


## ORIGINAL RESEARCH

# Using electronic health records to explore negotiations around euthanasia decision making for dogs and cats in the UK

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**Abstract**

**Background:** End-of-life decision making for animals happens daily in veterinary practice. However, access to such discussions as they happen is difficult, in view of the highly emotional circumstances of end-of-life consultations. Despite the expanding literature on euthanasia, few studies have explored the circumstances of euthanasia disagreement or delay.

**Methods:** To explore euthanasia discussions in veterinary practice, consultations recorded in electronic health records in a UK veterinary surveillance database (SAVSNET) were examined. From a sample of 2000 identified consultations, 69 canine and 76 feline consultations were purposively sampled for detailed thematic analysis. Specifically, consultations were selected if they involved a decision to delay euthanasia, including disagreement about the timing of euthanasia.

**Results:** Reasons identified for euthanasia refusal or delay included client-related factors (e.g., allowing other family members to say goodbye, differing opinions on the quality of life) and veterinary surgeon-related factors (eg, the wish to carry out further investigations or to try a new treatment). In the instance of refusal or delay, palliative treatment was commonly provided to preserve animal welfare.

**Conclusion:** This study illustrates some of the processes used to negotiate end-of-life decision making in dogs and cats. Its findings shed light on the importance of palliative care in providing owners with time to decide.

## INTRODUCTION

Veterinary medicine in the UK differs from its human counterpart in several ways, not least in that it offers euthanasia as an option to end the suffering of its chronically ill animal patients. In the UK, professional ethical guidance for veterinary surgeons states that euthanasia decisions are based on factors including 'the extent and nature of the disease or injuries, other treatment options, the prognosis and potential quality of life (QoL) after treatment, the availability and likelihood of success of treatment, the animal's age and/or other disease/health status and the ability of the owner to pay for private treatment.'<sup>1</sup> It also advises that veterinary surgeons are not obliged to perform euthanasia at an owner's request.

In most cases, however, a decision for euthanasia is made jointly between the client and the veterinary

surgeon. Euthanasia decisions are notoriously difficult for both parties. Although owners may realise that it is their responsibility to make a decision about euthanasia,<sup>2</sup> some owners wish that their veterinary surgeon would make the decision for them,<sup>3</sup> while others may appreciate the support of their veterinary surgeons in deciding on euthanasia or when to do this.<sup>4</sup> On the other hand, discussions around euthanasia have a greater negative effect on veterinary professionals' psychological wellbeing than the act of euthanasia itself, and many find end-of-life conversations more challenging than the act of euthanasia.<sup>5</sup> Additionally, veterinary surgeons report feeling slightly higher levels of stress in situations involving clients who wish to continue treatment despite poor animal welfare than in situations involving requests to perform euthanasia on 'healthy' animals.<sup>6</sup>

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Any delay to the decision for euthanasia will require discussion around the provision of palliative treatment until euthanasia is performed. Palliative care (or 'animal hospice') is a growing branch of veterinary healthcare in the United States,<sup>7</sup> but is less common in the UK; for example, the International Association for Animal Hospice and Palliative Care (IAAHPC) lists only five hospice care providers in the UK.<sup>8</sup> AAHA/IAAHPC guidelines state that an integrated approach to end-of-life care includes pain management, management of other clinical signs (e.g., respiratory or gastrointestinal signs), mobility aids, provision of a comfortable environment and opportunities to engage with humans or other animals.<sup>9</sup>

It has been shown that prioritising continuity of care, empathic communication and a trusting relationship between veterinary surgeon and client can lead to 'healthy decision making' surrounding euthanasia.<sup>10</sup> Owners appreciate veterinary surgeons who understand their relationship with their animals and who validate their decision.<sup>11</sup> 'Caregiver burden' is now recognised as being applicable to carers for animal patients, and can be a strong predictor of a client's decision for euthanasia;<sup>12</sup> however, discussion of client personal and family issues that may affect patient care happens minimally in veterinary end-of-life discussions.<sup>13</sup> Therefore, many veterinary surgeons may provide end-of-life care without necessarily appreciating all that this entails.

