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Conversation Analysis of Veterinarians' Proposals for Long-Term Dietary Change in Companion Animal Practice in Ontario, Canada

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| 1 | Veterinarians' proposals for long-term dietary change in companion animal practice in |
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| 22 | Abstract |

23 **Objective**—To investigate the form and content of veterinarian-initiated proposals for 24 long-term dietary change in canine and feline patients during companion animal 25 consultations. 26 **Design**—Cross-sectional qualitative study using conversation analysis. 27 **Sample**—A subsample of 42 videotaped segments involving 35 appointments featuring 28 15 veterinarians initiating a total of 44 proposals promoting long-term dietary change. 29 Transcripts of nutrition-related veterinarian-client interactions had been previously 30 generated from 172 of 284 videotaped veterinarian-client-patient visits in companion 31 animal clinics in Eastern Ontario. 32 **Procedures**—Conversation analysis was used to study the characteristics and design of 33 veterinarian-initiated proposals for long-term nutritional modification, as well as the 34 phases of the appointments during which they occurred. 35 **Results**— The most frequent health concern, periodontal disease, was mentioned in 49% 36 of the appointments (17/35) and dental diets were proposed in 30% of veterinarians' 37 proposals (13/44). Veterinarians initiated proposals at various points during the 38 consultations rather than as a predictable part of treatment planning at the end. Some 39 proposals were worded strongly (eg, "She should be on..."). Most proposals were worded 40 so as to avoid presuming that dietary change would occur. Such proposals described 41 dietary items as options (eg, "There are also special diets...") or used mitigating language 42 (eg, "you may want to try..."). 43 Conclusions and Clinical Relevance—Results reflect delicate veterinarian-client 44 dynamics associated with dietary advice-giving in veterinary medicine that can impact

| 45 | adherence and limit shared decision-making. These analyses can provide important |
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| 46 | guidance for communication training related to dietary treatment decision-making. |
| 47 | Keywords: Communication, conversation analysis, decision-making, treatment |
| 48 | recommendations, nutrition-small animal, qualitative analysis. |
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There is increasing recognition of the importance of patient nutrition in preventing and treating acute and chronic disease in companion animal medicine.

Nutritional consulting is a growing area in veterinary services and the American Animal Hospital Association and the World Small Animal Veterinary Association have recommended that nutritional assessments of cats and dogs be conducted in every appointment.

Many nutrition-sensitive diseases, such as chronic kidney disease, certain hepatopathies and gastrointestinal disorders, can be ameliorated through dietary intervention. In one survey study, the five most common diseases cat and dog owners reported in their pets were cardiac, gastrointestinal tract/hepatic, lower urinary tract, musculoskeletal, and periodontal conditions, all of which can benefit from nutritional modification. Nevertheless, only 12% of owners identifying these health problems in their pets reported using a therapeutic diet.

Disease can also be diet-induced through nutritional deficiencies, consumption of excess nutrients, and ingestion of contaminants.⁴ With respect to excess nutrition, overweight and obesity in cats and dogs are on the rise⁶⁻⁸ with high prevalence estimates in some sources ranging between 59% and 63%.^{9,10} Obesity has been implicated in a wide range of health concerns, including cardiovascular diseases, diabetes mellitus, hepatic lipidosis, osteoarthritis, and early mortality.^{11,12}

Although many veterinary clients may actively solicit nutritional advice from veterinarians, the reality is that veterinarians frequently need to initiate conversations with clients about dietary modification.¹¹ Given the power of diets to cause, treat or prevent disease,⁴ practitioners' skills in working with clients to plan and carry out alterations to patient diet play a pivotal role in promoting and improving patient

health.^{13,14} However, a major study¹⁵ published in 2003 by the American Animal Hospital Association reported that 11.6 million dogs and 9 million cats in the United States diagnosed with conditions that could benefit from use of a therapeutic diet were either not fed such a diet at all or were not fed the diet for the period of time required for health benefits to occur. Incomplete or ineffective communication was proposed as a contributing factor.¹⁵ Not surprisingly, effective communication of veterinary practitioners with clients in the assessment of patient nutrition and in making dietary recommendations has been promoted as crucial to client adherence and patient health.^{14,16}

Much research evidence in human medicine has accumulated as to how various characteristics of physicians' communication practices can affect patient adherence ¹⁷⁻²¹ and health outcomes. ²²⁻²⁵ A meta-analytic study ²¹ reported a statistically significant association between measures of the quality of physician communication (as rated by patients or observers) and patient adherence to treatment recommendations; greater adherence was also linked to physician training in communication skills. Another review ²³ found that the informativeness of physicians' communications, the clarity of their recommendations, and the degree of collaborative decision-making with patients in treatment-related and health management discussions were associated with positive health outcomes.

In veterinary medicine, empirical research on communication in the area of treatment decision-making is less common but is growing. Ineffective communication has been linked with clients' poor understanding of the need for and benefit of veterinarians' recommendations and a lack of conviction in their importance. 15,26,27 Clients' evaluations that veterinarians spent an adequate amount of time in the

consultation were associated with higher compliance with a prescribed short-term regimen of microbial treatment for their dogs in one study²⁸; in a 2009 study²⁷ on certain medication regimens by the American Animal Hospital Association, high adherence rates were found among pet owners who reported appointment lengths of 10 minutes or over and the provision of medication demonstrations, written information, follow-up telephone calls, and medication reminders (in cases of chronic disease). While these studies are helpful in suggesting actions that can be adopted by veterinary practices, there are limitations associated with the use of participant retrospective self-report. Little is known about the actual form and content of veterinarian-client interactions under study.

Research by Kanji and colleagues²⁹ explored the impact of veterinarian-client-patient interactions on client adherence with surgery and dentistry recommendations using the Roter interaction system (RIAS) to code videotaped companion animal visits.

Although the overall client adherence of 30% was assessed as poor, cases in which adherence occurred were associated with: higher ratings of post-consultation client satisfaction; clear (vs ambiguous) treatment recommendations; more frequent positive statements by veterinarians directed toward clients; lengthier consultations; higher ratings by RIAS coders of veterinarians' and clients' communications as non-rushed/non-hurried and sympathetic/empathic; and higher scores on relationship-centered care as measured by the proportion of client-centered talk engaged in by veterinarians and clients.²⁹

The RIAS study²⁹ goes beyond mere description of interactional features of communication to identify empirically those that may support client adherence. However, much remains unknown about how clinician-client treatment discussions in veterinary medicine, including those involving dietary recommendations, unfold sequentially in real

time. Such details include whether and how veterinarians justify their recommendations in relation to patient health concerns, the specific grammatical and lexical features with which they are designed, the particular phases of the consultations during which recommendations are made, and how clients respond verbally.

The qualitative research methodology of conversation analysis can help fill such knowledge gaps. Conversation analysis studies naturally occurring, real-time conversation and the social actions that talk achieves, with analysis of a sequence of turns—the successive contributions of different speakers to a segment of talk—as the bedrock of empirical inquiry. Over the past 30 years, conversation analysis has been used to study clinician-patient interactions in human medicine, including health-care advice (eg,35-42) and physicians' treatment recommendations. (eg,39-46)

The present study reports on findings that are part of a larger project using conversation analysis to study veterinarian-initiated proposals to clients during small animal clinic visits to enact long-term nutritional changes for patients. These proposals pertained to significant alteration of the content of main foods and treats consumed by veterinary patients. The decision to analyze proposals initiated by veterinarians (not clients), for long-term (not short-term) diet-related changes, and for main foods and treats (rather than dietary supplements) was related in part to practical concerns about the labour-intensiveness of conversation analysis and the need to constrain the study's scope. However, the main reason was to provide insight into those nutrition-related treatment scenarios that could have the greatest long-term impact on patient health and were potentially the most challenging for veterinarians to negotiate.

Conversation-analytic research, in general, suggests that recipients of health care advice tend to display positive acceptance of advice when the recipients themselves have solicited it.^{39,41} Clients who take the initiative to seek veterinarians' advice about their pets' diets are already open to dietary modification; when veterinarians initiate the topic of dietary change, clients may not initially be as receptive. While adoption of long-term nutritional changes, such as those designed to prevent disease onset, can have an especially powerful effect on patient health, 47,48 there may be challenges in securing adherence; not as many clients may be as motivated to accept them as they might shortterm dietary changes that involve less onerous commitments in terms of time, money, or inconvenience. Also, short-term dietary changes are often proposed when treating acute disease such as gastrointestinal illnesses; these are often aversive for clients as well as patients, which may increase the incentive to seek and adhere to treatment. 28 It may be harder for veterinarians to convince clients of the preventative benefits of an unanticipated long-term nutritional change in the absence of current evidence of disease in their pets. These considerations informed our focus on veterinarian-initiated proposals to modify the long-term regimen of patients' main foods and treats in companion animal consultations. The objectives of the present study were to explore the general features of discussions in which the dietary proposal occurred and the phases of the consultations during which they emerged, the patient health concerns and types of dietary changes involved, and the linguistic design of veterinarians' initial proposals to clients.

