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UK-based multicentre cross-sectional study assessing advice requests veterinary dermatologists received from general practitioners

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1 UK-based multi-centre cross-sectional pilot study assessing advice requests

2 received by veterinary dermatologists from general practitioners

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6

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32

33

1 Abstract

2

3 Background

4

5 There is little information regarding the nature of advice requests received by Veterinary

- 6 Dermatologists from general practitioners. Collation of such data could allow better targeting of under-
- 7 and post-graduate teaching.

89 Methods

10

11 Dermatologists completed hand-written recording sheets during or after enquiries collating information

12 including route of enquiry, nature of advice, material provided, practice type and location, animal

signalment, presenting signs, diagnosis/differential diagnosis, treatment and referral recommendations,
 time taken, and if charges were made.

15

16 Results

17

18 12 Dermatology services recorded 768 advice requests over a six month period. Most requests were

- 19 submitted via email relating to canine dermatology (81%). An average of 9.5 minutes were spent
- 20 replying to requests. Charges were made in 2% of cases. Advice regarding otitis followed by pruritus,
- alopecia and crusting was most sought. Most frequently discussed diagnoses included allergy followed

by otitis, pyoderma, demodicosis, dermatophytosis and neoplasia. Antibiotics, anti-pruritic and topical

- 23 otic medications were the most commonly discussed therapeutics.
- 24

25 Limitations

As an initial study, future studies should identify why advice is sought, decision making regarding referral and if advice should be charged similar to other disciplines.

29 Conclusions

These findings highlight that veterinarians mostly frequently seek advice on management of common
 dermatological problems including allergy, otitis and pyoderma.

33

28

34 INTRODUCTION

35

Up until the 1950s, veterinary services were predominantly provided by general practitioners in mixed
 practice environments. Species specific practices followed by speciality colleges and residencies in
 these areas developed soon after. In the early 1990s specialisation was developed in Europe with the

- 39 European Board of Specialisation (EBVS).
- 40

41 Initially, veterinary specialists were employed in teaching hospitals which obtained the majority of their

- 42 patient and client base through referrals. The principal aims of specialist university practice was to
- 43 provide teaching material for undergraduates and offer referral for specialist expertise and facilities to
- 44 primary care clinicians, patients and clients. It became commonplace for specialists working within
- universities to respond to advice requests. Advice was typically free of charge, helped with clinician and
 referring veterinarian relationship and generated referral of cases.
- 40 47
- 48 Although Teller and Moberly reported in their 2020 review that paid veterinary teleradiology began in
- 49 the mid-1980s¹, paid specialist telemedicine services have only recently emerged in the United Kingdom
- 50 (UK) with diagnostic imaging is most well-developed.
- 51

- 1 Dermatology is a discipline that has always attracted a large number of advice calls. The non life-
- 2 threatening and chronic nature of most skin diseases and lack of requirement for advanced facilities
- 3 and technical skills all contribute to this situation. Furthermore, the visual nature of the discipline has
- 4 made it particularly suitable for modern day advice requests involving emails and digital images.
- 5
- 6 The purpose of this initial study was to collect data on the prevalence, volume and nature of advice
- 7 enquiries received by Veterinary Dermatologists on a day-to-day basis, either in University Veterinary
- 8 Teaching Hospitals or private referral practices. This data would provide important information on the
- 9 type of skin conditions that general practitioners seek advice on. The aim was to see if advice requests
- 10 constitute routine cases where primary care vets felt poorly equipped to deal with them or more 11 complex uncommon cases where referral clinician's advice was sought due to their in-depth knowledge
- 12 and experience in dealing with these types of cases. It was hoped that this initial study may identify gaps
- 13 in primary care veterinary knowledge leading on to further studies to look at specific conditions in more
- 14 detail. In addition, it may result in the creation of information sheets and website resources for
- 15 common conditions. Consequently, data may help veterinary teachers for identifying potential
- 16 knowledge gaps in undergraduate curricula, and also to continue professional development (CPD)
- 17 providers to help to plan and adjust their continuing education programs.
- 18

