ENGLISH SPRINGER SPANIEL 2013 UK BREED HEALTH SURVEY

REPORT COMPILED BY:

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ON BEHALF OF THE UK ENGLISH SPRINGER SPANIEL BREED CLUBS:

The English Springer Spaniel Club
The Southern English Springer Spaniel Society
The English Springer Spaniel Club of Scotland
The English Springer Spaniel Club of Wales
The Midland English Springer Spaniel Society
The Northern English Springer Spaniel Society
The Lancs & Cheshire English Springer Spaniel Club
The South Western English Springer Spaniel Club



www.englishspringerhealth.org.uk

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INTRODUCTION

Why was a Breed Health Survey needed?

Lack of data about breed health and temperament has long been a fundamental problem across all canine breeds. The last major survey of purebred dogs was carried out by the <u>Kennel Club/BSAVA in 2004</u>, which resulted in just 71 responses for English Springer Spaniels, representing 258 live dogs and 90 deaths. Unfortunately, this was far too few to be statistically relevant in a breed that is numerically one of the most popular in the UK. Without reliable, representative data, we are all simply guessing at the state of health of our breed and what issues should be prioritised.

Prevalence data on canine health issues has always been very fragmented, coming as it does from many different sources. These include individual clinical and scientific studies on specific conditions affecting single or multiple breeds, information from insurance companies, pet food and pharmaceutical manufacturers, as well as from the veterinary profession itself. More recently, the gathering of data has started to improve, particularly through initiatives such as VetCompass Health Surveillance for UK Companion Animals and SAVSNET Small Animal Surveillance Network, which aim to harvest prevalence data directly from the computerised records of veterinary practices and diagnostic laboratories.

Increasingly, however, individual breeds are carrying out their own breed health surveys. What these may lack in standardisation or scientific precision, they can more than make up for in providing what is often the most comprehensive source of individual breed health data. It is hoped, therefore, that this survey will play an important part in improving our knowledge and understanding of ESS health, behaviour and mortality.

A breed health survey also gives us a baseline against which any future surveys can be compared, so that we can monitor where progress is being made or where new issues may be emerging. It is also potentially of use to scientific researchers and clinicians, in their efforts to help prevent, eliminate or treat harmful canine health and behavioural disorders.

What did the Survey aim to achieve?

Above all, the survey aimed to attract the largest possible number of responses, so that the results could provide a statistically relevant representation of the UK ESS population as a whole. It therefore had to be straightforward and not unduly lengthy or time-consuming to complete, without the need for owners to look up or include detailed records. At the same time, however, the resulting data needed to be sufficiently robust to be worthwhile.

The survey aimed to obtain an overall picture of ESS demographics, health, behaviour and mortality, and provide a pointer towards any issues that should be prioritised or where more detailed studies might be appropriate. It was essential to attract responses from healthy dogs as well as those with health conditions, so that breed prevalence could be estimated and reported conditions considered in context.

Lastly, it was essential that the survey responses represented ESSs from across the entire breed spectrum, be they working, show or other activity dogs, as well as the majority living as pets.

> About the Survey

- The survey was open to ESSs living in the UK only. Note: This included dogs bred overseas but living in the UK.
- It was divided into two separate parts:
 - a) Survey of current dogs (alive at the time of the survey):

 Owners were asked to provide demographic, health and behavioural information.
 - b) Mortality survey (dogs that died between 1st January 2008 and 31st July 2013):
 Owners were asked to provide details of age and cause of death.

This avoided "mixing" data from current dogs with deceased dogs and would more easily allow direct comparisons of "current" ESS populations in any future studies. A five year window was chosen as the optimum period for inclusion in the mortality survey.

- Owners were asked only to report health conditions that had been diagnosed by a Vet. This was to avoid the reporting of very minor ailments and to improve the accuracy of responses.
- When reporting health conditions, owners were also asked to give the age of the dog at initial
 diagnosis. This would enable an overall age profile to be established for each condition, without
 which, for example, it would be impossible to identify conditions that might not be too
 surprising in older dogs, but would pose a different challenge if frequently seen in younger dogs.
- Owners were given a guarantee of absolute confidentiality, with an undertaking that only the two Joint ESS Breed Health Co-ordinators would see the raw survey data and that no identifying details would ever be published or divulged to any other third parties without the express permission of owners. Given these safeguards, owners were asked to provide their dog's name (either pet or full KC registered name) and to voluntarily provide their own name and telephone/email contact details. This was (a) so that they could be contacted for further clarification of their responses if needed, and (b) so that they could potentially be asked to participate in future studies relevant to the health or behavioural issues reported in their dogs. Note: In the event, with only very few exceptions, owners willingly provided these details.
- The survey was open for a period of three months (1^{st} May -31^{st} July 2013). This was chosen as the optimum length of time in which to maximise the response without losing momentum.
- A new ESS Health Reporting Website was set up (<u>www.englishspringerhealth.org.uk</u>), to make
 the survey easily accessible. It provided a platform for the survey to be completed online and,
 later on, for publishing the results. Provision was also made for the survey to be submitted by
 email or post. Note: In the event, all but a tiny number of responses were completed online.
- The survey was widely publicised using many different channels. As well as through their press releases and Twitter feed, the Kennel Club sent out a series of mass emails to thousands of owners of KC registered ESS, alerting them to the survey and encouraging their participation. This proved to be hugely effective. The survey was also publicised in the dog press and through free editorials in all the major pet and gundog magazines, as well as in veterinary journals and some veterinary practices. Publicity was also given through the ESS Breed Clubs, ESS Welfare and other rescue organisations, through gundog/working/activity dog clubs, and via social media, using a new Twitter feed @ESS_Health.

> Survey Results

Following the end of the three-month survey period, a lengthy exercise was carried out to tidy up the data before it could be fully analysed. Having removed any duplicate entries, the survey attracted a staggering total of **5,017 responses**. These represented **4,327 current dogs** and **690 deceased dogs**, far more than even the most optimistic of forecasts had predicted.

Rather than express the significance of the survey results in standard statistical terms of confidence intervals and confidence levels, the sample size is simply considered large enough in itself to be confident that the results strongly reflect the wider UK ESS population. Statisticians and other experts are of course free to use their own calculations.

ACKNOWLEDGEMENTS

Ian Seath (Chairman of the Dachshund Breed Council), for his unstinting support and extraordinary generosity in offering us his time and expertise to help design and implement this survey and not least for introducing us to the deep joys of Google Docs and Excel analysis!

Dr. Rachel Casey (Senior Lecturer in Companion Animal Behaviour and Welfare - University of Bristol School of Veterinary Sciences), for her invaluable advice in helping us compile the Behaviour and Temperament questions.

Nick Sutton (Kennel Club Health Information Officer), for his enthusiasm and determined efforts to publicise the survey on our behalf, particularly in organising mass emails from the KC to owners of registered ESSs, which proved to be the single most crucial factor in achieving such an unprecedented response.

The UK ESS Breed Clubs, without whose united and ongoing support our work as Breed Health Co-ordinators would not be possible.

Finally, but most importantly, the thousands of ESS owners who participated in this survey and are the reason for its success. We hope you will find the results interesting. Overall, it endorses what most of us already know about English Springer Spaniels – they are a truly wonderful breed, essentially a healthy one and (most of the time!) an absolute joy to own.

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UK ESS Breed Clubs Joint Health Co-ordinators

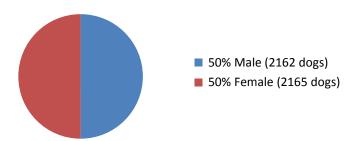


Photograph courtesy of Heidrun Humphries

ENGLISH SPRINGER SPANIEL 2013 UK HEALTH SURVEY - RESULTS

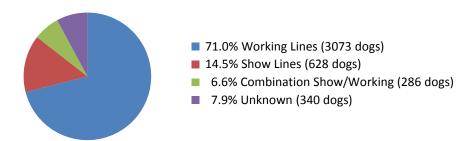
PART ONE: CURRENT DOGS - 4,327 RESPONSES

1) Gender



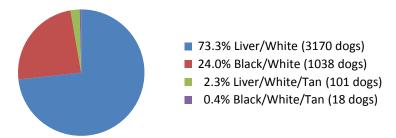
There were an almost identical number of responses for males and females – a surprisingly close statistic.

2) Breeding Lines



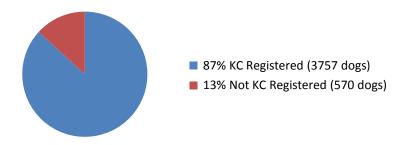
An overwhelming majority of ESSs were bred from working lines, reflecting the overall composition of the ESS population in the UK. If anything, the survey will have included an over-representation of ESS from show lines, as the owners of these dogs were more likely to have been aware of the survey through the ESS Breed Clubs and the dog showing community.

3) Coat Colour



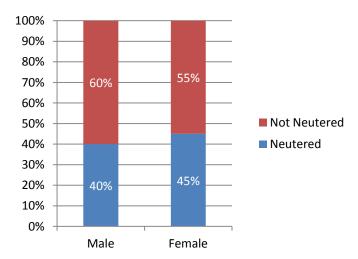
This broadly reflects what might be expected in the UK ESS population overall, with the overwhelming majority being liver/white. Interestingly, 25% of working bred ESSs were black/white, compared with 15% of show bred dogs. Only 1% of working bred ESSs were liver/white/tan, whereas this colour accounted for 11% of show bred dogs.

