Topics discussed, examinations performed and strategies implemented during canine and feline booster vaccination consultations

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Abstract

Vaccination consultations account for a large proportion of the small animal veterinary caseload. The aim of this study was to determine the content of canine and feline booster vaccination consultations and gather opinions on strategies used to optimise these consultations.

An online survey of UK veterinarians was conducted. Respondents were asked about the clinical examination performed and the topics discussed during vaccination consultations, as well as any strategies used to optimise these consultations. Finally, respondents were asked about the practicality and effectiveness of various potential strategies.

A total of 662 responses were received. Most respondents always auscultated the chest during vaccination consultations (n=603/621, 97.1% canine consultations; n=587/610, 96.2% feline consultations). Microchipping was discussed more frequently during canine versus feline consultations ($p<0.001$). Over half of respondents (n=323/597; 54.1%) had tried strategies to optimise consultations, with supplementary reading material tried most frequently (n=203/597; 34.0%). There were a range of opinions around practicality and effectiveness of these strategies.

The results from this novel study suggest that vaccination consultations vary in terms of the clinical examination performed, topics discussed and strategies used to optimise the consultation. This study has implications for practice by identifying potential ways to maximise the benefits of vaccination consultations.

Introduction

Preventative healthcare consultations (PHCs), in particular those involving administration of a canine or feline vaccination, account for a large proportion of the small animal veterinary caseload and represent an important opportunity to maximise patient health and welfare[1]. Previous work has attempted to characterise preventative healthcare consultations as a whole, and has highlighted how these consultations differ from health problem consultations. Aspects of the preventative healthcare consultation examined by this existing evidence base include consultation length[2-3], clinical examination findings[4], problems discussed[1,5], communication style[3] and veterinarian satisfaction[6]. However, even within preventative healthcare consultations, there are a broad range of reasons for presentation, as well as a range of different preventative procedures performed and treatments administered[1].

Vaccination consultations account for the majority of preventative healthcare consultations, and yet to date there is little published literature examining the content of these consultations. A recently published systematic review highlighted the lack of evidence regarding PHCs with only 7 manuscripts found. In only one of these papers was the 'success' of the consultation measured in the form of veterinarian satisfaction[7]. Pet health plans, which allow clients to spread the cost of preventative healthcare across the year, have recently grown in popularity[8]. These may potentially change the nature of the discussion during vaccination consultations, as it may be considered that preventative treatments have already been communicated to the pet owner upon joining the plan. In order to find effective ways to maximise the benefits of the small animal vaccination consultation, we first need to know what is currently being done in terms of both the content of the consultation, and in terms of any strategies already being implemented. In addition, in order to develop new ways to maximise the benefits of the consultation, it is essential to gather the opinions of veterinarians conducting these consultations on a daily basis, and involve them in the process of developing such strategies. This will help ensure any approaches developed are both practical and effective in a first-opinion practice setting, and meet the needs of the end-user.

The aim of this study was to determine the content of canine and feline vaccination consultations as reported by veterinarians, including aspects of the clinical examination performed and topics discussed. A second aim was to determine whether veterinarians are currently using any strategies to optimise the vaccination consultation, and to gather opinions on the perceived practicality and effectiveness of potential strategies which could be utilised during these consultations.

Materials and methods

Population of interest

The target population was all veterinarians currently conducting canine and feline vaccination consultations within the UK. The survey could be accessed by veterinarians globally, however only responses from UK veterinarians were included in the analyses reported in this manuscript.

Questionnaire structure

Given the potential differences between consultations for the primary course of a vaccination and consultations for a booster vaccination, the decision was made to focus on booster vaccination

consultations only during the survey. A booster vaccination consultation was defined as 'any consultation where an adult dog or cat was presented for a vaccination other than the initial vaccination course'. The survey comprised 3 sections, and was composed of multiple choice, closed questions, Likert-scale style questions and a few open free-text box questions (full survey provided in supplementary material). Section 1 asked about the veterinarian and about their current role including the type of practice they worked in. Section 2 used Likert-scales to ask about the content of a 'typical' booster vaccination consultation, namely how often different aspects of the clinical examination were performed and how often different topics relating to preventative healthcare and general pet care were discussed. Respondents who stated that they conducted booster vaccination consultations involving both dogs and cats completed this section twice, once for canine and once for feline consultations. Section 3 related to maximising the benefits of the booster vaccination consultation and asked respondents whether they had previously tried any strategies to optimise these consultations. Respondents who stated they had tried one or more strategies were asked via a free text box to comment on the practicality and effectiveness of these strategies. Respondents were then given a list of potential strategies and asked to rate on a Likert-scale how practical and effective they thought each strategy was likely to be.

Questionnaire development and distribution

The survey was developed online in SurveyMonkey Inc. (San Mateo, California, USA; www.surveymonkey.com) and pre-tested by researchers within the Centre for Evidence-based Veterinary Medicine (CEVM). A pilot study was then conducted with several external veterinarians to ensure the questions were clear and the questionnaire could be completed within the suggested timeframe of 15 minutes.

The final version of the questionnaire was launched on 27th May 2016, distributed via various methods (Table 2) and remained open until 31st March 2017.

Table 1. The various methods used to distribute the survey link, or information about the survey, to potential respondents.

Source of contact	Details	Method
CEVM contacts	Sentinel practice network[a]	Email
	Various conference presentations	In person
	Facebook	Social media
	Twitter	Social media
MSD Animal Health contacts	Sales team visits to practices	In person
	Key opinion leader meeting on vaccination	In person
Mailing lists	CEVM newsletter	Email
	Veterinary societies and newsletter	Email
	RCVS register of practices	Email
Letters	Veterinary Times	In print
	Veterinary Record	In print
Other	Personal contacts	Email
	Snowball sampling[b]	Email

[a]Network of practices involved in previous research[9]

[b]Where eligible participants recruit others[10]

Data management and analysis

Responses were downloaded from SurveyMonkey Inc. (San Mateo, California, USA; www.surveymonkey.com) into Microsoft Excel V.14.0.6 (2010) for data management. Responses were removed from the dataset from participants who were not a veterinarian, veterinarians who carried out large animal veterinary work only or did not conduct canine or feline booster vaccinations consultations. Responses from participants who had not answered these three questions, and so had not confirmed that they were the target population of the survey, were also removed. Responses from non-UK veterinarians were moved to a separate dataset and only responses from UK veterinarians were analysed. Partial responses were included in the analysis provided respondents had answered the three questions described above. For all data presented, the total number of respondents answering each individual question will be given.

Pivot tables were used to generate frequency data for categorical variables (e.g. type of veterinary practice) and basic descriptive statistics were generated for numerical variables (e.g. year of graduation) in Microsoft Excel V.14.0.6 (2010). To compare the content (i.e. clinical examination and topics discussed) of a 'typical' booster vaccination consultation between canine and feline patients, data were exported into IBM® SPSS® 21. Mann Whitney U tests were carried out to compare non-parametric ordinal Likert-scale data between dogs and cats. Statistical significance was initially set at 0.05, with a Bonferroni correction applied to account for multiple comparisons[11], resulting in an adjusted significance level of p=0.002.

