

Impact on life expectancy was the most important information to clients when considering whether to take action for an overweight or obese dog

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OBJECTIVE

To determine dog owner preferences for information communicated during veterinarian-client obesity-related conversations within companion animal practice.

SAMPLE

Dog owners recruited using snowball sampling.

METHODS

A cross-sectional online questionnaire was distributed to dog owners. A discrete choice experiment was used to determine the relative importance, to participating dog owners, of information about selected weight-related attributes that would encourage them to pursue weight management for a dog when diagnosed as overweight by a veterinarian.

RESULTS

A total of 1,108 surveys were analyzed, with most participating dog owners residing in Canada. The most important weight-related attribute was life expectancy (relative importance, 28.56%), followed by the timeline for developing arthritis (19.24%), future quality of life (18.91%), change to cost of food (18.90%), and future mobility (14.34%).

CLINICAL RELEVANCE

Results suggest that dog owners may consider information relating to an extension of their dog's life as the most important aspect of an obesity-related veterinary recommendation. By integrating dog owner preferences into discussions between clients and veterinary professionals about obesity, there is the potential to encourage more clients to engage in weight management efforts for their overweight or obese dog.

Keywords: canine, obesity, discrete choice experiment, veterinary, communication

Obesity, characterized by the accumulation of excess body fat, is a prevalent form of malnutrition with detrimental consequences in both cats and dogs.¹ Obesity has been an ongoing concern for the veterinary profession and affects approximately 59% of dogs in the US.¹ Canine obesity has been linked to numerous adverse health outcomes, including heightened prevalence for several diseases,² metabolic dysfunction,^{3,4} decreased quality of life (QOL),⁵ and shortened life span.⁶ The causes of obesity are multifactorial, involving a combination of genetic, environmental, metabolic, and human-influenced lifestyle factors.⁷

Given the implications for pet health and well-being, client communication regarding obesity is a professional responsibility for veterinary professionals.⁸ However, broaching the subject of obesity has been perceived as a sensitive and challenging task for veterinary professionals when engaging with clients who have pets with excess weight.⁹ A study¹⁰ exploring veterinary professionals' perceptions of pet weight-related communication in practice found that many did indicate that they may avoid an obesity-related conversation with some clients, and the majority acknowledged the difficulty of treating obesity in pets. It has been suggested that the perceived delicate nature of discussing pet weight may lead to hesitancy and challenges for veterinarians when attempting to address the issue, due in part to concerns about offending or alienating clients and potentially straining the client-veterinarian relationship.⁹ Participating veterinarians in

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a focus group study¹¹ discussed a prevailing belief that many pet owners are reluctant to engage in weight conversations when their pet is overweight. Observational research in veterinary practices suggests that obesity-related conversations between veterinary professionals and clients are often brief, with limited weight management recommendations provided to clients.¹² Furthermore, obesity advocates have suggested that clients often struggle to accept or act upon weight-related recommendations for their pets, resulting in a potential disconnect between veterinary recommendations and client adherence.⁹

Assessing clients' readiness to change in relation to managing their pet's weight has been proposed as a potential way to better understand and more effectively engage clients when veterinary professionals are addressing pet obesity and weight management.¹³ The stages of change include precontemplation, contemplation, preparation, action, and maintenance, and these stages are a conceptual framework for understanding clients' process when intentionally modifying established behaviors.¹⁴ Preliminary research suggests that a notable number of pet owners with an overweight or obese pet may be in the early stages of precontemplation or contemplation, where readiness to change is low.¹⁵ A recognition of clients' current stage of change related to managing their pet's obesity may provide veterinary professionals with greater insight into the most effective method for tailoring communication to their client in a way that encourages a client's progress toward the action and maintenance stages. Identifying what information from the veterinary team about a pet's overweight or obese condition may encourage clients to transition from an earlier stage of change into action is potentially a significant factor in clients' uptake of weight management recommendations.