4) Kennel Club Registered/Not Registered



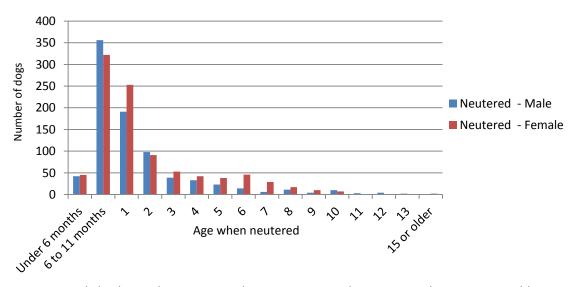
An overwhelming majority of dogs surveyed were Kennel Club registered. This may well have been partially due to the publicity given by the Kennel Club in emailing the owners of registered ESSs, alerting them to the survey and encouraging their participation.

5) Neutered/Not Neutered



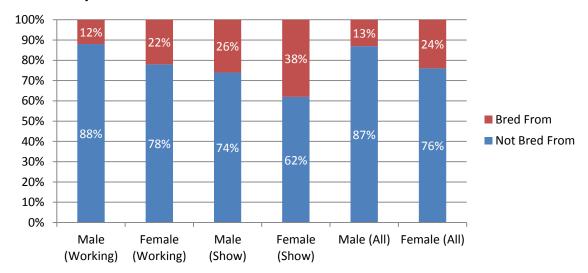
It is interesting to note that a majority of both males and females were not neutered.

6) Age Profile of Dogs (Male & Female) When Neutered



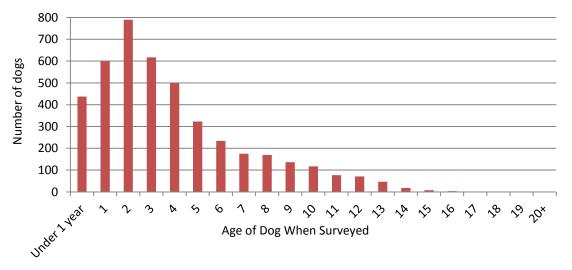
As expected, both genders were in the main neutered at six months to a year old. It is interesting to note, however, that 42 males and 45 females were neutered before the age of six months. For the females, this is therefore likely to have been before their first season.

7) Bred From/Not Bred From



Taken overall, almost twice the proportion of females (24%) had been bred from compared to males (13%). However, the overwhelming majority of both sexes had not been bred from. It was also interesting to note that a much higher proportion of both males and females within the relatively small population of ESSs from 'show lines' had been bred from (i.e. 26% of show bred males compared to 12% of working bred males and 38% of show bred females compared to 22% of working bred females).

8) Age Profile - All Dogs



The overall age profile of dogs was much as expected, with the largest numbers of responses accounting for dogs in the younger age groups. It is important to bear this profile in mind, particularly when assessing the reporting of late onset health conditions. The most frequently reported age was 2 years (790 responses). Although the number of responses naturally diminished as the ages increased, it was nevertheless encouraging that they were spread across every age group, extending all the way through to one 20 year-old dog.

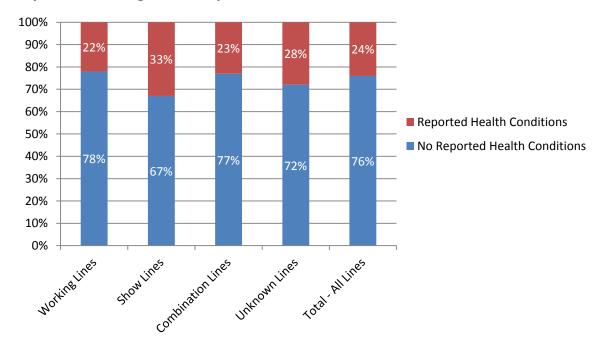
Mean Average Age of All Dogs Surveyed = 3.94 Years

Median (Mid-Point) Age of All Dogs Surveyed = 3 Years

9) Numbers of Dogs Surveyed - By Age and Gender

Age	Male	Female	Total
Under 1 year	221	216	437
1	303	297	600
2	424	366	790
3	330	287	617
4	246	254	500
5	148	175	323
6	110	124	234
7	78	97	175
8	77	92	169
9	56	80	136
10	57	60	117
11	34	43	77
12	31	40	71
13	28	19	47
14	13	5	18
15	4	4	8
16	0	3	3
17	0	1	1
18	0	2	2
19	1	0	1
20 or older	1	0	1
Total	2162	2165	4327

10) Proportion of Dogs with Reported Health Conditions



75.6% of all dogs surveyed had no reported health conditions (**74.7%** of all males, **76.5%** of all females). However, it is important to take into account that the survey responses include a greater number of dogs in the younger age groups, where fewer health conditions are to be expected. Therefore, although these statistics are undoubtedly a very encouraging indication of the strong underlying health of the breed, the overall age profile of the dogs surveyed should also be considered when evaluating these results.

11) Reported Health Conditions - By Group Category

HEALTH CONDITIONS CATEGORY	NUMBER OF REPORTED CASES
MUSCULOSKELETAL	497
AURAL	264
CANCERS/TUMOURS	260
GASTROINTESTINAL	159
IMMUNE SYSTEM	159
DERMATOLOGIC	142
OCULAR	124
RESPIRATORY	124
UROLOGIC	109
REPRODUCTIVE – FEMALE	108
CARDIAC	87
DENTAL	62
NEUROLOGIC	35
HEPATIC	31
REPRODUCTIVE – MALE	29
ENDOCRINE	27
ACCIDENT/TRAUMA	13
CEREBRAL VASCULAR	11
ENZYME DEFICIENCY	2
OTHER UNCLASSIFIED CONDITIONS	34

12) Most Frequently Reported Health Conditions (Prevalence above 1%)

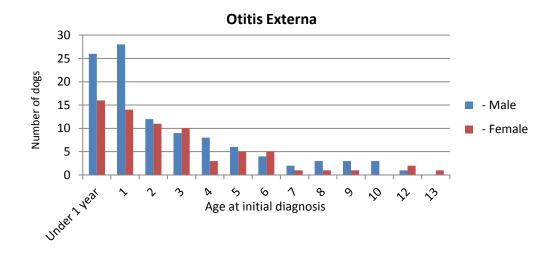
HEALTH CONDITION	REPORTED CASES	PREVALENCE OVERALL
OTITIS EXTERNA (Inflammation of Outer Ear/Ear Canal)	182	4.2%
ARTHRITIS	160	3.7%
KENNEL COUGH	105	2.4%
CRUCIATE DISEASE	85	2.0%
DEAFNESS	80	1.9%
LAMENESS	75	1.7%
FALSE PREGNANCY	66	1.5%
HEART MURMUR	64	1.5%
UMBILICAL/INGUINAL HERNIA	56	1.3%
HIP DYSPLASIA	55	1.3%
SKIN/SOFT TISSUE CANCER	51	1.2%
SEBACEOUS CYSTS	50	1.2%
MAMMARY CANCER	47	1.1%
DERMATITIS	46	1.1%

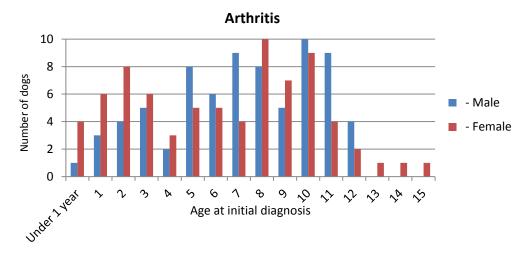
There were 14 health conditions with an overall prevalence greater than 1% and 4 conditions with a prevalence of 2% or more. The charts below show the age profiles, by gender, for each of the above reported conditions.

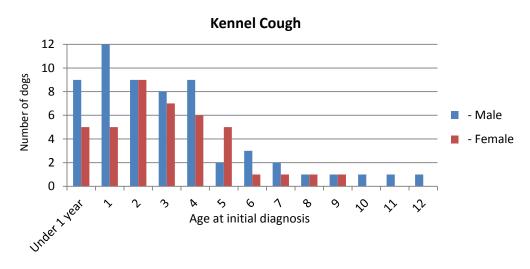
A full summary of the numbers and prevalence of ALL reported health conditions is given in Section 15 of this report.

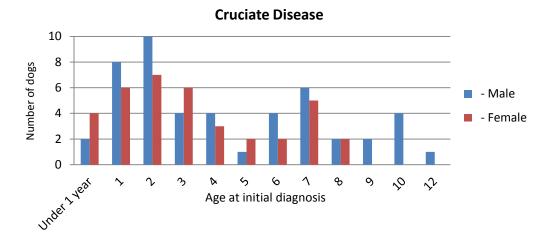
13) Age Profiles of Most Frequently Reported Conditions

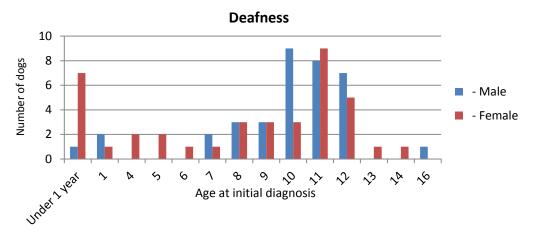
(Based on age of dogs at initial diagnosis)