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MATERIALS AND METHODS

Data archive

The present study analyzed interactions in a sub-sample of videotaped visits taken from a consented archive of 284 appointments involving veterinarians and their clients in Ontario, Canada. The data from which the archive was created were originally collected in 2006 for a previous quantitative study of veterinarian-client-patient communication⁴⁹ consisting of 350 appointments with 20 veterinarians and their clients in companion animal practice in 14 counties in Ontario. Details about the original study design have been previously described.⁴⁹ Of the 20 veterinarians and clients involved in the original data collection and study, 17 practitioners and their clients consented to allow their appointments to be studied in subsequent secondary analyses, the protocol for which was reviewed and approved by the University of Guelph Research Ethics Board.

Data preparation

The 284 appointments were screened for segments of diet-related veterinarian-client communication that were then subjected to basic orthographic (ie, word-for-word) transcription capturing in sequence each turn taken by participants. Pseudonyms were used to anonymize proper names of people, pets and geographic locations. There were 172 of 284 visits (61% of the appointments available for possible analysis) that contained nutrition-related talk, the implications of which were discussed in a previous study. Among the 172 appointments containing dietary talk, 55 (32%) contained veterinarian-client conversation in which long-term changes to the content of patients' diets were discussed.

Selection criteria were used to create a smaller collection of appointments in which veterinarians were the ones to initiate the proposals. Client-initiated proposals were those in which: a) clients directly proposed nutritional changes to veterinarians for ratification; or b) veterinarians proposed dietary modifications in response to clients' specific comments or questions seeking advice about what they were feeding their pets. In contrast, if veterinarians' long-term dietary proposals occurred in segments in which clients had previously solicited diet-related advice on a topic other than the specific nutritional content of their pets' diet (eg, about a pet's weight, or how much to feed the pet), these proposals were identified as veterinarian-initiated and included in the final collection.

Twenty-one appointments (38% of the 55 appointments in which long-term nutritional modifications were discussed) were identified as containing client-initiated proposals. One of these 21 appointments containing a client-initiated long-term dietary proposal also contained a veterinarian-initiated one. Therefore, this appointment and the veterinarian-initiated proposal were retained in the final collection, with the other 20 appointments containing only client-initiated long-term proposals eliminated from the original collection of 55 visits. This resulted in a final collection of 35 visits containing a total of 42 segments of veterinarian-initiated long-term proposals: 28 visits contained 1 segment each and 7 additional visits contained 2 segments each.

Additional selection criteria were as follows. First, veterinarians' proposals needed to involve relatively longer-term dietary changes. These were not necessarily permanent (eg, those involving pediatric nutritional requirements or promotion of weight loss for a period of time were included), but all short-term dietary recommendations to

treat acute illness were excluded. Second, the collection consisted of proposed changes to main foods (wet or dry) and treats; in one segment with a kitten, cow's milk was also included as it was oriented to as a significant part of the patient's daily nutritional intake. Proposals involving nutraceuticals and dietary supplements were excluded because of their low frequency and their relatively tangential contributions to patient nutrition.

Third, a proposal of long-term dietary modification needed to be linked explicitly to the specific patient. This excluded dietary proposals targeting pets not in attendance, as well as proposals involving only generic information about nutritional needs of the relevant species, breed or lifestage. Also excluded were proposed changes in feeding management strategies only, with no alteration of dietary content.

The collection thus consisted of segments in which veterinarians initiated proposals to make one or more major longer-term modifications in foods and/or liquids other than water (eg, main foods, treats, and milk) comprising a patient's diet. This involved a change or changes that altered the content of the patient's nutritional regimen significantly and demanded client adjustment, effort and buy-in (sometimes literally in terms of purchasing a new food or buying more of a current food). Proposals to simply reduce the amount of a currently used food item were excluded. However, proposals to eliminate entirely a favoured food item (eg, canned food, cow's milk, or particular treats) were included whether or not the veterinarian proposed substitution of an alternative item. This was because veterinarians and clients sometimes oriented to the difficulties involved in enacting such changes.

We adopted the use of the broad category of dietary *proposals* rather than narrower ones of *recommendations* or *advice-giving* in developing the collection in order

to gain comprehensive understanding of the communicative approaches that veterinarians used. We thus analyzed instances in which veterinarians forwarded a clearly preferred single course of action³⁵ as well as those in which dietary changes were designed as options. Standard recommendations (ie, "I would recommend X"), suggestions (ie, "We could put him on X"), descriptions (ie, "We also have foods"), and offers of free samples to clients (eg, "What I'll do there...and I'll get you a sample bag of it") were all studied.

Analytic method

We used conversation analysis to study veterinarians' initial dietary proposals and subsequent veterinarian-client talk about the proposals. Conversation analysis assumes that language in use and social interaction are orderly and organized at a fine-grained level; audio and video recordings and detailed transcripts are analyzed to study the structure of interaction and identify what the participants are doing with their talk.⁵¹ Conversation analysis studies treatment decision-making as an interactional process involving joint social action⁵² unfolding over time. Both participants' successive (turn-by-turn) contributions powerfully shape the outcome, such that treatment decisions are not seen as attributable to any single participant or moment.³⁴

Following the aims of conversation analysis, we explored the sequential organization of talk and the social actions that veterinarians and clients jointly accomplished during these diet discussions. To do so, we repeatedly listened to and observed the videotaped real-life interactions in our collection^{30-33,51} with the production and examination of extremely detailed, specially notated transcripts⁵³ forming a core analytic activity.^{30-33,51} The basic transcripts of the 42 dietary proposal segments were refined using conversation analytic transcript symbols to indicate features like changes in

vocal intonation, speech volume and speed, gaps between stretches of talk, and overlaps where two participants or more (a veterinarian and client, or two clients) were speaking simultaneously. Additional information about nonverbal activities (eg, eye gaze, head nods, embodied movements of clients, practitioners and patients) was incorporated in the transcripts. Some of this information was helpful in flagging the conversation-analytic phenomenon of *multiple involvements*⁵⁴ whereby participants engage in multiple activities: for example, veterinarians sometimes physically examined patients while discussing nutritional changes with clients.

Another important analytic dimension concerned the *normativity*^{35,55} of the proposals: how prescriptive they were with respect to urging modification of patients' diets. Analysis was informed by conversation analytic research on *deontics*^{56,58} and *epistemics*. ^{55,56,59} Deontics focuses on how strongly speakers' rights and responsibilities to decide courses of action ⁵⁶ (eg, changing a patient's diet) are constructed in the details of talk. Epistemics focuses on the degree of certainty with which speakers' suppositions and knowledge claims ⁵⁶ (eg, claims about animal health and nutritional change) are constructed in the proposals. For example, a bald directive (eg, "Give Rory dry food") uses the imperative form "give" and displays: a) the high *entitlement* of the speaker to impose the dietary change on the client (and, concomitantly, on the patient); and b) the absence of speaker acknowledgement of *contingency*: present or future possibilities that the client (or the patient) may lack the desire or the ability to comply with the directive. ⁶⁰ A different example ("You might want to switch Rory to dry food") displays the speaker's low entitlement to impose the dietary change and acknowledges contingencies

by displaying the speaker's uncertainty as to the client's desire to change the patient's diet.

Analysis

Supplementary descriptive information about the characteristics of the 35 appointments and 42 proposal segments in the study was collected, including demographic details about the 15 different veterinarians and clinics, the type of visit and patient species. Information was also gathered about the types of dietary changes proposed, the kinds of patient health problems targeted by the proposals, and the sequencing of proposals in relation to various medical activities (eg, before, during, or after the physical examination, diagnostic tests, or procedures like vaccinations).