Previous research in human medicine has demonstrated the positive impact of clinicians' understanding of patient preferences on patient outcomes.¹⁶ As a result, marketing tools like discrete choice methods (DCMs) that elucidate consumer preferences have gained traction in medical research and have recently been applied in veterinary research.^{17,18} Discrete choice methods are a collection of methods that can be used to quantify the underlying preferences that drive the choices respondents make. Discrete choice methods go beyond simple methods, such as ranking or rating methods, by forcing respondents to make insightful trade-off decisions, as they would in the real world, to uncover their true preferences more accurately. These quantified preferences can then be used to predict future choices for product or service options that are described but not yet available, which may assist in the development and design of new products or services.¹⁹

In the human medical field, DCMs have been used to identify preferences for treatment and weight management plans among individuals with severe and complicated obesity, informing the development of more appropriate strategies for effectively managing this condition.²⁰ Similarly, in veterinary medicine, DCMs have been successfully employed to

identify the key preferences that influence dog owners' choices when selecting antiparasitic products, thereby assisting veterinarians in making treatment recommendations that consider general preferences of pet owners.¹⁸ Additionally, DCMs have proved instrumental in evaluating the impact of factors such as cost, ease of administration, and drug importance on dog owners' relative preferences for antimicrobial treatments.¹⁷ Discrete choice methods offer other opportunities to explore client preferences in the delivery of veterinary care, including preferences for information that would assist a client that has an overweight or obese pet to take action.

This study aimed to apply DCMs to identify information from the veterinary team that is most important to dog owners in relation to an overweight or obese dog that would encourage them to take action in pursuing weight management.

Methods

A cross-sectional, questionnaire-based study of pet owners was conducted between February 9 and April 18, 2023, via an online survey platform (Sawtooth Software). The study protocol was reviewed and approved by the University of Guelph Research Ethics Board (REB#22-09-019). The CHERRIES²¹ and ESTIMATE²² checklists were utilized to ensure proper survey and discrete choice reporting, respectively.

Questionnaire design

A pet owner questionnaire was developed in Lighthouse Studio, version 9.15.9 (Sawtooth Software). The anonymous questionnaire was offered in both English and French, and participants provided consent by clicking "Agree" to participate. Participants who consented to participate were randomly assigned to 1 of 3 independent studies being conducted through the same recruitment process. Only participants who indicated ownership of at least 1 dog were randomized into the dog obesity study reported in this paper.

The questionnaire for the dog obesity study was divided into 3 sections. The first section gathered demographic information about participants, the second section was a discrete choice experiment (DCE) to identify the most important information for participating dog owners, and the final section elicited participants' prior experience with receiving an obesity diagnosis for a pet from a veterinarian.

Demographic information collected included preferred language (English, French), gender (woman, man, prefer to self-describe [open text]), prefer not to say), age (open text), country (Canada, United States of America, other [open text]), area (urban, suburban, rural), number of visits with a veterinarian in the past year (open text), highest level of education received (less than high school, high school diploma or equivalent, some college or university, college diploma, bachelor degree, graduate degree, professional degree), household income (< \$20,000, \$20,000 to \$34,999, \$35,000 to \$49,999, \$50,000 to \$74,999, \$75,000 to \$99,999, \$100,000 to \$149,999,

> \$150,000), and species of pets owned and how many (cat [open text], dog [open text], other [open text]).

The DCE was developed to identify the information that would encourage a participant to pursue weight management for their dog when diagnosed as overweight by a veterinarian. Participants were presented with the following hypothetical scenario: “Imagine that you have taken your dog to the veterinarian for their annual wellness exam. The veterinarian mentions your dog is overweight and makes a recommendation to have your pet lose weight. You will be presented with 3 sets of information your veterinarian could include. Given the information presented by the veterinarian, what set of information would encourage you to act on your veterinarian’s recommendation?”

Each task block that followed the hypothetical scenario presented participants with 3 different sets of information (**Figure 1**). Each set was described using the same 5 dog weight-related attributes (types of weight-related information). Each weight-related attribute was further described by different levels (characteristics of attributes; **Table 1**).

Table 1—Summary of attributes and levels included in the choice tasks included in the present study, using a hypothetical scenario, to identify the information that would encourage a participant to pursue weight management for their dog when diagnosed as overweight by a veterinarian.