19 MATERIALS AND METHODS

- 20 Collaborators were recruited based on the principal authors professional knowledge and networks.
- 21 Practices represented busy private owned, corporate owned and veterinary school dermatology referral
- 22 practices and were spread throughout the UK to try to negate regional variation. Nobody who was
- 23 invited to collaborate declined. The principal dermatologist in each clinic was asked to submit their
- 24 records of enquiries. Advice requests were included where a veterinary surgeon wanted specialist
- 25 clinical input on a case that had not been seen by the dermatologist. Where veterinary surgeon's
- 26 enquiries related specifically to costs of treatment or guidelines for referral this data was also added.
- 27 Incomplete submissions were also included. In order to ensure complete anonymisation of the data the
- 28 investigators were asked not to submit any practice, client or animal detail.
- 29
- 30 Data was obtained between October 2016 and March 2017 by seven ECVD board-certified veterinary
- 31 dermatologists, one ECVD resident in Veterinary Dermatology, two RCVS recognised specialist in
- 32 Veterinary Dermatology and one Advanced Practitioner in Veterinary Dermatology working at the
- 33 following practices: Bristol Veterinary School/Langford Vets (Langford), Royal Veterinary College
- 34 (Potters Bar), Rutland House Referrals (St Helens), Filippo De Bellis (FDB) Dermatology Consultancy
- 35 (London, Welwyn, Ringwood and Swindon), Dermatology Referrals (City), Periderm (West Buckland,
- 36 Bradley Stoke and Dursley), Willows referrals (Shirley), Derm4Pets (Little Chalfont), Dermatology
- 37 Referrals Anita Patel (Warlingham), Veterinary Dermatology Referrals Janet Littlewood (Landbeach), The 38 Skin Vet (Brighton & Hove) and the Royal Dick School of Veterinary Studies (Edinburgh).
- 39
- 40 Data was collected by each dermatologist using they own wording being and recorded on a non-piloted
- 41 recording sheet (Table 1). Briefly, the datasheet contained route and nature of advice, case details,
- 42 summary of reply to advice, duration reply to request took, involved charges amongst other
- 43 information. The collaborators were encouraged to record every advice request on the paper recording
- 44 sheet during or immediately after provision of advice. Data were entered by the primary author and one
- 45 of the other study participants into an Excel spreadsheet and analysed by another collaborator using
- 46 descriptive statistics. The mean and standard deviation were calculated for each data set.
- 47

RESULTS 48

- 49 A total of 768 advice requests were dealt with during the study period. The type of advice requests
- 50 received, and the responses provided, are shown in Table 2. Seventy four percent (578) of advice
- 51 requests came in via email and 25% (194) were by phone. The remaining 1% of advice were delivered

- via personal communication (7), WhatsApp (1) or fax (3). However, when the dermatologists
 responded, 53% (419) were via email and 46% (358) were by phone. Two percent of the responses were
 made via personal communication (7), WhatsApp (1) or fax (2). 89% (683) of the veterinarians asking
 for advice were working in a small animal practice, 8% (63) were from mixed animal practices and 2%
 (17) were from large animal practices. In 1% (5), the type of practice was not recorded. Forty six percent
 (355) of the advice requests resulted in a recommendation of referral whereas 53% (409) did not. In 1%
 (4) it was not recorded.
- 8

9 The type of information sent to dermatologists to support advice requests is shown in Table 3. In nearly

70% of cases, some form of written or digital material was sent to the dermatologist for analysis. In
 30% of cases, no information was sent and the request involved only a phone call or a simple question.