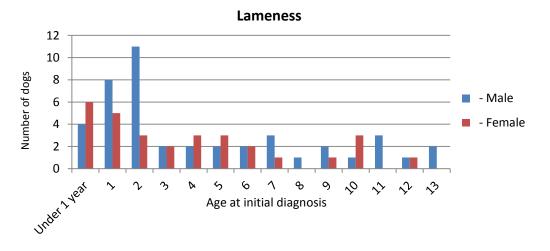


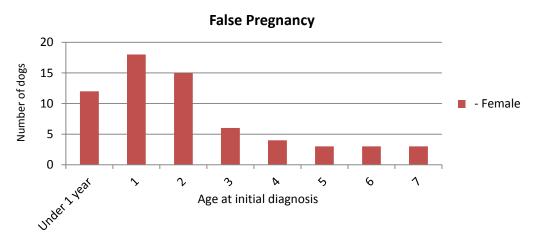


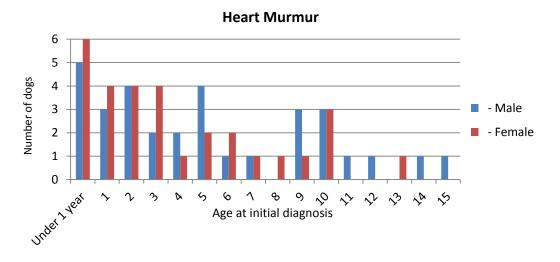


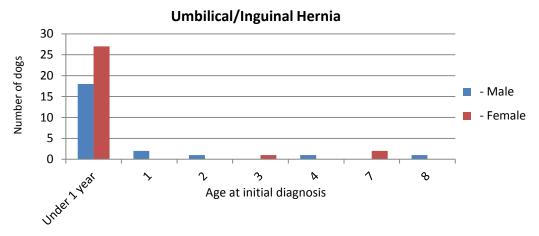


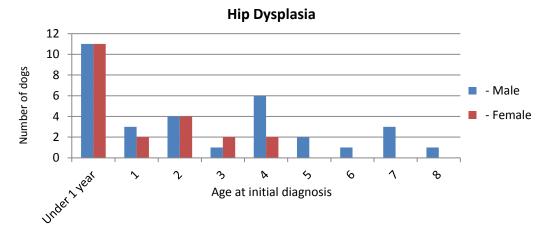


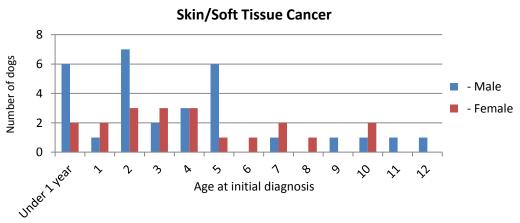


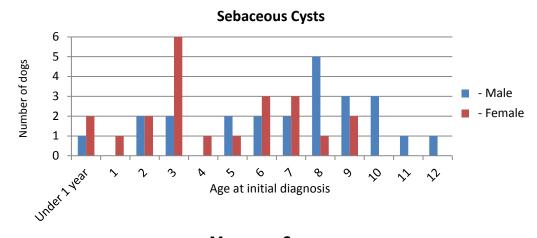


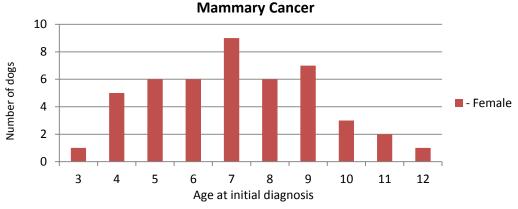


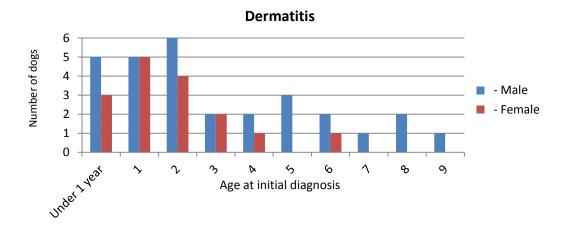












14) Vaccinations Status

	PROPORTION	OF DOGS VAC	CINATED BY VE	т	NOT	NOT
ANNUALLY	EVERY 2 YEARS	EVERY 3 YEARS	OTHER FREQUENCY	FREQUENCY NOT STATED	VACCINATED	STATED
80.4%	4.3%	2.8%	4.0%	1.9%	5.4%	1.2%

An overwhelming majority of dogs (80.4%) were reported to be vaccinated annually (after puppy vaccinations and routine 12 month booster). A more detailed survey would be needed to establish whether <u>all</u> the UK "core" vaccinations are given to these dogs <u>every</u> year (i.e. Distemper/Hepatitis/Parvovirus/Leptospirosis), as well as Parainfluenza and/or Kennel Cough, or only those vaccinations known to give short-lived protection (i.e. Leptospirosis and Parainfluenza), with others given as necessary, less frequently, depending on individual circumstances and veterinary advice.

15) Summary of All Reported Health Conditions

The group categories and individual health conditions listed below are broadly based on those originally used in the generic 2004 Kennel Club/BSAVA Breed Health Survey and which have since been used in a number of health surveys carried out in other breeds. The list has been adapted to exclude conditions not relevant to English Springer Spaniels and to insert others that are known or suspected to be relevant in the breed. It is not intended as a definitive list of every possible health condition. Further explanation of the listed health conditions can be found at www.petmd.com/dog/conditions.

AURAL	REPORTED CASES	PREVALENCE OVERALL
OTITIS EXTERNA	182	4.2%
DEAFNESS	80	1.8%
VESTIBULAR SYNDROME	2	0.05%
	264	6.1%

Otitis Externa (inflammation of the outer ear/ear canal) was the most frequently reported of all health conditions. 75% of affected dogs were aged 4 years or under, suggesting that those prone to the condition are most likely to see it become evident quite early on in their lives. The survey results indicate the condition should be a primary issue of management, with a focus on improving owner education about how it can best be avoided or treated.

The age profile of dogs reported with **Deafness** confirmed this to be primarily an ageing associated condition.

CANCERS/TUMOURS	REPORTED CASES	PREVALENCE OVERALL	
SKIN	51	1.2%	
MAMMARY	47	1.1% (2.2%)	
BONE	24	0.6%	
ANAL SAC	22	0.5%	
STOMACH	18	0.4%	
TESTICULAR	10	0.2% (0.5%)	
PROSTATE	9	0.2% (0.4%)	
OVARIAN	7	0.2% (0.3%)	
LUNG	5	0.1%	
LEUKAEMIA	2	0.05%	
LIPOMAS/FATTY LUMPS	20	0.5%	
OTHER CANCERS/TUMOURS	45	1.0%	
	260	6.0%	
* Figures in brackets show prevalence across the relevant sex only			

No individual type of **Cancer** stands out as having exceptionally high breed prevalence in current dogs, the survey confirming that many are generally ageing associated diseases. Consequently, **Cancer/Tumour** was the most frequently reported category of diseases in the ESS Mortality Survey, causing 26.5% of all deaths. See Sections 22-23 for further details.

Skin & Soft Tissue Cancers were reported across all age groups, although there were noticeably more affected males (25) than females (14) aged 5 years or under.

Mammary Cancer was reported in 2.2% of all females and in 5.4% of females aged 5 years or older. It was predominantly diagnosed in middle age, with no cases reported in any female under the age of 3. Of the 47 reported cases, 34 were neutered (although in a number of dogs this was not done before the age at which their **Mammary Cancer** was diagnosed). It is hoped that data from this survey can support ongoing genetic research into this disease, as well as studies into the effects that neutering (and age when neutered) may have on the risk of developing the disease.

Stomach Cancer showed a noticeable bias towards very young dogs, with 13 out of 18 reported cases diagnosed at less than 2 years old, although the significance of this statistic should be considered in context, as the overall prevalence of the disease was very low. A similarly young age profile for **Stomach Cancer** was not evident in the Mortality Survey.

CARDIAC	REPORTED CASES	PREVALENCE OVERALL
HEART MURMUR	64	1.5%
HEART RHYTHM DISORDER	17	0.4%
CARDIOMYOPATHY	3	0.1%
OTHER CARDIAC	3	0.1%
	87	2.0%

Although **Heart Murmur** was reported mainly in younger dogs, cases ranged across all age groups. Further studies would be needed to establish the degree of severity in each dog and whether it had any clinical effect on their long-term health. The prevalence of **Cardiac** conditions in current dogs was low. Cardiac failure, however, caused 6.2% of deaths.

CEREBRAL VASCULAR	REPORTED CASES	PREVALENCE OVERALL
STROKE	11	0.3%

The survey responses confirmed **Stroke** as being very much ageing related, with reported cases almost exclusively affecting old dogs. Consequently, they feature more prominently in the ESS Mortality Survey, causing 5.9% of deaths.

DENTAL	REPORTED CASES	PREVALENCE OVERALL
DENTAL DISEASE	34	0.8%
OVERSHOT	10	0.2%
UNDERSHOT	10	0.2%
RETAINED PUPPY TEETH	5	0.1%
OTHER DENTAL	3	0.1%
	62	1.4%

There are likely to be many more cases of **Dental Disease** than this survey reflects, as the responses only include conditions serious enough to be diagnosed by a Vet. **Dental Disease** is widely acknowledged as a significant issue across the canine population as a whole, mainly due to modern day diets and poor cleaning regimes. All too often, however, it remains undiagnosed, as many dogs show no obvious signs of pain or discomfort. This is another area where the focus needs to be on improving owner education about maintaining good dental health and recognising dental disease in their dogs.

DERMATOLOGIC	REPORTED CASES	PREVALENCE OVERALL
SEBACEOUS CYSTS	50	1.2%
DERMATITIS	46	1.1%
PYODERMA	31	0.7%
ALOPECIA	7	0.2%
OTHER DERMATOLOGIC	8	0.2%
	142	3.3%

Sebaceous Cysts were reported across all age groups, but showed a greater likelihood in middle-aged and older dogs. **Dermatitis** appeared to be more evenly spread amongst dogs in the younger age groups, with only 4 out of 46 reported cases in dogs aged 7 or older. Although both conditions were amongst the most frequently reported overall, their prevalence in the breed is, nevertheless, not unduly high.