Attribute	Level
Impact on life expectancy	No change Up to 6 mo longer Up to 1 y longer Greater than 2 y longer
Future quality of life	No change to good Good to very good Very good to excellent
Future mobility	No change to good Good to very good Very good to excellent
Timeline for developing arthritis	No change Delays 6 mo Delays 1 y Delays 2 y
Change to cost of food	No change + \$0.19/d + \$1.6/d

	Set 1	Set 2	Set 3
Future Quality of Life	Very good to excellent	No change to good	Good to very good
Future Mobility	No change to good	Very good to excellent	Very good to excellent
Timeline for Developing Arthritis	Delays 6 months	Delays 2 years	Delays 1 year
Impact on Life Expectancy	No change	Up to 6 months longer	Up to 1 year longer
Change to Cost of Food	+ \$0.19 per day	+ \$1.6 per day	+ \$0.19 per day
	<input type="button" value="Select"/>	<input type="button" value="Select"/>	<input type="button" value="Select"/>
	Do nothing		
	<input type="button" value="Select"/>		

Figure 1—Example of a discrete choice task. Participants were presented with 12 such tasks. Attributes are listed on the left and remained constant across tasks, while the levels presented in columns within each of the 3 sets varied across tasks to create diverse sets of information for participants to select from. The “none” option was available across all 12 tasks.

Following the first task block, the process was repeated 11 times, where the 3 sets presented to participants were systematically varied to create different combinations of information participants could consider. Participants then selected, from each of the 12 task blocks, the set of information that would most encourage them to pursue weight management for their dog. Participants could also select a fourth “none” option if none of the 3 sets presented would encourage the participant to pursue weight management.

The third section of the survey was a dichotomous question that asked participants whether any veterinarian had previously expressed concerns about their pet(s) being overweight (yes or no).

Lighthouse Studio was utilized to generate 300 versions of the discrete choice exercises. This approach aimed to achieve a high level of experimental design efficiency (**Supplementary Material S1**), allowing for the least number of questions to be presented to respondents while gaining information regarding choice.

Selection of attributes and levels for the DCE tasks

Five attributes related to dog weight management were identified, and appropriate levels were assigned to each attribute based on existing literature. In accordance with the criteria established by Norman et al,²³ the development of attributes and

levels followed a specific framework. Our primary objective was to ensure the plausibility of all levels and their combinations.²³ Furthermore, we considered the appropriate range of variation within an attribute, ensuring that respondents had the opportunity to make informed trade-offs between the different levels while also avoiding an overly extensive spread that would result in participants disregarding options at the lower levels of specific attributes.²³

Previous research has highlighted the correlation between weight and life span in dogs,^{6,24} providing a basis for the suggested levels relating to the impact on life expectancy attribute.

The inclusion of QOL stems from evidence that shows its decline in obese dogs and subsequent improvement after successful weight loss interventions.⁵

The attribute of future mobility was incorporated to highlight the adverse effects of excess body weight on a dog’s ability to move freely.²⁵ Arthritis was chosen as a relevant chronic condition to complement mobility measures and due to the well-established association between obesity and pet body condition as risk factors for arthritis, specifically in dogs.⁶

Change to cost of food was included as an attribute to reflect pet owners’ willingness to pay for weight management. Further, cost per day was incorporated to compare different presentations of price. The price differences were determined using