12 The type of advice sought for is summarised in Table 4. Treatment advice was by far the most common

- 13 request followed by advice about diagnosis. Other enquiries included questions about costs and
- 14 quotes; guidelines on referral; dietary advice; pathophysiology and availability of facilities/equipment.
- 15

16 The time spent on dealing with an advice request ranged from 1 minute to 60 minutes, with a mean of

- 17 9.5 minutes. The total time spent on these recorded advice requests was over 120 hours. Of the 768
- advice requests, 17 (2.34%) were charged a fee which ranged from £30-40, with a mean of £35. The

19 mean charge rate for these 17 advice requests was £100 per hour. In view of the small numbers of these

cases where a charge was levied, further analysis was not performed on these figures.

626/768 (81%) advice requests were about dogs, 109 (14%) involved cats and 21 (3%) involved horses.
Other species, or non-species related questions, accounted for 14 (2%) of the advice requests. The age
of affected animals discussed in advice requests ranged from less than 6 months to over 16 years. Every
age between birth and 10 years accounted for 5-9% of the total advice requests, so there was no
tendency for a specific age range to predominate.

27

The most common dog breeds discussed during advice request were the Labrador Retriever (65/10.8%),
German Shepherd dog (45/7.5%), Cocker spaniel (41/6.8%), Jack Russell terrier (25/4.1%), West
highland white terrier (23/3.8%) and Staffordshire bull terrier (23/3.8%). Domestic shorthaired cats

31 (69/102) and Thoroughbred horses (2/11) were the most common feline and equine breeds.

32 22 The

The presenting clinical signs recorded during advice requests are shown in Figure 1. Otitis was the most common subject for which advice was requested, followed by pruritus, alopecia and crusting. Specific

diagnoses that were considered during advice requests are shown in Figure 2. 393/768 (51%) of the

advice requests were recorded without having a diagnosis. Allergy in cats and dogs and feline and

37 canine otitis were by far the most common disorders for which advice was sought.

Many advice requests involved obtaining information about drugs or treatments. A total of 111 specific
drugs were mentioned. In addition to these, 216 requests related to antibiotic usage in general, 204

40 related to corticosteroid usage, which included both topical and systemic drugs, and 96 related to otic

41 medications. The most commonly discussed specific drugs were oclacitinib, cephalexin, ciclosporin,

42 clavulanic acid potentiated amoxicillin and moxidectin.

43 **DISCUSSION**

44 Skin and ear conditions are two of the most common conditions seen by general practitioners and so it

45 would be anticipated that where more complex or unusual cases occur, general practitioners may ask

46 for advice or refer to a specialist.²³⁴ To the best of the authors' knowledge, this is the first study to

- 47 document the nature and type of advice requests received by veterinary dermatologists. On the whole,
- 48 advice requests were not associated with complex or uncommon skin disorders. Otitis, pruritus,
- 49 alopecia and crusting were the most common presenting signs whereas allergy, otitis, pyoderma,