Much of the research into euthanasia or end-of-life decision making involves interviews with or surveys of those involved (veterinary surgeons and pet owners) rather than direct observation of end-of-life consultations. Methods used in previous studies have included interviews and focus groups with veterinary professionals,<sup>5</sup> interviews with owners of chronically ill pets,<sup>2</sup> interviews with recently bereaved cat owners<sup>11</sup> and surveys of bereaved clients.<sup>14</sup> Euthanasia consultations can be emotionally laden, which makes them difficult to study. Relatively few studies have observed euthanasia decision making in practice, exceptions being ethnographic studies<sup>15</sup> or those using undisclosed simulated clients to study end-of-life conversations.<sup>13</sup>

Veterinary clinical records should be made at the time of the consultation, and according to UK professional ethical guidance, should 'include details of examination, treatment administered, procedures undertaken, medication prescribed and/or supplied the results of any diagnostic or laboratory tests .... provisional or confirmed diagnoses, and advice given to the client .... They should also include outline plans for future treatment or investigations, details of proposed follow-up care or advice, notes of telephone conversations.....'<sup>16</sup> Thus, these records should contain the essence of the discussion between veterinary surgeon and client regarding the timing of euthanasia.

In this study, we explored clinical records of consultations where euthanasia was discussed, but not performed, and analysed the record of the consultation made by the veterinary surgeon involved. The study

was designed to answer the following research questions:

1. How are discussions about euthanasia initiated, by whom and for what reason?
2. How are euthanasia decisions negotiated and what causes refusal by either party?
3. What role does palliative care play in euthanasia decision-making?
4. Are electronic health records (EHRs) a suitable data source for euthanasia discussions?

## MATERIALS AND METHODS

Data for this project were obtained from SAVSNET, a veterinary surveillance database based in the School of Veterinary Science at the University of Liverpool. The SAVSNET project collects near-real-time consultation data from around 500 veterinary practices throughout the United Kingdom. Each consultation includes animal signalment data as well as the clinical free text or narrative, written by the attending practitioner at or soon after the consultation. More detailed information on how SAVSNET collects data is available elsewhere.<sup>17</sup>

A protocol was developed to identify relevant consultations for this study, using 'regular expressions', a form of text mining, to identify those clinical narratives likely to involve euthanasia. The combination of regular expressions returning the highest number of consultations was 'euth(?: < ![a-z])pts|qol|qua\*lity of life(?: < ![a-z])pall|put to sleep(?: < ![a-z])pali|goodbye', which returned 14,196 records out of approximately 500,000 consultations. Of these, a random sample of 1000 dog and 1000 cat consultations from 2018 was provided. This year was chosen to avoid external effects on veterinary and client decision making, such as the SARS-CoV-2 pandemic, yet it was sufficiently historical to alleviate concerns about individual consultations being recognisable. The sample was reviewed initially to remove 354 canine and 488 feline consultations where euthanasia was carried out during the consultation, as such consultations contained little evidence of the discussion that preceded the decision. The remaining consultations involved discussion about euthanasia at a future date, so could be classified as 'delayed euthanasia' consultations. Further review selected those where a concrete plan for a future euthanasia decision was made, initially consisting of 89 consultations involving cats and 89 involving dogs. These were numbered sequentially from 1 to 89, with an identifying letter of either C (canine) or F (feline). Following the further in-depth reading, 21 canine consultations and 13 feline consultations were excluded from the final analysis because they did not include a specific time frame for euthanasia. The remaining 68 canine and 76 feline consultations constituted the dataset for coding.

