Soc. Anim.* 25, 490–507.
- Dickinson, G.E., Roof, P.D., Roof, K.W., 2011. A survey of veterinarians in the US: euthanasia and other end-of-life issues. *Anthrozoös* 24, 167–174.
- Downing, R., Adams, V.H., McClenaghan, A.P., 2011. Comfort, hygiene, and safety in veterinary palliative care and hospice. *Vet. Clin. North Am. Small Anim. Pract.* 41, 619–634.
- Goldberg, K.J., 2016. Veterinary hospice and palliative care: a comprehensive review of the literature. *Vet. Rec.* 178, 369–374.
- Hewson, C., 2015. End-of-life care: the why and how of animal hospice. *Vet. Nurs. J.* 30, 287–289.
- Jones, K., 2014. Pain management in hospice and palliative care. In: Egger, C.M., Love, L., Doherty, T. (Eds.), *Pain Management in Veterinary Practice*. John Wiley & Sons, Ames, IA, pp. 431–436.
- Leming, M.R., Dickinson, G.E., 2016. *Understanding Dying, Death and Bereavement*, 8th ed. Cengage Publishers, Stamford, CT.
- Maltoni, M., Scarpi, E., Nanni, O., 2014. Palliative sedation for intolerable suffering. *Curr. Opin. Oncol.* 26, 389–394.
- Marocchino, K.D., 2011. In the shadow of a rainbow: the history of animal hospice. *Vet. Clin. North Am. Small Anim. Pract.* 41, 277–298.
- Meehan, M.P., 2014. Psychological well-being of veterinary professionals. *Vet. Rec.* 174, 142–143.
- Nolen, R.S., 2007. Protecting pet hospice: growing popularity of pet hospices raises concerns of abuse. *J. Am. Vet. Med. Assoc.* 231, 1793–1794.
- O'Dair, H., 2015. Euthanasia of pets: strengthening end-of-life care. *In Pract.* 37, 143–145.
- Pierce, J., 2012. *The Last Walk: Reflections on Our Pets at the End of Their Lives*. University of Chicago Press, Chicago, IL.
- Scotney, R.L., McLaughlin, D., Keates, H.L., 2015. A systematic review of the effects of euthanasia and occupational stress in personnel working with animals in animal shelters, veterinary clinics, and biomedical research facilities. *J. Am. Vet. Med. Assoc.* 247, 1121–1130.
- Shanan, A., 2015. Pain management for end-of-life care. In: Goldberg, M.E., Shaffran, N. (Eds.), *Pain Management for Veterinary Technicians and Nurses*. John Wiley & Sons, Ames, IA, pp. 331–340.
- Skipper, G.E., Williams, J.B., 2012. Failure to acknowledge high suicide risk among veterinarians. *J. Vet. Med. Educ.* 39, 79–82.
- VanderGriek, O.H., Clark, M.A., Witte, T.K., Nett, R.J., Noeller, A.N., Stabler, M.E., 2018. Development of taxonomy of practice-related stressors experienced by veterinarians in the United States. *J. Am. Vet. Med. Assoc.* 252, 227–233.