- 1 demodicosis, dermatophytosis and neoplasia were the top six potential diagnoses discussed. These
- 2 findings are in broad agreement with the results of surveys describing the most common dermatological
- 3 problems seen in general practice.²³⁴⁵ Furthermore, allergy, pyoderma and otitis often occur
- 4 concurrently and represent the most common conditions that are seen by veterinary dermatologists.⁶⁷⁸
 ^{9 10}
- 6
- 7 Medications used to manage these conditions were also the most commonly mentioned therapeutics.
- 8 Advice on antimicrobials, followed by glucocorticoids and topical otic medications were the most
- 9 common groups of treatment discussed. In 4th and 6th position were the more specific medications
- 10 oclacitinib (Apoquel, Zoetis, London) and ciclosporin which are both licensed for the use in allergic skin
- 11 disease. A large number of requests involved systemic and topical antimicrobials. The most frequently
- 12 mentioned antimicrobials were cephalexin, chlorhexidine, clavulanic acid potentiated amoxicillin and
- 13 enrofloxacin with the former the most commonly prescribed drugs for pyoderma.¹¹¹²
- 14 The anti-pruritic monoclonal antibody treatment, lokivetmab (Cytopoint, Zoetis, London) would likely
- have also figured highly but the data was collected before this drug became widely used in generalpractice.
- 17
- 18 A large number of requests involved systemic and topical antimicrobials. The most frequently
- 19 mentioned drugs in this category were cephalexin, chlorhexidine, clavulanic acid potentiated amoxicillin
- and enrofloxacin. Previous studies have documented that cephalexin is one the most commonly
 prescribed drugs for pyoderma.^{11 12}
- 22
- 23 Frequent enquiries about oral glucocorticoids were recorded. It is well recognised that
- 24 glucocorticoids are amongst the most commonly prescribed medications. Hill et al found systemic
- 25 glucocorticoids were prescribed in 162 of 795 (20%) skin cases in primary care practice.³
- 26 Retrospective analysis of clinical records from three small animal clinics in England found 1877
- 27 (16.68%) cat consultations and 2913 (14.55%) dog consultations resulted in systemic glucocorticoid
- therapy.¹³ Another survey showed that systemic glucocorticoids and antiparasitic drugs (35% and
- 29 22%, respectively) were the most commonly prescribed treatments for pruritic cats, whereas pruritic
- dogs were most commonly prescribed topical antimicrobials and topical glucocorticoids (22% and 17%,
- respectively).¹⁴ Considering that these drugs are so widely used, it is somewhat surprising that they
- 32 represented such a large percentage of the total advice requests.
- 33

Similarly, many advice requests were in relation to otic preparations and the management of otitis. This relates to the frequency with which otitis is seen in general practice. Hill *et al*³ reported in his survey of the prevalence, diagnosis and treatment of dermatological conditions in small animals in general practice that 104/559 (18.6%) of canine cases were diagnosed with otitis and 97/559 (17.3%) received

- an otic medication. Unfortunately, it was not possible to determine from our dataset what specific
 aspect of otitis management these requests alluded to.
- 40
- 41 Although common conditions represented the vast majority of advice requests, immune-mediated and
- 42 auto-immune conditions including pemphigus foliaceus, lupus, symmetrical lupoid onychodystrophy,
- 43 vasculitis and drug reactions were the next category for advice. These are uncommon conditions with
- 44 advice requests most likely related to lack of familiarity in diagnostic and therapeutic options.
- 45
- 46 The majority of the advice requests related to dogs (81%), with only 14% relating to cats and 3% to
- 47 horses. It is somewhat surprising that cats and horses represented such a low proportion of the total as
- 48 dermatological disease is common in these species and can be challenging to diagnose and manage. ^{15 16}
- 49 ^{17 18} Flea infestations and cat bite abscesses represent the most common feline skin diseases¹⁹ and it is
- 50 likely advice was not sought due to the clinician familiarity with these conditions. In relation to horses,

1 it's possible that equine or mixed animal practitioners are not consulted as frequently by horse owners

- 2 for skin issues as occurs in small animal practice.^{20 21}
- 3

The Labrador retriever was the most common dog breed in advice requests. Until 2018, this was the
UK's most popular dog breed. Nevertheless, several studies have demonstrated that Labrador
Retrievers are genetically predisposed to develop atopic dermatitis and otitis which would also account
for the high numbers.^{6 22} German Shepherd dogs were the second most common breed for enquiries.
This is possibly associated with their predisposition to develop some immune-related disorders such as
allergy, pyoderma, perianal fistulae and otitis externa.^{7 23} Cocker spaniels have a predisposition to otitis

- externa and *Malassezia* dermatitis and this could have influenced the results.²⁴²⁵
- 11

A mean time of 9.5 minutes was spent dealing with advice requests. This is comparable with data from
 another study where it has been shown that 39.4% of chargeable appointments in first opinion practice
 were scheduled for 10 minutes.²⁶

