THE KENNEL CLUB
DOG HEALTH

Breed Health and Conservation Plan

French Bulldog

2019

BHCP/Version 4/June 2019

INTRODUCTION

The Kennel Club launched a dynamic new resource for breed clubs and individual breeders – the Breed Health and Conservation Plans (BHCP) project – in September 2016. The purpose of the project is to ensure that all health concerns for a breed are identified through evidence-based criteria, and that breeders are provided with useful information and resources to support them in making balanced breeding decisions that make health a priority.

The Breed Health and Conservation Plans take a holistic view of breed health with consideration to the following issues: known inherited conditions, complex conditions (i.e. those involving many genes and environmental effects such as nutrition or exercise levels, for example hip dysplasia), conformational concerns and population genetics.

Sources of evidence and data have been collated into an evidence base (Section 1 of the BHCP) which gives clear indications of the most significant health conditions in each breed, in terms of prevalence and impact. Once the evidence base document has been produced it is discussed with the relevant Breed Health Coordinator and breed health committee or representatives if applicable. Priorities are agreed and laid out in Section 2. A collaborative action plan for the health of the breed is then agreed and incorporated as Section 3 of the BHCP. This will be monitored and reviewed.

SECTION 1: EVIDENCE BASE

Demographics

The number of French Bulldogs registered per year has increased dramatically over the past decade, as shown in Table 1.

Table 1: Number of French Bulldogs registered per year between 2006 and 2018.

Year	Number of new registered French Bulldogs	Percentage of French Bulldogs in KC registered population per year
2006	526	0.19%
2007	692	0.26%
2008	1025	0.38%
2009	1521	0.62%
2010	2204	0.86%
2011	2771	1.14%
2012	4648	2.03%
2013	6990	3.12%
2014	9670	4.34%
2015	14607	6.64%
2016	21470	9.43%
2017	30887	12.70%
2018	36785	14.23%

This marked increase is illustrated graphically in Figure 1 which shows the number of French Bulldogs registered per year between 1980 and 2018. Numbers were low and stable between 1980 and around 2005. The trend of registrations over year of birth (1980-2014) is +127.40 per year (with a 95% confidence interval of +72.38 to +182.42), reflecting this increase in numbers.

[A '95% confidence interval' is a tool used in statistics which shows that we are 95% certain that an estimated number is between the lowest number and the highest number provided.]