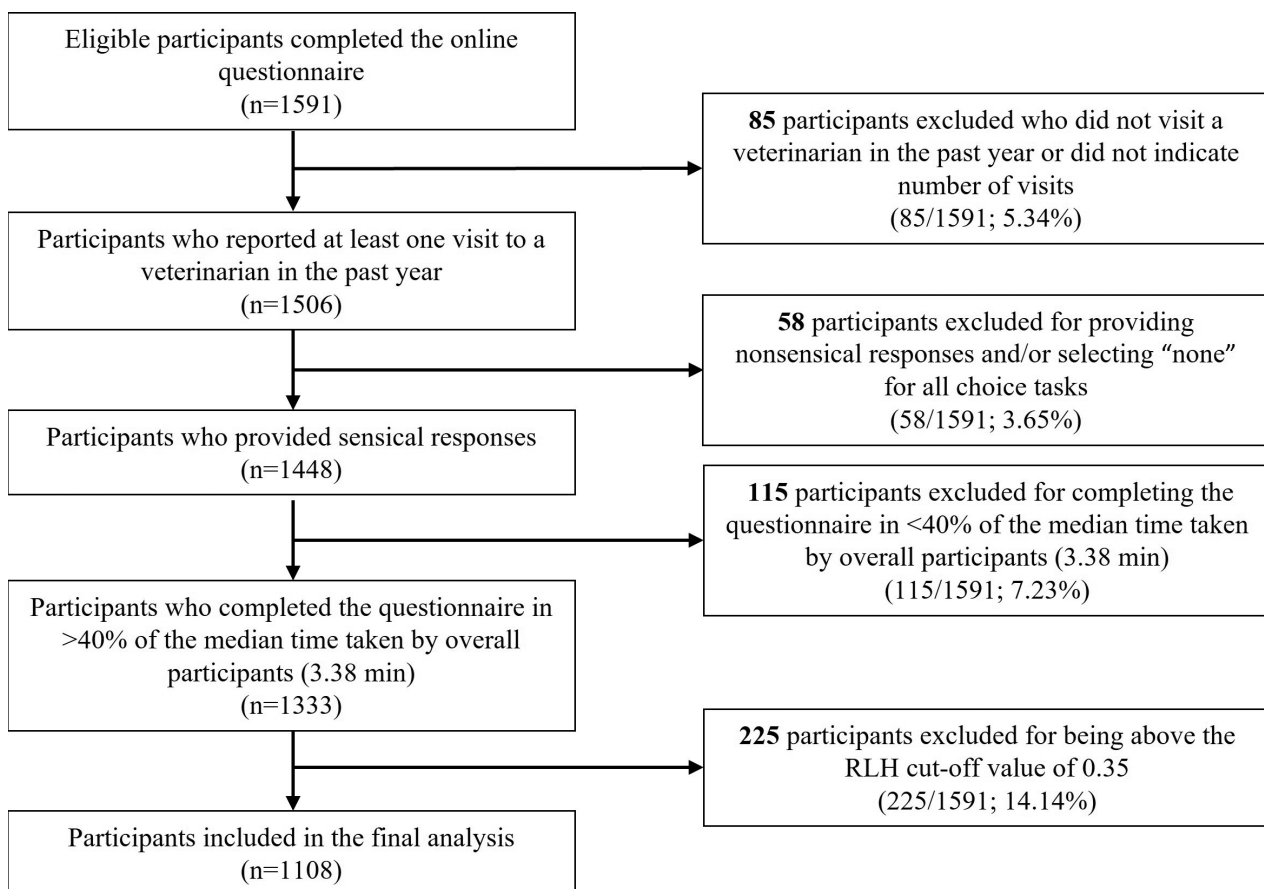


Figure 2—Flowchart of reasons for exclusion of questionnaire respondents.

a commercial pet food finder tool.²⁶ A commercially available weight management diet (Beneful Healthy Weight with Real Chicken Dry Dog Food; Purina) and veterinary therapeutic weight loss diet (Pro Plan Veterinary Diets Dry Food OM Select Blend Overweight Management Dry Canine Formula; Purina) were selected to determine appropriate levels for the change to cost of food (ie, + \$0.19/d and + \$1.60/d, respectively) based on a month's supply for a medium-sized dog (40 lb; body condition score, 7/9) on a weight loss plan, relative to a selected base dog food available at grocery stores (Alpo Cookout Classics Adult Dry Dog Food; Purina).

Participant recruitment

Snowball sampling via social media platforms (Facebook, Instagram, Twitter, LinkedIn) was used to recruit pet owner participants. A post including the link to the survey and a statement encouraging sharing of the link was posted to 4 personal social media pages belonging to research team members and colleagues. Thirty-six public and private pet-oriented organizations, including humane societies, veterinary clinics, veterinary colleges, pet stores, a commercial

pet-food company, pet-oriented social media influencers and pet-related newsletters, blogs, and clubs, were also contacted for permission to distribute the survey link, and 15 participated in survey distribution.

Throughout recruitment, the study was presented as an investigation into veterinary client preferences for information during veterinarian-client-patient interactions. Individuals eligible to participate were required to be at least 18 years of age, own a pet, and possess English and/or French language proficiency.

The opportunity to win a CA\$50 Amazon Gift Card was offered as an incentive (odds of winning, 1:100). At the end of the survey, participants were forwarded to a second online survey, housed in Qualtrics, to enter the random draw for the incentive.

Statistical analysis

Respondents that did not report seeing a veterinarian in the past year, provided nonsensical responses, or selected "none" for all options were excluded from analysis. To assess data quality, a time cutoff of 40% of the median total time (3.38 minutes) taken by overall respondents to complete the survey was determined. Respondents who fell below this time cutoff

Table 2—Demographic characteristics of questionnaire respondents.

