

Discussion of cost continues to be uncommon in companion animal veterinary practice

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OBJECTIVE

To determine the prevalence and nature of cost conversations occurring during veterinarian-client-patient interactions within companion animal practice.

SAMPLES

60 randomly selected, practicing veterinarians working in 55 practices across southern Ontario, Canada, and 909 of their clients, sampled by convenience.

PROCEDURES

A cross-sectional descriptive study including 917 video-recorded appointments. Associations between veterinarian, client, or appointment-level factors and occurrence of a cost conversation were evaluated using multi-level logistic regression.

RESULTS

215 of 917 (23.4%) videos included a discussion of cost between the veterinarian and client. Cost conversations involving veterinarians primarily focused on conveying the price in relation to the time or service being offered (74.0% [159/215]), whereas the benefit to the future health and wellness of the patient was conveyed in 14.4% (31/215) of veterinarians' cost conversations. Costs were most frequently discussed by veterinarians in relation to diagnostic testing (44.2% [96/215]). The odds of a cost discussion occurring were greater during problem appointments versus wellness ($P = .011$) or recheck ($P = .029$) appointments, for feline versus canine patients ($P = .037$), as appointment duration increased ($P < .001$), and as a client's number of visits in the past year decreased ($P = .049$).

CLINICAL RELEVANCE

Discussing cost of care in veterinary practice continues to be relatively uncommon. Opportunities exist for veterinary professionals to frame their communication of the cost of veterinary care in relation to the benefits offered to the future health and wellbeing of the veterinary patient.

Client-veterinarian communication is a subject increasingly highlighted throughout veterinary literature,¹ including veterinarians' discussion of cost.²⁻⁷ Previous research, conducted over a decade ago, found cost discussions to be present in less than one-third of appointments.² When cost was discussed the veterinarian's focus was most often on communicating cost within the context of the time or service they were offering, rather than in terms of the value being offered to the health and wellbeing of the veterinary patient.² Not communicating this benefit may result in a lack of client understanding as to why a recommendation is important.⁸

Previous qualitative research revealed pet owners' desire for understanding the value of care in terms of the benefit of services to the health and wellbeing of their pets.^{3,9} Other research has repeatedly highlighted the need for veterinarians to com-

municate the value of care in relation to the patient's wellbeing,^{7,8} including providing pet owners with enough information to make decisions and to understand the importance of care options for their animal.⁸ In addition, the changing financial landscape of veterinary medicine such as the rise in pet insurance and wellness plans,¹⁰ expectations to address clients' financial limitations,⁶ and expectations to build practice finances and to reduce fees,^{7,11} have the potential to reshape cost discussions within veterinarian-client-patient interactions (VCPI). The urge for veterinarians to communicate value in practice, along with the evolution of veterinary practice, and the inclusion of veterinary support staff (VSS) in these conversations warrants the need to revisit examining cost conversations in practice.

Understanding the current state of cost conversations in veterinary practice will help to identify

opportunities to support veterinary professionals in discussing the cost and value of veterinary care. The objective of the present study was to determine the current prevalence and nature of cost conversations within VCPI in companion animal practice to compare with historical research on cost conversations in veterinary practice.² A secondary objective was to identify factors associated with the occurrence of cost discussions.

Materials and Methods

The protocol for this study was approved by the University of Guelph Research Ethics Board (REB#17-08-009) and is reported following STROBE guidelines.¹²

Study design

Recruitment of participants has been previously described.¹³ Veterinarians were identified for participation from the College of Veterinarians of Ontario (CVO) public website (www.cvo.org). Inclusion criteria comprised having an active license with the CVO, being a companion or mixed animal practitioner, and practicing within a 150-km radius of the Ontario Veterinary College. Random selection of veterinarians continued until a sample size of 60 was reached. Written consent was obtained from the practice owner and the participating veterinarian. Consent was also obtained from any veterinary support staff who may be involved in the study appointments. Veterinarians were offered \$100 CAD to participate and an aggregate summary of their client satisfaction results.¹³