Free text from the open box question in Section 3, which asked about practicality and effectiveness of any strategies already implemented, was extracted into a separate Excel spreadsheet. Responses were read and then categorised by the strategy or strategies to which the comment referred. Selected quotes for each strategy will be presented in the results.

Results

General respondent information

A total of 1234 responses to the survey were received. Once the responses from people who were not veterinarians, veterinarians who conducted large animal work only and veterinarians who did not conduct small animal booster vaccination consultations were removed, 1105 useable responses remained. Subsequent removal of responses from non-UK veterinarians left 662 useable responses from UK veterinarians.

Of all UK respondents, 89.1% (n=590/662) conducted small animal work only, while the remaining 10.9% (n=72/662) worked in mixed practice. In terms of their current role, 63.1% (n=417/661) were assistant veterinarians, 31.9% (n=211/661) were partners or clinical directors, and the remaining 5.0% (n=33/661) mostly described themselves as locum veterinarians (n=19/33). The year of graduation ranged from 1957 to 2016 (median 2004, interquartile range 1995-2011). The majority of

respondents (99.5%; n=636/639) vaccinated both dogs and cats, while a small number (n=3/639) vaccinated cats only.

In terms of type of practice, 66.0% (n=436/661) worked in an independently-owned practice, 15.0% (n=99/661) in a corporately-owned practice, 14.2% (n=94/661) in a joint-venture partnership, 2.3% (n=15/661) in a charity practice, 2.4% (n=16/661) in another type of practice (one respondent was unsure of their practice type). Almost half of respondents (48.5%; n=309/637) worked in a practice which scheduled a 10 minute appointment for booster vaccination consultations, while 44.3% (n=282/637) worked in a practices which scheduled a 15 minute appointment. The remaining respondents worked either in a practice that scheduled a different appointment length (ranging from 5 to 30 minutes; 4.9%, n=31/637) or operated an open surgery with no scheduled appointment length (2.4%; n=15/637). Most respondents (72.1%; n=459/637) worked in a practice than ran a pet health plan, or similar, allowing clients to spread the annual cost of preventative healthcare via a monthly scheme.

Content of a 'typical' booster vaccination consultation

Clinical examination

Virtually all respondents said they would always or almost always auscultate the chest in both dogs (97.1%; n=603/621) and cats (96.2%; n=587/610) during a booster vaccination involving an adult patient (Table 3). Almost all respondents all said they would examine the mouth and teeth (96.6%, n=599/620 for dogs; 95.9%, n=588/613 for cats) and palpate the abdomen (90.3%, n=559/619 for dogs; 92.4%; n=563/609 for cats).

Very few respondents said they would always or almost always perform a rectal examination (0.6%, n=4/618 for dogs; 1.3%, n=8/608 for cats) or a neurological examination (2.1%, n=13/616 for dogs; 2.1%, n=13/608 for cats).

Respondents stated that they would perform otoscopy, scan for a microchip, check capillary refill time, check pulse, perform a rectal examination and perform a lameness examination more frequently during canine compared with feline booster vaccination consultations (all $p<0.001$).

Table 2. Frequency with which survey respondents reported they would perform various aspects of clinical examination during a typical booster consultation involving an adult dog and an adult cat respectively. Aspects of the clinical examination for which responses differed significantly between dog and cats (on a Mann Whitney U test at the Bonferroni-adjusted significance level of 0.002) are marked with a *.

Examination	Species (Total n)	Always/AA[a] n (%)	Often n (%)	Sometimes n (%)	Rarely n (%)	Never n (%)	p
Examine skin/ coat	Dog (n=620)	549 (88.5)	53 (8.5)	16 (2.6)	2 (0.3)	0 (0.0)	0.719
	Cat (n=613)	548 (89.4)	50 (8.2)	14 (2.3)	1 (0.2)	0 (0.0)	
Examine mouth/ teeth	Dog (n=620)	599 (96.6)	18 (2.9)	2 (0.3)	0 (0.0)	1 (0.2)	0.478
	Cat (n=613)	588 (95.9)	21 (3.4)	3 (0.5)	1 (0.2)	0 (0.0)	
Examine eyes (no ophthalmoscope)	Dog (n=620)	554 (89.4)	40 (6.5)	14 (2.3)	11 (1.8)	1 (0.2)	0.935
	Cat (n=611)	548 (89.7)	38 (6.2)	13 (2.1)	12 (2.0)	0 (0.0)	
Examine ears (no otoscope)	Dog (n=618)	551 (89.2)	44 (7.1)	19 (3.1)	4 (0.6)	0 (0.0)	0.522
	Cat (n=612)	541 (88.4)	38 (6.2)	21 (3.4)	11 (1.8)	1 (0.2)	
Ophthalmoscopy	Dog (n=611)	25 (4.1)	32 (5.2)	292 (47.8)	230 (37.6)	32 (5.2)	0.836
	Cat (n=608)	22 (3.6)	50 (8.2)	268 (44.1)	234 (38.5)	34 (5.6)	
Otoscopy	Dog (n=612)	25 (4.1)	59 (9.6)	334 (54.5)	167 (27.3)	27 (4.4)	<0.001*
	Cat (n=608)	20 (3.3)	32 (5.3)	250 (41.1)	256 (42.1)	50 (8.2)	
Measure body temperature	Dog (n=610)	32 (5.2)	40 (6.6)	156 (25.6)	307 (50.3)	75 (12.3)	0.027
	Cat (n=606)	31 (5.1)	24 (4.0)	141 (23.3)	318 (52.5)	92 (15.2)	
Weigh patient	Dog (n=619)	549 (88.7)	56 (9.0)	11 (1.8)	2 (0.3)	1 (0.2)	0.249
	Cat (n=611)	555 (90.8)	39 (6.4)	12 (2.0)	4 (0.7)	1 (0.2)	
Assess body condition score	Dog (n=621)	472 (76.0)	106 (17.1)	29 (4.7)	11 (1.8)	3 (0.5)	0.514
	Cat (n=612)	456 (74.5)	110 (18.0)	37 (6.0)	7 (1.1)	2 (0.3)	
Scan for a microchip	Dog (n=618)	190 (30.7)	156 (25.2)	166 (26.9)	95 (15.4)	11 (1.8)	<0.001*
	Cat (n=609)	141 (23.2)	120 (19.7)	205 (33.7)	124 (20.4)	19 (3.1)	
Palpate lymph nodes	Dog (n=622)	511 (82.2)	64 (10.3)	34 (5.5)	11 (1.8)	2 (0.3)	0.096
	Cat (n=610)	483 (79.2)	59 (9.7)	50 (8.2)	15 (2.5)	3 (0.5)	
Auscultate chest	Dog (n=621)	603 (97.1)	12 (1.9)	3 (0.5)	3 (0.5)	0 (0.0)	0.359
	Cat (n=610)	587 (96.2)	15 (2.5)	5 (0.8)	3 (0.5)	0 (0.0)	
Check capillary refill time	Dog (n=618)	358 (57.9)	125 (20.2)	74 (12.0)	51 (8.3)	10 (1.6)	<0.001*
	Cat (n=608)	309 (50.8)	94 (15.5)	107 (17.6)	82 (13.5)	16 (2.6)	
Check pulse	Dog (n=620)	336 (54.2)	121 (19.5)	102 (16.5)	52 (8.4)	9 (1.5)	<0.001*
	Cat (n=609)	286 (47.0)	92 (15.1)	132 (21.7)	79 (13.0)	20 (3.3)	
Palpate abdomen	Dog (n=619)	559 (90.3)	41 (6.6)	17 (2.7)	1 (0.2)	1 (0.2)	0.208
	Cat (n=609)	563 (92.4)	35 (5.7)	9 (1.5)	1 (0.2)	1 (0.2)	
Rectal examination	Dog (n=618)	4 (0.6)	15 (2.4)	164 (26.5)	356 (57.6)	79 (12.8)	<0.001*
	Cat (n=608)	8 (1.3)	2 (0.3)	27 (4.4)	264 (43.4)	307 (50.5)	
Lameness examination	Dog (n=617)	47 (7.6)	64 (10.4)	249 (40.4)	220 (35.7)	37 (6.0)	<0.001*
	Cat (n=606)	27 (4.5)	46 (7.6)	177 (29.2)	280 (46.2)	76 (12.5)	
Neurological examination	Dog (n=616)	13 (2.1)	15 (2.4)	148 (24.0)	343 (55.7)	97 (15.7)	0.088
	Cat (n=608)	13 (2.1)	15 (2.4)	125 (20.6)	343 (56.4)	112 (18.4)	

