The idea for this talk came at the intersection of clinical practice, social media, academic medicine, and the recent reading of an essay¹ by the late Stephen J. Gould (Harvard professor, influential evolutionary biologist). At this intersection, it occurred to me that, as a profession, veterinary medicine still holds strong beliefs about what the diagnosis of cancer means for a patient, and these beliefs need to be challenged.

At the corner of clinical medicine, there are several observations that are concerning. First, despite all the advances in veterinary oncology treatments and supportive care, new FDA and USDA approvals of targeted therapeutics for animals with cancer, and the massive venture capital funding flowing towards small start up companies working on new animal cancer treatments, it is still all too common to hear referral clients say things like:

“*My veterinarian said it was cancer and we should just put him/her down*”

“I would never put my pet through chemotherapy, radiation therapy, etc. because the side effects will be terrible”

“My veterinarian told me there was really nothing we could do but I wanted to come anyway”

“My veterinarian told me with this cancer, dogs/cats only live a year at best”

A quick search of various social media sites reveals a similar litany of reports from the general public. However, within the social media context, it is impossible to know or understand the history behind the post/tweet/blog. Are the veterinarian’s comments being conveyed accurately (after hearing the word cancer, many owners stop listening effectively)? Does the owner have financial concerns that affect their decisions? Do they have a personal history with cancer? Are they located in an area with no easy access to specialty services? That these entries are still occurring suggests we have a ways to go in educating our clients about cancer diagnoses. Despite my best efforts at trying to provide a clear explanation of the disease and survival statistics to clients, I still have those that become anxious around the median survival time. Why? I haven’t figured that out yet! Even after years of refining my message, it sticks in some clients’ minds that the reported median survival time is the endpoint.

¹ The essay can be found here: http://cancerguide.org/median_not_msg.html
Academic medicine hasn’t yet, in my opinion, stepped up to help us address this issue. Certainly they have generated much of the new knowledge (and median survival times) that has driven the field of veterinary oncology forward. However I think many DVM curricula are sending the wrong message to students by having too few lectures about cancer, and in some cases allowing oncology to be an elective rotation during the clinical year(s). In addition, not every DVM training program has an oncologist on faculty. This means it is quite possible for a graduate veterinarian to have only had a few oncology lectures and no hands on experience with cancer patients. This is for a disease process that represents one of the most common causes for non-accidental death among pets. Therefore the training experience does not reflect the real world caseload.

At the last corner of the intersection is Dr. Gould’s essay (which is worth the quick read). In that essay, he reminds us (as he is facing the diagnosis of intra-abdominal mesothelioma), that the median survival time only tells part of the story. Yes it is true that the median does represent the middle of the survival distribution, so half of patients will, by definition, live longer than the median. But what is lost with that single number is that cancer survivor statistics are heavily right skewed. Although we cannot predict with any precision what a single individual will do after treatment, we can make some predictions about which half of the survival population a patient may fall. This is based on the careful diagnosis and staging tests that reveal risk factors associated with long-term survival. Indeed once a patient passes the median survival time, the odds are now 50-50 that the patient will survive beyond the 75% percentile. If you look at where the 75% percentile occurs on most veterinary oncology survival curves, you see that it is pretty far to the right (representing long-term survival).

If the “median is NOT the message”, then what is? The message is: cancer is a manageable chronic disease. When considered carefully, one can make an argument that cancer patients actually enjoy a better quality of life than animals afflicted with other commonly-treated chronic diseases such as kidney failure and congestive heart failure. Most cancer treatment plans are of fixed duration, unlike the life-long therapy for disease like diabetes mellitus or hypoadrenocorticism. With current supportive therapy regimens, including antiemetic and pain management options, it is relatively straightforward to keep cancer patients feeling well during therapy. So if cancer can be managed like any other chronic disease, and patients enjoy a good quality of life, then what’s the issue? I think it is because cancer is such an emotionally charged word for many people – veterinarians included. So how do we change the conversation around cancer?

- Include cancer screening in routine senior pet wellness exams. A recent survey of pet owners and veterinarians revealed a communication gap.² Pet

---

owners listed cancer within the top 5 health concerns they had for their aging pets, whereas veterinarians surveyed did not report cancer within the top 10 health concerns they routinely discussed with owners of senior pets.

- Recognize that cancer is a subject that can create fear in pet owners and how the news of the diagnosis and available treatment options is presented makes a difference in how the owner perceives the condition.