We examined both the position and composition^{61,62} of each turn at talk in order to understand the functions and consequences of each contribution of talk by a speaker to the interaction. Each utterance was studied in terms of its sequential position (ie, location) in the unfolding conversation as well as in terms of its composition (eg, propositional content, grammatical format and intonation). To see how veterinarians' knowledge claims and rights to determine patients' future diets were expressed in the language of the recommending utterances, their grammatical formats and lexical features were analyzed, along with the immediate responses displayed by clients, and veterinarians' subsequent uptake of clients' responses.

For an utterance in a segment to be analyzed as the initial dietary proposal, the veterinarian's talk had to actually propose a dietary change or describe a dietary item or option in lieu of proposing a change. In a couple of instances in which the veterinarian's first long-term dietary change proposal was aborted prior to completion (eg, due to

intervening talk by the client), the format analyzed as the initial one was that of the subsequent, completely re-issued proposal. If a client responded to a veterinarian's complete utterance in a manner that clearly oriented to it as a proposal to change the patient's diet, that utterance was treated as an initial dietary proposal. Nutrition-related veterinarian-client interactions both before and after the proposals were also analyzed in order to better understand the form and content of the proposals in context, and the social actions being performed. Analysis of clients' responses to the dietary proposals and all subsequent interactions about long-term changes to patients' diets within appointments was also conducted in order to study the negotiation of treatment decision-making related to patient nutrition.⁶³

RESULTS

The present study reports 3 strands of findings: a) the characteristics of the appointments from which the data were taken; b) important features of the dietary proposals and the segments in which they occurred; and c) patterns in the grammar and wording of the proposals, including how linguistic design was related to the types of health concerns targeted and orientations to brand names of proposed food items.

Characteristics of appointments

The 35 appointments in which veterinarians proposed long-term nutritional changes included 15 (88%) of the original 17 practitioners in the archive for which consent to conduct secondary analyses had been obtained. Of these 15 veterinarians, 10 were female and 5 were male. Median number of years in practice was 10 (range, 2 to 25), and 14 of the veterinarian participants worked in clinics in which ≥ 2 veterinarians practiced. Of the 15 clinics in which the veterinarians worked, 7 were located in urban

areas, 5 were located in suburban areas, and 3 were located in rural areas. In 18 (51%) of the 35 appointments, patients were dogs and in 17 (49%) appointments, patients were cats. In terms of type of visit, 25 (71%) of the 35 were wellness visits, 9 (26%) were problem visits, and 1 (3%) was a follow-up visit.