Participants (n = 1,108)		n (%)	Mean, SD, Median, Min-Max
Preferred language (n = 1,108)	English	1,069 (96.48)	
	French	39 (3.52)	
Gender (n = 1,101)	Woman	705 (63.63)	
	Man	370 (33.39)	
	Prefer to self-describe	5 (0.45)	
	Prefer not to say	21 (1.90)	
Age (n = 1,097)			37.64, 13.78, 33, 18-88
Country (n = 1,106)	Canada	679 (61.28)	
	US	418 (37.73)	
	Other	9 (0.81)	
Area (n = 1,101)	Urban	594 (53.61)	
	Suburban	361 (32.58)	
	Rural	146 (13.18)	
No. of veterinarian visits in the past year (n = 1,107)			4.43, 4.75, 3, 1-67
Education level (n = 1,108)	Less than high school	7 (0.63)	
	High school diploma or equivalent	109 (9.84)	
	Some college or university	213 (19.22)	
	College degree	294 (26.53)	
	Bachelor's degree	307 (27.71)	
	Graduate degree	140 (12.64)	
	Professional degree	38 (3.43)	
Household income (n = 1,102)	< \$20,000	35 (3.16)	
	\$20,000 - \$34,999	72 (6.50)	
	\$35,000-\$49,999	195 (18.03)	
	\$50,000-\$74,999	216 (17.60)	
	\$75,000-\$99,999	300 (27.08)	
	\$100,000-\$150,000	167 (15.07)	
	> \$150,000	117 (10.56)	
No. of each species owned (n = 1,108)	Dog		1.43, 0.91, 1, 1-11

Discrepancies in denominators are due to missing values.

were excluded from analysis.²⁷ In addition, an individual-level root likelihood (RLH), measuring the internal consistency among respondents, was used to assess respondents who appeared to provide random or less thoughtful responses.²⁸ Subsequently, a minimum RLH threshold (0.35) was determined by identifying responses that fell below the 95th percentile cutoff based on RLH scores derived from randomly generated data.

Descriptive statistics were calculated for demographic data in Stata, version 16 (StataCorp). Mean, median, SD, and range were calculated for continuous variables, and frequencies were calculated for categorical variables. All analysis of choice data was performed in Lighthouse Studio, version 9.15.9 (Sawtooth Software), and Excel, version 16.49 (Microsoft Corp).

For analysis of DCE data, a Markov chain Monte Carlo hierarchical Bayesian model was developed to estimate parameters in the form of part-worth utilities (values representing the relative preference for levels within each attribute). This model used effects-coding to allow for the comparison of the effect of each level with the average effect of all levels within an attribute. Variables were assessed as main effects. Model parameters (ie, part-worth utilities) were estimated using 10,000 burn-in iterations followed by 10,000 draws, which were averaged to calculate the parameter estimates, producing the final model. Part-worth utilities were probability scaled (values were rescaled to sum to 100) to facilitate

ease of interpretation and enhance the intuitive understanding of relative preference strength.

Root likelihood and percent certainty were used to assess model fit (Supplementary Material S1). From the results of this model, attribute importances (values representing the relative importance of each attribute) were calculated from the difference in the part-worth utilities of levels in an attribute over the total differences in ranges for each attribute's levels, resulting in percentages that add to 100.

Results

Participant demographics

A total of 1,591 participants met inclusion criteria and completed the study relating to dog obesity. Following exclusions (**Figure 2**), 1,108 questionnaires were included in the final analysis. Of these 1,108 participants, the majority were residents of Canada (61.3% [679/1,108]) and identified as women (63.6% [705/1,108]), and the participants had a mean age of 37.6 years (SD 13.8 [median, 33 years; range, 18 to 88 years; **Table 2**]). About half of participants indicated they had previously experienced being told by a veterinarian that their pet was overweight (50.2% [556/1,108]), and the remainder indicated never having been told their pet was overweight by a veterinarian (49.8% [552/1,108]).