- Provide owners with objective information about the disease, treatment options and prognosis associated with treatment and the stage of disease at presentation. This will facilitate the decision-making process. Some owners suffer from analysis paralysis, and it is important they understand that failing to make a timely decision to treat will eventually lead to the tacit decision of not treating, because as the disease progresses options become increasingly limited.

- Help owners understand the real risks for their pet having adverse events with cancer treatments like chemotherapy (actually pretty low). This does a lot to address their fears.

- Help owners understand that whatever treatment path they choose, the goal is the same: maintaining their pet’s quality of life. We don’t want the treatment to be worse than the disease (and if they have firsthand experience with a person going through cancer therapy, this may be their concern).

My hope is that one day, as a profession, we view cancer like any other chronic disease routinely managed by veterinarians.
Ditch the Crystal Ball: Better Tools for Cancer Prognostication

Michael Lucroy, DVM, MS, DACVIM (Oncology)
MedVet Medical & Cancer Centers for Pets
Carmel, IN
mlucroy@medvetforpets.com

One of the first questions an owner will ask after learning their pet has cancer is: how long do they have? The answer depends on many factors, and owners look to you to provide an honest assessment of the outlook to help them make decisions. Although the temptation may be to make an educated guess, or simply shrug your shoulders, owners appreciate your conclusions that are based on data. Formulating a prognosis can be a challenge with many disease states, and cancer is no exception. Fortunately there are a few “rules of thumb” that you can use with the diagnostic tests you are already doing, and there are some new tests that may help further refine the prognosis, depending on the disease. Below are some steps you can take to start addressing the owner’s concerns:

1. First get a thorough physical examination and a minimum database. On the first pass through the results, look for evidence of comorbid diseases. Things like congestive heart failure and chronic kidney disease may actually pose a more immediate health risk than the patient’s cancer. On the second pass, focus on the values that may help understand the patient’s cancer trajectory:

   a. Hypercalcemia is often associated with shorter survival times in diseases like lymphoma and apocrine gland adenocarcinoma of the anal sac. Additionally, extreme hypercalcemia can lead to acute renal failure.

   b. ALK PHOS is often elevated in dogs with osteosarcoma. If the ALK PHOS does not return to normal levels following amputation, then the prognosis is worse than for dogs that have a drop in ALK PHOS values.

   c. Anemia has been associated with shorter survival times in dogs with lymphoma, and various human studies suggest that anemia may be an independent risk factor for poor outcomes for many types of cancer.

2. Make the most of the biopsy sample you’ve collected.

   a. Provide the pathologist an ample, well-fixed specimen accompanied by a complete history, and forget the short report – you need all the details.

   b. Were the margins clean or dirty? The best chance to cure a patient with surgery is the first surgery. This means the entire mass needs to go to the pathologist and tumor edges should be inked. Clean, wide
margins predict a better outcome for cancers that are locally invasive (e.g. soft tissue sarcomas).

c. What was the mitotic index? Generally the higher the mitotic index, the more aggressive the cancer. The irony is that sometimes the more aggressive tumor growth will confer a greater sensitivity to chemotherapy or radiation therapy.

d. Chat up the pathologist – there may be immunohistochemistry testing that can help refine the prognosis (e.g., c-KIT for mast cell tumors).

3. Clinical staging tests such as thoracic radiographs, abdominal ultrasound, CT, and aspiration cytology of regional lymph nodes can provide invaluable information. For most cancers (with a notable exception of lymphoma) the higher the clinical stage at presentation, the poorer the prognosis.

4. Other diagnostic test considerations

   a. Canine mast cell tumor profile: provides information on c-KIT and markers of cellular proliferation.

   b. Canine lymphoma blood test: their published data suggests that the values at the time of diagnosis can be predictive of trajectory, and that test values increase before a dog comes out of remission.

   c. Tumor microvascular density has been associated with prognosis in mammary cancer, and this finding may have implications in other solid tumors.

   d. Breeds at risk for carrying a mutant MDR-1 allele are at high risk for adverse events from natural product (p-glycoprotein substrate) chemotherapy drugs (e.g., vincristine, vinblastine, doxorubicin). Although this may not affect survival per se, it does have implications on how to manage the drug protocol.

   e. VDI claims to have prognostic/diagnostic tests for a variety of cancers in dogs and cats, but no peer-reviewed studies about these tests were identified. So it is presently unclear how useful their tests are in the clinical setting. Buyer beware!

   f. When considering any new diagnostic/prognostic test, it is important to understand the limitations of the test performance.