Features of veterinarian-initiated dietary proposal segments

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An example extract. Published conversation-analytic studies include extracts of transcripts to demonstrate findings. The transcript below features a veterinarian (V) and a client (C) during a wellness visit. The patient (P) is a three-month old female Labrador retriever. This extract is used as an example to support the analyses reported later in the Results section on the larger data set as a whole. Conversation-analytic transcription symbols have been simplified for ease of comprehension. Italicized words inside double parentheses show nonverbal activity; square brackets indicate the onset of overlapping talk involving two speakers. Numerals in parentheses capture the length of gaps or pauses in talk in seconds to the tenth of a second. Underlining indicates emphasis of particular words or syllables, and equal signs show latching: lack of pauses between different lines of talk. Extra letters show sound stretching, the lengthening of a syllable or word. Question marks follow words or syllables with rising pitch and periods follow words with falling (final) pitch. The brand name of a proposed food has been anonymized and placed inside curly brackets. The veterinarian's initial dietary proposal appears in bold font on line 25 and the client's overlapping response is on line 26. Wha-wha-what do you feed her? ((V examines under P's tail)) 1 V: C: She is on we're still feeding her what she came (0.3) with

```
358
359
      2
360
      3
361
      4
                   or what they recommended um
362
      5
                   {Grocery Store Brand Name} ((V pats P, removes hand))
363
      6
                   not the not the cheaper but the more expensive
364
      7
                   [{Grocery Store Brand Name}
365
            V:
                   [Okay,
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367
                    Okay.
       10
             V:
368
       11
                     (1.3)
369
       12
                    Okay. I'm okay with that. I mean (0.4)
             V:
370
       13
                    the concept being that (0.4) large breed dogs
371
       14
             C:
372
       15
             V:
                    [shouldn't (0.3) be (1.0) overfed.
373
       16
             C:
                    Mm hm ((nods))
374
       17
             V:
                    Uh they can (0.4) kind of if they get into that
375
       18
                    accelerated growth phase (0.5) um if they're
376
       19
                    if they had (0.6) you know
377
       20
                    if the ratio of nutrients isn't right
378
       21
                    then they can run into joint problems [and so that
379
       22
             C:
                                                                [Mm hm ((C nods))
380
                    There are large breed (0.5) puppy foods out there?
       23
             V:
381
       24
              C:
                    Ohhkaay.
382
       25
             V:
                    And she should be on a large breed [puppy food.
383
       26
             C:
                                                             [Okay. ((C nods))
384
       27
                    And (1.9) we sell one called adolescent diet?
             V:
385
       28
             C:
                    Okay. ((C nodding))
386
       29
                    which is an excellent food-It's it's made by a Canadian
             V:
387
       30
                    m-medically ((V making scare quotes with hands))
388
       31
                    formulated=
389
       32
                    =Mm hm= ((C nods))
             C:
390
             V:
       33
                    =diet. It's called adolescent formula and from this age
391
       34
                    until she's about a year (0.6) ((C nods))
392
       35
                    she should be on (0.6) either our adolescent [formula
393
       36
             C:
                                                                        [Yeah
394
       37
                    or somebody's puppy food for large breed dogs.=
             V:
395
       38
              C:
                    =Okay.
396
397
              The dietary proposal emerges after the client answers (lines 2-7, 9) the
398
       veterinarian's "what"-prefaced question<sup>50</sup> about the patient's main food (line 1), posed
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       near the end of the physical examination. The veterinarian acknowledges the client's
400
       response (line 10), by which time the examination has ended. A relatively lengthy gap of
       1.3 seconds (line 11) indexes some possible trouble<sup>64</sup> associated with the client's answer.
401
402
       The veterinarian displays lukewarm approval of the patient's current diet via the
403
       subjective evaluation "I'm okay with that" (line 12). This evaluation of the current diet is
404
       much weaker than would have been the case had the veterinarian said "I'm very happy
       with that"; it foreshadows<sup>65</sup> the veterinarian's disaffiliation with the current food, which
405
406
       becomes more explicit when he educates the client about the need to avoid overfeeding
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366

9

C:

Half puppy half adult food

shares information about the food-related risks of developmental orthopedic disease. The potentially face-threatening aspects of alerting and educating the client about problems with the current diet and associated risks to the patient are suggested by the within-turn pauses in the veterinarian's talk (lines 12, 13, 15, 17-19) and self-repair⁶⁶ whereby the veterinarian fine-tunes what he says as his turn continues: the dysfluent "if"-prefaced clauses (lines 17-19) referring to negative health effects are successively dropped prior to completion. A complete clause then links nutritional inadequacy to negative health effects, using hypothetical "if-then" reasoning (lines 20-21). This expert knowledge is designed in such a way as to imply that the patient's current diet is problematic without explicitly criticizing it or the client. She responds using the response token "Mm hm" (lines 16, 22) which acknowledges the information received and encourages the veterinarian to continue speaking.⁶⁷ The veterinarian shares more information about the existence of large breed puppy foods (line 23), which the client receives with her singsong, sound-stretching "Ohhkaay" (line 24). This emphatic "okay" appears to mark the client's dawning understanding⁶⁸ of where the veterinarian has been heading with his talk about diet. The veterinarian then initiates the proposal to change the patient's diet (line 25). "And" prefaces the proposal, connecting it logically to the veterinarian's previous news

large breeds (lines 13, 15). This topic is expanded (lines 17-21) when the veterinarian

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"And" prefaces the proposal, connecting it logically to the veterinarian's previous news (line 23) about the availability of large-breed puppy foods. The proposal is quite strongly worded: "should" underscores the necessity of a food change. After the client accepts the proposal (line 26), the veterinarian shares further information by naming and describing the in-clinic brand (lines 27, 29-31, 33). The veterinarian appends further information

about the time frame for the new diet (lines 33-34) and recycles the proposal (lines 35, 37) which the client accepts for a second time (line 38). The analysis of this example demonstrates the potentially face-threatening actions associated with the negotiation of nutritional change in primary health care consultations in companion animal practice.

Types of dietary changes. In the 42 proposal segments, there were 44 distinct instances of long-term changes to patients' diets proposed to address current or potential future health concerns (see Table 1); in each of 2 segments, 2 alternative dietary options regarding the current main food were presented: a switch to a light diet or a senior diet; and a switch to a dental diet or introduction of dental treats. Of the proposed changes, 91% involved main foods and 9% involved treats (including 1 segment in which a veterinarian recommended gradual elimination of cow's milk from a kitten's diet; Table 1). Twenty different types of dietary changes were proposed (Table 1). The 4 most frequent categories of proposed changes consisted of switching to a dental diet or adding dental diet to the current dry main food (13/44) [30%]), switching to a light or weight control diet (5/44) [11%]), switching to a different brand to improve the nutritional quality of the main diet (4/44) [9%]), and introducing canned food (3/44) [7%]) (Table 1).

Justifications and other information-sharing. Health-related accounts typically accompanied the dietary proposals. In 39 (93%) of the 42 segments, veterinarians justified proposing nutritional changes by linking them to patient health concerns in terms of preventing or treating diet-induced health problems, nutrition-sensitive disease, or both (Table 1). In 3 (7%) segments, no justifications were mentioned. In 1 appointment containing 1 segment, a client complained about her dog's yellow teeth despite a regimen

of teeth brushing; this led to the veterinarian's mention of dental diets. In another appointment containing 2 segments, a client asked for advice on how much to feed his kitten. This led to 2 veterinarian-initiated proposals, introducing dry food and gradually weaning the patient from cow's milk (Table 1).

Veterinarians also typically shared additional information relevant to the proposed modifications. Information that was often included involved the medical benefits of a change in diet or the characteristics of a new food item where relevant (eg extract, lines 27, 29-31). This information served to warrant the proposal to alter the patient's diet. Dietary proposals were sometimes warranted through an evaluation of the current diet as inadequate, risky or problematic in some way (eg extract, line 20), evaluations that varied in terms of their directness. Sometimes there were also accounts of more indirect or distal benefits for patients and occasionally for clients (eg, a dental diet reducing the frequency of expensive dental procedures). Talk about treatment effectiveness in absolute or relative terms was sometimes included; veterinarians also sometimes provided feeding instructions (eg extract, lines 33-34) and/or information about where new foods might be purchased (eg extract, line 27).

Veterinarians' accounts and related information-sharing oriented to the client's agency: the power of the client to decide whether or not to change a pet's diet.

Accounting mobilized the veterinarian's medical expertise in the service of improving the knowledge of the client and potentially enhancing the client's receptivity to dietary modification. In the previously described two appointments in which no justifications for nutritional change were given, the clients had earlier displayed their receptivity toward

veterinary advice in various ways (eg, a client asking a veterinarian for advice about how much food to feed his new pet kitten).

Types of patient health concerns. Diet-implicated patient health concerns were variously topicalized by veterinarians and clients in segments involving veterinarian-initiated dietary proposals. Categories of patient health concerns appear in Table 1. These often utilize higher-order terminology that does not necessarily represent the wording in the appointments. For example, the mention of "joint problems" in the example extract was categorized as "developmental orthopedic disease" (Table 1). Health concerns were constructed as currently existing ones in the form of definitive or probable diagnoses, as historical problems at risk of recurrence or, as seen in the example extract, as possible future problems to be prevented (or attenuated in terms of severity or delay of onset).

