

# Horse owners' and veterinary practitioners' experiences of decision-making for critical cases of colic.

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## Abstract

**Background:** The survival of horses diagnosed with critical colic relies on rapid and effective decision-making by owner and veterinary practitioner. **Objectives:** To explore horse owners' and veterinary practitioners' experiences of decision-making for critical cases of equine colic. **Methods:** A phenomenological approach was taken. Individual, semi-structured telephone interviews were conducted with 14 horse owners and 13 veterinary practitioners (vets) who had experienced a critical decision (referral or euthanasia) for a horse with colic. A purposive, convenience sample of participants was recruited. Sessions explored participant's experience of colic, including recognition, help-seeking behaviour, and challenges. Thematic analysis was performed on collected data. **Results:** Four over-arching themes were identified; 'head', 'heart', 'practicalities' and 'impact'. Owners acknowledged responsibility for their horse's welfare but had different perspectives to vets on the importance of finance ('head'). Both vets and owners described how the horse-human relationship ('heart') often led to conflict during decision-making. The vet-client relationship was influential on decision-making for both owners and vets; involving other people in decision-making was described both positively and negatively by participants ('heart'). 'Practicalities', such as lack of preparedness, transport issues and adverse weather conditions, were identified by both owners and vets as barriers. Owners described a 'rollercoaster' of emotions after a critical decision, with profound impacts on their mental wellbeing, feelings of guilt, and long term changes in behaviour ('impact'), and a lack of support to manage these feelings. **Main Limitations:** Small sample size. **Conclusions:** This study describes stakeholder decision-making during critical cases of equine colic. Factors that commonly influenced decisions included an owner's previous knowledge and beliefs, social pressures, logistics, and the relationship between owner and vet. The study highlighted long term impacts on the owner, including their management and decisions for subsequent horses. These factors should be considered and included in shared decision-making for critical cases of colic.

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## Introduction

Horse owners have primary responsibility for maintaining the health and welfare of their animals, and several factors will affect when they seek veterinary attention, and their subsequent decisions.<sup>1</sup> A large proportion of veterinary literature has focused upon an owner's ability to recognise and act upon primary indicators of poor health.<sup>2-4</sup> However, much of this research has been concerned with chronic illnesses<sup>3-5</sup>, with very few exploring emergency conditions, such as colic.<sup>2-4</sup> Only one study has attempted an in-depth investigation of factors associated with owner decision-making during a colic event.<sup>4</sup> This work provided insights into horse owners' primary response to colic, but several factors, including the impact of a colic event on subsequent decision-making remain unknown. Further understanding of the processes and impacts of decision-making for critical cases of colic are essential to inform how vets and owners work together to provide the best outcome for each individual horse.

## Study aims and objectives

The aim of this study was to explore horse owners and veterinary practitioners' experiences of the decision-making process for critical cases of equine colic and identify potential barriers to knowledge exchange.

The objectives of this study were:

- To explore horse owners and veterinary practitioners' experiences of recognising signs of colic and deciding when veterinary assistance is needed.
- To establish how horse owners and veterinary practitioners work together to reach a treatment decision following a critical diagnosis.
- To determine whether previous experience of critical decision-making impacts an owner's future decision-making.
- To explore potential barriers to knowledge exchange between horse owners and veterinary practitioners around critical shared decision-making for equine colic.

## Methods

The Consolidated Criteria for Reporting Qualitative research (COREQ) guidelines have been used as a framework for the reporting of this study.<sup>6</sup>

### Study design

Theoretical framework

The framework for this research study lies between critical realist and bounded relativist ontology and has been written using a pragmatic theoretical perspective.<sup>7</sup> Data was collected using semi-structured interviews and analysed using Thematic Analysis.<sup>8</sup>

### Research team and reflexivity

The primary author of this research study organised and performed all aspects of data collection and subsequent analysis. A researcher-participant relationship was generally not established prior to data collection. However, one interview was conducted with an individual known to the primary researcher through previous employment. An in-depth reflexivity statement for this researcher is available in Supplementary Item 1.

### Participant selection

A convenience, purposive sample of UK horse owners and registered equine veterinary surgeons were invited to participate between January and April 2019. Involvement in this study was entirely voluntary and no financial incentive was offered. Sampling frames encompassing a range of demographical attributes and explicit inclusion criteria were developed prior to participant recruitment (Supplementary Item 2).

### Participant recruitment

This study aimed to interview a minimum of 12 horse owners and 12 veterinary surgeons. Horse owners were recruited from a list of participants who registered an interest when completing a previous online survey.<sup>9</sup> Those who met the study inclusion criteria were randomly assigned a number generated using Microsoft Excel (Microsoft Office 2016, Version 16.0). The first 12 horse owners on the list were initially invited to participate (Supplementary Item 2), additional participants were invited in the event of a non-response or declined invitation. To recruit veterinary surgeons, an email containing a study overview and link to a recruitment survey was sent to 66 UK veterinary practices registered with the ‘Vet REACT Champions’ scheme.<sup>10</sup> The veterinary recruitment survey was active between January and March 2019, to collect demographical information and recruit participants.