The selected records were uploaded to Quirkos software for the management of data sources and coding

**TABLE 1** Codes and associated themes resulting from the thematic analysis of euthanasia consultations from electronic health records (EHRs)

Code	Theme
Vet suggesting euthanasia	Presenting euthanasia as an option
Strategies for encouraging euthanasia	
Owner suggesting euthanasia	Reasons for suggesting euthanasia
Owner reporting money as an issue	
Owner declining further investigations	
Owner reporting problems with treatment	
Owner refusing euthanasia	Refusing euthanasia
Vet refusing to perform euthanasia	Reasons for refusing euthanasia
Owner presenting evidence of QoL	
Vet presenting evidence of QoL	
Owner requesting more time with animal	Reasons for delaying euthanasia
Owner needing to discuss euthanasia with others	
Offering palliative care	Palliative care as a supportive option
Vet recording owner emotions in clinical records	Emotional impact of euthanasia decision making
Vet recording own emotions in clinical records	

decisions. Utilising inductive thematic analysis,<sup>18</sup> an appropriate methodology for analysis of text, coding and analysis were performed by the first author. An open coding approach was used for the first 20 records in both species, after which no new codes were identified. These identified codes were described in a codebook detailing exactly what should be included in the code, and what should be excluded.<sup>19</sup> The codebook was then used to code all remaining EHRs. Themes were developed using inductive analysis, meaning that they remained close to the original data; data were analysed at a semantic level, where the explicit meaning of the written record was accepted, rather than interpretation beyond what was written.<sup>18</sup>

Similar codes were grouped into themes. Data sources were read carefully three times and a constant comparative method was used to ensure that coding decisions were accurate. The development of codes and themes is demonstrated in Table 1.

## RESULTS

In the next section, sample quotes will be presented and reasons for decisions about themes will be discussed. The original text from the EHR has not been altered, with spellings included as they were written; abbreviations are expanded in square brackets at first use, misspelt words are indicated by (*sic*). Records are identified by number and letter as explained

above. Any identifying information about the animal, veterinary surgeon or owner is replaced with << identifier >>.

## Introducing euthanasia as an option

In many of the consultations analysed, one party, either a veterinary surgeon or owner, initially broached the subject of euthanasia. Some of the reasons for suggesting euthanasia included poor QoL,

*'discussed QOL as there are multiple issues here and limited amount we can do without blood tests and investigation which the owner does not want at this stage because she gets stressed and aggressive for blood tests' (29F)*

or financial costs involved with continued investigation or treatment, *'owner feels not got the money for investigations and not happy with continuing as they are' (50C)*.

Veterinary surgeons recorded the use of several techniques to highlight the reasons for presenting euthanasia as an advisable option. These included QoL discussions, *'Advised In my opinion cat will not last long, and they have to make sure he is not in pain' (56F)*, stressing the negative aspects of the patient's current QoL, *'Certainly seems to be completely miserable, hanging head sunken eyes' (42C)*, emphasising the animal's current disease status, *'I explained that a dog with open wound aprox (sic) 8 cm at the abdomen from a tumour with such infection it's not QoL' (4C)*, sharing their personal opinion about the animal's situation, *'it is not fair to continue in this manner it is a welfare concern' (40F)*, or inviting discussions with other family members, *'recommnd (sic) to discuss with family and children so all parties can be involved in decision making' (69F)*.

When veterinary surgeons did recommend euthanasia it either came as a single option or through the inclusion of euthanasia as one of several treatment options, described explicitly in the HER, *'strongly advised PTS [put to sleep]' (40F)*, more obliquely: *'they'll have to take a decision.'* (28C), or at times, with a more detailed record of the discussion:

*'Discussed options with O [owner]. 1) Invasive and aim for cure, FNA [fine needle aspirate] under u/s [ultrasound] guidance with view to possible surgical intervention - very frail condition at the moment so feel general anaesthetic risk very high. 2) Continue palliative care for now but prognosis poor - advise only giving time while QoL [quality of life] OK to give Os time to come to terms with decision. 3) PTS sooner rather than later' (3F).*

In other EHRs, the owner prompted the discussion of euthanasia, *'O feels its time for Euth [euthanasia]*

wanted confirmation' (15F) and 'Thinks it's time to let her go' (51F). There were several recorded reasons for the owner's decision to bring up the topic of euthanasia, such as having run out of time, energy and/or financial resources or not wanting to subject the animal to prolonged testing, for example, 'O not willing to continue this long fight,' (45C) and 'could consider US scan/xrays abdo to see if specific issue present. O declined this on basis of avoiding putting him through any further diagnostics that would stress him' (37C).