A single dietary change sometimes addressed multiple health concerns, all of which are listed in Table 1. Current or possible future health problems mentioned in more than 1 of the 35 appointments were as follows, in decreasing order of prevalence: periodontal disease (17/35 [49%]); overweight concerns (6/35 [17%]); balancing/optimizing nutrition associated with particular lifestage requirements (6/35 [17%]; feline lower urinary tract disease (4/35 [11%]); food allergy/intolerance (4/35 [11%]); and gastrointestinal concerns (2/35 [6%]).

Sequential environments and associated medical activities. Analysis of the sequential positioning of the initial dietary proposals involved exploring the conversational and embodied activities that preceded, accompanied, or followed the proposals. Although it might be expected that dietary proposals would occur as part of a discrete end phase of the consultation involving explanation and planning, ⁶⁹⁻⁷¹ there was

considerable variability in the sequential environments in which veterinarians introduced their long-term dietary proposals. In 11 (26%) of the 42 segments, veterinarians' nutritional proposals constituted responses to clients' prior talk. Some clients spontaneously requested advice or commented on their pets' health; other clients responded to veterinarians' solicitation of clients' concerns.

Among the 42 proposal segments, 6 (14%) dietary proposals were delivered before the physical examination began. These were cases in which: clients topicalized a patient health concern (eg, after the veterinarian asked if there were any concerns during a wellness visit); there was a presenting problem motivating the visit; or the health concern emerged out of a medical activity occurring prior to the consultation with the veterinarian (eg, a weigh-in associated with patient overweight).

Seventeen (41%) of the 42 proposal segments occurred at some point during the physical examination. This does not necessarily mean that veterinarians continued their examinations during the diet discussions (although some did); the medical activities associated with the examination (eg, palpation, auscultation, etc.) were sometimes suspended and then later resumed. Sometimes dietary history-taking occurring during the physical examination of the patient occasioned diet-related talk. In 7 (41%) of the 17 cases in which dietary proposals emerged partway through the physical examination, the proposal followed the veterinarian's mention of periodontal concerns stemming from the oral examination; in 3 (18%) of the 17 cases, clients solicited advice from veterinarians during the physical examination, while in another 3 (18%) cases, clients' answers to history-taking questions about diet led to long-term nutritional proposals by veterinarians during the physical examination.

In 8 (19%) of the 42 segments, dietary proposals occurred after the physical examination was completed but before completion of other medical activities and discussions. For instance, in the case featured in the example extract, a discussion about heartworm disease followed the diet discussion, and vaccines were administered after that. In 11 (26%) segments, nutritional proposals were delivered after all medical activities in the consultation room had been completed, including 1 consultation in which the patient was not present, having been treated elsewhere in the clinic for a foot laceration. In this example and others, nutrition-related talk was sometimes one topic among several raised during veterinarian-client discussions.

Design of veterinarian-initiated dietary proposals

Given that the linguistic design of the veterinarians' proposals for long-term dietary change can be consequential in terms of the responses they expected from clients, the grammatical format and lexical content of the veterinarians' proposal turns were analyzed. Table 2 contains all turns at talk comprising veterinarians' long-term nutritional proposals, grouped according to grammatical format; the different formats have been ordered with the most prescriptive formats appearing first and each turn is numbered to allow identification. There were 44 proposals in total; 40 segments contained 1 proposal each, and 2 segments contained 2 proposals each: a veterinarian mentioned 2 different brands of diet, each of which could be purchased in different retail outlets (Table 2: no. 10, 26), and another veterinarian provided 2 dietary alternatives to address possible dental issues (Table 2: no. 35, 36). For reasons of clarity, any client talk overlapping with veterinarians' utterances was excluded from Table 2.

Proposals varied in the degree to which dietary changes were constructed as required or optional for patients, the certainty with which proposals presumed future enactment of nutrition-related changes, and whether or not clients (or clients and veterinarians together) were explicitly enlisted as agents responsible for enacting those changes. Nevertheless, most proposals were not strongly prescriptive; they were delivered using grammatical formatting and wording that mitigated the inherent face threat associated with giving and receiving advice.⁵⁵ Such linguistic elements reduced the epistemic certainty⁵⁶ with which veterinarians declared dietary changes to be necessary for the patient or the certainty with which veterinarians predicted adoption of the dietary change; these elements also attenuated the deontic authority⁵⁸ of the veterinarian: the expert authority of the veterinarian to impose on or obligate the client to change the patient's diet. Other elements avoided targeting the client explicitly as the advice recipient⁵⁵ or reduced the time frame or degree of nutritional modification involved, both of which managed the critique that proposals to change the pet's diet might imply regarding the current diet, the pet's health status, and the quality of care provided by the client.

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Grammatical formats and lexical features. Eighteen (18/44 [41%]) proposals deleted reference to the client (ie, "you") as the agent responsible for modifying the patient's diet. Sometimes the patient was referred to (ie, "she" in Table 2: no. 1, 8). When the veterinarian in the example extract says, "She should be on a large breed puppy food" (line 25), he invokes his epistemic authority as a medical expert⁵⁸ regarding patient well-being. If the veterinarian were to say instead, "You should put her on a large breed puppy food," his deontic right⁵⁸ to tell the client what to do is more obviously invoked as well.

In other proposals, veterinarians used "we" to construct the clinician and client as partners implicated in the dietary change (no. 2, 3, 7, 18). The sensitivities associated with singularly targeting the client are suggested by close inspection of no. 2 in Table 2: the veterinarian used self-repair⁶⁶ to replace "you" with "we" in order to position both veterinarian and client as partners equally responsible for changing the patient's diet. The "I would do X"⁵⁵ format (Table 2: no. 12-14) referred not to the client but hypothetically indexed the veterinarian ("I") as someone who would enact the relevant action if in the client's position as pet owner. Evaluations (Table 2: no. 25-27) focused on veterinarians' evaluations of dietary items; these included objective statements containing assessments ("better" in no. 25; "good" in no. 26) and a subjective statement expressing the veterinarian's concern about the current diet (no. 27), which elicited a client response. An assertion that it was time to change the patient's diet (Table 2: no. 9) deleted mention of the client and constructed the dietary change as a normative, expected one; a suggestion (no. 20) and most descriptions (no. 28-34, 36-38) variously referenced proposed foods, actions, options, particular brands, and free samples (see also no. 41).

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Different linguistic devices mitigated the epistemic certainty of the claims in veterinarian' proposals. For example, veterinarians could hedge on the certainty with which they asserted their proposals by using modal verb constructions; 19 (43%) utterances used modal auxiliary verbs⁷²: these included the conditional modal "would" in the constructions "I would recommend" (Table 2: no. 10-11), "I would suggest" (no. 19), and "the other option would be" (no. 34). These are polite forms that made the proposing actions of the veterinarian and the recommended option more hypothetical than would be the case with "I recommend/suggest" or "the other option is." Epistemic uncertainty was

also displayed in terms of avoiding the presumption that dietary change would occur. "Can" oriented to the ability of clients to change patients' diets or to the mere possibility of clients enacting changes (Table 2: no. 13, 15, 43, 44); the conditional modal "could" (no. 18, 24, 44) was even further epistemically downgraded⁵⁵ than "can." "May" in "you may wanna [want to]" (Table 2: no. 16, 17) and the downgraded conditional "might" (no. 5, 21) also reduced the presumptiveness of veterinarians' proposals in which they appeared. "If"-prefaced conditional clauses oriented to the contingent nature of the proposals depending on: where the client preferred to shop (Table 2: no. 10); whether a lamb formulation of the recommended canned food existed (no. 12); and whether the client would be emotionally able to withhold the one treat her pets would eat (no. 13). Another clause, beginning with "depending," oriented to a patient-based contingency (Table 2: no. 5). Other epistemic downgraders (devices that mitigated epistemic certainty) were "I think" (Table 2: no. 25, 27, 37), which reduced the certainty of veterinarians' assessments, and the adverbs "probably" (Table 2: no. 4, 9, 14) and "maybe" (no. 9, 22, 44). Some of these potentially pointed to the uncertain status of the particular health concern or otherwise minimized its gravity. For example, "probably" in a preventative proposal (Table 2: no. 4) oriented to the probabilistic nature of the risk of crystal development in two feline patients currently eating a certain brand of commercial diet. The veterinarian did not talk about the risk of crystal development nor solicit the client's perspective regarding the health risk before issuing the proposal recommending a switch from the current diet and then discussing the health concern about crystal development. Subsequent to the proposal, the veterinarian drew on firsthand clinical

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experience to qualify the degree of risk and concede that some patients in the clinic on the same diet as the patients did not develop crystals.

Veterinarians hedged on the likelihood of successful adherence by downgrading clients' actions in 11 (25%) proposals to position clients as merely trying or maybe wanting to try the proposed change (Table 2: no. 3, 11, 13, 16, 38, 44); other cases further downgraded the client's action from a behavioural one to a cognitive one whereby the client "may wanna consider" (no. 17, 21, 23) or "think about" (no. 19) dietary modification. These constructions deferred decision-making and avoided pressuring clients to alter patient nutrition.

Minimizing phrases containing the adjective "little" reduced the implicit face threat associated with dietary change. "For a little while" (Table 2: no. 3) appended to a recommendation to use a weight control formulation reduced the degree of imposition of the change and concomitantly the degree of patient overweight motivating it. "A little bit" (Table 2; no. 4) mitigated the contrast between the quality of the current diet and the proposed one; such a phrase might reduce concomitant client concerns about the cost of a new food and head off a possible inference that the current diet was of poor quality. Similarly, "a little bit more" (Table 2: no. 25) reduced the contrast between the effectiveness of dental treats (currently being used by the client) and dental diets (used intermittently rather than regularly). Veterinarians occasionally managed the rhetorical effects of epistemic hedging in their proposals by using adverbial intensifiers (Table 2; "definitely" in no. 11, 12 and "really" in no. 21), which served to separate the uncertainty of the availability of the recommended item (no. 12) or of client commitment (no. 11, 21) from the health benefits of the proposed change.