### Setting of data collection

Data were collected via the telephone. Interviews were performed at a time most convenient to each participant and audio recorded using a Dictaphone (Olympus, VN-711PC) and an inner-ear microphone (Olympus, TP8). Most participants were alone at their home address or located at their veterinary practice for the duration of the interview.

### Data collection

Interview schedules, with open questions exploring participant’s experience with critical colic were developed based on previous research [11-13]. Informed consent was obtained at the start of each interview. The horse owner schedule was personalised to each participants’ most recent experience of colic (e.g. their horse’s name was included throughout). The veterinary surgeon (vet) schedule focused on participants experience of colic assessment and the challenges they had experienced. Both interview schedules were piloted by three veterinary surgeons and a postgraduate equine researcher, and feedback informed the final schedules (Supplementary Item 3). Interviews were not repeated, and data collection continued until theoretical saturation had been reached.

## Data analysis

### Transcription

Transcription was performed by an external service provider (Penguin Office Services, Watton, UK). Data were transcribed intelligent verbatim with completed documents reviewed against the original audio recording by the primary researcher. Grammatical corrections and removal of content which could identify participants were performed. Transcripts were not reviewed by interviewees prior to coding.

### Coding and theme generation

Data management and analytical coding were performed using NVivo software (QSR International Pty Ltd. Version 12), details of coding and thematic analysis are provided in Supplementary Item 4.

## Results

### Participant demographics

Fourteen interviews were conducted with UK horse owners between January and March 2019. Participants were female with a median age of 47.5 years (range, 31-64 years). Length of equestrian involvement was a median of 27.4 years (range, 7–45 years). A summary of participants most recent colic experiences can be found in Supplementary Item 5.

Thirteen telephone interviews were conducted with UK equine veterinary practitioners between February and April 2019. Participants had been graduated for a median of 15.2 years (range, 2–30 years), with the majority (38.5%, 5/13) working within a first opinion equine practice with ambulatory and hospital facilities. Participants said they saw a median of 4.6 (range, 1–10) colic cases per month, 92.3% (12/13) had attended a critical case of colic within the previous six months.

### Thematic analysis

Thematic analysis revealed four over-arching themes: *'head'*, *'heart'*, *'practicalities'* and *'impact'*. Each theme interacted (Figure 1), with *'head'* and *'heart'* being in constant conflict. Each theme is reported separately, with selected participant quotes used for illustrative purposes.

#### 'Head'

The over-arching theme *'head'*, and its three associated themes; horse ownership, equine welfare, and finance; refers to pragmatic factors which contributed to participants' decision-making.

#### Theme One: Horse Ownership

Most participating owners had developed an interest in horses at a young age, usually through family involvement. Being a horse owner was seen to bring both physical and mental health benefits, including describing that their horse gives them a *'reason to get up in the morning'*. Though ownership was generally seen positively, participants frequently acknowledged the challenges owning a horse could bring, including the personal and financial investment required. All owners said that any negatives were far outweighed by the positives, and described the challenges as being *'part and parce l'* of horse ownership.

Owners had varying levels of equestrian knowledge, with most having experienced another colic episode prior to the one discussed during the interview. Previous colic encounters, particularly with the same horse, were frequently referred to by owners as significant in their decision to seek veterinary help, including comparing signs to those experience previously. Both vets and owners reported that response to lay treatment, such as walking a horse in hand or offering food, was often taken into consideration when deciding if veterinary attention was required.

#### Theme Two: Equine Welfare

Owners frequently commented on the fragile nature of horses. All owners acknowledged that maintaining good equine welfare was their responsibility. However, this personal accountability for their horse's wellbeing was a source of great anxiety for owners. Both vets and owners agreed that the prevention of pain and suffering was their main priority. For owners, this had a significant influence on euthanasia decisions, especially when their horse had not responded to treatment, including describing how it would be *'unfair'* to continue. Participating vets also regarded euthanasia as a valid option to prevent further suffering, but reported feeling conflicted when owners chose euthanasia without further investigation or referral:

*'(...)* I mean it's always valid option I think ultimately you end up with a horse that's no longer suffering  
*(...)* I don't know, I think sometimes you end up wondering if it's a horse that you've just examined and

*they've decided on the basis of that to euthanize it, (...) you don't necessarily know exactly what's going on or why you're doing it.'* (Vet 004)

Both vets and owners expressed welfare concerns around the risk of the horse injuring itself whilst attempting to roll, particularly when an owner had decided to hand-walk their horse, or move them to another area. Participating vets said that in-hand walking could reduce the risk of injury and alleviate symptoms in mild cases of colic, but raised concerns about owner safety and the health implications of continuous walking for a critically ill horse. Vets also described that some owners walked their horses due to their belief that rolling may result in a 'twisted gut'.