Veterinarians completed a demographic questionnaire at the onset of the study, providing the following information: gender (open text response), age (open text), role at practice (owner or associate/locum), practice companion animal only (yes or no), number of years in practice (calculated based on year of graduation), hours worked per week (< 30 hours, 30 to 40 hours, or > 40 hours) and practice-related variables of practice location (rural or urban) and number of veterinarians working at practice (open text). Following each appointment, veterinarians also completed an appointment-specific survey, supplying information regarding the patient, including species (canine[s], feline[s], or other) and age (pediatric, adult, or geriatric), and appointment type (wellness, problem, recheck, or other). At the conclusion of data collection, each respective veterinarian was asked to rate if video-taping interfered with their clinical performance using a scale ranging from 0 to 100 (0 indicating 'definitely not' and 100 indicating 'yes definitely') and whether they felt they could "be themselves" in front of the camera (0 indicating 'definitely not' and 100 indicating 'yes definitely').

Clients of participating veterinarians were recruited by convenience from the waiting room of their veterinary practice. Participation was solicited and written informed consent was obtained by a member of the research team who was trained in obtaining informed consent and who approached each

scheduled client with the participating veterinarian. Client participants had to be 18 years of age or older and English-speaking. Appointments were excluded from the study if the appointment was scheduled or became a euthanasia appointment. Written consent was obtained from all client participants. Following each appointment, client participants completed a survey gathering demographic information, including gender (open text), age (open text), number of pets in the household (open text), household income (< \$35,000, \$35,000 to \$49,999, \$50,000 to \$74,999, \$75,000 to \$99,999, \$100,000 to \$149,999, or \$150,000 or greater CAD), number of visits with the veterinarian in the past year (open text), number of years the client has known the veterinarian (open text), how often the client sees the veterinarian (first time, sometimes, or regularly), and who is the primary caregiver to the animal(s) (participating client, client's partner, shared, another member of the household, or other). Video-recording of appointments has been previously described.¹⁴ In brief, audio-video recordings were obtained, using a GoPro (Hero5 edition; GoPro Inc) placed discreetly within the examination room. Appointments were not video recorded if a minor was present for the appointment. Initial coding provided information, including number of clients attending the appointment (1 or multiple clients), number of pets within the appointment (1 or multiple pets), and VSS involvement during the video-recorded appointment (yes or no).

Identification and coding of cost conversations

Upon completion of data collection, all videos were screened for cost conversations. Videos identified as containing some form of reference to cost were randomized and further examined by 2 of the authors (CNHG and AS) for a cost conversation, defined as a direct mention of a dollar value relevant to veterinary care (eg, the flea medication is now \$80). Videos identified to include a cost conversation were further coded using a coding framework based on a study by Coe et al,² which outlined proficiency codes to characterize cost conversations, tracked areas of veterinary care associated with cost conversations, and identified the use of written estimates. Standard online survey software (Qualtrics) was used to support the coding of appointments. Key aspects of coding regarding areas of veterinary care and proficiency codes are detailed in the following 2 paragraphs, respectively.

One coding form was completed for each distinct cost conversation. Coders initially identified who initiated the first cost conversation (ie, client, veterinarian, or VSS) and noted any mention of a wellness plan, pet insurance, or use of written estimates (defined as paper or computer quotes, directly discussed with the client). Based on the previous study by Coe et al,² 8 specific areas of veterinary care were tracked in relation to cost conversations: diagnostic testing, dentistry, surgery, medication, heartworm medication, diet, recheck appointments, and vaccinations. Three additional areas were added during codebook development and tracked: micro-

chipping, flea and tick medication, and heartworm, flea, and tick combination.

Each cost conversation was further coded using 4 codes previously described by Coe et al.² to capture the nature of the cost conversation. These included codes for 1) a general reference to cost, such as discounts and price differences (eg, “the price difference is not much, maybe \$5”); 2) cost in relation to time or service, including cost of a product, procedure, or examination (eg, “it’s \$31 for the Lyme vaccine”); 3) cost conveyed in relation to medical information that would be obtained, including an explanation of how the product, procedure, or service worked (eg, “the bloodwork will cost around \$80 and it will check for any tick-borne diseases”); and 4) cost conveyed in relation to the future health or wellbeing of the pet, which involved the veterinarian explicitly stating a benefit of the procedure, time, or service to the patient (eg, “it could be up to \$1,000, but after [dental surgery] your pet will be able to eat again and will no longer be in pain”).