Pyoderma was reported in young and middle aged dogs. It is possible that some of these cases will have been a secondary problem from skin damage caused by other conditions such as parasite/flea infestation, dietary sensitivity, seborrhoea, atopy and even poor or excessive grooming.

ENDOCRINE	REPORTED CASES	PREVALENCE OVERALL
HYPOTHYROIDISM	12	0.3%
ADDISON'S	6	0.1%
DIABETES	5	0.1%
CUSHING'S	3	0.1%
HYPERTHYROIDISM	1	0.02%
	27	0.6%

Prevalence of the above **Endocrine** conditions was lower than previous anecdotal evidence suggested might be the case, so this survey result is very encouraging for the breed. It is possible that **Hypothyroidism** in particular may be under reported, as some indicative symptoms (e.g. hair loss, dry skin, weight gain, lethargy) may not appear significant enough (especially when seen in middle aged and older dogs) for owners to seek veterinary advice. **Addison's, Diabetes** and **Cushing's** also featured in the Mortality Survey, accounting for 3.2% of all deaths. Their severe impact on affected dogs underlines an ongoing need to monitor breed prevalence and possible predisposition.

ENZYME DEFICIENCY	REPORTED CASES	PREVALENCE OVERALL
FUCOSIDOSIS	1	0.02%
PHOSPHOFRUCTOKINASE DEFICIENCY (PFK)	1	0.02%
	2	0.05%

Prevalence of both the above inherited conditions was very low, although it is likely that clinical cases may not always be recognised. It should also be remembered that there will be many more hidden "carriers" in the population than clinically affected dogs. It therefore remains important for breeders to make use of the available **DNA tests** for these conditions to ensure that the genetic status of dogs used for breeding is known and that mating combinations can never produce affected dogs.

GASTROINTESTINAL	REPORTED CASES	PREVALENCE OVERALL
UMBILICAL/INGUINAL HERNIA	56	1.3%
COLITIS	41	0.9%
IRRITABLE BOWEL DISEASE	24	0.6%
ANAL GLAND IMPACTION	11	0.3%
GASTRIC TORSION (BLOAT)	3	0.1%
MEGA-OESOPHAGUS	2	0.05%
OTHER GASTROINTESTINAL	22	0.5%
	159	3.7%

Unsurprisingly, 45 of the 56 reported cases of **Umbilical/Inguinal Hernia** were diagnosed in dogs less than 1 year old. Further data would be needed to establish how many of these required surgical repair. As **Umbilical/Inguinal Hernias** are widely thought to have an inherited component, breeders are advised to avoid any mating where there is a history of hernias in the pedigree and to seek veterinary advice before mating a bitch that has one. There is likely to be an overlap or "grey area" between the reported cases of **Gastrointestinal** conditions such as **Colitis, Irritable Bowel Disease** or even **Food Allergies**, as it can sometimes be difficult to classify these conditions definitively. Further studies would be needed to establish whether reported **Gastrointestinal** conditions were acute or chronic and whether or not they were resolved through treatment, surgery or dietary changes.

HEPATIC	REPORTED CASES	PREVALENCE OVERALL
PANCREATITIS	20	0.5%
CHRONIC HEPATITIS	5	0.1%
EXOCRINE PANCREATIC INSUFFICIENCY (EPI)	5	0.1%
ACUTE HEPATITIS	1	0.02%
	31	0.7%

Hepatic conditions showed a low prevalence in current dogs, but were of much greater significance in the Mortality Survey as the third most frequently reported category, causing or contributing to 7.5% of deaths. This may be due to the serious nature and poor prognosis of many **Liver** and **Pancreatic** disorders, leading to low survival rates. In addition, they can also often develop as a serious secondary consequence of other health conditions.

IMMUNE SYSTEM	REPORTED CASES	PREVALENCE OVERALL
ATOPY (Severe Itching)	28	0.6%
DUST MITE ALLERGY	17	0.4%
MASTICATORY MUSCLE MYOSITIS (MMM)	13	0.3%
FLEA ALLERGY	10	0.2%
GLUTEN SENSITIVE ENTEROPATHY	10	0.2%
AUTOIMMUNE HAEMOLYTIC ANAEMIA	9	0.2%
PUPPY STRANGLES (HEAD GLAND DISEASE)	5	0.1%
IMMUNE MEDIATED THROMBOCYTOPENIA	1	0.02%
OTHER ALLERGIES - ENVIRONMENTAL	40	0.9%
OTHER ALLERGIES - FOOD	26	0.6%
	159	3.7%

The most frequently reported Immune Mediated Conditions were Food and Environmental Allergies and unspecified itching (Atopy). Specific autoimmune conditions such as Masticatory Muscle Myositis (MMM), Haemolytic Anaemia (AIHA/IMHA) and Thrombocytopenia (IMTP) were perhaps less prevalent than might have been expected in current dogs, but nevertheless require ongoing monitoring. Haemolytic Anaemia in particular accounted for 2% of all deaths. It is also interesting to note that some immune conditions were reported in noticeably more males than females: Atopy (21 male/7 female), MMM (9 male/4 female), Gluten Sensitive Enteropathy (8 male/2 female). Further studies would be needed to establish whether this is significant or purely co-incidental, or to establish whether this apparent imbalance may be similarly reflected in other breeds.

MUSCULOSKELETAL	REPORTED CASES	PREVALENCE OVERALL
ARTHRITIS	160	3.7%
CRUCIATE DISEASE	85	2.0%
LAMENESS	75	1.7%
HIP DYSPLASIA	55	1.3%
ELBOW DYSPLASIA	33	0.8%
IOHC (Incomplete Ossification of the Humeral Condyle)	32	0.7%
PATELLAR LUXATION	17	0.4%
OSTEOCHONDRITIS DISSECANS (OCD)	6	0.1%
OTHER MUSCULOSKELETAL	34	0.8%
	497	11.5%

Musculoskeletal conditions were by far the most frequently reported in the survey, with an overall prevalence of 11.5%. **Arthritis** was the most common condition within this category and, although essentially ageing related, was nevertheless reported across all age groups. Further studies would be needed to establish, particularly when seen in younger and middleaged dogs, whether it is a primary disorder or a secondary consequence of other conditions such as **Hip Dysplasia**.

Cruciate Disease was the second most common **Musculoskeletal** condition, with almost as many reported cases as the combined totals of **Hip Dysplasia** and **Elbow Dysplasia**. This data corresponds with the wider significance of **Cruciate Disease** as the most commonly operated orthopaedic disorder in dogs and the most common cause of rear-leg lameness.

As expected, both **Hip Dysplasia** and **Elbow Dysplasia** were mainly diagnosed in dogs under 4 years old. Most notably, 22 of the 55 reported cases of **Hip Dysplasia** were diagnosed at under 1 year old. Both conditions were reported in noticeably more males than females, with **Elbow Dysplasia** reported in twice as many males (22) as females (11). (**Hip Dysplasia**: 34 males/21 females). Whether or not this is purely co-incidental would require further study.

IOHC has long been known to affect ESSs and the survey confirms this. It was reported across young and middle age groups. The condition predisposes dogs to fractures of the humeral condyle (part of the elbow joint in the forelimb), but can also cause lameness in its own right without fracture. In some dogs it does not produce any clinical signs until a fracture occurs, so an owner may not know their dog has the condition. Breed prevalence may therefore be significantly higher than this survey indicates.

It is hoped that this survey data can be of use in studying further the influence of various factors that may cause or trigger many **Musculoskeletal** conditions, including poor physical condition (particularly obesity), conformation, growth abnormalities, dietary and hormonal influences, as well as possible underlying genetic breed predisposition.

NEUROLOGIC	REPORTED CASES	PREVALENCE OVERALL
EPILEPSY	26	0.6%
DEMENTIA/SENILITY	7	0.2%
OTHER NEUROLOGIC	2	0.05%
	35	0.8%

Epilepsy was reported in young and middle aged dogs, of which 18 were male, 8 female. Although its prevalence in the survey of current dogs was 0.6%, it was reported more significantly in the Mortality Survey as the cause of 3.2% of all deaths, which included a number of young ESSs. This reflects the devastating impact **Epilepsy** can have on affected dogs and underlines the need to monitor its prevalence in the breed and support relevant research studies.

OCULAR	REPORTED CASES	PREVALENCE OVERALL
CATARACTS	40	0.9%
CORNEAL ULCERATION	14	0.3%
ENTROPION	9	0.2%
GLAUCOMA	8	0.2%
CONJUNCTIVITIS	6	0.1%
DRY EYE	5	0.1%
CHERRY EYE	4	0.1%
ECTROPION	3	0.1%
LENS LUXATION	3	0.1%
MULTIFOCAL RETINAL DYSPLASIA (MRD)	3	0.1%
PROGRESSIVE RETINAL ATROPHY (PRA)	3	0.1%
DISTICHIASIS	1	0.02%
BLINDNESS - UNSPECIFIED CAUSE	8	0.2%
OTHER OCULAR	17	0.4%
	124	2.9%

The prevalence of **Ocular** conditions was significantly lower than might have been expected, which is, of course, a very positive indication for the breed. However, there are some cautionary factors that should be taken into account when looking at these results. Firstly, some **Ocular** conditions (e.g. **MRD**, **Ectropion**, **DIstichiasis**) do not always have an obvious welfare impact (e.g. pain, discomfort, irritation, impaired vision, etc.). Consequently, they can remain unobserved and, therefore, under reported. Secondly, dogs with conditions leading to loss of vision are usually able to compensate so well (especially when the deterioration is gradual), that most owners remain unaware of any impairment until it is at an advanced stage. In many cases, this is not until a dog reaches middle or old age, when it may simply be attributed to part of the ageing process, without a specific underlying cause being diagnosed. Thirdly, as stated earlier in this report, the survey includes a lower number of dogs in the older age groups. Consequently, there will inevitably be fewer reported cases of what are often late onset conditions (e.g. **Glaucoma**, **PRA**).