### Theme Three: Finance

Veterinary surgeons and owners had different perspectives on the importance of finance. Finance was a concern for owners, but they did not consider it the most important factor when deciding on colic treatment. In contrast, vets saw cost as one of the biggest influences on decision-making, especially when survival depended on urgent referral.

Having equine insurance reduced owner anxiety, with owners less concerned about discussing costs and requesting that everything possible was done, if their horse was insured. This view was shared by participating vets who described that owners with insurance or sufficient funds for referral treatment displayed a much calmer demeanour than those who don't. They compared this to owners who did not have insurance cover or available funds, who showed a greater concern around finance and a lack of awareness regarding treatment costs. Insurance was not always discussed in positive terms: some owners reported experiencing difficulties contacting their policy provider during an emergency and vets raised concerns about insurance companies excluding future colic or associated illnesses following a claim. Some owners stated that they intentionally did not have insurance as they felt this would result in them being forced to agree to unnecessary treatments:

*'One of the reasons I don't insure my horses is because I don't ever want to be on a conveyer belt to the most drastic treatment immediately. (...) I think if you're insured it's very hard to say no (...).'* (Owner 013)

Communication around finance and costs was discussed by both owners and vets. Owners understood that veterinary care was a 'business' and that treatment options would always depend on their financial status. However, they frequently said that the topic of cost is often handled insensitively by vets and could create difficulties during decision-making. For example, one owner felt as though the financial costs of colic treatment was being placed before their horse's care:

*'(...) And he said, 'It's gonna be at least £5,000 this surgery, can you afford it?' And that really upset me because it was like he was putting the money before my horse's life, you know? Which I totally understand it's a business and stuff but he said it more than once, he said it three or four times.'* (Owner 001)

Participating vets also reported experiencing difficulties when discussing finance, particularly when urgent referral is required, and the owner has limited finances. However, vets described that many of these challenges stemmed from owners being dishonest with themselves about what they can afford:

*'There's an awful lot that say, 'Don't worry, we'll sort it out.' And you look at them and you think, you're not, you're not gonna have that and I think they don't want to pull the plug on the horse because they can't afford to treat it, or they say, 'Just refer it, we'll work it out later.' And you're like hmm... I can't not because you've asked me to but... I sincerely doubt that the funds are gonna be forthcoming.'* (Vet 007)

Interestingly, vets reported feeling pressured by not only their own practice, but the external referral hospital to ensure payment was secured. They said that they would always try and provide owners with a good estimate of potential costs to avoid feelings of guilt should the owner get into financial difficulties.

### 'Heart'

The over-arching theme '*heart*', and three associated themes; horse-owner relationship, vet-client relationship and involvement of others; captures emotional or personal factors associated with decision-making. Though

owners attempted to take a pragmatic approach to their horse's care, themes within 'heart' were often in constant conflict with those in 'head'.

### Theme One: Horse-owner relationship

Owners frequently eluded to having a strong personal connection or relationship with their horse. Horses were rarely referred to as working animals, with many owners using the terms 'friend', 'family member' or 'soulmate' to describe their horse. Some owners described that, in the absence of a family of their own, they viewed their horse as a 'child'. The strong bond shared between horse and owner was seen as the most compelling aspect of horse ownership, with owners frequently saying that their unique relationship helped them to determine the severity of colic signs:

*'She showed me the signs; she's very, very good at letting me know early on. (...) she was stood up but I could see she was uncomfortable, she started to kick her flank, then she'd lay down and she'd lay flat out on her side stretching her legs and that is when I know she's in pain.'* (Owner 001)

This connection also had a significant bearing on an owner's decision to pursue referral treatment or elect for euthanasia. Owners described 'knowing', just by observing their horse's behaviour or the 'look in their eye', whether intensive treatment would be an option:

*'The more we walked him, he kept looking at me as if to say, 'Mum, I have had enough. I don't want to do this anymore.'* (...) I didn't make it anywhere near the horse box. There must have been 500 yards between the hill, the green patch of grass and the horse box. He decided he wasn't going any further.' (Owner 004)

An in-depth understanding of their horse's temperament or personality was also considered by owners when deciding on treatment. Factors such as the ability to tolerate box rest, handleability or how 'nice' the horse was, were frequently commented on. The horse-owner relationship was also described by participating vets as a major influence on decision-making. They reported that treatment often depended on the 'type' of owner, with two 'groups', those owning horses for professional gains and those who own for leisure, frequently referred to:

*'For some owners the horses are their children, so they'll do whatever needs be. Other ones, yeah we have some horses (...) they are a commercial item, earns them money then it's got to be an economic decision.'* (Vet 006)

Though this relationship could aid in selecting the most appropriate treatment option, vets said that it could also create barriers to critical decision-making. They also described that the strength of an owner's attachment often increased with a horse's age, and that it was difficult to know how attached people were until they asked directly about it. Vets also described how an owner's personal connection to their horse could conflict with practical elements of their decision-making. Examples given included when an owner put the need to care for their horse before the financial implications of colic surgery, despite knowing they would not be able to afford this treatment.