Weekly meetings involving a group of the authors (CNHG, AS, NJ, and JBC) were used to address issues related to the coding of videos. The codebook was refined throughout these meetings until a functional codebook was created, which occurred after 65 videos had been viewed. Once the codebook was finalized, the initial 65 videos used to develop the codebook were recoded using the final codebook. Appointment duration was assessed during coding, noting the total amount of time the veterinarian spent with the client or clients in the examination room, beginning when client or clients and the veterinarian first appeared in the room together, and ending when the client or clients or the veterinarian left the examination room without returning for the remainder of the recorded appointment.

Video quality

Coders evaluated all videos involving a mention of cost for video quality and abruptness. Video quality was categorized as 1) ‘poor’ if it contained substantial background noise throughout the appointment; 2) ‘inaudible sections’ when part(s) of the video was inaudible; 3) ‘good’ if all participants could be heard clearly throughout. An abrupt start was noted, if the video began with no appropriate context (eg, video begins in the middle of the veterinarian’s sentence), or an abrupt end was noted if there was no clear conclusion (eg, veterinarian leaves the appointment to obtain vaccines and does not return). If the video appeared cut off slightly at the beginning (eg, start of a conversation regarding the patient/appointment) or end of the appointment (eg, goodbyes), this was noted as an ‘only brief’ abrupt start or end.

Coder Agreement

Fifty of 421 (11.9%) videos including a discussion of cost were coded by both coders to calculate inter-rater reliability using Cohen’s Kappa and interpreted using Cohen’s Kappa scale.¹⁵ Per cost conversation, agreement was calculated for presence of a cost conversation involving the veterinarian, who ini-

tiated the conversation, mention of a wellness plan, mention of pet insurance, 11 areas of care coded, written estimate use, 4 codes for nature of cost discussions, video quality, and the presence of a cost conversation involving a VSS.

Statistical analyses

Mean, median, SD, and range were calculated for continuous variables, and frequency was calculated for categorical variables. Normality of continuous variables was assessed using the Shapiro-Wilk test. The Mann-Whitney *U* test was used to compare appointment duration between those containing a cost conversation and those without.

A multi-level logistic regression was created to assess factors associated with the occurrence of a cost conversation at the visit level, while accounting for the random effect of veterinarian, nested within veterinarian gender. All veterinarian, client, and appointment-level variables were utilized in the modeling process, except veterinarian age, veterinarian hours worked per week, client education level, number of pets in household, and number of veterinarians working at practice.

Univariable analysis to explore for an unconditional association with the occurrence of a cost conversation at the appointment level was conducted for each independent variable of interest. Variables having an unconditional association with a $P < .20$ were tested in a main effects model using listwise deletion. Manual backward-stepwise elimination was employed using a significance of $P < .05$. All socially plausible interactions, involving variables retained in the final main effects model, were tested 1 at a time. Possible confounders were tested by introducing them into the model 1 at a time. A confounder was defined as any factor resulting in a change of $\geq 20\%$ in the coefficients for any other factor in the model.¹⁵ A likelihood ratio test was used to determine the model fit of the mixed effects model. Evaluations of outliers and observations with leverage or influence was conducted on the final model. Observations identified as outliers or with influence were removed from the model to assess for significant changes in direction or significance of coefficients.

All statistical analyses were performed using standard statistical software, Excel (Excel version 16.49; Microsoft Corp) and STATA (STATA version 16, 2019; StataCorp). Values of $P < .05$ were considered significant.

Results

Study population

Of the 318 veterinarians contacted and eligible to participate, 61 (19.2%) agreed to participate. One veterinarian agreed to participate following the conclusion of data collection and was excluded as the a priori sample size of 60 participants had been reached. As such, 60 veterinarians participated representing 55 veterinary practices, with 5 clinics employing 2 participating veterinarians each (**Table 1**).