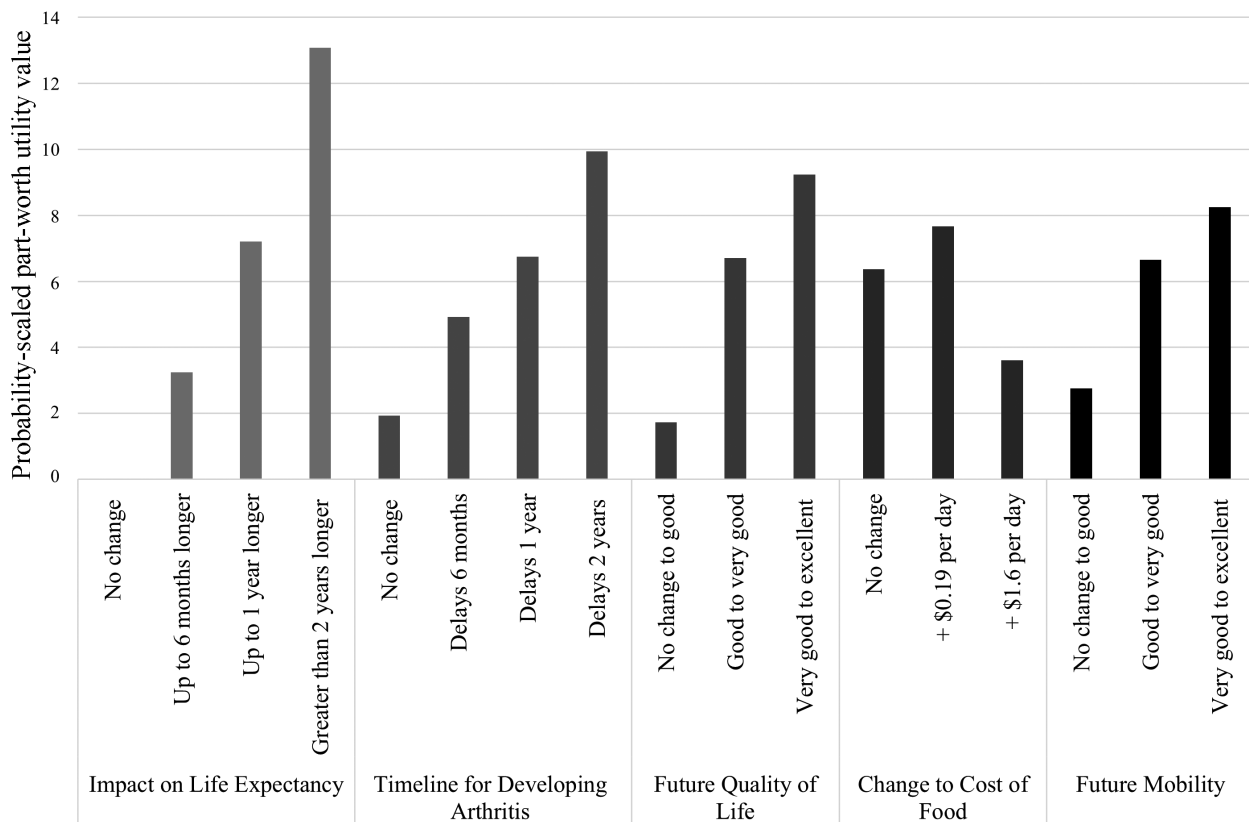


Figure 3—Probability-scaled part-worth utilities of the main effects model, arranged from attributes of greatest to least preference according to respondents. A higher part-worth utility value indicates a comparatively stronger preference relative to other test values within each attribute.

DCE analysis and relative attribute importances

The relative importance of each attribute related to veterinarian-provided obesity-related information, in order of most important to least important, was impact on life expectancy (28.56%), timeline for developing arthritis (19.24%), future QOL (18.91%), change to cost of food (18.90%), and future mobility (14.34%). Relative preferences of the levels within each attribute varied (**Figure 3**).

Discussion

The prevalence of obesity in dogs continues to rise¹ despite the efforts of the veterinary profession, and it has been suggested that veterinary professionals experience apprehension about broaching the topic of weight.⁹ In addition, little is known about client preferences for receiving weight-related information or what information may encourage them to pursue weight management for their pet. The present study found that participating dog owners prioritized the impact on life expectancy as most important among the attributes of obesity-related information presented. These results emphasize the need for veterinarians to closely consider including a discussion with clients about the potential impact of obesity on a dog's life span in both preventive and weight management conversations.