### Theme Two: Vet-client relationship

Owners reported that having a close relationship with their vet or veterinary practice helped with knowing when urgent attention was required:

*'No, they just asked how he was and I explained what I was doing, to them, and I have a great relationship with my vet to be fair, she knows exactly how I treat my horses and how I work with my horses, so she pretty much knew that, yeah, that she needed to come <laughing> straight away, so.'* (Owner 003)

Familiarity was also an important factor during decision-making between vet and owner. Vets described how if an owner was well known or considered a 'professional' with sufficient knowledge and experience, then the vets gave more limited advice, and it impacted their interpretation of case severity prior to arrival. From an owner's perspective, continuity of care was important, with many describing that having their 'usual vet' attend in an emergency made them feel more comfortable, especially when euthanasia was being considered.

Owners also described how trust in the vet impacted whether they accepted information and used it in their decision-making:

*‘I think about whatever the vet tells me I have to have a really good vet that I absolutely have faith in... because of my own experience I can sometimes query what a vet might say. Whereas if the chief vet had come, the top guy, I trust him implicitly. I do need to really know that I’ve got a good vet.’* (Owner 002)

Owners also discussed the need to feel confident in frequently perceived to be associated with age. Having a vet who was experienced in equine specific care was also considered essential, with several owners reporting difficulties when a mixed or small animal-oriented practitioner attended:

*‘If you have got a practice, then send a horse vet to a horse, not a dog vet to a horse. If I had been a more novice owner, the first vet that came wouldn’t have instilled any confidence with me at all. He was jumping around. It probably would have made me panic a lot more.’*

(Owner 008)

Owners frequently acknowledged that being a veterinary surgeon ‘*must be difficult*’, especially when a poor prognosis had to be conveyed. Although they appreciated vets being honest or ‘*blunt*’ about their horse’s chances of survival, professionals who showed compassion and had a ‘*good bedside manner*’ were favoured. Owners reported that both the colic experience and associated decisions were helped by practitioners who ‘*pitched*’ explanations to the individual owner.

Theme Three: Involvement of others

The involvement of others during a colic experience was viewed both positively and negatively by both owner and vet interview participants. Owners stated that the decision to refer or euthanise their horse was solely their responsibility, but some described how the presence of family members or friends was a welcomed source of emotional or practical support:

*‘My friend from up the lane came immediately to help me. And I rang my husband (...), physically it helped me ‘cause of loading the horse up (...). And then just moral support, just getting on with it and you know you’ve got somebody... when you’ve got a poorly horse to be on your own is a bit frightening.’* (Owner 002)

In contrast, other owners described this as an additional source of concern:

*‘At the time I think the only opinion I was worried about was the opinion of my mum, as stupid as that sounds. She had been there when I went to look at him, she bought him for me. He was her horse as much as he was mine, but I had the full responsibility of him.’* (Owner 004)

Participating vets also reported that owners frequently sought help and advice from others around them, including yard owners, friends, and family members. They highlighted this could sometimes aid the owner’s decision-making process, and other times cause delays in veterinary care. Peer-pressure from individuals such as yard owners or liveries was identified as a major influence on some owner’s decisions to pursue referral:

*‘...sometimes it can be difficult if you’ve had a livery yard owner who doesn’t believe in colic surgery who then wants to talk the owner out of colic surgery when that’s a perfectly good candidate. You always get one know it all don’t you that doesn’t, ‘They all die when you do colic surgery’ or whatever.’* (Vet 006)

Peer-pressure was also frequently referred to by horse owners, particularly associated with euthanasia and criticism for not pursuing surgical intervention:

*‘It’s not acceptable to lose horses to colic like that [euthanasia] apparently, and maybe I should have had him operated on, and you know you’re like, you have no right to judge me and my situation and what I could see in that horse. (...).’* (Owner 005)

Peer pressure through traditional beliefs and misconceptions associated with colic was also raised as a concern by vets. Examples given were the beliefs that a colic diagnosis was an automatic ‘*death-sentence*’ or that allowing a horse to roll would incur irreversible intestinal damage. These were frequently described by

vets as barriers to early veterinary intervention and a successful recovery, being engrained within the horse owning population, and being difficult to change:

*‘I think the problem is that clients will latch onto a concept, to an idea and then they never evolve from that.’*  
(Vet 001)

### ‘Practicalities’

The over-arching theme ‘practicalities’ represents both the routine and sometimes unexpected challenges of a colic diagnosis and subsequent treatment.