[a]Always/AA: Always or almost always

Topics discussed

The majority of respondents said they would always or almost always discuss parasite prevention with owners of dogs (66.6%; n=412/619) and cats (73.3%; n=445/607) during a booster vaccination involving an adult patient (Table 4). Very few respondents said they would always or almost always discuss grooming (3.9%, n=24/615 for dogs; 5.6%, n=34/610 for cats) or behaviour (4.6%, n=28/615 for dogs; 5.1%, n=31/608 for cats).

Respondents stated that they would discuss microchipping, routine dental care, behaviour and breed-specific health problems more frequently during canine compared with feline booster vaccination consultations (all p<0.001). Conversely, respondents stated that they would discuss neutering and grooming more frequently during feline compared with canine booster vaccination consultations (both p<0.001).

Table 3. Frequency with which survey respondents reported they would discuss various healthcare topics during a typical booster consultation involving an adult dog and an adult cat respectively. Topics of discussion for which responses differed significantly between dog and cats (on a Mann Whitney U test at the Bonferroni-adjusted significance level of 0.002) are marked with a *.

Topic	Species (Total n)	Always/AA[a] n (%)	Often n (%)	Sometimes n (%)	Rarely n (%)	Never n (%)	p
Parasite prevention	Dog (n=619)	412 (66.6)	175 (28.3)	30 (4.8)	1 (0.2)	1 (0.2)	0.007
	Cat (n=607)	445 (73.3)	146 (24.1)	12 (2.0)	3 (0.5)	1 (0.2)	
Microchipping (if applicable)	Dog (n=619)	365 (59.0)	165 (26.7)	70 (11.3)	15 (2.4)	4 (0.6)	<0.001*
	Cat (n=610)	192 (31.5)	179 (29.3)	180 (29.5)	50 (8.2)	9 (1.5)	
Neutering (if applicable)	Dog (n=619)	309 (49.9)	213 (34.4)	81 (13.1)	15 (2.4)	1 (0.2)	<0.001*
	Cat (n=613)	392 (63.9)	139 (22.7)	63 (10.3)	15 (2.4)	4 (0.7)	
Routine dental care	Dog (n=620)	232 (37.4)	268 (43.2)	104 (16.8)	13 (2.1)	3 (0.5)	<0.001*
	Cat (n=612)	205 (33.5)	193 (31.5)	152 (24.8)	52 (8.5)	10 (1.6)	
Grooming	Dog (n=615)	24 (3.9)	72 (11.7)	245 (39.8)	241 (39.2)	33 (5.4)	<0.001*
	Cat (n=610)	34 (5.6)	94 (15.4)	277 (45.4)	175 (28.7)	30 (4.9)	
Behaviour	Dog (n=615)	28 (4.6)	155 (25.2)	316 (51.4)	112 (18.2)	4 (0.7)	<0.001*
	Cat (n=608)	31 (5.1)	104 (17.1)	280 (46.1)	172 (28.3)	21 (3.5)	
Nutrition	Dog (n=619)	79 (12.8)	247 (39.9)	247 (39.9)	46 (7.4)	0 (0.0)	0.085
	Cat (n=611)	78 (12.8)	225 (36.8)	243 (39.8)	61 (10.0)	4 (0.7)	
Breed-specific health problems	Dog (n=616)	53 (8.6)	239 (38.8)	263 (42.7)	60 (9.7)	1 (0.2)	<0.001*
	Cat (n=608)	42 (6.9)	104 (17.1)	250 (41.1)	186 (30.6)	26 (4.3)	
Pet insurance (if applicable)	Dog (n=618)	51 (8.3)	165 (26.7)	271 (43.9)	110 (17.8)	21 (3.4)	0.167
	Cat (n=608)	63 (10.4)	135 (22.2)	258 (42.4)	115 (18.9)	37 (6.1)	

[a]Always/AA: Always or almost always

Strategies for maximising the benefits of the consultation

Strategies already trialled

Just over half of respondents (54.1%; n=323/597) worked in a practice which had trialled one or more strategies in an attempt to maximise the effectiveness of the booster vaccination consultation. Another 43.9% of respondents (n=262/597) worked in a practice which had not yet tried any strategies, while the remaining 2.0% (n=12/597) were unsure as to whether their practice had tried any strategies.

The most commonly trialled strategy was the use of supplementary reading materials (e.g. leaflets) for clients (34.0%; n=203/597). Veterinarians generally perceived these to be practical and easy to use, but were unsure how effective they were:

Respondent 547: *'There is a cupboard dedicated to storage of client information leaflets at our practice so it is not too difficult to locate some relevant literature for most common problems. I am not sure how effective these leaflets are as they usually supplement verbal instructions/information'*

Increasing the length of the consultation (18.6%; n=111/597) was the next most frequently trialled strategy, and was generally very positively perceived by veterinarians who had tried it, though some highlighted practical issues with longer consultations:

Respondent 509: *'The 20 minute appointment slots for boosters are very useful. Although not all boosters need 20 minutes (some are comfortably completed in 10 minutes if there are no issues) other animals come in with a range of things that aren't right, or that the owners want to discuss. Owners often use the booster consultation as an opportunity to discuss things they've been monitoring for a while, and also to bring up behavioural problems etc. 20 minutes allows time for a full history, clinical exam and address any problems'*

Respondent 207: *'Increasing the allocated consult time is the best thing but if the practice is busy that does tend to be converted into catch up time'*

Some veterinarians (12.6%; n=75/597) had used checklists during the consultation, however there were mixed opinions on this strategy, with many feeling it was useful in some circumstances but not others:

Respondent 415: *'Useful for less experienced vets. There is a tendency for those who need it most to use it least!'*

Respondent 525: *'We use a checklist currently. Some vets feel it does add benefit to the consult but I personally find it awkward to complete with the client there and a little irrelevant'*

Some veterinarians had experience with veterinary nurse involvement within their vaccination consultations (12.6%; n=75/597). A smaller subset of veterinarians (5.9%; n=35/597) had experience with running a separate veterinary nurse consultation prior to the booster vaccination consultation. Those with experience of veterinary nurse involvement generally found it to be useful though several acknowledged that it was often not practical due to limited staff, time and consultation space:

Respondent 476: *'Using nurses to call in client, perform basic exam, scan chip, discuss neutering/parasites/teeth care/behaviour. Vet does rest of exam and then nurse gives vaccine. This works well in a charity practice for young and adult patients and clients get more time spent with them overall as 15 minute appointment allowed. For geriatrics our vet does the full consult'*

Respondent 568: *'Nurses see all puppies/kittens prior to 1st vaccines and do 2nd vaccines – we had wanted to move to nurses seeing all boosters prior to the vet, however due to how busy nurse consultations are and the need to expand from 4 to 6 consult rooms we are unable to do this'*

Smaller numbers of respondents worked in practices who had trialled an owner questionnaire prior to the consultation (7.9%; n=47/597) and most who had experience of this strategy did not feel it was practical or effective:

Respondent 632: *'Tried questionnaires and they made life more difficult. If running on time owners were bothered that they didn't have time to fill them in. Took more time to go through answers than it would have taken to ask the questions directly. Stopped them after a couple of weeks'*

Perceived practicality of suggested strategies

Overall, checklists and supplementary reading material were felt to be very practical strategies by 16.9% of respondents (n=100/591 and n=100/592 respectively), while increased consultation length and the use of an owner questionnaire prior to the consultation were felt to be very practical by only 8.8% of respondents (n=52/590 and n=52/592 respectively) (Figure 1). Fewer respondents felt that further involvement of veterinary nurses, either during the current consultation (5.8%; n=34/591) or during a separate consultation (3.5%; n=21/592) would be a very practical strategy to maximise the benefits of the consultation. However, there was a full range of responses for each strategy, with no one strategy almost universally perceived to be practical or impractical by most respondents.

Perceived effectiveness of suggested strategies

Increasing the scheduled consultation length appeared to be the strategy perceived to be very effective by the most veterinarians (20.3%; n=120/591) (Figure 2). However, not all veterinarians shared this perception as 33.8% still gave increasing consultation length a rating between 4 (neutral) and 7 (very ineffective). For the other strategies listed, there was a wide range of responses with no one strategy standing out as being perceived to be effective or ineffective by most respondents.

Discussion

This novel study is the first to describe in detail what UK veterinarians report they do during canine and feline booster vaccination consultations. Previous research involving observation of preventative healthcare consultations found that the majority involved a full clinical examination and other topics were frequently discussed[1]. The current study adds to the current understanding of these consultations by revealing the full extent and thoroughness of this examination and the range of topics discussed in booster vaccination consultations. However these consultations vary widely and there are a number of areas where veterinarians alter their behaviours between species. Veterinarians reported they were already trying various strategies to optimise booster vaccination consultations with varying success. Not one particular strategy was universally perceived as being practical and effective, so any guidance developed around optimising these consultations needs to be flexible to allow for individual differences between veterinarians and practices.

Interestingly, veterinarians reported that they would conduct various aspects of the clinical examination, for example otoscopy and lameness examinations, more frequently in canine compared with feline booster consultations. This is perhaps unsurprising given that previous literature has suggested that otitis externa and osteoarthritis are among the most common diagnoses made during canine consultations[12], and are diagnosed more frequently in dogs than in cats[13-14]. It could be that these diseases are more prevalent in the pet dog population than the pet cat population, and so these components of the examination are seen as more useful or important by veterinarians. In addition, it could be that owners are more likely to identify certain health problems in dogs compared with cats, for example, owners may notice lameness more readily in dogs due to walking their pet, which highlights a potential welfare concern for feline patients. There may be other reasons for these differences between the species, for example, practicality of performing the examination which could lead to some conditions being more likely to be identified early in dogs. For example, lameness examinations could include observing the dog's gait by lead walking either within the practice or in an outside space, while assessment of a cat's gait would potentially be more challenging. The Cat Friendly Clinic programme has acknowledged the unique nature and needs of feline patients, both during clinical examination in the consulting room and the rest of the visit, and gives suggestions for how practices can address these issues[15]. For example, secure consultations rooms, allowing feline patients time to emerge from their carrier and adjust to their surroundings, and the use of non-slip surfaces on consulting tables may all reduce stress for the patient and also aid the veterinarian in identifying any clinical examination abnormalities.

Topics reported to be discussed during the consultation also differed between canine and feline booster vaccination consultations. Microchipping and behaviour were both reported to be more frequent topics of discussion in canine consultations, which perhaps reflects recent changes in legislation around compulsory microchipping[16] and the 2014 amendment to the Dangerous Dogs Act[17]. However, even for canine patients, behaviour was still not among the most frequently discussed topics. This provides support from a large sample of veterinarians to initial findings examining behavioural discussions in seventeen booster vaccination consultations. Roshier and

McBride[5] found that while canine behavioural problems were common, they were rarely discussed with the veterinarian during the consultation, and when they were discussed, they were not fully explored and managed. However, previous research has also found that behavioural problems are discussed more frequently during preventative healthcare consultations than during specific health problems consultations[1]. Therefore, implementing strategies which encourage owners to discuss behavioural problems, and facilitate the veterinarian in being able to effectively manage these problems, may help maximise the benefits of these consultations to both patient and owner.

Breed-specific health problems were also reported to be discussed more frequently for dogs during booster vaccination consultations, which could reflect the greater variety of pedigree dogs compared with pedigree cats seen in practice[9], or may reflect increased awareness of breed-related health problems in this species[18-19]. Conversely, some topics, such as neutering, were reported to be more likely to be discussed during feline compared with canine consultations. This is consistent with findings from the PDSA Animal Wellbeing (PAW) report[20], which found that cats were more likely than dogs to be neutered. It perhaps also reflects differences in lifestyle between the two species, with cats often spending large amount of time outside. While this survey was only able to capture species differences in the content of the vaccination consultation, preliminary analysis of qualitative interviews with veterinarians has suggested that the consultation is also structured differently for pets of different ages[21]. This is supported by previous studies, which have found that abnormalities on clinical examination are more common in older compared with younger animals presenting for vaccination[4] and additional health problems are discussed more frequently, while preventative healthcare is discussed less frequently, as an animal ages[9]. It is important to consider that it is likely not only the type of patient which influences the consultation. To some extent, what happens during the consultation is likely to be driven by a number of other factors, which were not directly captured by the current study but were touched upon in some of the open-box qualitative responses. These include owner factors e.g. their expectations of the consultation; veterinarian factors e.g. their experience and training; and practice factors e.g. consultation length, utilisation of support staff and the existence of pet health plans.