15

16 A recent survey conducted by VetCT (unpublished data) amongst veterinary specialists in the UK

- 17 revealed that specialists spend, on average, five hours per week giving free advice to vets in first opinion
- 18 practice, yet half said 25 percent or fewer of these cases result in referral. Only about 2% of the advice
- 19 requests in our study incurred a fee, indicating that the expectation for this type of work is that it should
- 20 still be provided *pro bono*. However, considering that other veterinary fee-paying telehealth services
- 21 exists in the UK such as teleimaging (VetCT Consultants in Telemedicine), telemedicine (IDEXX
- 22 Telemedicine Consultants), teleneurology service at CVS and TeleVetDiagnostics are available, it is
- surprising that *pro bono* advice is still provided to this level. In 2018, Virtual Veterinary Dermatology
- 24 (VVD) was launched. The company offers an on-line telemedicine advice service that will provide
- written advice to both members of the general public and to veterinary surgeons for a fee. VetCT
 Consultants in Telemedicine and Virtual Veterinary Specialists also offer dermatology advice which is
- Consultants in Telemedicine and Virtual Veterinary Specialists also offer dermatology advice which is
 restricted to veterinary surgeons. It will be interesting to see if these paid services will gain widespread
- acceptance, as has been the case for teleradiology.
 - 29

It was surprising that only 20% of advice requests were accompanied by digital photographs, especially
considering that the skin's surface characteristics can provide critical information for diagnosis and

32 treatment. This is in contrast to human teledermatology where one study found accompanying clinical

- 33 image(s) were submitted in 83% of cases, dermoscopic photograph in 2% of cases and a combination of
- both in 10% of cases.²⁷ Furthermore, in a human publication reviewing 78 studies, it was reported that
- 35 diagnostic agreement of store and forward in comparison with clinic dermatology was good. Overall
- 36 rates of management accuracy were equivalent, but interestingly teledermatology and

37 teledermatoscopy were inferior to clinic dermatology for malignant lesions.²⁸

38

In our study 55% of the requests regarded treatment advice and 35% diagnosis. This corresponds to a
 previous published, small-scale study where 12 veterinarians in private, companion animal practice
 were surveyed on 157 clinical questions. Treatment options construed 53% of the questions and 20%
 regarded diagnosis in that paper.²⁹

43

44 This study demonstrated that many advice requests originated from rural areas (77%). To the authors

45 knowledge, there are no comparable veterinary studies. However, one study following human

- teledermatology service for two years, revealed a statistical increase in referral rates from rural centres
 than urban setting.³⁰
- 48

49 There are several limitations to our study. The selection of contributing dermatologists was not based

50 on geography but rather relied on participants good will, potentially introducing selection bias and

51 limiting generalisation of the results. The choice of manual recording sheets may have led to loss of

- 1 information of some enquiries if participants did not have ready availability of recording sheets.
- 2 Furthermore, manual data transfer from recording sheets to an Excel spreadsheet for analysis purposes,
- 3 may have resulted in loss of data. Selection of data over a period of only six months may not have
- 4 accounted for seasonal variations.
- 5
- No questions were asked in regards to gender, age, year and University of qualification. Stoewen *et al*³¹
- 8 documented that referring veterinarian's attitudes differed in relation to several factors, including
- 9 school and year of graduation as well as type of medicine practiced.
- 10 Further information regarding year of graduation would have been valuable in identifying how many of
- 11 the queries were made by recent graduates or experienced veterinarians helping to determine if there
- 12 was a difference between generations. Additionally, it is possible that there may be a difference
- 13 between genders, however, gender was not recorded in this survey.
- 14
- 15 If advice was sought by phone, it would have been informative to record number of times a
- 16 dermatologist called the referring vet before managing to speak to the enquiring veterinarian. It is a
- 17 known problem that practitioners are commonly not available when calls are returned either due to
- 18 consulting commitments, scheduled break or have completed their working day usually when specialists
- 19 will have time to return calls.³²
- 20
- 21 Specialist caseload is unique in the UK as pet owners are not able to "self-refer" as patients can only be
- seen following a referral from the primary veterinarian. The Royal College of Veterinary Surgeons (RCVS)
- specifies that cases must be referred by primary care veterinarians. A recent study using clinical records
 to measure disease occurrence in the entire pet population from primary veterinary clinics discussed
- 25 that they may be biased by the relative absence of many serious or rare diseases that are more
- commonly diagnosed and treated at referral clinics. Therefore, in regards to the recorded clinical
- symptoms and diagnoses they may be somewhat bias as well.³²
- 28
- Increasing availability of electronic communication, speed, convenience and decreased availabilities of both the general practitioners and specialists for telephone calls during a busy day explains that
- 30 of both the general practitioners and specialists for telephone calls during a busy day explains that 31 over half of the enquiries were made via email. It would have been interesting to have recorded the
- time that emails were sent, received and responded to as similar for telephone calls. However, this
- 33 was not recorded by the participants.
- 34