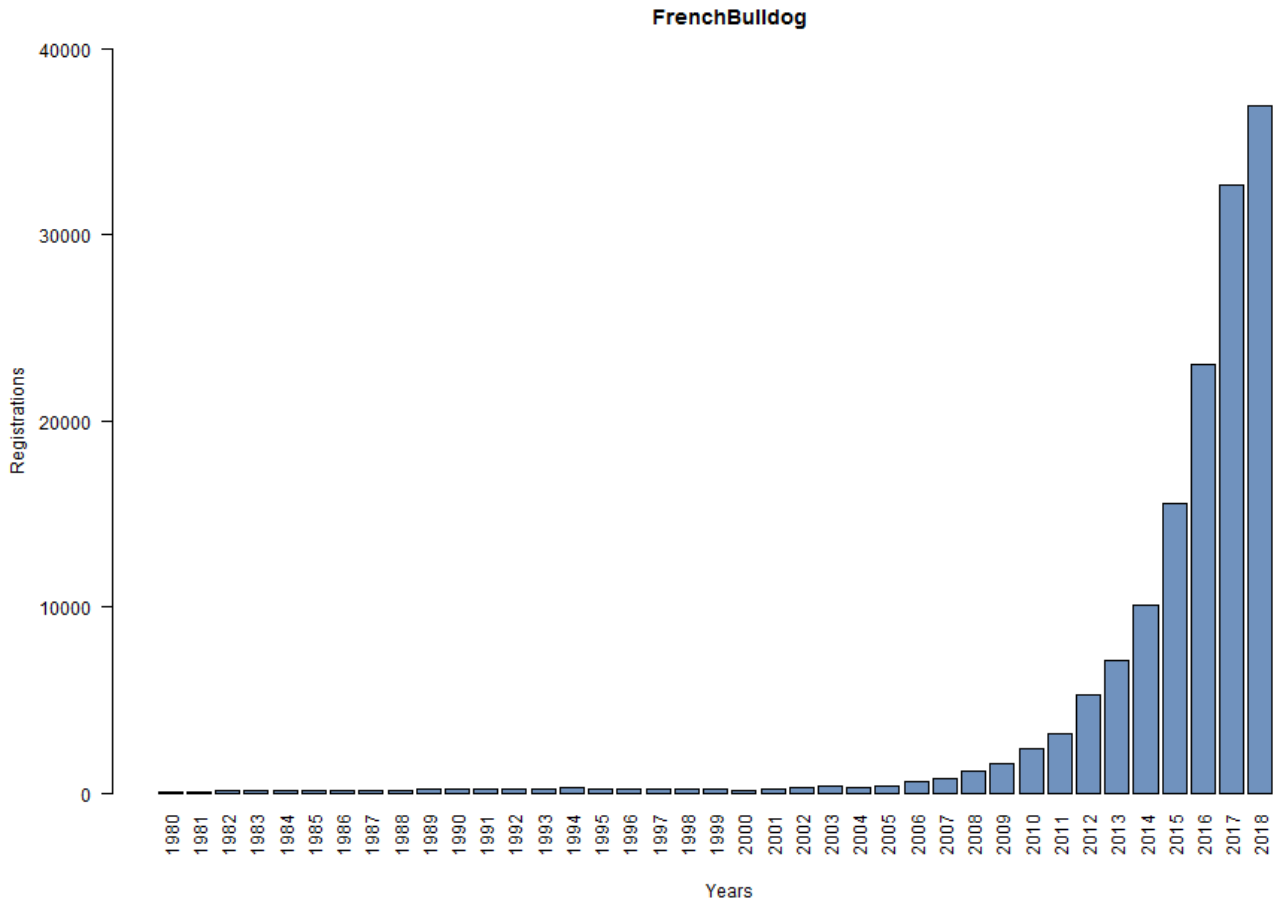

Figure 1: Number of registrations of French Bulldogs per year of birth from 1980 to 2018.

BHC annual report

The health concerns noted in the Breed Health Coordinators Annual Health Report 2017 for the question 'please list and rank the three health and welfare conditions that the breed considers to be currently the most important to deal with in your breed':

1. BOAS including nostrils

2. Spinal problems

3. Allergies.

With regard to these concerns the breed have continued to work with the University of Cambridge's BOAS Research Group, proposed the DM DNA test be recognised and recorded by the KC and continuous advice and education to breed owners/ potential buyers on health in the breed.

In the 2018 Annual Health Report the BHC the three health and welfare conditions were:

1. BOAS

2. Spinal problems

3. Allergies.

With regard to these concerns the breed have continued to collaborate with the University of Cambridge and assist in the Respiratory Function Grading scheme launch, and collecting data on health concerns in the breed.

Purebred/pedigree dog health survey results

2004 Morbidity results: Health information was collected for 154 live French Bulldogs of which 73 (47%) were healthy and 81 (53%) had at least one reported health condition. The top categories of diagnosis were ocular (20.8%, 27 of 130 reported conditions), musculoskeletal (17.7%, 23 of 130 reported conditions), reproductive (13.8%, 18 of 130 reported conditions) and aural (9.2%, 12 of 130 reported conditions). The three most frequently reported specific conditions were corneal ulcers (11.5%, 15 of 130 conditions), otitis externa (7.7%, 10 of 130 conditions) and patellar luxation (6.9%, 9 of 130 conditions).

2004 Mortality results: A total of 71 deaths were reported in the breed. The median age at death for French Bulldogs was 9 years (min = 5 months, max = 14 years and 8 months). The most frequently reported causes of death by organ system or category were cancer (38.0%, 27 of 71 deaths), neurological (16.9%, 12 of 71 deaths), old age (8.5%, 6 of 71 deaths), respiratory (7.0%, 5 of 71 deaths) and musculoskeletal (4.2%, 5 of 71 deaths). The three most frequently reported specific causes of death were cancer – type unspecified (22.5%, 16 of 71 deaths), brain tumour (7.0%, 5 of 71 deaths) and epilepsy (5.6%, 4 of 71 deaths).