Cataracts were the most frequently reported condition in this category. Of 37 cases where the age at initial diagnosis was recorded, 27 dogs were aged 10 years or older.

Overall, the low prevalence of **Ocular** conditions presents a generally encouraging picture for the breed, but nevertheless, one that requires ongoing vigilance and avoids any complacency. To that end, breeders should continue to make full use of the **clinical** and **DNA screening tests** available for inherited eye diseases.

DEDDODUCTIVE FEMALE	REPORTED CASES	PREVALENC	CE OVERALL
REPRODUCTIVE - FEMALE		FEMALES ONLY	ALL DOGS
FALSE PREGNANCY	66	3.0%	1.5%
PYOMETRA	17	0.8%	0.4%
REABSORBED PUPPIES	6	0.3%	0.1%
FADING PUPPIES	3	0.1%	0.1%
INFERTILITY	3	0.1%	0.1%
UTERINE INERTIA	3	0.1%	0.1%
ECLAMPSIA	1	0.05%	0.02%
OTHER REPRODUCTIVE - FEMALE	9	0.4%	0.2%
	108	5.0%	2.5%

False Pregnancy was by far the most frequently recorded condition in this category, affecting 3% of all females. Although reported in dogs up to the age of 7 years, almost 70% were less than 3 years old. Of the 66 reported cases, 29 dogs remained un-neutered. Further data would be needed to establish whether **False Pregnancy** was an isolated or recurring condition in the individual dogs.

Pyometra was reported fairly evenly across a wide age range, from less than 1 year old to age 13 years, although its overall prevalence was low. **Reabsorbed Puppies** were reported in 0.3% of all females, which equates to 1.2% of those females that have been bred from. Likewise, the prevalence of **Fading Puppies**, **Infertility** and **Uterine Inertia** was very low.

	REPORTED CASES	PREVALENC	CE OVERALL
REPRODUCTIVE - MALE		MALES ONLY	ALL DOGS
CRYPTORCHIDISM	18	0.8%	0.4%
ENLARGED PROSTATE	7	0.3%	0.2%
INFERTILITY	2	0.1%	0.05%
OTHER REPRODUCTIVE - MALE	2	0.1%	0.05%
	29	1.3%	0.7%

The survey did not distinguish between **Unilateral** and **Bilateral Cryptorchidism** (where one or both testicles remain undescended), or, more rarely, where one (**Monorchism**) or both (**Anorchism**) testicles are missing altogether. Their combined overall prevalence, however, was low. Nevertheless, as **Cryptorchidism** is considered to be inherited, breeders are advised not to breed from affected dogs or from those known to produce affected dogs.

It is interesting to note that **Enlarged Prostate**, although very low in prevalence, did not primarily affect old dogs, as might have been expected. Of the 7 reported cases, 2 dogs were diagnosed at under a year old and 1 each diagnosed at 3, 5 and 7 years respectively.

RESPIRATORY	REPORTED CASES	PREVALENCE OVERALL
KENNEL COUGH	105	2.4%
PNEUMONIA	5	0.1%
BRONCHITIS	3	0.1%
OTHER RESPIRATORY	11	0.3%
	124	2.9%

Kennel Cough was by far the most common **Respiratory** condition and the third most frequently reported condition in the survey overall. It primarily affected young dogs, with 75% of cases reported in dogs aged 4 years and under, supporting the wider evidence that young and unvaccinated dogs are at most risk.

UROLOGIC	REPORTED CASES	PREVALENCE OVERALL
INCONTINENCE - FEMALE	38	0.9% (1.8%)
CYSTITIS - FEMALE	31	0.7% (1.4%)
CYSTOUROLITHS (STONES)	11	0.3%
INCONTINENCE - MALE	11	0.3% (0.5%)
KIDNEY FAILURE	9	0.2%
CYSTITIS - MALE	7	0.2% (0.3%)
OTHER UROLOGIC	2	0.05%
	109	2.5%
* Figures in brackets show prevalence across the relevant sex only		

Female Incontinence was the most frequently recorded **Urologic** condition and was reported across almost all age groups, from under 1 year to 15 years old. It is interesting to note that 37 of the 38 females had been neutered (i.e. 97%). Likewise, 29 of the 31 females with **Cystitis** (i.e. 94%) were neutered. Both these percentages appear to be disproportionately high, given that 45% of females were neutered across the survey as a whole.

Although prevalence of **Kidney Failure** was very low in current dogs, it was more significant in the Mortality Survey, causing or contributing to 5.4% of all deaths.

ACCIDENT/TRAUMA	REPORTED CASES	PREVALENCE OVERALL
ACCIDENT/TRAUMA	13	0.3%

Reports of **Accident/Trauma** were refreshingly rare, especially given that this is a survey of English Springer Spaniels! Sadly, this category accounted for 2.8% of all deaths.

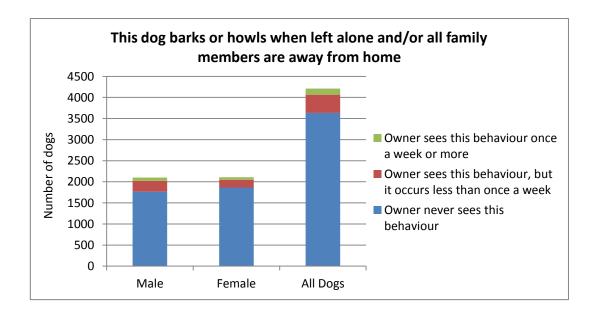
OTHER UNCLASSIFIED CONDITIONS	REPORTED CASES	PREVALENCE OVERALL
OTHER UNCLASSIFIED CONDITIONS	34	0.8%

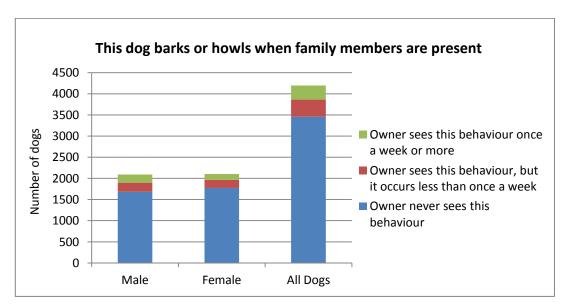
Other reported conditions included various bacterial or viral infections, cysts, lumps and other non-specific conditions that could not be classified elsewhere. None indicated cause for further investigation.

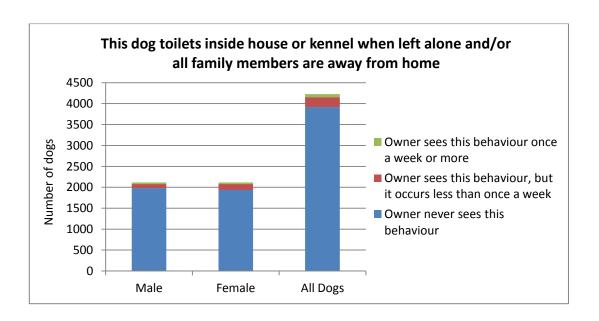
16) Behaviour and Temperament

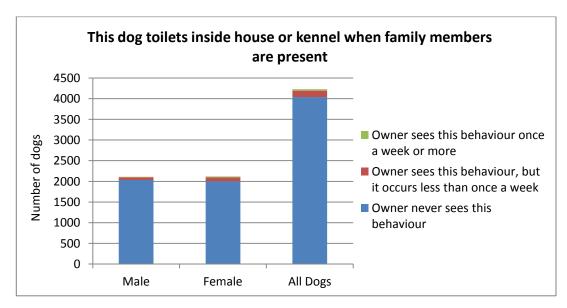
The Behaviour and Temperament section of the survey was compiled in consultation with research expert Dr. Rachel Casey, Senior Lecturer in Companion Animal Behaviour and Welfare (University of Bristol School of Veterinary Sciences). The questions were intentionally designed to provide objective responses, rather than seeking generalised and largely subjective judgements from owners on whether, for example, they consider their dogs to be "aggressive", "nervous", "destructive", "outgoing", "submissive", "excitable", etc., or whether they see certain behaviours "frequently", "occasionally", etc. In this way, the survey hoped to produce a more reliable and robust indication of ESS behavioural traits, which might also serve as a useful marker for comparative studies with other breeds.

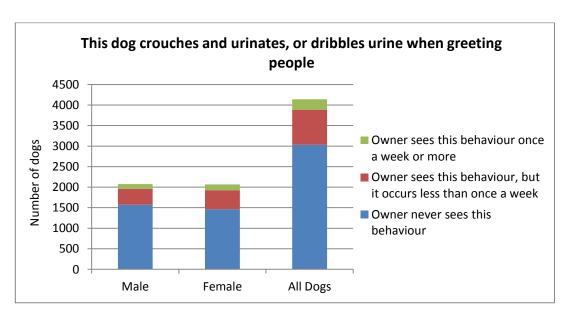
The following charts reflect the responses to each of the 15 behavioural questions, showing a comparison between males and females.