#### Theme One: Limitations of primary assessment

Participating vets reported various challenges associated with attending a potential case of colic, including locating the owner and obtaining a relevant history on arrival:

*‘... you can have a lot of people crowded around and trying to work out who’s who, (...) who knows what’s going on with the horse, and what it’s feeding and that sort of thing, maybe who mucked it out, whether it’s passed droppings. Sometimes just working out the ins and outs of the situation can be more frustrating than dealing with the colicking horse itself.’* (Vet 012)

Limited facilities, such as a lack of electricity or suitable light, were a common source of frustration for vets, compromising their diagnostic approach. Concerns regarding personal safety, particularly when an inexperienced handler was present, were routinely expressed. Horse-related factors, such as temperament, size and pre-existing health issues, were also limiting factors.

#### Theme Two: Owner preparedness

Owner’s lack of preparedness to make rapid decisions was frequently discussed by both owners and vets. Participating vets reported that a high number of owners had never considered what they would do if their horse was critically ill, and that even those who had thought about decisions in advance often became conflicted in an emergency:

*‘No, most times people have not thought about this in preparation. (...) even if they have they may find actually being in that situation is not... they feel differently to how they expected to feel and sometimes even if owners have said, ‘I would never put my horse through colic’, sometimes they will change their mind... ‘*  
(Vet 002)

This view was echoed by owners who said that, even though they may have considered options previously, decision-making was much harder when in an emergency. Some owners said that not having a plan made their colic experience easier, as it allowed them the freedom to consider both verbal and visual information at the time. Some owners said that making an emergency plan for colic in advance was not always feasible, as the multifactorial nature of the colic and the vast array of information available meant they couldn’t plan for every eventuality. Vets reported that educational resources were useful help owners consider the potential implications of a colic emergency. However, barriers to knowledge transfer, such as time constraints and accessibility of resources, were highlighted by both vets and owners. Many vets expressed concerns that interventions, such as the ‘REACT’ campaign, would only be used by owners actively seeking further information.

#### Theme Three: Travel

The logistics and availability of transportation were a frequent cause of anxiety for both vets and owners. Practitioners reported frequently seeing a range of transport-related issues causing barriers to referral, including owners not having access to suitable transport when needed, and horses that were difficult to load or travel. Owners also described concerns about the safety of their horse during the journey:

*‘How I was going to get my horse to the referral hospital safely because I had to transport her, and my horse was at that point throwing itself on the floor. I thought a 3.5-ton lorry isn’t going to be the most ideal*



*situation if my horse throws itself on the floor.’ (Owner 008)*

Journey length was frequently discussed, with both owners and vets highlighting that referral to an equine hospital was often not possible or in the horse’s best interest due to the distance involved. Owners also reported experiencing unexpected issues with transportation, such as adverse weather conditions and difficulties accessing their horse’s location:

*‘... She said, ‘He needs to go to (Veterinary Hospital).’ I was like... The field he was in, the hill is quite steep getting him down. .... I said, ‘We will try and get him there. We will give him the best possible shot,’ ( Owner 004)*

Theme Four: Communication and understanding

When discussing their horse’s treatment options, owners described feeling as though they *‘did not have a choice’*, particularly around euthanasia decisions:

*‘... none of us were really making a decision, the only decision was which vet hospital are we going to. ‘cause if not you put down in that situation.’ (Owner 013)*

The highly emotive nature of a colic emergency was seen to be a barrier to effective communication, with vets acknowledging that the discussion of treatment and prognosis was often challenging. Many said their approach to shared decision-making has improved with experience. However, owners suggested that vets should communicate options which are applicable to the horse seen at the time, rather than what they have seen ‘work’ in the past. Vets described how misunderstanding or misinterpretation of signs (such as passing faeces) often led owners to be unrealistically optimistic despite a guarded prognosis from the vet, and these misinterpretations were also described by owners:

*‘The only thing I can really, really remember from that conversation when he came up to me, was him saying, ‘Is surgery an option for him?’ And that’s the only thing that really stuck in my head (...) ‘cause I had convinced myself, especially ‘cause he had been fine travelling, and he’d passed droppings getting there, he was actually alright. So I wasn’t expecting that.’ (Owner 010)*

Vets described how a poor understanding of colic could be responsible for delays in referral treatment, with some owners not appreciating the potential severity and need for urgent action:

*‘Oh, I’ve got plenty of clients that they have stopped for fish and chips on the way to the hospital (...) again, it’s lack of knowledge. They don’t acknowledge that this is an emergency situation, it needs surgery, delaying surgery will affect the cost (...) and it will affect negatively the outcome of the case (...)’ (Vet 010)*

‘Impact’

The over-arching theme *‘impact’*, and two associated themes; practical and emotional; describes the lasting effects of a colic experience on those involved. These themes highlight the impact of colic on future decision-making and management of colic.