In general, if test result alters the treatment plan or has important bearing on the prognosis, it is reasonable to include in the work up. If a test result has no impact on
the outcome, it’s probably best to save the money and apply towards therapy. It is also important to help the owners understand a few important concepts:

- Cancer is a manageable, chronic disease.

- It is impossible to predict the outcome of a single individual, but accumulating data about an individual can help to estimate the likelihood of a given good or poor outcome. Additionally:
  
  - Choice of therapeutic plan will have an effect on the outcome
  
  - Response to, and tolerance of, the therapeutic plan will affect outcome
  
  - Timeliness of instituting therapy will also affect outcome. “Let’s just watch it” are very dangerous words for the cancer patient.

- The goal of treatment is to make whatever time is remaining for the patient to be of the highest quality – be that through curative or palliative therapy
Over the past many years there have been many innovations in the field of veterinary oncology. Here is my “top 10” list of the ones that have made the biggest impact to how cancer is managed today. They appear on the list in no particular order, and I’ve not been paid to mention any specific product.

1. Effective anti-emetic therapy – before the development of the NK-1 receptor antagonist anti-emetics, many veterinary oncology patients experienced one or more episodes of chemotherapy-induced emesis (despite management with available anti-emetics). This decreased the quality of life for the patients, was distressing for the owners, and contributed to the belief. Now with the use of drugs like Cerenia™, chemotherapy-induced emesis is a relatively uncommon event.

2. Closed chemotherapy delivery systems – as with X-rays, chemotherapy poses unseen health risks to those exposed. Further, chemotherapy (if not handled properly) can contaminate surfaces within the preparation and administration areas of the hospital. This can occur even with the use of a class IIb biological safety cabinet as required by OSHA regulations. The use of closed delivery systems (Phaseal™ and Equashield™) has been shown to greatly reduce chemotherapy exposure. However by themselves these systems are insufficient protection, and should be used in conjunction with a class IIb biological safety cabinet during dose preparation. The specialized IV syringe and tubing fitting prevent any drug escape and greatly enhance staff safety.

3. Advent of immunotherapy – perhaps the most notable example is that of Oncept™ (plasmid DNA immunotherapy) for canine oral melanoma. This so-called vaccine has been demonstrated to double survival expectations in the target population (dogs with stage II or III disease where complete local control is achieved).

4. Targeted small molecule therapeutics – with the continued discoveries of disrupted biological pathways in cancer, it became clear that these represented targets for new cancer therapies. In the case of veterinary oncology, the first targeted small molecule was Palladia™ followed by Kinave™. These belong to the class of drugs known as tyrosine kinase inhibitors. For canine mast cell tumors (and other cancers) with c-KIT (at tyrosine kinase) mutations, these drugs may be particularly useful. They are not highly selective for c-KIT and do inhibit other tyrosine kinases that can contribute to cancer growth (VEGF, PDGF, etc.) so may find application in
other cancers. However they have a narrow margin of safety, and tumor resistance can develop quickly.

5. New biologics for lymphoma – in human oncology, the development of a monoclonal antibody against CD20 revolutionized the survival of patients with diffuse large B cell non-Hodgkin’s lymphoma (the same form that affects the majority of dogs) when combined with CHOP chemotherapy. Recently the USDA granted a license to Aratana Therapeutics for a similar monoclonal antibody that binds to the canine CD20. The hope is this therapeutic approach will have the same positive effects on the survival of dogs with B cell lymphoma. It is unclear when the antibody will be commercially available.

6. Bone marrow transplantation – this is another aggressive management tool for canine lymphoma. Once a patient has achieved a complete remission, hematopoietic stems cells are collected from their own peripheral blood by use of an apheresis machine. Following collection of stem cells, the patient is treated with whole body radiation and the stem cells are returned to the patient. Over the next two weeks, the stems cells engraft in the bone marrow and resume production of hematopoietic elements. Because of the immunosuppression and GI damage associated with the radiation dose, each patient is kept in a special isolation ward until the WBC returns to an appropriate level (approximately 10 days). In humans, up to 60% of patients may be cured with bone marrow transplantation. Although the numbers of dogs treated is still comparatively small, it is emerging that cure rates may be similar in dogs. The closest facility in the Midwest performing canine bone marrow transplants is MedVet Medical and Cancer Centers for Pets in Columbus, OH.