The 3 most prevalent categories of proposal formatting were descriptions. suggestions, and verbs of obligation⁵⁵ and necessity (Table 2). Descriptions were the least prescriptive category and the most prevalent (11/44 [25%]), informing clients about general categories of foods, particular brands, options to change patients' diets, and the availability of items in the clinic. A common construction employed existential "there" there" to let clients know about the existence of nutritional items (Table 2: no. 28, 30, 33, 35-36). Some proposals strung together two descriptions (Table 2: no. 37-38). Descriptions were typically used to propose one alternative relative to other nutritional or nonnutritional means of addressing the targeted health concern. Wording and phrases such as "also" (Table 2: no. 28, 31, 36), "or" (no. 30), "one thing...not as effective" (no. 32), the other option" (no. 34), "another way" (no. 37) and "the only other thing" (no. 38) framed the dietary proposals as alternative strategies. This was done most frequently to treat or prevent periodontal disease: 7 (64%) of the 11 description-based proposals referenced dental diets or dental treats as specific ways (among others) of targeting this type of health concern. Suggestions were the second most frequent category (10/44 [23%]. Most referred directly to the client using the pronoun "you" (Table 2: no. 15-17, 21-24) and included modal auxiliary verbs of ability and possibility like "can" (no. 15, 22) "could" (no. 18, 24) and the modalized form of advice-giving "you may/might want to" (no. 16-17, 21, 23). One proposal used a "How about..." question to suggest a category of treat to the client (Table 2, no. 20). Suggestions proposed a variety of dietary modifications to prevent or address a range of concerns, including pediatric nutritional needs, weight

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control, periodontal health, lower urinary tract health, and a possible food sensitivity associated with a yeast infection of the ear.

The most prescriptive formats involved verbs of obligation⁵⁵ and necessity and were the third most frequent (8/44 [18%]) category (Table 2). The verbs of obligation "should" (Table 2: no. 1-4, 6, 8) and necessity "need" (no. 5, 7) stressed the importance of changing the patient's diet. However, the degree of prescriptiveness and associated face threats of proposals containing these verbs were often managed through the use of some of the linguistic devices previous described (Table 2: "maybe" and "a little while" in no. 3; "probably" and "a little bit" in no. 4; "might" in no. 5; and "we" as the agents responsible for change in no. 2, 3). The most prescriptive proposals promoted nutritional modifications associated with life-stage based changes (Table 2: no. 1, 6, 8); such changes may be minimally face-threatening for clients because of their expected (normative) character. Other health concerns in this format category included urinary tract problems, current overweight, and worsening periodontal issues.

Six proposal instances (6/44 [14%]) could not be clearly categorized because they mixed together two or more different formats (see Table 2). These proposals addressed dental health, optimization of pediatric health, weight control, and prevention of urinary crystal recurrence. Some mixed formats occurred through self-repair⁶⁶ whereby the veterinarian changed the grammatical format of an incomplete proposal to a different format (eg, Table 2: no. 39); other proposals appended one complete format to a different type in a kind of rush-through delivery with no pause or final intonation separating them (eg, no. 42); "and" was sometimes used to connect the different formats (eg, no. 40), and still other proposals combined these features (eg, no. 42). Four of the 6

mixed format proposals contained descriptions of dietary items or brands linked to other types of formats: 2 suggestions (Table 2: no. 39, 44); 1 offer of a free sample (no. 40); and 1 subjective evaluation ("and my personal preference is"; no. 41).

Orientations to brand in initial dietary proposal segments. Thirty-six (36/42 [86%]) dietary segments and 37 (37/44 [84%]) individual proposals implicated a switch to, or addition of, a commercial product to be purchased. Of these 37 proposals, 73% (27/37) used higher-order dietary categories like "a weight control" (Table 2: no. 3) or a form of diet like "dry food" (no. 15); 27% (10/37) referred explicitly to a brand name or names (eg, Table 2: no. 17), all without use of verbs of obligation or necessity.

Mentioned brands were typically either explicitly or implicitly situated as alternatives. Descriptions tended to position the named item as 1 option: a joint diet (Table 2: no. 30), dental diet (no. 36) and skin diet (no. 38) were each constructed as an alternative in a larger list of strategies. Two proposals in the same segment used "I would recommend" (Table 2: no. 10) and an evaluation (no. 26) to list 2 brands successively as alternatives after a client-initiated higher-order recommendation to use kitten food exclusively had already been made. In 2 other proposals in which 1 exclusive brand was named, key phrases—"a product like" (Table 2: no. 29) and "something like that" (no. 41)—indicated that the proposal was intended to cover any product that was nutritionally equivalent to the named item. There were 3 other initial proposals in which a particular brand of dental diet was exclusively proposed; in 1 of these, the product was suggested in a mitigated fashion and was under the same parent company as the current diet used by the clients (Table 2: no. 17); another proposal was an alternative strategy (no. 36), and yet another included an offer of a free sample that did not require the client to buy the

product (no. 40). In 1 case in which canned food was proposed using the modal "would" and an assessment ("good") (Table 2: no. 42), the brand proposed was that of the veterinarian-exclusive dry food that the clients had used in the past to help address the patient's history of urinary crystals. Analysis suggests that previous sustained use or current client use of a particular brand that has worked for the patient may shift the dynamics associated with recommending a single brand in an initial proposal because there are fewer presumed barriers to adherence related to client preference, patient preference, and possibly unforeseen adverse patient reactions to a novel product.

Inspection of the larger dietary discussions in which the nutritional proposals were made provides additional evidence that veterinarians managed the sensitivities associated with proposing specific brands when these were veterinarian-exclusive inclinic products. In the example extract, the veterinarian recycles his initial proposal, indicating that the patient should be on either his in-clinic brand "or somebody else's puppy food for large breed dogs" (lines 35 and 37). Veterinarians variously warranted their proposals by drawing on client convenience (when clients would be bringing their puppies back to the clinic on multiple occasions), money-back guarantees if the patient did not like the product, and the reduced amounts that can be fed relative to lower quality retail-based foods. In the segment from which the example extract was drawn, the veterinarian subsequently contextualized his recommendation of the in-clinic brand by defensively declaring "I don't want to be a food salesman but," going on to say that "it would be easier" for the client to use the in-clinic brand.

DISCUSSION

Despite growing recognition of the importance of nutrition in the health of dogs and cats, 1,2 there has been little systematic research on how veterinarians make dietary recommendations in companion animal consultations. The present study sought to fill this gap by examining veterinarian-initiated proposals for long-term nutritional change in terms of the types of nutritional changes recommended, the health concerns these proposed changes were intended to address, the phases of the appointment during which veterinarians initiated these proposals, and their linguistic design.

Among the 42 segments containing veterinarian-initiated dietary proposals, 93% (39/42) contained veterinarians' justifications for nutritional change that referred to patients' existing or potential future health problems. Conversation-analytic studies in human medicine^{34,39} have shown that practitioners typically provide medical reasons for their recommendations. That such accounts provide interactional resources for increasing the receptivity of patients to treatment recommendations has been demonstrated in the human medical literature³⁴ and is further supported by our findings: the 3 segments (7%) in which veterinarians offered no rationale for their proposals occurred in 2 appointments in which clients previously displayed openness to nutritional advice by asking questions.

In our data set, proposals related to main foods were much more frequent (91%) than were proposals related to treats (9%), a finding that may be associated with a lack of consistent veterinary attention given to the presence of treats in patients' diets.⁵⁰ In addition, multiple types of dietary changes were proposed and health concerns were invoked. Oral disease was the most frequent kind of health concern mentioned, occurring in 17 (49%) of the 35 appointments in the collection. Thirteen of the 44 (30%) proposal

turns promoted switching the patient to a main dental diet or mixing a dental diet with the current main dry diet. This is not surprising: periodontal disease is likely the single most common disease in companion animal practice and diet can play a strong role in its prevention and intervention. The contrast, veterinarians mentioned overweight and obesity-related issues as justifying dietary change in just 6 (17%) of the 35 appointments and these 6 appointments comprised only 2% of the entire corpus of 284 appointments available for study. Conservative prevalence rates of overweight and obesity in cats and dogs reported in the US in the time frame during which the data in the present study were gathered have been estimated to be 35% and 34% respectively. The contrast of the contract of t

Another finding of our study concerned the sequential environments in which veterinarians initiated their nutritional proposals. Frameworks in human medicine^{69,70,76} used to structure activities and recommended communication practices (which have been adapted for veterinary medicine^{71,77-79}) place the relevant tasks of diagnosis, explanation and treatment planning right before the closing of the appointment and after the temporally sequenced tasks of session initiation, information-gathering and the physical examination. In the present study, however, only 26% (11/42) of the dietary proposal interactions appeared to occur at this stage of the interaction (after the completion of all other medical activities and tasks). It should be noted that in this subset of appointments, dietary proposals were not necessarily done just before closing because veterinarian-client discussions varied in terms of their length and the range and sequence of topics discussed, not all of which were treatment-related. Of the remaining 74% (31/42) of the proposal segments, 14% (6/42) occurred before the physical examination, 43% (18/42) emerged partway through the physical examination, and 17% (7/42) occurred after the

completion of the physical examination but before other medical activities were completed. Thus, veterinarians' dietary proposals were not predictably part of a discrete stage of explanation and planning right before the closing of the visit. Rather, they were initiated at a variety of points, typically linked to relevant talk (eg, patient health, diet, etc.). Such talk was often tied to activities associated with the noticing of an emergent health concern or the topicalizing of a pre-existing one. A "respond and fix" approach could be triggered by a client's concern or question; a "find and fix" approach could occur in the context the veterinarian's evidence-gathering activities (eg, after an oral examination when periodontal disease was diagnosed).