In many instances, both veterinary surgeon and owner demonstrated flexibility in arriving at the right decision at the right time for the animal, as illustrated in the following example:

*'discuss that QOL encompasses many things and had good chat about euthanasia/ when to decide etc. wouldn't be wrong to make that decision v soon unless signif impr on restarting analgesia' (13C).*

## Refusing or delaying euthanasia

The veterinary surgeon and owner did not always agree on euthanasia as an option and instances of euthanasia refusal by both parties were recorded. In several consultations, an owner's request for euthanasia was refused by the veterinary surgeon, often because the animal was considered treatable or to have a reasonable QoL. Sometimes the veterinary surgeon's reasoning was recorded in the EHR, 'looks like bout of cystitis. level of renal impairment right now is not end stage so no pressing reason for PTS today' (71F), whereas one record contained a straightforward refusal, 'O asked if I will carry out PTS and I said no' (58F).

Conversely, sometimes a veterinary surgeon's recommendation for euthanasia was rejected by the owner, 'Advised to consider PTS as struggling to breathe, owner firmly declined' (66F). Occasionally, the owner presented evidence that, in their opinion, the animal still had a good QoL, therefore it was not yet time to consider euthanasia:

*'O showed << identifier >> video of << identifier >> jumpnig (sic) and walking around. long chat re different signs of pain in cats and << identifier >> could show less but mass is likely to be painful. O not keen on PTS since reckon QoL still good' (55F).*

In rare instances, an owner's refusal of euthanasia was based on the hope that the animal would die peacefully at home. In this case, the veterinary surgeon advised that this would likely bring problems,

*'owner saying hoping would die at home, explained may well not, may well continue to deteriorate and if this is the case, may need to consider PTS' (85F).*

In other instances, euthanasia was agreed upon by both the veterinary surgeon and owner, but the procedure was postponed. Some of the reasons recorded included allowing the owner to say goodbye, 'decided to PTS on welfare grounds. However wanted 24 hours with her, therefore booked in for tomorrow 5 pm' (36C), allowing support from a family member, 'Discussed PTS. O wants to come with her mom, so booked an appt' (24F), or allowing the family to say their goodbyes, 'owner knows needs pts but wants family to come down from << identifier >> so has booked for Friday' (54F).

## Using palliative care to support euthanasia negotiation

In addition to providing euthanasia as an option, veterinary surgeons also provided the option for palliative care, 'options would be investigations/palliative care w [with] pain relief/pts' (68F). Owners sometimes opted for palliative care if they rejected the veterinary surgeon's offer for euthanasia or further treatment. Owners who agreed to palliative treatment were recorded as doing so to provide additional pain-free time, 'Walking ith (sic) great difficulty. O just wants this last bit of time to be pain-free if possible.' (24C), or to allow for more time to make a euthanasia decision. 'O is not ready right this minute and may need the weekend to properly come to terms but needs to be in the next week or so or welfare case' (42C).

In this manner, palliative care acted as a sort of buffer to allow time for owners to spend with their pet, to come to terms with the impending loss of their pets or to try out alternative levels of care, 'If gabapentin and carpireve (sic) together don't help significantly then pts within this week' (3C). In some cases, however, owners were unsure if they could adequately provide palliative care at home and additional support was needed to facilitate palliative care. 'O feels would be unable to tablet' (49F) and 'will need to be helped out to the toilet/ to eat etc. Owners not sure can cope' (70C).