The results also suggest veterinary practices are attempting a number of strategies to make the most of the preventative healthcare consultation, with the strategies tried most frequently being those perceived to be the most practical (supplementary reading material) or the most effective (increasing consultation length). The findings also suggest that no one strategy appears to be universally perceived as both practical and effective by all veterinarians. Almost half of veterinarians worked in a practice which had not yet tried any of these strategies, which may be due to current lack of evidence to support the use of these approaches. Interestingly, the majority of veterinarians worked in a practice which currently had a pet health plan in place. To the authors knowledge, this is the first study to examine what veterinarians are currently doing to maximise the benefits of preventative care. The findings are important as they suggest that UK veterinarians are striving to improve their practice, however as of yet, there is insufficient peer-reviewed research to support to use of any of these strategies to improve preventative healthcare consultations. Pet health plans are popular, with potential administrative and financial benefits for practices[8] however their impact upon the content of preventative healthcare consultations, and so upon pet health and welfare, remains unclear. Future research should focus on developing practical, effective strategies to optimise the consultations which are flexible enough to be tailored to individual veterinary practices.

Development of future strategies should involve those with direct experience of these consultations i.e. veterinarians and pet owners, to ensure the strategies developed are feasible to implement in a primary-care practice setting. Until further evidence is available to support these use of the strategies currently being implemented, caution should be exercised when introducing any changes to preventative healthcare consultations to avoid potential negative consequences for patients, owners, veterinarians and practices.

There are several limitations to this study, particularly as it only harnesses the opinion of a small proportion of the UK veterinary profession. Comparison of veterinarian demographic data from survey respondents with data from the most recent RCVS survey of the profession[22] shows a similar distribution in terms of number of responses from assistant partner/director and locum veterinarians. The median year of qualification of those responding to the booster vaccination survey (median = 2004) was more recent than those responding to the 2014 RCVS survey (median = 1997). However a direct comparison is difficult as the current study included only veterinarians who conducted some small animal work, who potentially have different demographics to veterinarians conducting large animal work only. In order to keep the survey concise, it was necessary to focus on booster vaccination consultations, so it is unclear how applicable these results are to consultations involving the primary vaccination course or another aspect of preventative healthcare. Also the survey predominantly focused on what veterinarians currently do and what they have tried, rather than why, though it is expected that the results of in-depth qualitative interviews with veterinarians, which were also conducted as part of the wider project, will explore this in more depth. The survey relied on veterinarians reporting what they did, rather than measuring what they actually do, and so is potentially open to recall bias. However, the areas of consistency with previous literature which have been identified suggest that the degree of recall bias is likely to be minimised. In addition social acceptability bias may have affected the findings as veterinarians may report what they feel they should do rather than what they actually do in PHCs. Online surveys also require respondents to have access to the internet and only 9/10 households in the UK have access which will exclude some people from responding to the surveys[23], however it is likely (but unknown) that the majority of vets have access to the internet at work. A number of different methods of distributing the link to this survey were used to maximise the chance of our target population knowing about the study. As some of this previous research was also conducted by the authors of the current study, particular effort was made to engage respondents who had not been involved in these previous studies.

Ethical approval

Ethical approval was obtained from the ethics committee at the School of Veterinary Medicine and Science, The University of Nottingham for the collection of data through an online survey of veterinarians. The study complied with The University of Nottingham (2016) Code of Research Conduct and Research Ethics[24].

Acknowledgements

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statistical analysis, interpretation of the results, decision to publish and writing of the manuscript were undertaken independently of the funders.

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Context

Booster vaccination consultations account for a large proportion of the small animal veterinary caseload and so represent a considerable opportunity for patient health and welfare to be optimised. Little is currently known about what happens during these consultations and whether veterinarians are implementing any strategies to maximise the potential benefits of these consultations.

Main conclusion

The results from this study suggest that vaccination consultations vary in terms of the clinical examination performed, topics discussed and strategies used to optimise the consultation. The findings build upon previous evidence suggesting that these consultations are highly complex, and highlight a need for practical, evidence-based guidance for veterinarians conducting these consultations.

Approach

An online survey was conducted to harness the opinions of UK veterinarians conducting vaccination consultations. Respondents were asked how often they performed various aspects of the clinical examination, as well as how often they discussed certain topics, during booster vaccination consultations for canine and feline patients respectively. Each respondent was asked whether they have implemented any strategies to optimise these consultations, and if so, their experience of implementing these strategies. Participants were then asked about the perceived practicality and effectiveness of various potential strategies, such as increasing the time allocated for the consultation.

Results

A total of useable 662 responses were received. Some aspects of clinical examination, for example chest auscultation, were performed consistently during booster consultations by most veterinarians (97% (n=603/621) during canine and 96% (n=587/610) during feline consultations). Some tailoring of the consultation to different species was reported, for example microchipping was discussed more frequently during canine versus feline consultations ($p<0.001$). Over half of respondents (54%; n=393/597) had tried at least one strategy to optimise consultations in their practice, with the most commonly tried strategy being supplementary reading material for owners (34%; n=203/597). There were a range of opinions around the practicality and effectiveness of potential strategies to optimise these consultations, however no single strategy appeared to be universally perceived more favourably than others.

Interpretation

This study is the first to describe in detail what UK veterinarians do during canine and feline booster vaccination consultations. The results add to the current understanding of these consultations by revealing the full extent and thoroughness of this examination and the range of topics discussed in booster vaccination consultations. However, these consultations

vary widely and there are a number of areas where veterinary surgeons alter their behaviours between species. The findings also suggest that UK veterinarians are striving to improve their practice, by implementing strategies aimed at optimising booster vaccination consultations. However, there is currently insufficient peer-reviewed research to support any of these strategies, so caution should be used when making any changes to current practice.

Significance of findings

This study has considerable implications for small animal practice in the UK by identifying potential ways to maximise the benefits of vaccination consultations. No single strategy was universally perceived as being practical and effective by most veterinarians, so any guidance developed around optimising these consultations needs to be flexible to allow for individual differences between veterinarians and practices. Given the complexity of these consultations, the wide range of strategies currently being implemented, and the varying perceptions around the practicality and effectiveness of these strategies; it is important that those conducting these consultations are involved in developing any such guidance, to ensure it is feasible in a primary care practice setting.

Preventative healthcare consultation recommendations: Survey 1

Instructions

Thank you for agreeing to take part in our research about preventative healthcare consultations involving dogs and cats. You are part of a small, anonymous panel of veterinary surgeons and pet owners who have considerable experience of these consultations so your input is very valuable to us.

The Centre for Evidence-based Veterinary Medicine have been researching preventative healthcare consultations for a number of years. We have converted the data we have collected (through surveys, observations and interviews) into recommendations that may have the potential to improve these consultations. We now need you to tell us whether or not you think they would help.

You will receive three rounds of this survey over the next 6-8 weeks.

Instructions for completing this first survey

There are 18 recommendations. You will be asked to consider each in turn and select from one of 4 options. Further explanation is given in an example before the first recommendation.

You can email us with any queries about any aspect of the process at cevm@nottingham.ac.uk - we will respond between 9am and 5pm Monday-Friday.