Table 1—Demographic characteristics reported by 60 veterinarians from 55 practices across southern Ontario, Canada, participating in a cross-sectional descriptive study involving video recordings of examination appointments and evaluating associations between veterinarian, client, or appointment-level factors and occurrence of a cost conversations.

Variable	No. (%) of veterinarians
Gender	
Female	39 (65)
Male	21 (35)
Role at practice	
Owner	36 (60)
Associate or other	24 (40)
Practitioner type	
Companion animal	57 (95)
Mixed animal	3 (5)
Hours worked per week	
< 30 h	12 (20)
30–40 h	25 (42)
> 40 h	23 (38)
Practice location (n = 55)	
Rural (population of < 10,000)	16 (29)
Urban city (population of ≥ 10,000)	39 (71)

Of these 55 practices, the mean ± SD reported number of veterinarians per practice was 3 ± 3.21 veterinarians/practice (median, 2 veterinarians/practice; range, 1 to 20 veterinarians/practice). Mean ± SD age of the 60 participating veterinarians was 47 ± 9.82 years (median, 49 years; range, 29 to 64 years) and years in practice was 20 ± 10.40 years (median, 22 years; range, 2 to 39 years).

From clients of the 60 veterinarians, 1,183 were approached about participation: 119 of the 1,183 (10.0%) did not meet inclusion criteria. Of the remaining 1,064 clients, 135 (12.7%) declined filming and 929 (87.3%) agreed to be filmed. For these 929 clients who agreed to be filmed, 12 (0.01%) recordings were lost due to technical problems, resulting in a total of 917 video recordings involving 909 clients included in the present study (**Table 2**). Eight of the 909 (0.01%) of clients participated in 2 recorded appointments. Mean ± SD age of clients was 46 ± 14.94 years (median, 46 years; range, 19 to 82 years; n = 795). There were 838 clients who reported the number of pets in their household, with a mean ± SD of 2 ± 2.04 pets (median, 1; range, 0 to 35). Clients also reported having known the veterinarian for a mean ± SD of 6.5 ± 7.1 years (median, 4 years; range, 0 to 50 years; n = 783 clients) and visiting the veterinarian a mean ± SD of 4.5 ± 4.54 visits in the past year (median, 3 visits; range, 0 to 365 visits; n = 748 clients).

Four-hundred appointments (45.2% [400/884]) were veterinarian reported wellness appointments, 276 appointments (31.2% [276/884]) related to a specific health problem, 176 (19.9% [176/884]) were recheck appointments, and 32 (3.6% [32/884]) were identified as other (eg, sedated nail trim, presurgical consultation). Most appoint-

Table 2—Demographic characteristics reported by 909 clients who participated in the study described in Table 1. Discrepancies present in denominators are due to missing values.

Variable	No. (%) of clients
Gender (n = 815)	
Woman	601 (74)
Man	212 (26)
Non-binary	1 (0.1)
Gender fluid	1 (0.1)
Household income (n = 711)	
< \$35,000	79 (11)
\$35,000–\$49,999	78 (11)
\$50,000–\$74,999	120 (16)
\$75,000–\$99,999	116 (17)
\$100,000–\$150,000	150 (21)
More than \$150,000	168 (24)
Education level (n = 806)	
Less than high school	16 (2)
High school diploma or equivalent	106 (13)
Some college or university	134 (17)
College degree	234 (29)
Bachelor's degree	177 (22)
Graduate or professional degree	139 (17)
How often the veterinarian within the appointment is used by respective client (n = 817)	
First time	99 (12)
Regularly	606 (74)
Sometimes	112 (14)
Primary caregiver (n = 807)	506 (63)

ments (88.5% [812/917]) included 1 patient within the appointment, 87 (9.9% [91/917]) had more than 1 patient present, and 14 (1.5% [14/917]) had no patient present in the examination room. Three-hundred-nine appointments (33.7% [309/917]) involved a VSS participating in the appointment. Six-hundred-ninety-three appointments (75.6% [693/917]) had 1 client present. Appointment duration had a median of 14.87 minutes, ranging from 0.58 minutes to 73 minutes (n = 917; mean = 16.28 minutes, SD = 9.35 minutes).