7. Veterinary safe formulation for paclitaxel – in human oncology paclitaxel (Taxol™) has been a widely used and highly effective treatment for a variety of solid tumors. The formulation, however, was not well-tolerated by dogs. One of the components (cremaphore) of the original formulation was notorious for causing anaphylaxis in dogs. Taxol™ also required specialized tubing and glass bottles for administration. Therefore it never was widely used in veterinary oncology. Swedish drug developer Oasmia Pharmaceutical AB was able to create a dog-safe formulation of paclitaxel known as Paccal Vet-CA1 and it has received conditional approval from the FDA.

8. Molecular diagnostics – as we continue to learn more about cancer biology and molecular techniques improve, veterinary oncology has benefitted from the creation of new diagnostic tests. These include identification and characterization of c-KIT mutations in canine mast cell tumors, and PPAR for assessing the presence of lymphoma. As the costs for sequencing and other simple molecular biology techniques continue to decrease, it is likely that
their use will expand in veterinary oncology and into other areas of veterinary medicine and become as routine as a CBC.

9. Canine lymphoma blood test – this diagnostic test and algorithm was developed by a company in the UK and is now available in the US. Although it is a relatively new entrant into the veterinary diagnostic market, their data suggests that the initial values from the test may predict survival, and that test values may increase a few weeks before clinical relapse making this a potentially useful tool for monitoring lymphoma patients apparently in clinical remission.

10. Venture capital – over the past decade the number of small biotech companies that are focusing on the veterinary oncology market has increased dramatically. Some of these are spin-out companies from university technologies, whereas others have grown and gotten financing from venture capital. There have also been several animal health IPOs (including companies that have oncology assets in their development pipelines). All this support from investment professionals suggests they see value in the animal health space in general, and in veterinary oncology in particular. Hopefully this financial backing will allow new therapeutic innovations to become available to veterinarians in the years ahead.

Although this may not represent every oncologist’s top10 list, I think these innovations have either made the biggest impact on the practice of veterinary oncology, or have the potential to do so over time. Honorable mention includes long-term pain control options (e.g. Recuvrya™) for dogs and the development of new chemotherapy protocols (e.g. metronomic chemotherapy, etc.). My hope is that we continue to see new oncology innovations available to practitioners at an increasing rate in the future.
What’s the plan, Doc? Decision-making for the Cancer Patient
Michael Lucroy, DVM, MS, DACVIM (Oncology)
MedVet Medical & Cancer Centers for Pets
Carmel, IN
mlucroy@medvetforpets.com

When faced with managing a cancer patient, there are several decision points that occur during the course of the disease, from diagnosis, through treatment and follow up. In some cases, the decisions are the responsibility of the owner; in other cases it is the responsibility of the veterinarian. In all cases it is best to actively include the owner in the process. Some of the common decision points are outlined below.

- Should cancer be placed on the differential diagnosis list? In my opinion, the answer is yes. Although the risk of cancer increases with age in dogs and cats, it can occur at any age – including puppies and kittens.

- What is the most efficient way to make the diagnosis? The presence of cancer may be revealed within the minimum database, but may require fine needle aspirate, or biopsy. If cytology or pathology results are not definitive, then additional testing may be required, such as immunohistochemistry, flow cytometry, or molecular diagnostics.

- Once the diagnosis of cancer is made, what are the appropriate staging tests? This will vary by cancer type. How aggressively staging tests are pursued depends on a few factors:
  
  o If the results of the test will change the treatment plan or alter the predicted prognosis, then it is reasonable to do. Otherwise, the owners’ resources might best be put towards therapy.

  o After the initial diagnosis, if the owners are interested in pursuing definitive treatment, then staging is done to evaluate which options make the most sense and to provide prognostic information.

  o If owners are seeking palliative care, they may still be interested in the results of staging tests to help understand the prognosis. The results of these tests may also inform the palliative care needs for the patient.

- After the diagnosis of cancer is revealed, then the owners must decide how they are going to proceed: palliative/supportive care or definitive treatment? Because many owners stop listening to you after you deliver the news, it may be appropriate to schedule a follow up conversation to allow them time to internalize the information. This allows for a discussion and decision-making based on facts rather than pure emotion.
• Is a referral appropriate? This depends on the owners’ treatment goals and a given practice’s ability to provide treatment. Oncologic surgery is typically aggressive surgery, and chemotherapy carries risks to both patient and staff. This is not to say that cancer cannot be managed successfully in general practice, but does require careful attention to detail for the best outcomes for the patient and to ensure staff safety.