This finding is indirectly supported by 2 previous studies. ^{80,81} A coding study ⁸⁰ on the structure of veterinary consultations in the United Kingdom reported visits to be complex, iterative and interactive such that the physical examination was often interspersed with other tasks, and information-gathering, explanation and planning occurred throughout the appointment. The other study ⁸¹ used conversation analysis to investigate a veterinarian's use of prediagnostic commentary in consultations in a small animal clinic in the United States. Diagnosis-relevant talk often occurred very early in the consultations (eg, during physical examinations), and diagnosis, testing and treatment were often discussed in conjunction with each other, a finding that the author contrasted with the more linear, retrospective approach identified in human medical communication where diagnosis follows information-gathering and the physical examination. ⁸¹ This difference was attributed to the institutional context of veterinary medicine: cost weighs heavily in decision-making and there are usually more options for clients to choose from (including non-treatment) than there are for patients in human medicine. ⁸¹ In that study,

diagnoses were sometimes revisited several times over the course of an appointment in conjunction with testing-related and treatment-related discussions.⁸¹

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The linguistic design of veterinarians' proposals in our study warrants further discussion in this regard. There were few strongly worded prescriptive proposals resembling what Abood described as "giving orders." Description-type proposals were the most frequent type of format in our study, accounting for 25% (11/44) of the proposals in our collection. When the 4 mixed-format utterances containing descriptions are added, 34% (15/44) of the proposals in our study involved descriptions, and 73% (11/15) of those referenced food categories or items framed as alternative strategies within a larger set of possible courses of action. This resonates with the prior observation⁸¹ about the treatment choices available to clients in veterinary medicine and their monetary implications. Description-type formats were most frequently used in proposals designed to prevent or address health concerns for which other treatments existed or were currently being used with the patient. Most prevalent were proposals to use dental diets or dental treats; these proposals were often situated in the contexts of alternative treatment practices like teeth brushing (sometimes commented on as a preferred though unfeasible strategy) and dental scaling.

The most prescriptively worded proposals promoted switching patients to more lifestage-appropriate dietary regimens; the normative, expected nature of such modifications may have reduced somewhat the face threat associated with recommending a change. In many proposals, however, even some containing prescriptive verbs of obligation and necessity to address fairly serious health concerns such as overweight and concerning urinary signs, there were grammatical formats and devices that reduced the

entitlement of the veterinarian to impose a dietary change, oriented to implicit or explicit contingencies that could affect adherence, introduced uncertainty as to whether the dietary change was required, or qualified the scope of the nutritional change proposed by minimizing the contrast between the current and proposed diets.

Veterinarians thus showed themselves to be understanding of the challenges in altering the diets of potentially non-cooperative patients, as well as being sensitive to the possibility that their proposals were hearable as criticisms of clients' care of patients. Shaw and colleagues⁸³ reported in their coding study of videotaped veterinary-client interactions that veterinarians did not express statements of criticism to their clients, a characteristic associated with strong rapport building and maintenance; Kanji et al.²⁹ found that veterinarians' positive statements to clients were predictive of subsequent adherence to surgery and dental recommendations. In our study, inspection of the larger segments in which dietary proposals occurred further supported these findings. In the case featured in the example extract, after the client agreed to change her pet's diet she explained her use of the diet established by the breeder in terms of worry that a food switch could trigger health problems. The veterinarian strongly affiliated with this decision, saying, "I agree with that absolutely."

Formats like suggestions and descriptions, along with other features of tentativeness in the veterinarians' dietary proposals in the present study, appear to run counter to paternalistic medical models^{76,84} and may resonate with recommended communication practices in human medicine endorsing the use of suggestions and offering of options to patients in treatment discussions instead of directives.⁷⁰ The use of descriptions of dietary options may also resonate with veterinary medical research

showing that clients want practitioners to discuss a range of treatment options with them. 15,85

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However, the status of epistemically downgraded proposals as recognizable recommendations in our study may have been unclear. Kanji et al.²⁹ found that the odds of client adherence with veterinarians' surgery and dentistry recommendations were seven times more likely when recommendations were rated as clear rather than ambiguous. Clients in our study may have experienced some downgraded dietary proposals as unimportant; in research on clients' perceptions of the veterinary care their pets received, owners reported not following treatment recommendations unless they believed them to be necessary. ²⁶ The salience of the proposal and interactional opportunities for sustained discussion might also be reduced due to the sequential placement of a proposal between various sorts of ongoing medical activities. And though client acceptance of a downgraded dietary proposal like "You may want to consider switching her to a large breed puppy food" might be more likely than one in which the proposal is more prescriptively worded (see eg extract), the upshot of an "okay" response in terms of client follow-through is less clear. Proposals that emphasize client autonomy and possibly deferred decision-making as in the above hypothetical example avoid paternalistic messages but unilateral client decision-making conflicts with shared treatment planning recommended in the best practices literature^{71,78-79} and with research in veterinary medicine showing that clients want clinicians to provide treatment advice, as well as options for enacting treatment. 15,85

To situate our analyses in relation to similar research in human medicine, we examined extracts of physician-patient interactions in conversation analytic work on

treatment recommendations, 41-44,46,52,86-88 including specific studies of the design of physicians' treatment recommendations. 42,86-88 Most design features identified in our study occurred in the human medical extracts. While some of our veterinary proposals were as prescriptive as those appearing in the human medical interactions, there was less epistemic downgrading in the latter and more use of the first-person ("I") by physicians (eg, "I mean I could put him on an antibiotic" in a pediatric visit) to reference their actions in the treatment recommendation, particularly with respect to prescribing medications, 41 recommending surgery, 86 and making referrals, 87 Description-type proposals were uncommon in human medical extracts, except when neurologists listed options for patients. 87,88 Pediatricians' advice to parents to purchase or use over-thecounter medications and parental behavioural strategies (eg, use of a steamer at night) as part of managing the symptoms of their children's viral upper respiratory infections⁴² were the most similar to proposals in our study, though the pediatric recommendations proposing parental behavioural strategies were delivered more prescriptively than some of the proposals for long-term dietary change in our study, perhaps due to the acute care context of such visits.

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With the exception of the pediatric recommendations promoting purchase of overthe-counter remedies and in-home courses of action,⁴⁴ the clinical scenarios in these human medical studies^{41-44,46,52,86-88} implicated some impending possible action on the part of the physician that needed agreement from the patient (eg, writing a prescription, booking a surgical procedure). These situations differed from the typical ones appearing in our data set, where dietary changes occurred in the province of the client and were under the client's control, particularly when commercial, rather than therapeutic diets, were discussed. Veterinarians' long-term dietary proposals do not involve prescription writing, which is a regulated medical activity. However, those proposals promoting therapeutic diets restricted to veterinary sale suggest the multiple complexities and sensitivities at play when it comes to dietary recommendations in veterinary medicine, including the stocking of therapeutic diets in veterinary pharmacies.

It may thus be fruitful to consider how veterinarians in our study initiated proposals involving the purchase of new food. While 84% (37/44) of the initial proposals implicated potential purchase of a new brand of food, 73% (27/37) of this set of proposals avoided mentioning brands, typically promoting a higher order category of food linked to the targeted health concern (eg, "a large breed puppy food"). When brands were mentioned in initial proposals, these were often designed using formats with reduced prescriptiveness (eg, mitigated suggestions, evaluations, and descriptions), offered as free samples, or constructed in such a way as to situate specific brands as options and as implicit or explicit alternatives. This is not surprising given that proposals using "should" or "must" to propose specific brands of food might have been hearable as a kind of hard-sell tactic. In a number of cases in which clinic-based brands were mentioned, veterinarians were careful to index client convenience as one rationale motivating the proposal.

Dietary proposals involving the purchase of new food in the veterinary clinic lie at the interface of two different participation frameworks: the medical encounter and the commercial service encounter. One veterinarian talked to a client about the huge number of commercial foods available and the impossibility of having expertise on the nutritional content of all of them. This is challenging because veterinarians have a medical

responsibility to inform clients of all of the treatment options^{89,90} and, as has been previously reported, clients wish to be informed of those options.^{15,85} Veterinarians are knowledgeable about their in-clinic products but they may appear to be profit-motivated if they focus on those products exclusively. Thus, clinicians in our study usually situated in-clinic products as just one option, and some suggested only products available in grocery and pet food stores. This interactional sensitivity is in line with research showing some veterinary clients to be suspicious of the inherent conflict between the healthcare and the business aspects of veterinary services.⁹¹