Videotaping impact on participating veterinarians

Veterinarians reported little impact of video-recording on their clinical performance, scoring a mean of 16.3 (SD = 22.9; median = 6.5; range = 0 to 100). Most participating veterinarians felt they could be themselves with the camera present, with over 75% of participants providing a score of 100 (mean = 81.6; median = 93; SD = 29.3; range = 1 to 100).

Video quality

Of the 917 videos, 421 videos (45.9%) were noted to have a reference to cost and were coded further. Of the 421 videos, coders rated the audio quality as 'good' for 355 video recordings (84.3%

[355/421]), as containing inaudible sections for 54 (14.3% [60/421]) videos and the rest (1.4% [6/421]) were rated poor quality. Thirty-nine of the 421 (9.3%) videos began abruptly, while another 45 (10.7%) videos had 'only briefly' abrupt beginnings. Twelve of the 421 (3.6%) videos ended abruptly, with another 11 (2.6%) videos having 'only brief' endings. As presence of a cost conversation and its contents could still be ascertained despite audio quality, all videos were included in analysis.

Coder agreement

Cohen's kappa indicated excellent overall agreement between coders (overall average of all parameters $\kappa = 0.88$; $P < .001$; range, 0.56 to 1).

Prevalence of cost discussions

Of the 421 videos, a total of 234 cost conversations (ie, a direct mention of a dollar value) were found, indicating a cost conversation occurred in 25.5% (234/917) of recorded appointments. Of the 917 recorded appointments, 215 (23.4%) included a cost conversation between the participating veterinarian and client. Clients initiated these discussions in 57 of the 215 (26.5%) videos and veterinarians initiated the conversation in the remaining 158 (73.5%) videos. Of the 60 veterinarian participants, 57 (95.0%) had at least 1 video-recorded appointment involving a discussion of cost. VSS were involved in cost conversations in 31 of the 917 (3.4%) recorded appointments, in which 12 of the 31 (38.7%) conversations occurred alongside the veterinarian and 19 (61.2%) were independent of the veterinarian's cost conversation.

Frequency of cost conversations in relation to specific areas of veterinary care

Cost conversations between veterinarian and client occurred most often when discussing diagnostic testing and least often in relation to wellness plans (Table 3). Within appointments containing a cost

Table 3—Areas of veterinary care mentioned within the 215 video-recorded appointments containing a cost conversation between the participating veterinarian and client during the study described in Table 1.

Area of veterinary care	No. (%) of video-recorded appointments with cost conversations
Diagnostic testing	95 (44)
Medication	44 (20)
Dentistry	32 (15)
Surgery	23 (11)
Vaccination	20 (9)
Flea and tick medication	11 (5)
Microchipping	9 (4)
Heartworm medication	8 (4)
Recheck appointment	6 (3)
Heartworm, flea, and tick combination medication	6 (3)
Diet	5 (2)

conversation with the veterinarian, price of the examination fee was discussed in 8.8% (19/215) of appointments and the total cost of the visit was mentioned in 11.2% (24/215) of appointments.

Nature of cost discussions

Of the 215 appointments including a cost conversation involving the veterinarian, 7.9% (17/215) included a general cost conversation, 74.0% (159/215) included a cost conversation that focused only on the time or service being provided, 42.3% (91/215) included a cost conversation that referenced the medical information that would be obtained, and 14.4% (31/215) included communication of a cost in relation to the benefit to the future health or wellbeing of the patient.