• Which is the best course of treatment? This depends on the disease, clinical stage, any co-morbidities the patient has, the owner’s goal for therapy, financial consideration, and access to various treatment options.
  - Localized disease generally benefits from localized therapy: wide surgical excision +/- radiation therapy. If inoperable then chemotherapy or radiation therapy first may shrink the tumor enough to allow for resection.
  - Diseases that are likely to recur/metastasize following localized therapy will often benefit from adjuvant chemotherapy (e.g., high grade sarcomas, osteosarcoma, etc.).
  - Some diseases are systemic at presentation and chemotherapy is the best option (e.g., lymphoma). Others present with metastatic lesions and may benefit from some combination of local and systemic therapy.
  - Some diseases may benefit from targeted therapy (e.g., Palladia™ for mast cell tumors with c-KIT mutations).

• My patient has non-painful lymphadenopathy – I think it’s lymphoma. Should I go ahead and start prednisone now? My opinion is no, for several reasons:
  - Prednisone can quickly erase all traces of lymphoma from the body. This becomes problematic if you need to repeat any diagnostic tests or complete clinical staging.
  - Several retrospective studies reveal that dogs given prednisone before the start of chemotherapy have a shorter survival than those that do not get prednisone, even though the response rate is unchanged.
  - There is evidence that prednisone can induce the expression of p-glycoprotein in malignant lymphoblasts, which is an important component of multidrug resistance in lymphoma.

• The clients are only interested in palliative care, so should I use prednisone? The answer is maybe. If clients opt for supportive care, then efforts should be aimed at the issues the patient has. This may be pain control, appetite
stimulation, anti-emetics, etc. Over time, the patient’s needs will likely evolve, and so should the therapeutic plan. Prednisone can be part of the plan as it may improve appetite and contribute to a sense of well being, but complicates pain management because it cannot be combined safely with NSAIDs.

- When is time to stop? This is one area where our clients really need our input. It is rare for a client to say they felt they stopped too soon, rather is more common that they feel they allowed things to go on too long. When we, as a profession, use phrases like, “you’ll know when it’s time” or “they’ll give you the look”, we are dodging our responsibility. A better way is to supply owners with the tools to help assess their pet’s quality of life. Some suggestions include:

  o Quality of life scales whereby pet owners can objectively quantify how their dog or cat is really doing.

  o Have owners keep track of good days and bad days on a calendar. When the bad days outnumber the good days, then they know their pet has a diminished quality of life.

  o Ask owners about their pet’s favorite thing to do. When their pet no longer enjoys that activity, or is physically unable to engage in the activity, then they have a clear indicator that the quality of life is compromised.

By providing clear guidance on how to assess quality of life, pet owners are empowered in the decision-making process at the end of life. Having these tools may also help owners deal a bit better with the anticipatory grief they may be experiencing.

Clearly there are many more decisions that have to made over the course of managing a cancer patient, but these are some of the decision points that generate the most concerns. By engaging the owners in the process, they feel empowered and are a vital part of the triad of care for cancer patients (owner – primary care veterinarian – specialists).
In veterinary oncology, dealing with end of life issues is a matter of course. But this topic also applies to other diseases and specialties, where modern treatments have taken previously terminal conditions and made them chronic illnesses that are manageable (CHF, CKD, IDDM, etc.). This topic also applies to those aging pets that have been fortunate enough to arrive at old age without significant illness.

In a broad sense, pet hospice care is focused on the patient and family's needs – whatever they may be – and to allow the patient to enjoy the best possible quality of life until the time of death (with or without intervention). It is also to help the family prepare for the death of their pet. For younger pet owners, the loss of a beloved pet may be their first experience with death. For all pet owners there may be significant anticipatory grief. This may start at the time of diagnosis and persist through the course of the disease.

One question that commonly arises is around the difference between palliative care and hospice care. This hasn’t been clearly differentiated in veterinary medicine, but I think it could be broken down as follows:

- Palliative care is an active process focusing on the needs of the patient (pain control, nutritional support, etc.). The goal is to provide the best possible quality of life, and may go on as long as effective.

- Hospice care could be defined as the management of palliative care patients that have progressed to the point where death is likely to occur within weeks to days. It is important to note that natural death is not the goal of hospice care, but may occur for some patients.