Theme One: Practical

Owners frequently described how previous experience of colic changed their knowledge and behaviours. Commonly described behaviour changes were pre-planning (such as ensuring equine passports and transportation were readily available) and actively seeking information on colic and its prevention. Owners described how a previous experience made them more confident in recognising and managing colic, and these behaviour changes could result from witnessing another owner experiencing colic as well as experiencing it firsthand. Vets described negative aspects of owners with previous experience, including owners’ who felt that they could manage a colic episode themselves and delayed seeking assistance:

*‘(...) I think there are owners out there that will deal themselves with a mild case of colic and won’t ever call the vet, but I think that can go against you sometimes when... the middle ground people, where they think they know what a mild colic looks like and leave it too late to phone you.’ (Vet 011)*

Obsessive or paranoid behaviour by owners was common following a colic experience. Owners reported over-reacting to even the smallest change in behaviour, and a tendency to micro-manage feed or turnout, and One described that their experience made them wary of purchasing a horse with a history of colic in the future.

### Theme Two: Emotional

The term ‘rollercoaster’ was frequently used to describe the vast array of emotions experienced during a colic event, with owners reporting feeling exhausted or ‘drained’ in the days following. A significant impact on day-to-day life was a common occurrence, with examples given of having to juggle work commitments with the demands of post-operative aftercare. For owners of euthanased horses, the experience had a profound impact on their mental wellbeing, with many seeking professional medical help or having to take time off work. Bereavement was acknowledged as extremely difficult with all experiencing feelings of guilt or blame:

*‘I went down the whole, ‘shit, what if I had gone down the yard that morning? Would I have noticed him down? (...) Everything goes through your head. You almost go through blame and upset and everything else..’* (Owner 004)

Though bereavement was common, owners expressed concern about the lack of support available. This emotional impact was not limited to owners whose horses had been euthanased. The hospitalisation process itself was also seen as traumatic, with one owner referring to it as being *‘like having a dying relative in hospital’*. Owners with experience of colic surgery, including those in which the horse survived, often said that they would be reluctant to choose this option again either due to the emotional strain they experienced or because they felt it would be *‘unfair’* to subject their horse to a second surgery.

## Discussion

### Study overview

This study investigated decision-making during critical cases of colic through an in-depth exploration of the experiences and perspectives of key stakeholders (horse owners and veterinary practitioners). Four overarching themes were identified: ‘head’, ‘heart’, ‘practicalities’ and ‘impact’. Owners acknowledged their responsibility for their horse’s welfare (‘head’) however, the horse-human relationship (‘heart’) often led to conflict during decision-making. ‘Practicalities’, such as transport availability and adverse weather conditions, were identified by both owners and veterinary practitioners. Both veterinary practitioners and owners acknowledged that an owner’s interpretation of their horses wants / needs (‘heart’) had a major bearing on decision-making. Involvement of others in decision-making, and the impact of peer pressure on owners’ decisions were identified as having both positive and negative effects by owners and vets. The experience of a critical case of colic often left owners with feelings of guilt and long-term changes in help seeking behaviour (‘impact’).

### Limitations

Qualitative research enables a deeper understanding of human reality, such as personal beliefs, attitudes and individual experiences. The study collected interview data from vets and owners with prior experience of critical colic, which relied on recall of past events. Participants with experience of colic within the previous 12 months of the interview session were selected to minimise the effects of recall bias.<sup>14</sup> The areas discussed evoked strong emotions and opinions. Extensive efforts were made to develop a rapport with participants both prior to and during the interview process, including personalisation of the interviews, an informal discussion at the start of each interview, and maintaining, an empathetic and non-judgemental approach throughout.<sup>15-16</sup>

### Key findings

Head vs heart

Participants frequently mentioned that maintaining good standards of equine welfare was the primary responsibility of the owner.<sup>1</sup> However, both vets and owners highlighted the significant impact the horse-human relationship could have on emergency decision-making, including how owners recognised and responded to signs of colic, and whether or not they decided to pursue intensive veterinary treatment (often in conflict with their financial decisions). Though current research around the attachment between horse and owner is still limited<sup>17-18</sup>, this study highlighted how an owner's perceived 'bond' with their horse could have severe implications on their critical decision-making.

Perceived owner capability or prior experience was considered by vets as an important factor in the triage of potential colic cases and affected how much advice and information they gave. Informational continuity, (the retention of knowledge specific to a patient's background, can help to tailor services to individual needs, but reliance on owner proficiency should be done with caution.<sup>19</sup> Whilst many owners may have an appropriate response to colic, an under-reporting of clinical signs and the inability to recognise potential 'red-flag' indicators have been noted within the horse owning population.<sup>2</sup> Practices should consider using an agreed, standardised team approach to the triage of colic cases to avoid any false assumptions and provide comprehensive advice and support to all owners.