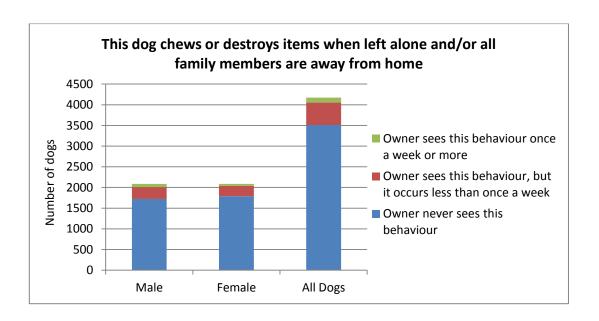


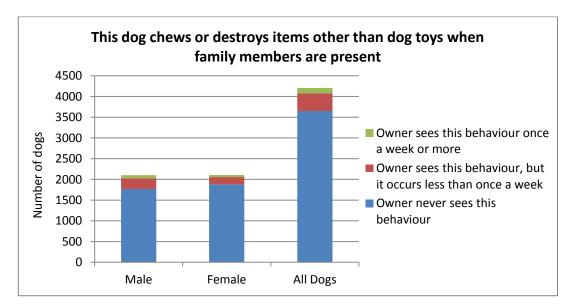


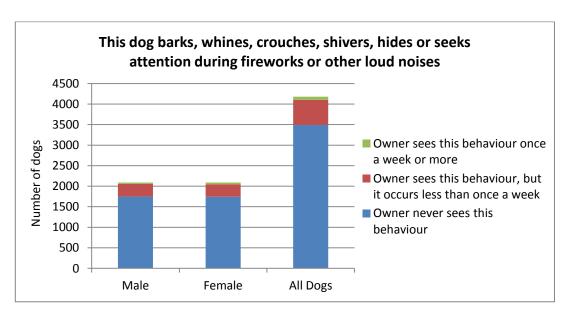


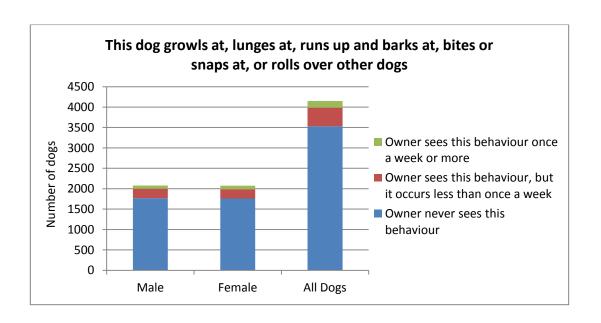


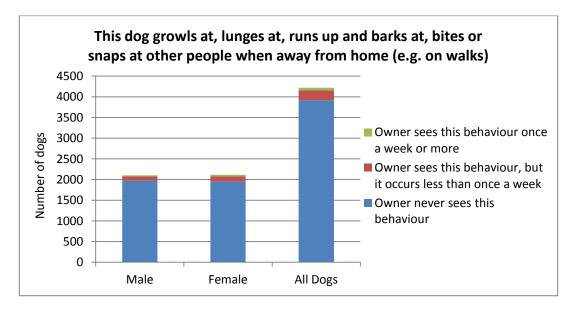


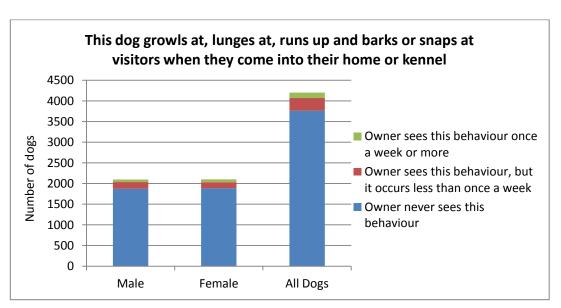


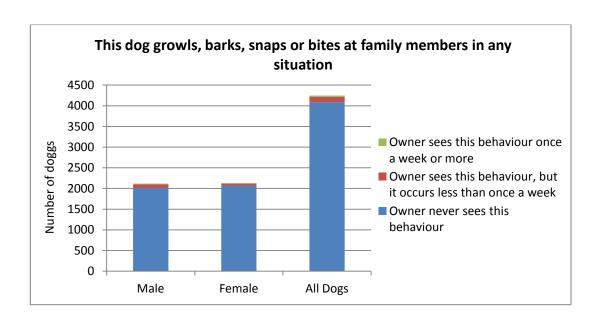


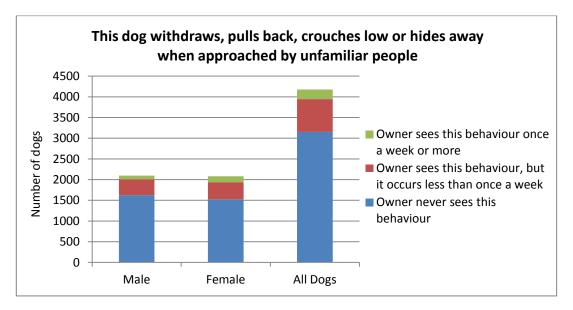


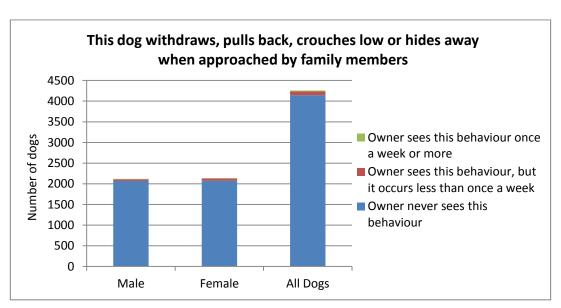


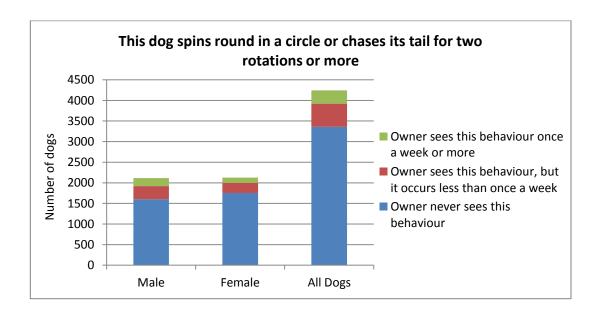










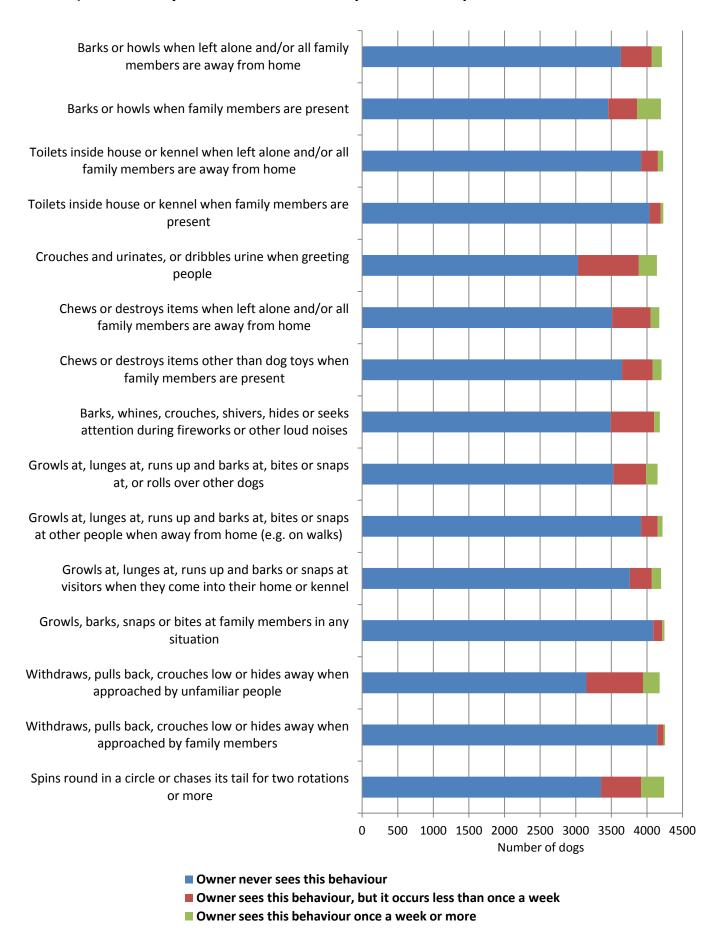


There are, of course, a whole range of crucial factors that deeply influence the behaviour and temperament of every dog. The purpose of this survey, however, was simply to gain an impression of ESS behaviour and temperament overall, rather than also seeking to analyse the reasons behind these responses, which would have required a much lengthier and more detailed survey. Nonetheless, the survey has produced some interesting results:

- The overwhelming majority of responses to each question indicate an extremely positive overall picture of ESS behaviour and temperament, perhaps underlining why the breed continues to be one of the most popular in the UK.
- There was remarkably little difference between the overall male and female responses to each question. This evidence does not support the perception that there are significant underlying differences in the typical behaviour/temperament of male and female ESSs. It would certainly be interesting to compare these results with other breeds.
- The most positive responses of all relate to ESS behaviour when interacting with their owners and families. An overwhelming 97% of owners never see their dog withdraw, pull back, crouch low or hide away when approached by family members. Likewise, 96% never experience their dog growling, barking, snapping or biting at family members in any situation, and 95% never see their ESS toilet inside the house or kennel when family members are present. Although these responses are what would have been hoped for, or indeed expected, the survey provides specific evidence.
- The least affirmative responses concerned ESSs crouching, urinating or dribbling urine when greeting people. Although 73% of owners never see this behaviour, a significant minority of 21% see it less than once a week and a small minority of 6% see it once a week or more. It is also seen in a slightly higher proportion of females (29%) than males (24%). Similarly, 75% of owners never see their dog withdraw, pull back, crouch low or hide away when approached by unfamiliar people. Nevertheless, 19% see this behaviour less than once a week and 6% see it once a week or more and, again, it is slightly more common in females (27%) than males (22%).