Thank you for your participation.

Definitions

The definitions were are using throughout this survey are:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Preventative medicine(s) : A drug or other preparation (e.g. vaccinations and parasite prevention) used to prevent disease, illness or injury

Practice team: Any member of the practice, including but not limited to veterinary surgeons, veterinary nurses and receptionists, who are involved in any aspect of preventative healthcare.

These definitions will be available again below each statement where that phrase is used.

CENTRE FOR EVIDENCE-BASED VETERINARY MEDICINE
Putting research into practice

Preventative healthcare consultation recommendations: Survey 1

The complete list of recommendations for consideration in this round

Here is an overview of all the recommendations that you will be asked to consider on the following pages. You can return to this overview at any time.

At the end of the survey, you will be shown this full list of recommendations again and will be asked to add anything which you think is missing.

Complete list of recommendations for consideration:

1. To improve consistency across their practice, the practice team should agree on the purpose of their preventative healthcare consultations and what they should include.
2. The practice team should agree on the role of each member of the team (vet, vet nurse, receptionist etc) in the practice preventative healthcare strategy.
3. The practice team should agree how details of the costs of preventative healthcare will be communicated to owners.
4. Practices should make clear to owners the risks associated with preventative medicines and discuss alternatives.
5. Practices should make clear to owners the benefits of preventative healthcare and medicines to the individual animal, to the pet population and to public health.
6. Each patient should be at allocated at least 15 minutes for a preventative healthcare consultation.
7. The time allocated for each preventative healthcare consultation should be tailored to the individual patient and adjusted for patient age, species and known pre-existing conditions.
8. Prior to each preventative healthcare consultation, the practice should explain to owners what may happen and what topics may be discussed.
9. Prior to each preventative healthcare consultation, the practice should make it clear to owners that the content of the consultation may vary dependent upon species, breed, age and health of the patient, as well as the needs and experience of the owner(s).
10. Prior to each preventative healthcare consultation the practice should make it clear to owners that they can choose which veterinary surgeon they see.
11. Prior to each preventative healthcare consultation the practice should encourage owners to consider any questions they have about their pet's health or preventative healthcare.
12. At the start of each preventative healthcare consultation, owners should be directly asked how much they understand about preventative healthcare and medicines.
13. During each preventative healthcare consultation, owners should be encouraged to ask any questions they have about their pet's health or preventative healthcare.
14. During each preventative healthcare consultation, a full clinical examination should be undertaken by a veterinary surgeon.
15. As part of each preventative healthcare consultation, patients should be weighed and have their body condition score assessed using a scale agreed by the practice team.
16. During each preventative healthcare consultation, owners should be made aware of both normal and abnormal findings from a clinical examination.
17. During each preventative healthcare consultation, it must be ensured that owners understand the rationale behind any recommendations made and alternatives discussed where appropriate.
18. At the end of a preventative healthcare consultation, a written summary of the findings and a plan for managing the patient's healthcare needs should be given to owners**.**

CENTRE FOR EVIDENCE-BASED VETERINARY MEDICINE
Putting research into practice

Preventative healthcare consultation recommendations: Survey 1

Example recommendation with instructions

How to complete your response to each recommendation:

The layout for each recommendation is shown in the example below. Each comes with the same four response options. You can choose only one option per recommendation, and all recommendations require a response. When reading the recommendations please don't worry about whether or not this recommendation would be feasible in your own practice. Instead, please think about whether you agree that the recommendation would improve preventative healthcare consultations if you were able to implement it.

If you agree with content and wording of a recommendation and believe it would improve preventative healthcare consultations, select **Agree**.

If you believe a recommendation would NOT improve preventative healthcare consultations, select **Disagree**.

If you want to change any aspect of the wording of a recommendation, select **Reword** and provide details in the box below.

If you don't understand, need more detail, or think a recommendation is not relevant to you, select **I need more information** and provide details in the box below. Any information you provide here will be used to develop the next round of the survey.

The first recommendation for you to consider is on the next page.

* 1. Recommendation 1:

To improve consistency across their practice, the practice team should agree on the purpose of their preventative healthcare consultations and what they should include.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

CENTRE FOR EVIDENCE-BASED VETERINARY MEDICINE
Putting research into practice

Preventative healthcare consultation recommendations: Survey 1

Recommendation 1

* 1. Recommendation 1:

To improve consistency across their practice, the practice team should agree on the purpose of their preventative healthcare consultations and what they should include.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Practice team: Any member of the practice, including but not limited to veterinary surgeons, veterinary nurses and receptionists, who are involved in any aspect of preventative healthcare.

Recommendation 2

* 2. Recommendation 2:

The practice team should agree on the role of each member of the team (vet, vet nurse, receptionist etc) in the practice preventative healthcare strategy.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Practice team: Any member of the practice, including but not limited to veterinary surgeons, veterinary nurses and receptionists, who are involved in any aspect of preventative healthcare.

Recommendation 3

* 3. Recommendation 3:

The practice team should agree how details of the costs of preventive healthcare will be communicated to owners.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Practice team: Any member of the practice, including but not limited to veterinary surgeons, veterinary nurses and receptionists, who are involved in any aspect of preventative healthcare.

Recommendation 4

* 4. Recommendation 4:

Practices should make clear to owners the risks associated with preventative medicines and discuss alternatives.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative medicine(s) : A drug or other preparation (e.g. vaccinations and parasite prevention) used to prevent disease, illness or injury

Recommendation 5

* 5. Recommendation 5:

Practices should make clear to owners the benefits of preventative healthcare and medicines to the individual animal, to the pet population and to public health.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Preventative medicine(s) : A drug or other preparation (e.g. vaccinations and parasite prevention) used to prevent disease, illness or injury

Recommendation 6

* 6. Recommendation 6:

Each patient should be at allocated at least 15 minutes for a preventative healthcare consultation.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Recommendation 7

* 7. Recommendation 7:

The time allocated for each preventative healthcare consultation should be tailored to the individual patient and adjusted for patient age, species and known pre-existing conditions.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Recommendation 8

* 8. Recommendation 8:

Prior to each preventive healthcare consultation, the practice should explain to owners what may happen and what topics may be discussed.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Recommendation 9

* 9. Recommendation 9:

Prior to each preventive healthcare consultation, the practice should make it clear to owners that the content of the consultation may vary dependent upon species, breed, age and health of the patient, as well as the needs and experience of the owner(s).