Several factors were influential on the decision-making between owners and vet, including the owner's relationship with the attending veterinary surgeon. Rapport is an essential aspect of veterinary consultations, facilitating both the extraction of information and the development of the vet-client relationship.<sup>20</sup> In human medicine, continuity of care elicits improved levels of understanding, compliance and trust between patients and their physician.<sup>21</sup> For equine emergency cases, choice of a familiar or trusted practitioner is not always possible and this study highlights that some owners lack confidence in unfamiliar veterinary surgeons. Trust is a fundamental aspect of the doctor-patient relationship and an important factor in vet-client interactions.<sup>22</sup> The development of trust is complex and can be affected by a multitude of factors.<sup>23</sup> Some factors, such as age and experience cannot be modified. Modifiable aspects identified in this study included a poor 'bed side manner'. This affected owner opinions regarding veterinary competency and care, despite a good outcome, in agreement with a previous study of colic decision-making.<sup>4</sup> Given the decision-making benefits of trust, especially during emotive situations or times of uncertainty, these findings highlight the need for veterinary surgeons to adopt a relationship-centred approach with every client.

The opinion of 'others' or social influences was an important influence on horse owners' critical decision-making. Many participating vets described that involving others, such as yard owners, could negatively impact the ability of an owner to make a rapid and informed decision. However, this view contrasted with owners who said that others had no role in their decision-making process but could provide an additional source of both emotional and practical support. This highlights the positive and negative aspects of social influences and peer pressure, and that owners may not always be aware of how these impact their decision-making. Vets also spoke about how owners referred to traditional beliefs and misconceptions, or other colic episodes, which may or may not have been correct/appropriate or relevant to their current situation. In these emotive situations, owners/carers will have unconscious influences, which lead them to seek other beliefs, values or described experiences which justify or validate their decisions, particularly when these are not aligned with the vet's recommendations or the survival of the horse.

### Practicalities

The field assessment of horses with colic can be fraught with difficulties, with safety concerns or a lack of appropriate facilities frequently influencing choice of diagnostic test.<sup>24</sup> This study highlighted the importance of owner preparedness, with difficulties such as an absent owner or lack of transportation described as frequently delaying decision-making and treatment.

Pre-planning and preparation would seem a logical solution to this, but this study highlights that it may not always be helpful, and there are also barriers. Vets reported that many owners were still unable to make rapid emergency decisions despite having prepared, and owners frequently experienced a conflict between head and heart. Owners and vets in this study also indicated that having pre-conceived ideas may inadvertently make

decision-making more difficult, with owners struggling with large amount of information and options, and actual real-life decisions conflicting with plans made in advance. This internal struggle could be explained by the phenomenon of ‘responsibility grief’, whereby pet owners become consumed by the impending accountability for the death of their animal and develop strategies to try and deal with this.<sup>25</sup> In this study, when owners reported feeling as though they did not have a ‘choice’ in the treatment of their horse, this may be a subconscious attempt to shift the responsibility of decision-making onto their veterinary surgeon or to deal with situations where treatment options were limited by what they could financially afford.

Several studies have reported the effect of cost on owner decision-making, with finance highlighted as a significant influence on help seeking behaviour and surgical consent.<sup>4</sup> Yet, when this finding was extrapolated to the wider equestrian community, money was not considered a major barrier to veterinary treatment, and in these interviews, vets considered it more important in decision-making than the owners. Social desirability bias may have influenced responses, but the impact and influence of finance is clearly complex and situational dependent. McGowan *et al.*, (2012), reported that although costs associated with medical treatment of aged horses were considered significant, they were not the most important factor associated with end-of-life decisions.<sup>26</sup> Our current study showed how an owner’s relationship with a horse strengthens with age, which impacts financial decisions. This study highlights how complex these decisions are – a horse towards the end of its life may have a low financial but high emotional value. Many of the critical decisions will come down to individual choices and an owner’s relationship with their horse.

Conversations around the impact of finances on decision-making can be challenging. Owners within this study frequently suggested that vets place greater emphasis on the financial costs of treatment, rather than the welfare of the horse. Vets described how these discussions surrounding cost of veterinary treatment can be difficult, as a balance between business and animal welfare must be maintained.<sup>27</sup> They described pressures from practices and hospitals to secure finance, owners who were not aware of the costs involved, and owners who made decisions that they either could not or would not pay for.