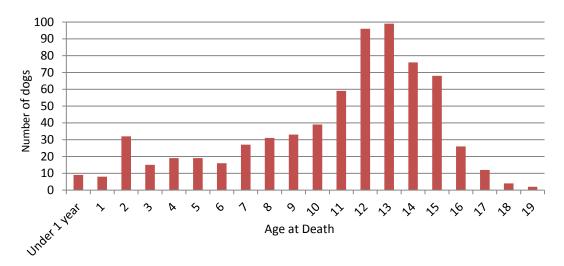
A summary comparison of the responses to all 15 behavioural questions is shown in the following chart.

17) Summary of Behaviour and Temperament Responses



ESSs that died between 1st January 2008 and 31st July 2013

18) Age of Dogs at Death



AGE AT DEATH	NUMBER OF DOGS
Under 1 year	9
1	8
2	32
3	15
4	19
5	19
6	16
7	27
8	31
9	33
10	39
11	59
12	96
13	99
14	76
15	68
16	26
17	12
18	4
19	2
Total	690

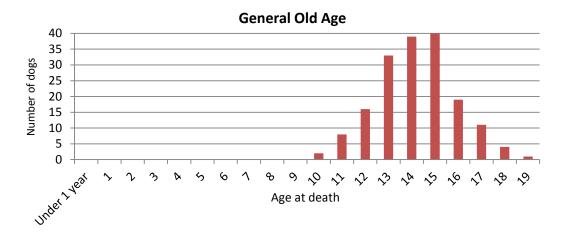
Average (Mean) Age at Death = 10 Years 9 Months

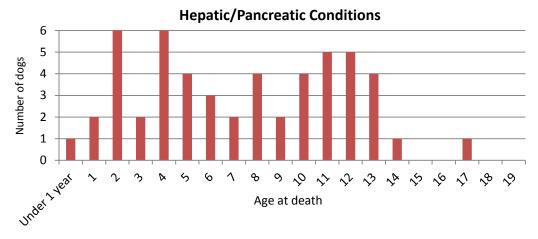
Mid-Point (Median) Age at Death = 12 Years

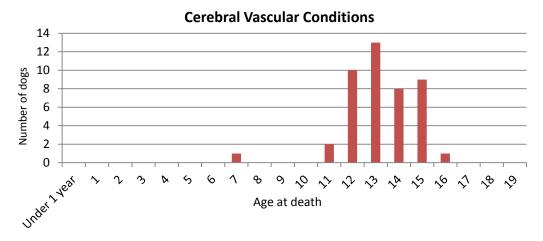
19) Causes of Death

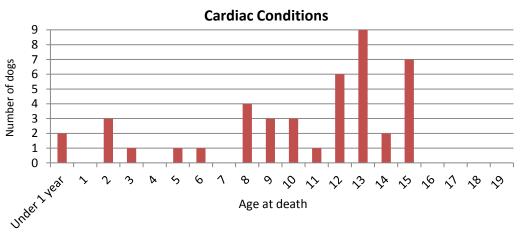
The following table shows the **most frequently recorded/significant** causes of death in each Category. It does not list every reported cause of death.

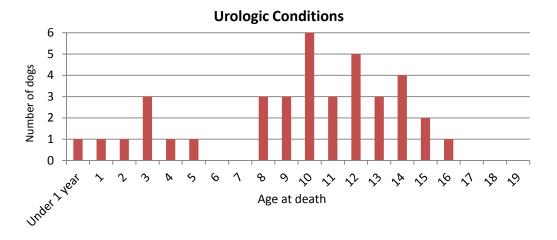
CATEGORY	NUMBER OF REPORTS	% OF DEATHS	MOST FREQUENTLY REPORTED CAUSES OF DEATH (Shown in descending order in each Category)
CANCER/TUMOUR	183	26.5%	Liver/Spleen; Throat/Face/Mouth/Nose; Blood; Stomach; Lung; Skin/Soft Tissue/Mast Cell; Bone; (Analysis of Cancer Deaths – see Sections 21 - 23)
OLD AGE	173	25.1%	
НЕРАТІС	52	7.5%	Hepatitis/Liver Failure; Pancreatic Disease;
CEREBRAL/VASCULAR	44	6.4%	Stroke;
CARDIAC	43	6.2%	Heart Failure/Heart Murmur;
UROLOGIC	38	5.5%	Kidney Failure;
NEUROLOGIC	35	5.1%	Epilepsy/Seizures & Fits; Dementia/Senility;
MUSCULOSKELETAL	26	3.8%	Arthritis;
IMMUNE MEDIATED	23	3.3%	Autoimmune Haemolytic Anaemia (AIHA/IMHA); Masticatory Muscle Myositis (MMM);
ENDOCRINE	22	3.2%	Diabetes; Addison's; Cushing's;
ACCIDENT/TRAUMA	19	2.8%	Road Traffic Accident;
GASTROINTESTINAL	13	1.9%	
BEHAVIOUR	8	1.2%	Aggression;
REPRODUCTIVE	6	0.9%	Pyometra;
OTHER INFECTION	3	0.4%	
OTHER CAUSE	5	0.7%	
UNKNOWN CAUSE	33	4.8%	
Total	726**	** Percentages shown above are based on 690 deaths. 36 reports gave more than one primary cause of death.	

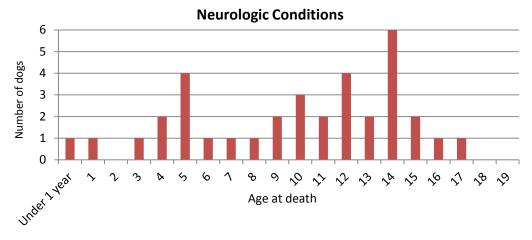


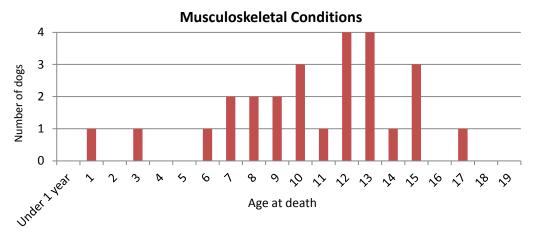


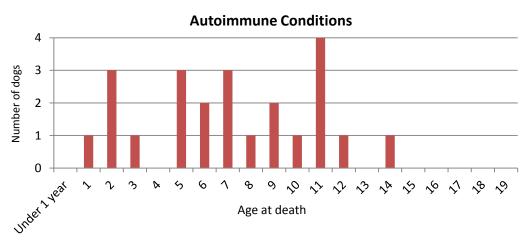


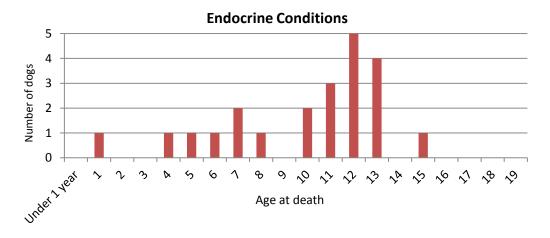


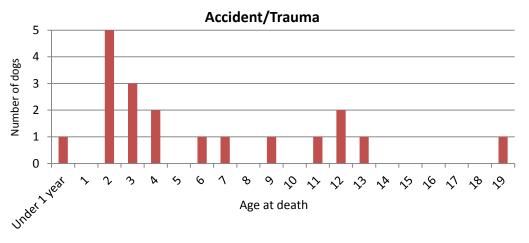


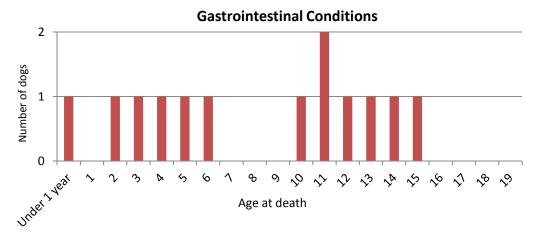


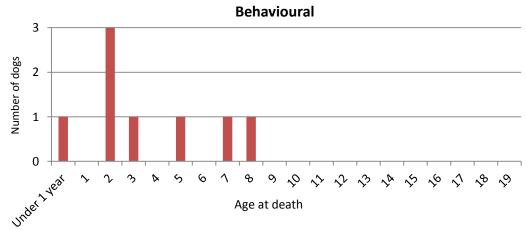












21) Summary of Mortality Data

Some owners included additional information about health conditions their dogs had suffered during the course of their lifetimes. However, the mortality data in this report is based only on the primary "end" conditions leading to death. Owners were not asked to state whether a post mortem had been carried out on their dogs – it is assumed that this would only have applied to a very small minority of deaths.