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Recommendation 10

* 10. Recommendation 10:

Prior to each preventive healthcare consultation the practice should make it clear to owners that they can choose which veterinary surgeon they see.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Recommendation 11

* 11. Recommendation 11:

Prior to each preventive healthcare consultation the practice should encourage owners to consider any questions they have about their pet's health or preventative healthcare.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Recommendation 12

* 12. Recommendation 12:

At the start of each preventative healthcare consultation, owners should be directly asked how much they understand about preventative healthcare and medicines.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Preventative medicine(s) : A drug or other preparation (e.g. vaccinations and parasite prevention) used to prevent disease, illness or injury

Recommendation 13

* 13. Recommendation 13:

During each preventative healthcare consultation, owners should be encouraged to ask any questions they have about their pet's health or preventative healthcare.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Recommendation 14

* 14. Recommendation 14:

During each preventative healthcare consultation, a full clinical examination should be undertaken by a veterinary surgeon.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Recommendation 15

* 15. Recommendation 15:

As part of each preventative healthcare consultation, patients should be weighed and have their body condition score assessed using a scale agreed by the practice team.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Practice team: Any member of the practice, including but not limited to veterinary surgeons, veterinary nurses and receptionists, who are involved in any aspect of preventative healthcare

Recommendation 16

* 16. Recommendation 16:

During each preventative healthcare consultation, owners should be made aware of both normal and abnormal findings from a clinical examination.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Recommendation 17

* 17. Recommendation 17:

During each preventative healthcare consultation, it must be ensured that owners understand the rationale behind any recommendations made and alternatives discussed where appropriate.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

Recommendation 18

* 18. Recommendation 18:

At the end of a preventative healthcare consultation, a written summary of the findings and a plan for managing the patient's healthcare needs should be given to owners.

- ◯ **Agree** - This recommendation would improve preventative healthcare consultations
- ◯ **Disagree** - This recommendation would not improve preventative healthcare consultations
- ◯ **Reword** - I want to change the wording of this statement
- ◯ **I need more information before I can decide**

If you chose "reword" or "I need more information", please enter the re-worded phrase, or your query here.

Definitions relevant to the recommendation above:

Preventative healthcare : Any strategy (including the use of preventative medicines) intended to prevent disease, illness or injury

CENTRE FOR EVIDENCE-BASED VETERINARY MEDICINE
Putting research into practice

Preventative healthcare consultation recommendations: Survey 1

The complete list of recommendations for consideration

Having considered each recommendation individually, please look through the complete list of 18 original recommendations again. If there are any additional recommendations that you think could improve preventative healthcare consultations but are not included in either this original list or in your revised wording, please add these to the box at the end.

Recommendations for consideration:

1. To improve consistency across their practice, the practice team should agree on the purpose of their preventative healthcare consultations and what they should include.
2. The practice team should agree on the role of each member of the team (vet, vet nurse, receptionist etc) in the practice preventative healthcare strategy.
3. The practice team should agree how details of the costs of preventative healthcare will be communicated to owners.
4. Practices should make clear to owners the risks associated with preventative medicines and discuss alternatives.
5. Practices should make clear to owners the benefits of preventative healthcare and medicines to the individual animal, to the pet population and to public health.
6. Each patient should be at allocated at least 15 minutes for a preventative healthcare consultation.
7. The time allocated for each preventative healthcare consultation should be tailored to the individual patient and adjusted for patient age, species and known pre-existing conditions.
8. Prior to each preventative healthcare consultation, the practice should explain to owners what may happen and what topics may be discussed.
9. Prior to each preventative healthcare consultation, the practice should make it clear to owners that the content of the consultation may vary dependent upon species, breed, age and health of the patient, as well as the needs and experience of the owner(s).
10. Prior to each preventative healthcare consultation the practice should make it clear to owners that they can choose which veterinary surgeon they see.
11. Prior to each preventative healthcare consultation the practice should encourage owners to consider any questions they have about their pet's health or preventative healthcare.
12. At the start of each preventative healthcare consultation, owners should be directly asked how much they understand about preventative healthcare and medicines.
13. During each preventative healthcare consultation, owners should be encouraged to ask any questions they have about their pet's health or preventative healthcare.
14. During each preventative healthcare consultation, a full clinical examination should be undertaken by a veterinary surgeon.
15. As part of each preventative healthcare consultation, patients should be weighed and have their body condition score assessed using a scale agreed by the practice team.
16. During each preventative healthcare consultation, owners should be made aware of both normal and abnormal findings from a clinical examination.
17. During each preventative healthcare consultation, it must be ensured that owners understand the rationale behind any recommendations made and alternatives discussed where appropriate.
18. At the end of a preventative healthcare consultation, a written summary of the findings and a plan for managing the patient's healthcare needs should be given to owners**.**

19. Please insert any additional recommendations that you think would improve preventative healthcare consultations in the box below.

Thank you

Thank you for taking the time to submit your responses. If you would like to leave any further comments about any aspect of the process, please feel free to do so in the box below.

Once you have responded to all questions, please select 'Done' below to finish the survey. Once you select this option, you will no long be able to edit any of your responses.

We will be in touch by email with information about the next round shortly.

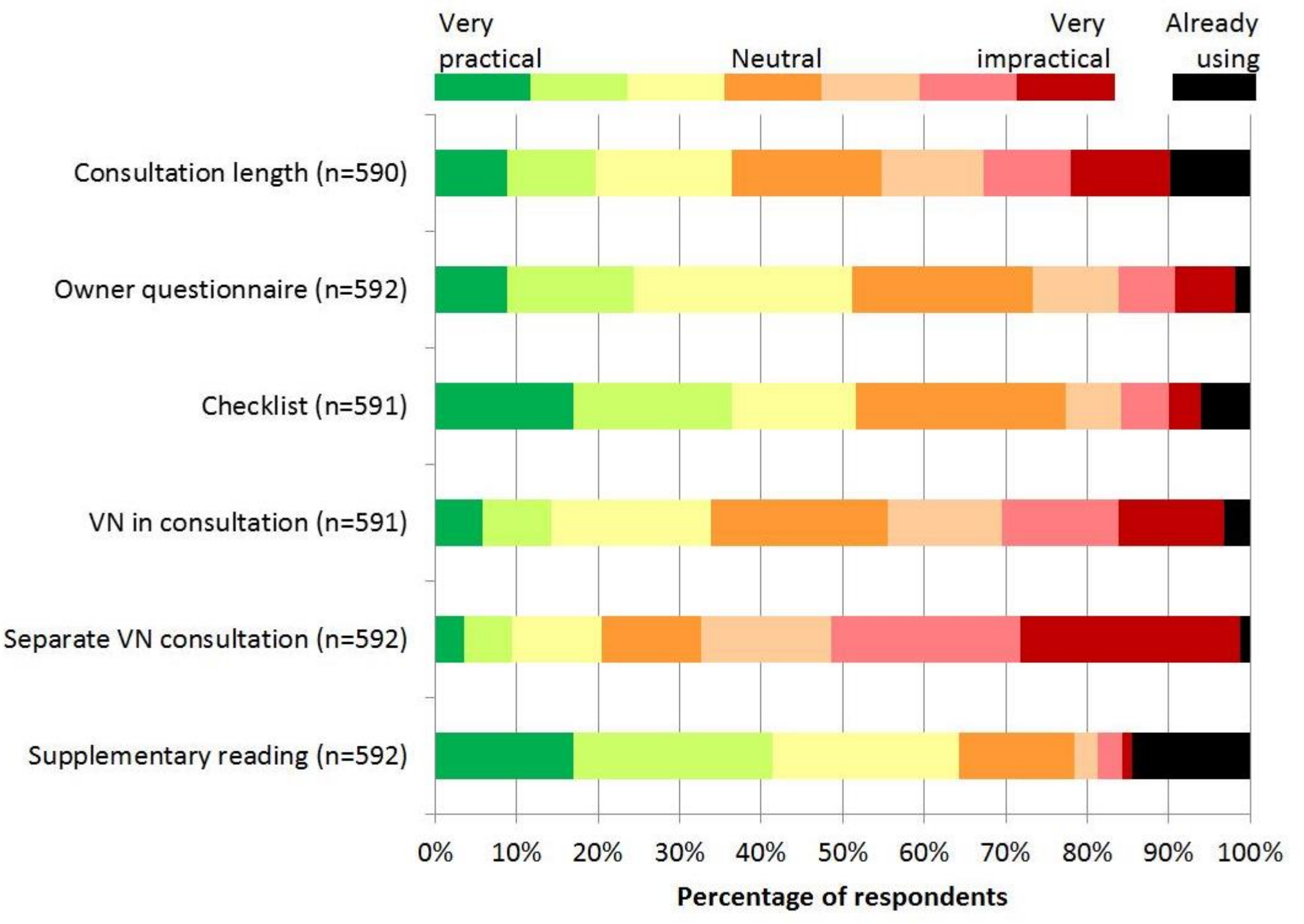
20. Further comments.