In a recent study¹² examining pet weight-related communication between veterinary professionals and clients, it was observed that clients were provided with information regarding the importance of weight management for their pet's overall health and well-being in less than a third of the obesity-related interactions studied. In particular, the study found the impact of obesity on a pet's life expectancy was mentioned by veterinarians in only a few of the obesity-related conversations, highlighting an opportunity for veterinary teams to raise this potential benefit of weight management when communicating with clients. By integrating the information clients value into these discussions and emphasizing the positive impact of reaching or maintaining an ideal body weight on life span, veterinary professionals may more effectively support clients in taking action to prevent or address their pet being overweight.

The timeline for developing arthritis was identified as the second most important attribute in the present study. One study²⁹ has found the most crucial aspect of effective osteoarthritis management and prevention lies in achieving and sustaining a lean body condition through appropriate nutrition and feeding practices. This lifelong study investigating diet restriction and aging in dogs revealed that maintaining an ideal body condition score through restricted diets significantly delayed the onset of late-life diseases, particularly osteoarthritis. Veterinary professionals can leverage these findings in both their preventive weight conversations and obesity-related conversations with clients, emphasizing the direct link between weight management and

joint health. By doing so, veterinary professionals may have the opportunity to proactively improve the overall well-being and mitigate the risks of obesity-related conditions for dogs.

Conversely, the attribute of future mobility was found to be the least important to dog owners relative to other tested attributes. The relatively higher preference for the timeline for developing arthritis over future mobility as a significant attribute is interesting and could potentially be explained in part by the ambiguity surrounding the concept of mobility. Although mobility and arthritis are indicators of a dog's vitality, the term *arthritis* likely captures the potential pain experienced by dogs in terms of their future health and well-being. In addition, arthritis is also a common disease in humans, and participants are likely to be familiar with its chronic nature and associated adverse effects, including pain. It is therefore possible these participants had an elevated concern for their dogs' suffering or discomfort related to arthritis as a result of attributing a human-like experience of arthritis to their pet. Observational research indicates that when veterinary professionals do provide clients with information about the benefits of weight loss for their pet, mobility and arthritis are the most frequently mentioned reasons for a pet to lose weight.¹² Continuing to educate clients about the link between arthritis and mobility, as well as the impact of even modest weight loss on improved mobility for dogs,³⁰ may support clients in noticing positive, gradual changes in their pet early on in weight management programs, which may in turn promote long-term adherence.

Future QOL emerged as the third most important attribute in comparison to the other test attributes considered in the present study. Participants expressed a preference for veterinary recommendations that were linked to a future QOL ranging from very good to excellent, compared to no change to very good. Despite this, participants exhibited a notable preference for weight-related information concerning the timeline for developing arthritis rather than future QOL as a whole. This relatively lower importance for future QOL could potentially be attributed to the inherent challenges associated with the definition of QOL, given its multifaceted and subjective nature.³¹ While many individuals likely possess a general understanding of QOL, the lack of a standardized measurement methodology and consistent definition may introduce additional complexities for clients in grasping the term's true essence.³¹ This may suggest that veterinary professionals need to communicate more tangible measures relating to QOL (eg, mobility, change in activities, attitude) that are observable and important to an individual client. The use of QOL scales is commonly employed in end-of-life assessments for dogs, providing guidelines for clients and veterinarians to monitor an animal's welfare while implementing palliative care or hospice plans for dogs with life-limiting diseases.³² Veterinarians may consider adopting a similar approach when dealing with clients who have overweight or obese dogs, assisting them in assessing the impact of their

pet's weight on their overall QOL. Otherwise, owners may attribute their dog's pain and mobility issues to factors like aging or other causes rather than excess weight. Developing a plan to monitor the impact of a dog's weight on their QOL provides an opportunity for the veterinary team to work collaboratively with clients to improve their dog's well-being. This also underscores an opportunity for veterinary professionals to proactively initiate preventive weight conversations during a pet's early life stages, while also educating and empowering clients to assess their dog's QOL and teaching them effective techniques to identify factors that signify early changes in QOL.