## Content of EHRs with regard to euthanasia discussions

Records included details about the clinical examination, for example, 'Gen exam, eye mass RIGHT lower lid, bit red. Chest raspy – upper airway noise, LP [laryngeal paralysis] and so forth, puffing and panting, loving the food here but struggling to move about' (13C), any procedures undertaken, an outline of the euthanasia discussion including, sometimes, the views of both parties, drugs prescribed, and next steps/follow-up strategies, such as 'Plan: owner to bring tomorrow for possible PTS or admit for procedure' (28F). Interestingly, few records included references to the emotional impact of euthanasia. Some documented owner emotions, such as 'O very upset' (71C) and 'Owner concerned and quite upset in consult' (51F), but records of veterinary surgeon emotions were rare, for example,

*'feel uncomfortable euthasing (sic) today as want second opinion on case'* (50C), or *'sadly we are now out of options and dog's QOL sounds extremely poor'* (67C).

Only two records referred to emotional support for clients considering euthanasia, one referred the client to a bereavement support service: *'Directed O to the Blue Cross website for bereavement advice for the family'* (53F), the other suggested using this service for help with decision making, *'phone number to Blue Cross given for help to make decision'* (23F); however, perhaps this support was not always documented.

## DISCUSSION

Most EHRs were complete in terms of recommended standards outlined by professional ethical guidance in the UK<sup>16</sup> and included details of the discussion between veterinary surgeon and owner.

Either the veterinary surgeon or the owner initially broached the subject of euthanasia. Reasons for euthanasia included the animal's QoL or disease progression, or the owner's ability to finance treatment or devote time to care. The findings seem to agree with previous studies highlighting systemic disease conditions and QoL triggers that lead to euthanasia decisions,<sup>20</sup> and identifying caregiver burden and client income as strong predictors of euthanasia decisions.<sup>12</sup> In some cases, it can be difficult for the owner to identify any decline in the animal's QoL, and the views of another person may be needed to give a fresh perspective on the animal's condition.<sup>11</sup>

This 'fresh perspective' does not always lead to an agreement; however, some records revealed disagreement between veterinary surgeons and owners regarding the decision for euthanasia. It is worth expanding on potential reasons for disagreement. Instances, where the owner disagreed with the veterinary surgeon's suggestion of euthanasia, may reflect the findings from a previous study that found that one-third of pet owners wished 'to personally choose the time of euthanasia.'<sup>21</sup> Although there were few records of owner emotions in the EHRs studied, guilt (somehow feeling responsible for the animal's condition) and grief may contribute to an owner's refusal to consider euthanasia.<sup>15</sup> For instances where the veterinary surgeon disagreed with owner-requested euthanasia, potential reasons may include 'overload' if the veterinary surgeon had already performed several euthanasia procedures that day.<sup>5</sup> However, in these anonymised consultation records, it was impossible to link an individual veterinary surgeon to more than one euthanasia procedure. Reasons recorded in the EHRs examined included the veterinary surgeon's opinion that the patient was treatable, with the potential for a reasonable QoL. In these cases, rather than agreeing with the owner's request for euthanasia, the veterinary surgeon seemed to be acting to the detriment of their own wellbeing, as the refusal is inevitably followed by discussions regarding euthanasia decision making which veterinary surgeons find emotionally stressful.<sup>5</sup>

In previous work, reasons given by veterinary surgeons for refusing to carry out euthanasia include the perception that the animal was not suffering, or the availability of medical treatment options,<sup>22</sup> which seem to align with those revealed in the EHRs used for this study.

In cases where both parties agreed that euthanasia was the appropriate decision for the animal, but the owner was not ready to have it carried out immediately, veterinary surgeons employed various strategies, such as proposing the involvement of other family members or suggesting that the owner enjoy a final period with the animal, to ensure that the owner was prepared for the agreed time. Such strategies enabled the veterinary surgeon to find out about the owner's emotional support network, a key factor in providing support to animal owners throughout end-of-life care.<sup>23</sup> Although there was little evidence of direct emotional support, the willingness to delay euthanasia to allow family involvement was a form of indirect emotional support.