Discussion of written estimates, wellness plans or pet insurance

Thirty-one of the overall appointments (3.4% [31/917]) included the presentation and discussion of a written estimate by the veterinarian, which represented 14.4% (31/215) of appointments containing a cost conversation by a veterinarian. Written estimates were utilized by VSS in 6 of the 309 (1.9%) appointments in which a VSS was present; 3 of those 6 occurrences were alongside the veterinarian, and the remaining 3 were independent of the veterinarian. Wellness plans were the subject of 2 of the 215 (0.9%) cost conversations by veterinarians, and pet insurance was the subject of 6 of 215 (2.8%) cost conversations. Irrespective of a cost conversation, wellness plans were mentioned in 24 of 917 (2.6%) appointments, with 15 of these 24 (62.5%) occurrences involving a suggestion to acquire a wellness plan, and 9 of the 24 (37.5%) occurrences involving a preexisting plan. Pet insurance was discussed in 22 of all 917 (2.4%) appointments, irrespective of a cost conversation. Of these 22 discussions, 14 (63.6%) included recommendations for insurance and 8 (36.4%) included of preexisting insurance.

Appointment duration with and without a cost discussion

The duration of appointments containing a discussion of cost (median, 20.08 minutes; mean, 21.50 minutes; range, 2.48 to 72.58 minutes; SD, 11.49 minutes; $n = 215$) were significantly ($P < .001$) longer than appointments without a cost conversation (median, 13.43 minutes; mean, 14.68 minutes; range, 0.58 to 53.88 minutes; SD, 7.94 minutes; $n = 702$).

Factors associated with the occurrence of a cost conversation

The final multi-level logistic regression identified appointment type, appointment duration, number of visits by the client occurring in the past year, and patient species as predictor variables for the presence of a cost conversation (Table 4). Random effect of veterinarian nested within veterinarian gender was found to provide the best model fit.¹⁶ The final model used 725 of the 917 (79.1%) appointments.

Table 4—Multi-level logistic regression to determine factors associated with the occurrence of a cost conversation within a veterinarian-client-patient interaction.

Variable	OR	95% CI	P value
Appointment type ¹			
Problem	Referent		
Wellness	0.55	0.35–0.87	.011
Recheck	0.50	0.27–0.93	.029
Other	0.25	0.047–1.32	.103
Appointment duration			
No. of visits in the past year ²	1.09	1.06–1.11	< .001
	0.94	0.89–0.97	.037
Patient species			
Canine	Referent		
Feline	1.63	1.00–2.66	.049
Other	1.46	0.72–2.97	.293

¹Appointment type was classified by the veterinarian in the post-appointment survey. ²Per additional visit the client had with the veterinarian in the past year.

Discussion

The present study found cost conversations during veterinarian-client interactions are still relatively uncommon, being addressed by the veterinarian in less than a quarter of all video-recorded appointments. This is consistent with previous research examining veterinarians' discussion of cost.² However, it is inconsistent with expectations identified in repeated studies with veterinary clients highlighting a desire for the financial aspects of accessing veterinary care to be addressed upfront.^{3,4,8,17} Discussing the cost of veterinary care can be a challenging topic for veterinary professionals and clients,^{7,18,19} warranting further attention to support veterinary professionals in facilitating cost conversations with clients.

During the present study, veterinarians predominately communicated the value associated with a cost, as presented to a client, in terms of the time or service being provided by the veterinary team. Veterinarians less often conveyed the cost in relation to the benefit it would have for the health and wellbeing of the veterinary patient. In comparison to previous qualitative research,³ this finding suggests a possible disconnect in how veterinarians communicate the value of veterinary care and how veterinary clients have described wanting to understand value. It is important that veterinary professionals address this disconnect, as it likely feeds the identified suspicion that can exist for veterinary clients in relation to a veterinarian's motivation for making a recommendation and whether the recommendation is made from a business or health care perspective.³ Communicating the value of veterinary care from a client's perspective may reduce client uncertainty and misunderstanding, which has been found to have a role in clients' adherence to veterinarian recommendations.⁸ Framing the value of veterinary care in relation to the explicit benefit to the veterinary patient is likely to aid clients in their decision making and supports informed client consent.