One challenge faced by the veterinary profession is that there are few, if any, required courses for veterinary students on subjects like end-of-life care, or communicating bad news to a client. The Argus Institute\(^1\), part of Colorado State University, has veterinary students providing emotional support and bereavement education for families caring for dying pets. It is unclear how many pet hospice programs are actively functioning in the US. One organization, the International Association of Animal Hospice and Palliative Care\(^2\), is a resource for those wanting to be in the field.

\(^{1}\) [http://csu-cvmbs.colostate.edu/vth/diagnostic-and-support/argus/Pages/default.aspx](http://csu-cvmbs.colostate.edu/vth/diagnostic-and-support/argus/Pages/default.aspx)
\(^{2}\) [https://www.iaahpc.org/](https://www.iaahpc.org/)
The human hospice prototype started more than 50 years ago. Now almost every community throughout the US offers a hospice program. Hospice care for companion animals began more than 10 years ago. Veterinary hospice programs may be structured slightly differently depending on locale and support staff, but all share the essential hospice philosophy:

- Nonjudgmental end-of-life care for the dying patient
- An emphasis on palliative care
- Emotional support for the families

For many pet owners, the use of the word hospice helps them understand that there are no longer any potentially curative treatment options available, and that they are now getting prepared for the end of their pet’s life. Because hospice care is a family-centered approach, the stress of the situation can be lessened for the family through active participation in the planning of care.

A five-step plan for designing a hospice plan for a terminally ill patient has been described:

1. Evaluation of client needs, beliefs, and goals for his or her pet. Effective communication enhances trust in the team and facilitates shared decision-making.

2. Education about the disease process. The client may need a variety of information about the patient’s circumstances. Potential veterinary team–client discussions include: disease trajectories, nutritional support, recognition of signs and their management, and death.

3. A personalized plan for the client and patient. The plan should balance client goals and expectations with the veterinary responsibility to preserve patient quality of life.

4. Application of palliative or hospice-care techniques. This educates the veterinary support team and the client to ensure comfort and confidence in carrying out tasks of care.

5. Emotional support during the care process and after patient death. This final step should begin when the patient is diagnosed with a chronic or terminal disease and continue throughout the care process.

---

Despite all the discussion of terminal illness and death, the primary focus of hospice care is a pet living without pain and minimal, if any, discomfort, in their own home surrounded by a loving family.

Many of today's pet hospice programs involve mobile veterinarians who are already providing care for pets in their own homes. These veterinarians are in a unique position to provide everything necessary for end-of-life care in a home setting and, if asked, are able to provide euthanasia services. Other programs empower pet owners by teaching them the skills for caring for their pets at home with periodic visits to the clinic or hospital for assessment. These types of programs may or may not provide home euthanasia's to some extent. Some programs, such as Healing Heart Pet Hospice (HHPH), are mirrored after human hospice: the program focuses on a team or “Circle of Care” approach. Veterinarians are the medical directors and CVTs/RVTs provide in-home care under their direction. Other paraprofessionals trained in bereavement are included as needed.

Veterinarians and veterinary technicians working in end-of-life care understand that the focus has shifted from providing patients with the latest in health care treatments and curing an illness to providing palliative care and support during the transition from life to end of life. This new focus requires the veterinary staff to be knowledgeable on end-of-life topics in order to educate, support, and guide pet families during this time of transition. The veterinary team also needs to understand that hospice care goes beyond the clinical setting and requires a more defined set of skills and abilities to be able to deliver care to both patient and family. It is important to stay current on palliative care drugs, environmental, and spiritual comfort methods, as well as developing a complete understanding of the body during the dying process.

Veterinary technicians are an invaluable part of the hospice team that can either administer necessary drugs and/or teach family members how to administer them, recognize adverse effects from treatment, provide and/or instruct how to deliver good hygienic care, and help to prepare for the events before and after death. Astute monitoring skills are needed to recognize the shifting process towards dying. It requires maintaining patient records so that problems, plan, actions, and goals are accurately and clearly stated and changes are reflected as they occur. This documentation is also helpful when meeting with the hospice veterinarian to make necessary changes in the palliative care plan.

Providing hospice care can be extremely rewarding, but it does require an examination of your own views on death and dying. Additionally it requires the sensitivity and understanding to recognize that not every pet owner shares your views, and the goal is to honor their beliefs and traditions.