The use of palliative treatment enabled euthanasia decisions to be delayed. It was apparent that in some of the EHRs examined, euthanasia was offered as a single option, conflicting with Shanan's view that euthanasia 'should never be the only option offered,'<sup>24</sup> but it was rare for patients whose euthanasia was delayed to be sent away without any treatment. Pain relief was often prescribed, despite ongoing controversy over the adequacy of owner-delivered home pain relief,<sup>25</sup> while other palliative treatment documented included anti-nausea drugs, drugs to improve breathing and circulation, drugs to try to minimise the effects of neoplasia and appetite stimulants. However, these drugs were prescribed on an ad hoc basis; there were no accompanying end-of-life care plans, which are recommended for each patient in pet hospice guidelines.<sup>9</sup> Importantly, the provision of palliative treatment facilitated both parties' agreement to delay euthanasia for a period of time. However, this palliative treatment was heavily based on pharmaceuticals; there were few references to non-drug treatments, changes to the environment, or discussion of client resources (including emotional) to enable the provision of end-of-life care at home, which is considered essential components of palliative care plans.<sup>7</sup> These discussions may have taken place without being documented in the EHR, although they would then be unavailable for any veterinary surgeon taking over patient care.

The completion of thorough end-of-life care plans would require longer consultation times.

The length of the consultations involved in producing the EHRs for this study is unknown, but it is likely that they were the 'standard' length for veterinary consultations in the UK, that is, 10–15 minutes.<sup>26</sup> Many authors propose that longer consultations are required for proper 'end of life' discussions, as longer end-of-life consultations correlate with higher client scores for most measures of client-centredness<sup>13</sup> and higher levels of client communication and support practices.<sup>23</sup>

## CONCLUSION

In summary, this study evidences the use of the EHR as a record of the discussion surrounding euthanasia decision making. It found that decisions for euthanasia for an animal patient can be difficult to negotiate and may involve reluctance on the part of either veterinary surgeon or owner. From the EHRs studied, the concept of 'negotiating' the decision for euthanasia encompasses evidence of veterinary surgeons and owner prioritising their understanding of the best decision for the animal, and themselves, from their respective positions as a healthcare provider and caregiver. The records also demonstrated the novel role that palliative care can play in supporting euthanasia decision making, by allowing time for the decision to be accepted by all parties, and for emotional support to be provided to the animal owner.

In practical terms, therefore, veterinary surgeons could

1. consider palliative care as a means of allowing owners more time with their animals at the end of life, liaising with mobile end-of-life care and out-of-hours care providers to provide this
2. use clinical records to document end-of-life care plans, emotional support offered and bereavement resources provided to clients so that others involved in care are kept informed.

## LIMITATIONS

This study relied completely on what was written by the veterinary surgeon involved in the euthanasia consultations, with time constraints for data entry during or after consultations likely to produce an abbreviated version of the conversation, comprising what the veterinary surgeon regarded as important. Future work could involve a comparison of observed consultations with what is recorded in the EHRs for these consultations.

Furthermore, data collection was restricted to UK practices who signed up to contribute to the SAVSNET database, and used only consultations involving dogs and cats, omitting other animal patients who may also be the subjects of prolonged discussions about euthanasia. Future work could usefully extend the scope of the research to other animals and international settings.

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## CONFLICT OF INTEREST

The authors declare that they have no conflict of interests

## AUTHOR CONTRIBUTIONS

The study was designed by Carol Gray with input from Alan Radford. Carol Gray conducted the data analysis. Alan Radford acted as data chaperone. The first draft of this paper was written by Carol Gray and Alan Radford. Subsequent revisions have been made by Carol Gray.

## ETHICS APPROVAL

A precautionary enquiry was undertaken to determine the need for ethics approval for this project, as the SAVSNET project already has ethics approval from the University of Liverpool Research Ethics Committee (RETH000964). Written confirmation was provided that ethical approval was not required to use anonymised data for this individual study (Ref 8692).

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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## SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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