This study is the first to provide valuable data on the prevalence of veterinary dermatology advice requests in the UK. This has highlighted that the majority of advice queries were associated with common dermatological disease and medications and were, surprisingly, not associated with more unusual skin diseases/treatments. Further studies are needed to demonstrate the reasons for this

- including if this is associated with discrepancies in teaching or experience at under- and post-graduate
 levels. This information can then be utilised to target teaching and continued professional development
- 40 levels. This information can then be utilised to target teaching and continued professional development.
 41 Additional studies should also look at the factors associated with the decision to either refer or
- 42 managing cases in first opinion practice.
- 43
- Finally, advice requests were frequently provided *pro bono*. Hopefully in post-pandemic times where
 veterinarians and clients are used to payable telemedicine, veterinary dermatologists will take the
 opportunity to introduce appropriate remuneration for their expertise and time for advice requests as
 already commonplace in other specialities.
- 48
- 49
- 50
- 51

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2	This project received no funding.
3	
4	CONFLICT OF INTEREST
5	All authors declare they have no conflict of interest.
6	
7	AUTHOR CONTRIBUTION STATEMENT
8	Author 1 contributed towards the research and has the written the paper
9	Author 2 contributed towards the research
10	Author 3 contributed towards the research and to revision of the paper
11	Author 4 contributed towards the research and to revision of paper
12	Author 5 contributed towards the research
13	Author 6 contributed towards the research
14	Author 7 contributed towards the research
15	Author 8 contributed towards the research
16	Author 9 contributed towards the research
17	Author 10 contributed towards the research
18	Author 11 contributed towards the research
19	Author 12 contributed towards the research
20	Author 13 has analysed results and contributed writing the paper
21	
22	ETHICS STATEMENT
23	The study did not require ethical approval because no sensitive personal information was collected.
24	