Written estimates, wellness plans, and pet insurance were only discussed in conjunction with cost

during a small number of appointments. Written estimates are valuable tools for introducing clients to the cost of veterinary care, and can reduce the potential for clients to experience 'sticker shock' upon paying their bill.²⁰ Yet, it is important to recognize that a written estimate is often an itemized list of a veterinarian's time and services, which requires further discussion between the veterinarian and client to ensure the benefit to the patient associated with the time and service is conveyed. Wellness plans and pet insurance are additional monetary tools veterinary professionals have that can be introduced to clients pre-emptively to help address ongoing or emergency financial costs associated with providing care for their pet. With the rise in wellness plans and pet insurance,¹⁰ the inclusion of these topics in the present study expanded upon existing knowledge of veterinary communication occurring in practice. Unfortunately, for the present study, information regarding the number of participating clients that had pet insurance or were on a wellness plan was not collected, yet this is an area worthy of further research. Overall, an opportunity appears to exist for veterinary professionals to utilize financial tools such as written estimates to support cost conversations in veterinary practice, keeping in mind the need to convey the benefit to the pet of the itemized time and services.

The present study found problem visits had greater odds of including a cost conversation, compared to wellness or recheck appointments. This finding may relate to previous research, where clients with more veterinary care experience expressed an expectation to discuss new costs upfront, such as those often raised in problem visits, yet did not feel the same need to discuss the costs associated with annual routine care, such as those in wellness appointments.³ This finding may also relate to the concept of 'delay discounting,'²¹ where tests, services, or procedures associated with a problem visit are perceived to have immediate value in terms of a near-term outcome compared to wellness appointments where the benefit of tests, services, or procedures is less immediate and often perceived to

be of potential value at some unknown point in the future. The concept of delayed discounting may be perceived by veterinarians to make the discussion of cost easier when an immediate benefit can be easily identified. For example, diagnostic testing, which is common to problem visits, is a service where an immediate benefit to making a diagnosis and informing treatment or management is likely to be appreciated by a client. This may also explain why conversations involving diagnostic testing were found to include a cost discussion most often. Although it is possible that clients may more readily see the value associated with the cost of veterinary care during problem appointments, preventative care is important to long-term patient wellbeing and veterinary practice sustainability and could potentially reduce long-term costs of care. As such, it is imperative for veterinary professionals to develop approaches to engaging clients in conversations that relate to the cost and value of veterinary care during all appointment types.

There was a significant relationship between appointment duration and the presence of a cost conversation, which is consistent with previous research, where longer appointments had greater odds of containing a discussion of cost.² Discussion of cost is additive; that is, it does not replace any other aspect of the appointment thereby inherently requiring additional time to be included.² While appointment duration has been repeatedly emphasized as a barrier by veterinarians to their communication with clients,^{9,22} previous research has also found that longer appointments are associated with increased client adherence.^{23,24} Further, failure to discuss the cost of care is a common client complaint received by veterinary practice members online or in person, toward VSS and veterinarians.^{25,26} Cost conversations are important to ensure clients make fully informed decisions and that a veterinarian meets their obligation to obtain informed client consent.^{27,28} Therefore, the increased time taken should not be justification for dismissing cost conversations with a client, rather further research to examine efficient approaches for engaging clients in cost conversations and to examine the impact of cost conversations on client satisfaction, client adherence, and patient health are warranted.

The current study also identified that, when controlling for appointment type, appointment duration, and visit frequency, appointments with felines were more likely to include a discussion of cost in comparison to appointments with canine patients. Although it is not clear why veterinarians may engage clients with feline patients in cost conversations more often, this is an interesting finding that may warrant further research.

The present study identified the number of visits a participating client made to the veterinarian as a predictor for the occurrence of a cost conversation, with fewer visits by a client associated with a greater likelihood of a cost conversation. This finding has not been examined in previous quantitative work,³ yet may support clients expectations identified in previous qualitative research. Previous qualitative research found clients with less experience with veterinary care wanted the veterinarian to address

all costs of care upfront; whereas, experienced pet owners felt knowledgeable about routine costs of care and expected cost conversations with the veterinarian only when care was unexpected or not routine.³ Veterinarians who have more interactions with the same client may have more familiarity with that client, potentially enhancing veterinarian assumptions regarding the client's financial situation or willingness to pursue care. Although the present study found veterinarians engaged clients with fewer veterinary visits in cost conversations more often, the overall prevalence of cost conversations within the corpus of interactions included in the present study was low. Further, studies have noted 47% to 53% of pet owners find their veterinary bill to be higher than expected when going to pay at the end of their visit, highlighting a continued need to address the cost of veterinary care upfront to attend to this gap.^{29,30} Recognizing the importance of discussing the cost of veterinary care upfront during all appointments,³ and the low prevalence of cost conversations identified in the present study, there is an obvious need to continue to support veterinary professionals, through education and research, with communication tools to engage clients in cost conversations during every appointment.