A mismatch between client belief and the reality of veterinary costs has been anecdotally attributed to the existence of the National Health Service.<sup>28</sup> Yet, despite the availability of animal insurance in lieu of a ‘free’ veterinary care, it was concerning that one owner deemed this protection ‘a conveyer belt to treatment’. This highlights the importance of communication and shared decision-making in all situations, including where the animal is insured. A breakdown in communication is reportedly the most common reason for owner grievance with the RCVS.<sup>29</sup> There are some additional challenges around critical decision-making for equine colics: many insurance claims will not be paid unless euthanasia on humane grounds is confirmed by a veterinary surgeon.<sup>30</sup> Though this in accordance with the BEVA Guidelines for the Destruction of Horses, some cases will require surgical exploration or further diagnostic tests before this judgement can be made.<sup>31</sup> This can result in pressure being placed on an owner to refer their horse, even if this is not in the animal’s best interests. Many owners may not be aware of or understand this requirement, it falls on the attending veterinary surgeon to explain its complexity, which in an emergency may be construed as insensitive. A review of current guidelines associated with the humane destruction of horses diagnosed with colic and their interpretation with respect to insurance policy claims, is urgently warranted.

## Impact

This study documented the profound and lasting effect critical decision-making can have on horse owners. Owners described several behaviour changes after a personal experience of colic, including in their information seeking behaviours, and motivation for improving their knowledge, awareness and prevention. This proactive approach may be driven by a strong sense of vulnerability following such an event. This agrees with other research which described that a proactive approach to disease mitigation was more common in owners with a higher perception of risk.<sup>12, 32</sup> Risk perception is a strong predictor for behaviour<sup>33</sup>, and participating vets also reported this behaviour change, describing that owners with prior experience of colic were more likely to engage with educational events. Though these findings highlight a potential route through which owner education can be facilitated, it raises questions regarding the ability to engage those who have not experienced colic on a personal level. However, it must be noted that some owners became averse to discussions or

situations which reminded them of colic due to the distressing nature of their experience.

Traumatic events are commonly associated with incidents involving death or severe harm. Participants made frequent reference to three elements which are considered necessary for traumatization to occur: loss of control, suddenness, and a perception that the experience was highly negative.<sup>34</sup> During a traumatic event, an individual's response can be severely compromised, with some appearing aggressive in an attempt to regain control in a seemingly uncontrollable environment, whilst others may 'freeze' or appear indecisive.<sup>35</sup> This mirrors the experiences of owners within this study, in which some could not make a rapid decision, whilst others displayed anger towards those trying to help. This study highlights the profound impact an emergency such as colic can have on immediate decision-making and the different ways that owners may react at the time and afterwards. Following a traumatic event, avoidance behaviour, such as the evasion of conversations or activities through fear of an emotional reprise, is a common occurrence following a traumatic event.<sup>36</sup> Though some owners reported a desire to learn more about colic, some reported actively avoiding discussions or situations in which colic was a main feature. This could not only have severe implications on an owner's future response to colic, but subsequent engagement with discussions or education aimed at improving awareness.

Congruent with the experiences of owners within this study, grief as a result of pet loss has been associated with a variety of psychological and social difficulties.<sup>37</sup> Obsessive behaviours, such as constant rumination of events leading up to the colic episode described by owners in this study, are reactions commonly experienced following the death of both human and animal companions.<sup>38</sup> Previous research has shown that the strength of an owner's attachment to their pet can be a significant indicator of grief severity following the death of an animal, and for some owners the loss of a pet is experienced in a similar manner to that of a human death and may require the same degree of support.<sup>39-40</sup> Vets within this study highlighted that the extent of a horse-human relationship was often only evident if owners were asked directly. This study highlights the need to explore this where possible and signpost owners to additional support.

## Conclusions

This qualitative study provides an insight into the journeys experienced by both horse owners and veterinary surgeons during critical decision-making for horses with colic. Both vets and owners described how an owner's emotional attachment with their horse often conflicted with other aspects of decision-making. An aspect of shared decision-making which was seen as particularly challenging was communication about finance, and referral vs euthanasia. Factors that commonly influenced decisions included an owner's previous knowledge, beliefs and experiences of colic, social pressures, logistics, and the relationship between owner and vet. Experiencing a critical case of colic had a significant impact on horse owners, often resulting in behavioural changes around information seeking, normal day-to-day care of their horse and emergency preparedness. Owners also reported feeling intense emotional pain and highlighted a lack of adequate support. The findings of this research should inform veterinary team approaches, shared decision-making, and information resources to support critical decision-making for the horse.

Figure 1 Thematic diagram illustrating the interaction of overarching themes, themes and sub-themes as identified during thematic analysis.

S1 Primary researcher's personal reflexivity statement.

S2 Sampling frames developed for both horse owner (Table 1) and veterinary surgeon (Table 2) recruitment.

S3 Flow-diagram illustrating the recruitment of UK horse owners to participate in a telephone interview exploring their experience of critical colic.

S4 Details of coding and thematic analysis methodology

S5 Details of interview participants most recent colic experience, including horse age, breed, and insurance status

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