1 DATA AVAILABILTY STATEMENT 2 The data that support the findings of this study are available from the corresponding author upon 3 reasonable request. 4 5 **FIGURE LEGENDS** 6 7 Figure 1. Presenting clinical signs recorded during 768 advice requests. 8 Figure 2 Potential diagnoses that were discussed in responses to 768 advice requests. Figure shows 9 those diagnoses that were discussed on three or more occasions. 10 11 REFERENCES 12 13 1 Teller LM, Moberly HK. Veterinary Telemedicine: A literature review. The Veterinary Evidence Journal 14 2020;5(4):1-26. 15 16 2 O'Neill DG, Church DB, McGreevy PD, et al. Prevalence of disorders recorded in dogs attending 17 primary-care veterinary practices in England. PLoS ONE 2014;9(3):e90501. 18 19 3 Hill PB, Lo A, Eden CA, et al. Survey of the prevalence, diagnosis and treatment of 20 dermatological conditions in small animals in general practice. Vet Rec 2006;158(16):533-9. 21 22 4 Nielsen TD, Dean RS, Robinson, NJ, et al. Survey of the UK veterinary profession: common species and 23 conditions nominated by veterinarians in practice. Vet Rec 2014;174(13):324-331. 24 25 5 Wiles BM, Llewellyn-Zaidi AM, Evans KM, et al. Large-scale survey to estimate the prevalence 26 of disorders for 192 Kennel Club registered breeds. Canine Genet Epidemiol 2017;4(8): 27 https://doi.org/10.1186/s40575-017-0047-3. 28 29 6 McGreevy PD, Wilson BJ, Mansfield CS, et al. Labrador retrievers under primary veterinary care in 30 the UK: demography, mortality and disorders. Canine Genet Epidemiol 2018;5(8):1-13. 31 32 7 Vilson Å, Bonnett B, Hansson-Hamlin H, et al. Disease patterns in 32,486 insured 33 German shepherd dogs in Sweden: 1995–2006. Vet Rec 2013;173(5):116-123. 34 35 8 O'Neill DG, Skipper AM, Kadhim J, et al. Disorders of Bulldogs under primary veterinary care in the UK 36 in 2013. PLoS ONE 2019;14(6):1-16. 37 9 O'Neill DG, Baral L, Church DB, et al. Demography and disorders of the French Bulldog population 38 under primary veterinary care in the UK in 2013. Canine Genet Epidemiol 2018;5(3):1-12. 39 40 10 Summers JF, O'Neill DG, Church DB, et al. Health-related welfare prioritisation of canine disorders 41 using electronic health records in primary care practice in the UK. BMC Vet Res 2019;15(163):1-20. 42 43 11 Summers JF, Hendricks A, Brodbelt DC. Prescribing practices of primary-care veterinary 44 practitioners in dogs diagnosed with bacterial pyoderma. BMC Vet Res 2014;10:240-249. 45 46 12 Gómez-Poveda B, Moreno MA. Antimicrobial Prescriptions for Dogs in the Capital of Spain. Front Vet 47 Sci 2018;5:309-318.

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- 1 Table 1. Recording sheet used to collect data about advice requests received by dermatologists
- 2

Dermatology Centre:			
Date of advice request:			
Form of incoming request: Phone E-mail Fax Letter Other:			
Were any materials sent?			
Digital images Written History Histopath report Lab results			
Practice type: Small animal Large animal Mixed			
Practice location (name of town): Urban Rural Rural			
Species of animal: Dog 🗌 Cat 🗌 Horse 🗌 🛛 Other:			
Signalment of patient: Age: Sex: Breed:			
Nature of advice request			
Which of the following did the vet ask about?			
Drug dosage			
Diagnosis guestion			
Treatment question			
Other (give details)			
What was the presenting sign of the patient in question?			
What was the diagnosis/differential diagnosis of the patient in question (if known)?			
What drugs were mentioned (if any)?			
Was referral to the Dermatology Centre recommended? Yes 🗌 No 🗌			
Brief description of recommendation/advice given by dermatologist?			
Form of outgoing response: Phone E-mail Fax Letter Other:			
Duration of phone call or time spent composing response (mins):			
Was a charge made for the advice? Yes \Box No \Box If yes, how much?			

- 3
- 4 Table 2. Types of advice requests received from general practitioners. The totals vary from 768
- 5 because some requests and responses involved both a phone call and an email.
- 6

	Request		Response	
Email	578	74%	419	53%
Phone	194	25%	358	46%
Fax	3	<1%	2	<1%
In person	7	<1%	7	<1%
WhatsApp	1	<1%	1	<1%

- 1 Table 3. Type of written or digital materials provided to dermatologists to support advice requests. The
- 2 percentages add up to more than 100 because many advice requests contained more than one type of
- 3 information.
- 4

Types of information provided to specialists	Numbers	Percentage
Written history	444	58%
Digital images	136	18%
Lab results	89	12%
Histopathology results	56	7%
No written or digital materials provided	238	31%

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7 Table 4. Type of advice requested from dermatologists

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Nature of advice	Numbers	Percentage
Advice about treatment	582	96%
Advice about diagnosis	368	48%
Question about a dose rate	80	8%
Other queries	30	4%