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Our findings point to the importance of communication strategies that can reduce veterinarians' uncertainties about clients' commitments and preferences so that dietary treatment can be negotiated in a more straightforward fashion. There may be efficiencies and rhetorical advantages in making treatment recommendations early on in the consultations as client questions arise or health concerns are detected⁸¹; however, we believe there is value in reserving time at the end of the consultation to allow for sustained discussion.^{76,78} Veterinarians should first educate clients about the health concern, including risk estimates in cases of proposals aimed at prevention of disease, and solicit client interest in addressing the health concern before moving to the proposal stage. This reduces uncertainty regarding the client's stance on intervention. Then a range of treatment options, some of which may be non-nutritive in nature, can be discussed. The client's perspective on the options can then be solicited, along with questions or concerns. Information disclosed by the client about treatment preferences may further reduce uncertainty for the veterinarian, such that the clinician may not need to decrease the clarity of the subsequent recommendation with references to client-related

contingencies. If the recommendation involves a new food, a clear recommendation can be made at a higher-order level than brand or product name. The veterinarian should check in with client using questions to invite thoughts, feelings, and concerns; once it is clear that the client affiliates with the higher-order recommendation, the veterinarian can discuss product options including pros and cons, and share any dilemmas or constraints. When appropriate, a clear product recommendation can be made. The veterinarian should check in again with the client and negotiate a plan of action, including follow-up procedures.

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There were a number of limitations associated with the present study. One concerns the absence of reliable measures of client adherence. Another pertains to the restricted geographic region (Eastern Ontario, Canada) in which data were collected. In addition, the labour-intensiveness of conversation analysis precluded comparative investigation of short-term and client-initiated dietary recommendations, analysis of which may have provided further insights into the challenges veterinarians experience when they propose long-term changes to pets' diets. Moreover, as reflected in the example extract, dietary proposals are joint productions^{34,52} involving clients as well as practitioners, and veterinarians often repeated or revised proposals over the trajectory of the visit. Our singular focus on veterinarians' initial proposals precluded inclusion of findings on client contributions and treatment outcomes. 63 The 2006 time frame of original data collection is also a limitation. It is unclear whether the relatively high proportion of proposals promoting dental diets was because at the time there was a company-based promotion. There have also been numerous changes in pet foods since then. These include a massive pet food recall in 2007 and a proliferation of brand

choices, including increased premium and niche product development in such areas as organic and natural foods, weight control foods (in response to the pet obesity epidemic), and increasing numbers of breed-specific products. 92 Analysis of a more recent collection of consultations across a wider assortment of geographic locations would permit a more up-to-date examination of dietary recommendations in small animal practice and possibly emerging issues associated with this domain of veterinary care. Nevertheless, given the importance of nutrition in animal well-being and the powerful role the veterinarian can play in shaping dietary treatment planning, we hope that the present study can help advance the veterinary profession's understanding of how clinicians initiate the sometimes difficult task of communicating with clients about changing their pets' diets.

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Table 1. Prevalence of Type of Change and Patient Health Concern Targeted by Veterinarian-Initiated Long-Term Dietary Proposals

| Proposed Change Type | No. of Cases (%) | Health Concern |
|---|---------------------|--|
| Main foods | 40 (91) | |
| Switch to dental diet/Add to current food | 13 (30) | Address periodontal concerns |
| Switch to light/weight loss diet 5 (11) | 5 (11) | Prevent/Address overweight concerns |
| | | Prevent joint-related problems |
| | | Prevent recurrence of anal gland infection |
| Switch to higher quality brand of food | 4 (9) | Address gastrointestinal concerns (vomiting, diarrhea) |
| | | Address possible food allergy/intolerance |
| | | Optimize lifestage- specific nutrition (puppy) |
| | | Prevent feline lower urinary tract disease/crystals |
| Introduce canned food | 3 (7) | Prevent recurrence of/Address possible feline lower urinary tract disease/crystals |
| Eliminate canned food | 2 (5) | Address periodontal concerns |
| | | Prevent geriatric hyperthyroidism (associated with Bisphenol A in cans) |
| Switch to hypoallergenic diet for skin health | 2 (5) | Address skin problem linked to possible food allergy/intolerance |

| Increase amount of canned food | 1 (2) | Address gastrointestinal concerns (constipation) |
|--|----------|--|
| Increase amount of canned food and reduce amount of dry food | 1 (2) | Address overweight concerns |
| Introduce dry (kitten formula) food | 1 (2) | Not mentioned |
| Introduce kitten formula food (recommendation focusing on brands) | 1 (2) | Optimize lifestage- specific nutrition |
| Switch to active breed (adult formula) food from puppy food | 1 (2) | Optimize breed-specific nutrition |
| Switch to adult formula food for large breeds from puppy food | 1 (2) | Optimize lifestage- specific nutrition and prevent developmental orthopedic disease |
| Switch to therapeutic diet for joint health | 1 (2) | Address osteoarthritis- related pain |
| Switch to kitten formula food from adult food | 1 (2) | Optimize lifestage- specific nutrition |
| Switch to puppy formula food for large breeds from puppy food/adult food combination | 1 (2) | Optimize lifestage- specific nutrition and prevent developmental orthopedic disease |
| Switch to senior formula diet | 1 (2) | Prevent overweight concerns and related joint problems |
| Switch to vegetarian diet from hypoallergenic diet with lamb | 1 (2) | Prevent recurrence of ear yeast infections linked to possible food allergy/intolerance |
| Treats | 4 (9) | |
| Cuitab to row corrects from himb fat/birth | | Address overweight concerns |
| Switch to raw carrots from high-fat/high-calorie treats | 2 (5) | Prevent pancreatitis |
| | | Reduce periodontal concerns |
| Eliminate cow's milk/Switch to water | 1 (2) | Not mentioned |
| Introduce dental treats | 1 (2) | Address periodontal concerns |
| Total | 44 (100) | |

Table 2. Prevalence and Grammatical Design of Veterinarian-Initiated Proposals for Long-Term Dietary Change

No. (%) Proposals Categorized by Format Type

8 VERB OF OBLIGATION/NECESSITY

(18)

- 1. And she should be on a large breed puppy food
- 2. One thing which you should prob-we should start doing now is uh get rid of soft food
- 3. Maybe we should try like a weight control for a little while you know....
- 4. You probably should um improve a little bit the quality of food they get instead of {Pet Food Company Name}*
- 5. You might need to find um a adult food for active dogs depending on her activity level and that kind of stuff
- 6. You should start to um dilute [milk]† with water and just give him eventually give him water only
- 7. What we need to do though is very likely in the you know from here on in is get some canned food into her....
- 8. So she should be getting onto adult food

ASSERTION ABOUT TIME TO CHANGE DIET

1 (2)

9. Or maybe it's time to switch to a senior food or a light food it probably makes it probably is time to switch to a senior food

2 "I WOULD RECOMMEND"

(4)

- 10. If you're going to {Pet Food Chain Store}* then I'd recommend either {Brand Name}* or {Brand Name}* [kitten food]†
- 11. I would recommend definitely trying to uh if especially around the time when she seems to be constipated is uh giving her as much canned food as possible...

3 "I WOULD DO X"

(7)

- 12. Um if he if it's possible to get the canned food in also a lamb variety then I would definitely do that
- 13. If you can and I know it's difficult because it's something nice right to do for your kitty but if you can I would try to stay away from it [canned food]†
- 14. I would probably switch her to a lighter diet

10 SUGGESTION

(23)

- 15. Okay you can start um putting some dry food out for him
- 16. So you may wanna try that [baby carrots] instead of bone marrow treats
- 17. You may wanna consider adding to {Brand Name Weight Control Diet}* {Brand Name Dental Diet}* the tartar diet
- 18. ...we could put him on a kitten formulation
- 19. Uh one time's one thing's though what I would suggest to you is uh to think about feeding them a little bit better quality of diet than {Brand Name}*
- 20. How 'bout instead of cookies baby carrots
- 21. The other thing you might really wanna consider is introducing canned food
- 22. Maybe you can keep the teeth brushed or use a special food [dental diet]† that can help a lot
- 23. You know and one thing you may wanna consider is trying him on a vegetarian food

24. ...you could go to even the lighter form [of the current food]

3 EVALUATION

(7)

- 25. So a little bit more I think the foods the dental foods work better than the treats
- 26. If you wanna get it at the grocery store {Brand Name}* is a good brand [kitten food]†
- 27. The only thing that I worry about is that it [current food]† doesn't have all of the um dental help that I think could they could get out of a diet

11 DESCRIPTION

(25)

- 28. There are also special diets formulated for uh dental care diets
- 29. And the other thing is to go to a product like {Product Name}* [lamb and rice diet]†
- 30. ... or there's a diet called {Brand Name}* [joint diet]†...
- 31. We also have foods that are designed to be weight loss type foods rather than maintenance type foods...
- 32. Uh one thing that's really easy to do not as effective [as tooth brushing]† is is actually feeding a dental diet
- 33. There are some excellent diets available for dogs that can help keep their teeth clean
- 34. The other option would be to have him on a special dental diet
- 35. And there are some other neat treats [dental treats]† that you can get as well
- 36. There's also {Brand Name Dental Diet} *...
- 37. But I think that uh another way is uh that's certainly more effective because they have to eat but they don't have to brush their teeth is uh like a dental diet where it's we have a couple here
- 38. So the only other thing that might be worth trying is {Pet Food Company Name}* has a skin diet out...

6 MIXED FORMAT

(14)

- 39. 'Cause the other thing you can use is there's actually diets with this [dental diets]† (suggestion-description)
- 40. What I'll do there's a food that's available and I'll get you a sample of it and it's called {Brand Name Dental Diet}*... (offer-description-offer)
- 41. There's one uh which a diet that's produced by um a very one uh medical company that we have very good faith in and it's called {Product Name}* it's designed primarily for young growing puppies like this and my personal preference is that she be on something like that [veterinarian-exclusive puppy diet]†

 (description-evaluation)
- 42. I would recommend you co-get him on um at least partly canned food for uh for urinary tract um problems that he had before with the {Brand Name Crystal Diet}* canned would be good ("I would recommend"-evaluation)
- 43. ...that's what I recommend is reduce the amount of dry access so you can either just measure out the amount and once you've finished that amount for the day that's it and they can get more canned (recommendation-suggestion)
- 44. Or the other thing would be to to use uh there's a couple different dental diets that you can use that are designed to to clean their teeth and you could maybe try those as well if you like (description-suggestion)

44 (100) **Total**

- *{ } Proper noun/noun phrase stating brand, product, or parent company name
- t Category of food item or treatment option referred to in proposal