Change to the cost of food was identified as participating dog owners' fourth most important attribute of the 5 attributes explored in this study. Within the change to the cost of food attribute, participants preferred diet recommendations with a cost increase of \$0.19/d compared to baseline, followed by a preference for no change in price. These results suggested that participating dog owners may not have considered cost the most important factor when deciding whether to address their pet's weight and that they are open to at least a certain amount of cost increase in addressing the weight of their pet. It is also possible that the cost-per-day presentation is not typical of how owners think of the cost of feeding their pet, in contrast to the total up-front cost for a single purchase of a diet. Preferences identified by DCE studies are not intended to be interpreted outside the context of the attributes and levels used in an individual study. Therefore, further research is needed that explores the role of a pet owner's willingness to pay in taking action to address their pet's overweight or obese condition. Specifically, future research on pet owners' cost tolerance should include examining their willingness to pay within the context of the pet owner's understanding of the potential benefits gained from weight management for their pet.

A lack of communication regarding the benefits of therapeutic weight-loss diets appears evident among pet owners, as a recent survey¹ discovered that the use of therapeutic weight loss diets ranked among the lowest of several options for pet owners in terms of both preferred methods for pet weight loss and perceived effectiveness. However, veterinarians rely on therapeutic weight loss diets as the main evidence-based treatment to assist overweight pets in achieving a healthy body composition.¹ In addition, many studies suggest that successful weight loss is unlikely with most over-the-counter (eg, grocery store) commercial diets,³³ and if feeding is too restricted, this could result in nutritional deficiencies for dogs.³⁴ Therefore, it is crucial for veterinary professionals to educate their clients during obesity-related veterinary-client conversations about the effectiveness of therapeutic diets in reducing weight for dogs with obesity, and the associated benefits of an increased life span and delayed onset of arthritis. Veterinary teams should also consider the incorporation of shared decision-making with clients when developing weight management plans or recommending dietary

changes, as participants in recent qualitative research associated a lack of options when discussing nutrition with veterinarians' financial motivations for making their recommendation.³⁵ Openly discussing options with clients and the differences in cost and value for each may help veterinary teams mitigate clients' perception of a financial motive and respects the clients' autonomy to make an informed decision for their pet.

As with all studies utilizing DCE methodology, it is important to interpret the results of this research within the context of the attributes and levels chosen for the study. While the selection of the attributes and levels was based on prior research, the inclusion of only the most crucial and relevant attributes was aimed at reducing respondent burden during the discrete choice tasks by presenting manageable sets of information to choose from. It should also be noted that the preferences for information determined in this study can only be considered relative to the other presented attributes and not extrapolated to suggest that the attributes most preferred by dog owners here would maintain the same importance if compared to other possible attributes not considered as part of the present study. Furthermore, findings of the present study are not intended to convey whether an attribute should or should not be discussed with clients. Although findings identified the relative importance of the attributes studied, all the attributes included in the present study are worthy of including in weight management conversations between veterinary professionals and clients, and some, such as the cost of care, are instrumental to achieving informed consent.³⁶

Another limitation of this study lies in the hypothetical nature of the conjoint scenarios, which might not fully capture real-life decision-making processes for dog owners. In addition, the quantitative nature of the survey does not provide information about the motivations or reasoning behind participants' responses, a limitation that could be explored through future qualitative research involving focus groups or interviews with pet owners. In DCMs, using a mixed-methods approach by incorporating qualitative research methods is recommended and allows for gathering essential contextual data alongside quantitative preference data.³⁷ Although the present study captured a large number of participants speaking both English and French, a potential selection bias stemming from pet owners' willingness and ability to participate in an online survey may limit representativeness of the findings to the broader dog-owning population, particularly outside Canada and the US. Furthermore, other factors that influence clients' decisions to pursue weight management warrant exploration to best support the veterinary profession in addressing pet obesity with clients.

As a result of the present study, veterinary professionals should consider incorporating information about potential life span extension and delayed onset of arthritis into discussions with clients regarding dog obesity. The inclusion of communicating information to clients about other attributes related to weight management for dogs with obesity such as impact on

QOL, cost, and mobility may also aid veterinary teams in encouraging clients with an overweight or obese dog to take action to address their pet's weight. By recognizing and understanding what clients value in terms of benefits for their dog, veterinary professionals can further explore and tailor their communication with clients to support clients to manage their pet's weight. Furthermore, veterinary professionals should focus on enhancing client education from early in a dog's life about the benefits of a healthy weight, particularly the potential impact on life expectancy, as it may support clients' motivation to maintain an ideal body weight for their pet.

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Supplementary Materials

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