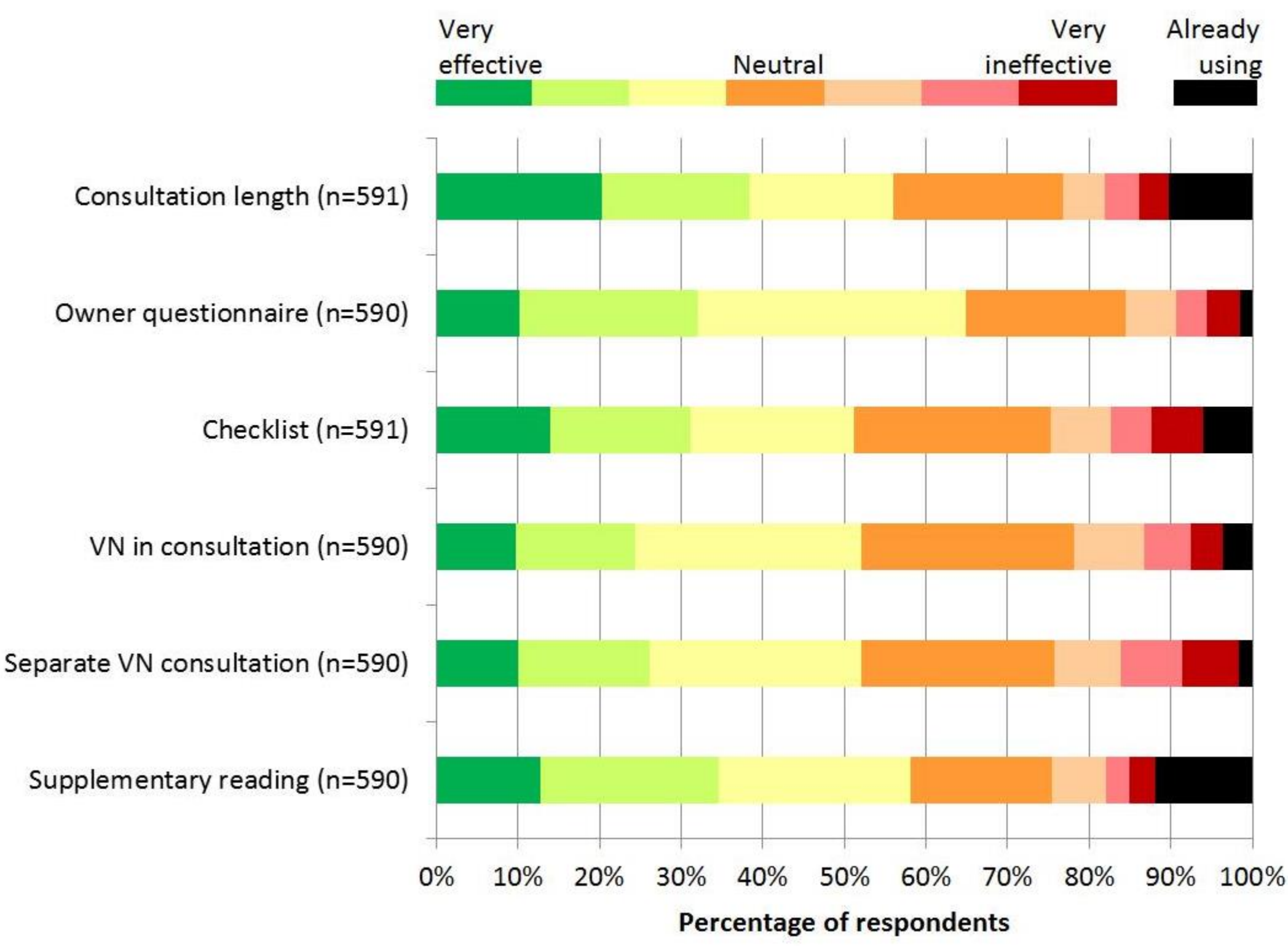
Figure 1. The perceived practicality of suggested strategies[a] for maximising the benefit of the preventative healthcare consultation by respondents to the canine and feline booster vaccination consultation survey. As this question was about perceived practicality of implementing this strategy, respondents working in practices currently using this strategy were asked to select 'already using'.

[a]Suggested strategies were:
Consultation length: Increasing the time allocated for the consultation
Owner questionnaire: Providing owners with a questionnaire to complete before the consultation
Checklist: Use of a checklist by the veterinarian during the consultation
VN in consultation: Involvement of a veterinary nurse in the consultation
Separate VN consultation: A separate consultation with a veterinary nurse following the booster vaccination consultation
Supplementary reading: Provision of supplementary reading material to owners e.g. leaflets

Figure 2. The perceived effectiveness of suggested strategies[a] for maximising the benefit of the preventative healthcare consultation by respondents to the canine and feline booster vaccination consultation survey. Total number of respondents for each strategy are given in brackets in the left hand column. As this question was about perceived effectiveness of implementing this strategy, respondents working in practices currently using this strategy were asked to select 'already using'

[a]Suggested strategies were:
Consultation length: Increasing the time allocated for the consultation
Owner questionnaire: Providing owners with a questionnaire to complete before the consultation
Checklist: Use of a checklist by the veterinarian during the consultation
VN in consultation: Involvement of a veterinary nurse in the consultation
Separate VN consultation: A separate consultation with a veterinary nurse following the booster vaccination consultation
Supplementary reading: Provision of supplementary reading material to owners e.g. leaflets


Very practical
Neutral
Very impractical
Already using
Consultation length (n=590)
Owner questionnaire (n=592)
Checklist (n=591)
VN in consultation (n=591)
Separate VN consultation (n=592)
Supplementary reading (n=592)
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percentage of respondents


Very effective
Neutral
Very ineffective
Already using
Consultation length (n=591)
Owner questionnaire (n=590)
Checklist (n=591)
VN in consultation (n=590)
Separate VN consultation (n=590)
Supplementary reading (n=590)
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percentage of respondents