Educational training and support are important for all members of the veterinary team engaging clients in any discussions of cost. Veterinary professionals can benefit from employing tools that have been identified to assist these potentially difficult conversations. Three main tools have been proposed in the literature: 1) empathetic communication, 2) partnership statements, and 3) "I wish" statements.³¹ Empathetic communication forms the basis for building client trust and supports disclosure, through demonstrating attuned emotions and exhibiting understanding of client circumstances and emotional state. Utilizing empathy in conversation can mean using queries (eg, "Are you worried about the price of treatment?"); clarifications (eg, "Tell me more about your thoughts on the current costs"); and responses ("I can see you are concerned about the costs of his care"). The second skill involves the use of partnership statements (eg, "we," "let's," "us," "together") to emphasize collaboration in the decision-making process (eg, "Let's see if we can find a lower cost alternative together").³¹ Finally, "I wish" statements can be used by veterinary professionals to demonstrate to a client an understanding of the emotional impact their financial situation is having on them and to acknowledge a personal desire that the circumstances be different (eg, "I wish there was an alternative. Given the circumstances, we really have no other safe options for Joey").³¹ Developing the use of and employing these communication tools can support veterinary professionals in addressing cost conversations, particularly in emotionally challenging situations.

VSS participated in cost conversations with clients in a small number of appointments. This novel finding builds upon previous research which only focused on the communication between veterinarian and client.² Some clinics encourage VSS involvement

in presenting the costs of veterinary care to clients, which raises a common question of which party is best suited to communicate the cost of care relative to a patient's future health and wellness. It has been suggested that delegation of cost communication to a member of the staff, other than the veterinarian, may limit the discussion from informing clients of how their pet's health and future wellness is connected to financial decisions.² However, VSS could be trained to facilitate cost discussions in certain situations. Regardless, it is important to ensure the member of a veterinary team discussing the cost of veterinary care with a client is trained and has the information needed to associate the cost of care with the value being offered to the health and wellbeing of the veterinary patient.

The sample population of veterinarians recruited for the present study may not represent all veterinarians; however, the large number of appointments included, more than 4 times that of previous research,² offers good insight into current conversations of cost occurring between veterinarians and their clients. Appointments were only observed within the examination room; therefore, it is possible that cost conversations occurred outside of the examination room. Even so, research continues to identify a high proportion of clients experience sticker shock when paying their veterinary bill, suggesting breakdowns in cost conversations continue to be common and is an area in need of attention.^{20,29,30} The Hawthorne effect may have existed in the present study, as participants were aware they were being filmed³²; however, most veterinarians indicated they could still be themselves in front of the camera. A potential selection bias in relation to the participating veterinarians' mental health has been previously described,¹⁵ where participating veterinarians reported better mental health than reported in a previous Canada wide survey of veterinarians.³³ Whether the low prevalence of cost discussions could be associated with the growth in use of wellness plans and insurance could not be explored with the available data and is an area for future research.^{10,34} As recruitment focused on veterinarian participation, demographic information for VSS involved was not collected. Finally, as VSS involvement was voluntary for this research, it is possible that lower than normal VSS involvement in cost conversations during appointments was captured.

Overall, this study identified that cost discussions occurring during VCPI within companion animal practice continue to be uncommon. Communication of the cost and explicit value of veterinary care in relation to a patient's future health and wellness continues to be an area that warrants further attention from the veterinary profession. Developing curriculum and continuing education that supports veterinary professionals' communication of the cost of veterinary care is needed to support an increased presence of these conversations in veterinary practice and, in turn facilitate clients understanding of the cost and associated value of veterinary care.

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