- Cancers/Tumours were reported as the most frequent cause of death (26.5%) a separate breakdown of this category is given in Sections 22-23. This was followed by general Old Age (25.1%), which may well have included undiagnosed underlying causes not known to owners.
- Hepatic conditions were the third most frequently reported mortality category, causing 52 deaths (7.5%). Of these, 43 reported Liver Failure/Hepatitis, almost half of which (21 dogs) were aged 6 years or younger. The survey data does not, of course, confirm how many of these young deaths were due to the particular type of Chronic Hepatitis in ESS that has been under investigation at The Queen's Veterinary School Hospital, University of Cambridge. However, some owners indicated that they have participated in this research project. In any case, the anonymised survey data will be made available to the project leaders. There were also 9 reports of deaths due to Pancreatic disorders.
- Of the 44 reported **Cerebral Vascular** deaths, 41 were due to **Stroke**, all of which were dogs aged 11 years or older. Of the 43 deaths from **Cardiac Failure**, 35 dogs were aged 8 years or older. Of the 26 deaths from **Musculoskeletal** conditions, 23 were dogs aged 7 years or older, 14 of which reported **Arthritis**.
- **Kidney Failure** accounted for 37 of the 38 **Urologic** deaths, of which 30 dogs were aged 8 years or older. It was reported as a cause on its own or as the "end" consequence of other health conditions.
- Epilepsy/Fits/Seizures were reported as causing 22 of the 35 Neurologic deaths, together
 with 8 deaths resulting from Dementia/Senility. Age at death was more evenly spread in
 this category than others and included 11 dogs aged 7 years or less, all of which were due to
 Epilepsy/Fits/Seizures.
- Deaths from Immune Mediated conditions were spread across a wide age range and without
 a bias towards older dogs. Of 23 deaths, 13 were dogs aged 7 years or less. By far the most
 frequently reported cause of death in this category was Immune Mediated Haemolytic
 Anaemia, which was reported in 14 deaths across ages ranging from 2 to 14 years.
- **Endocrine** conditions were reported as a cause of 22 deaths, of which 15 dogs were aged 10 years or older. There were 9 deaths from **Diabetes**, 8 from **Addison's** and 5 from **Cushing's**.
- There were 13 **Gastrointestinal** deaths due to a variety of conditions including **Peritonitis**, **Mega-oesophagus**, **Hernia** and **Intestinal Blockage**.
- There were 6 deaths in the **Reproductive** category, 4 of which were due to **Pyometra**.
- Sadly, 8 dogs were euthanised due to aggressive Behaviour, all of them young or middleaged. In addition, 19 deaths were caused by Accident/Trauma, of which 9 were due to road traffic accidents and 4 resulted from attacks by other dogs.

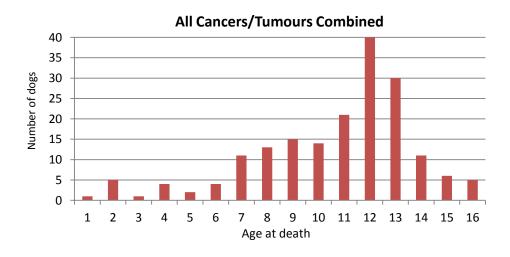
22) Types of Cancers/Tumours Causing Death

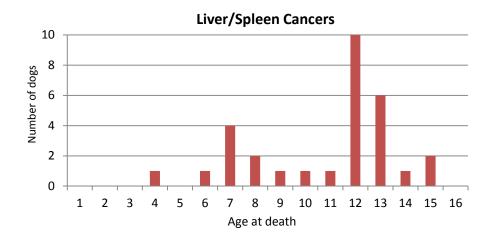
TYPES OF CANCER/TUMOUR	NUMBER OF REPORTS	% OF CANCERS
LIVER/SPLEEN	30	16.2%
FACE/MOUTH/NASAL/NECK/THROAT	21	11.4%
BLOOD/LYMPHATIC	20	10.8%
STOMACH	14	7.6%
LUNG	11	5.9%
SOFT TISSUE/SKIN/MAST CELL	11	5.9%
BONE	10	5.4%
BLADDER	7	3.8%
MAMMARY	7	3.8%
PANCREAS	4	2.2%
SPINE	4	2.2%
BOWEL	3	1.6%
KIDNEY	3	1.6%
PROSTATE	3	1.6%
BRAIN	2	1.1%
OPTIC	2	1.1%
UTERUS	1	0.5%
OVARIAN	0	-
TESTICULAR	0	-
OTHER CANCERS NOT CLASSIFIED ABOVE	8	4.3%
UNSPECIFIED – TYPE OF CANCER NOT RECORDED	24	13.0%
Total	185**	100%

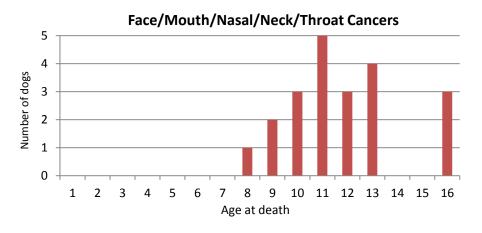
** Number of deaths caused by Cancers/Tumours was 183.

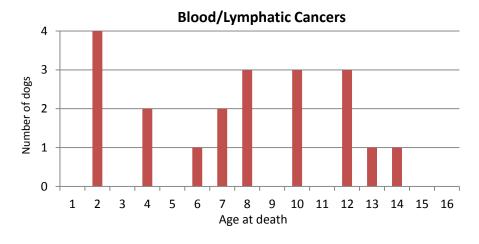
2 dogs recorded more than one type of Cancer/Tumour causing death.

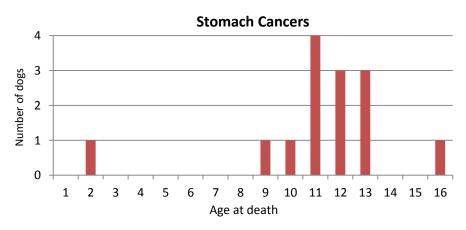
23) Age at Death – Cancers/Tumours

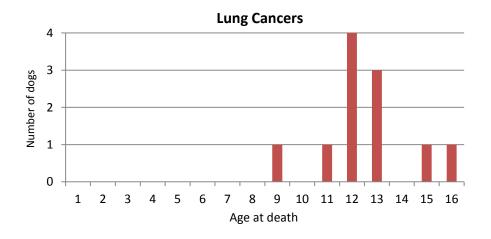


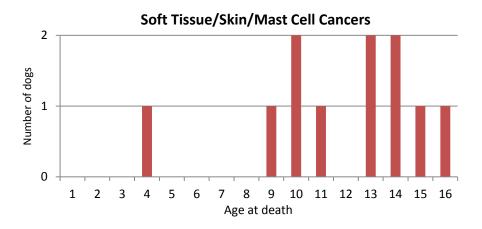


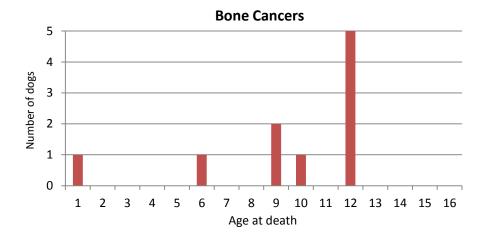












- The age profile of ESS deaths caused by all **Cancers/Tumours** combined indicates that these are generally very much ageing associated diseases in the breed. Of the 183 **Cancer/Tumour** related deaths, an overwhelming 77% were dogs aged 9 years or older and 50% were aged 12 years or older. Only 17 dogs were under 7 years old.
- The above individual age profiles of the most frequently reported types of Cancer/Tumour deaths likewise reflect a considerable bias towards older dogs, with the notable exception of Blood/Lymphatic Cancers, which accounted for 20 deaths (10.8% of all Cancers). Of these, 12 dogs (60%) were aged 8 years or younger, indicating a very different pattern from other Cancer deaths. Taken in context, however, Blood/Lymphatic Cancers accounted for 2.9% of ESS deaths overall.

LOOKING AHEAD...

This survey has provided a wealth of information about the demographics, health, behaviour and mortality of English Springer Spaniels in the UK, on a scale that has not previously been seen. To a great extent, the data supports much of what "we thought we already knew" about the breed, but which we can now measure objectively and consider in context.

Future priorities include reviewing, improving and adding to the public information about ESS health and welfare published by the ESS Breed Clubs on their websites, via social media and other publications. This will include information and advice on avoiding and treating Otitis Externa (inflammation of the ear/ear canal), which was highlighted as the most frequently reported health condition overall.

Although the survey did not indicate any single health issue with a very high prevalence in the breed, Musculoskeletal conditions as a category were frequently reported and are worthy of further study. We will continue to seek and support relevant research studies into these conditions and others, particularly where they are inherited and/or have a severe health and welfare impact on affected dogs.

This report is being widely published and will remain freely accessible to anyone interested in reading it. The data itself has already been and will continue to be made available (in anonymised format only) to bona fide researchers who would like to study it in more detail.

The survey has shown that, fundamentally, ESSs are a healthy breed. However, new health issues can easily emerge and existing ones become more prevalent if we become complacent or do not remain vigilant. To enable ESS health and mortality to be monitored on an ongoing basis into the future, the ESS Health Reporting website provides a permanent online facility for ESS owners to record newly diagnosed health conditions or the death of their ESS.

TO DOWNLOAD THIS SURVEY REPORT OR TO REPORT A HEALTH CONDITION OR DEATH OF AN ESS, PLEASE VISIT THE **ESS HEALTH REPORTING WEBSITE** AT <u>www.englishspringerhealth.org.uk</u>.

IF YOU HAVE ANY QUESTIONS ABOUT THIS REPORT, OR WOULD LIKE ANY FURTHER INFORMATION, PLEASE CONTACT THE UK ESS BREED CLUBS JOINT HEALTH CO-ORDINATORS:

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Photograph courtesy of Heidrun Humphries