2014 Morbidity results: Health information was collected for 330 live French Bulldogs of which 210 (63.6%) had reported no conditions and 120 (36.4%) reported affected by at least one condition. The most frequently reported specific conditions were hypersensitivity (allergic) skin disorder (6.46%, 17 of 263 conditions), Brachycephalic Obstructive Airway Syndrome (BOAS) (6.08%, 16 of 263 conditions), narrowed nostrils (5.70%, 15 of 263 conditions) and otitis media (4.94%, 13 of 263 conditions). Further analysis of the morbidity results suggested that the French Bulldog was at increased risk of BOAS, otitis media, persistent vomiting and rash between skin folds and at a decreased risk of arthritis and lipoma compared to the average risk for dogs of all breeds.

2014 Mortality results: Just 21 deaths were reported in the breed. The median age at death for French Bulldogs was 5.9 years (min = 0 years, max = 14 years).The

most frequently reported causes of death were cardiac (heart) failure (19.0%, 4 of 21 deaths), cancer – unspecified (9.52%, 2 of 21 deaths), aggression (4.76%, 1 of 21 deaths), allergies and bone tumour (4.76%, 1 of 21 deaths).

VetCompass results

A breed-specific VetCompass study was published in 2018, with 2228 dogs of the breed represented (out of a total of 445,557 dogs attending veterinary practices during 2013) (O'Neill et al, 2018). Of the dogs that were included in the study 1612 (72.4%) were reported to be affected by at least one condition. The most prevalent conditions reported were otitis externa (14.0%), diarrhoea (7.5%), conjunctivitis (3.2%), overlong nails (3.1%), and skin fold dermatitis (3.0%). The most common conditions by category were cutaneous (17.9%), enteropathy (16.7%), aural (16.3%), upper respiratory tract (12.7%) and ophthalmological (10.5%).

With regard to mortality the top causes for death in the breed were found to be brain disorder (11.9%, median age at death 2.1 years), spinal cord disorder (9.5%, median age at death 4.0 years), lower respiratory tract disorder (7.1%, 0.9 years), mass lesion (7.1%, 7.0 years) and upper respiratory tract disorder (7.1%, 2.5 years).

Insurance data

There are some important limitations to consider for insurance data:

- Accuracy of diagnosis varies between disorders depending on the ease of clinical diagnosis, clinical acumen of the veterinarian and facilities available at the veterinary practice.
- Younger animals tend to be overrepresented in the UK insured population.
- Only clinical events that are not excluded and where the cost exceeds the deductible excess are included (O'Neill et al, 2014)

However, insurance databases are too useful a resource to ignore as they fill certain gaps left by other types of research; in particular they can highlight common, expensive and severe conditions, especially in breeds of small population sizes, that may not be evident from teaching hospital caseloads (Egenvall et al, 2009).

UK Agria data

Insurance data were available for dogs insured with Agria UK. It was difficult to determine the underlying population at risk for these conditions so prevalence estimates were not available for these conditions, nevertheless the number of settlements due to particular conditions provides useful information about the relative frequency of these conditions. Data relating to two different types of policies were supplied. Full policies are available to dogs of any age. Free policies are available to breeders of Kennel Club registered puppies and cover starts from the time the puppy is collected by the new owner; cover under free policies lasts for five weeks from this time. It can be assumed that settlements under full policies, as shown in

Table 2, refer to dogs outside of the initial five week free period. It is possible that one dog could have more than one settlement for a condition within the 12-month period shown. 'Benefit other than vet fees' refers most commonly to a claim for death of the dog but can also cover travel costs, boarding fees and advertising for lost dogs.

Table 2: Conditions and number of settlements for each condition between 1st October 2016 and 31st September 2017 for French Bulldogs insured with Agria UK shown.

Condition	Number of settlements
Skin allergy[$]	126
Atopy[$]	105
BOAS	89
Corneal ulcer (non-traumatic)	63
Fractured humerus	54
Medial patella luxation	41
Meningoencephalitis	29
Disc herniation	27
Benefit other than vet fees (explained above)	22
Disc herniation - cervical	12

[$] N.B. - Allergy is any exaggerated immune response to a foreign antigen regardless of mechanism. A dog can be allergic without being atopic. Atopy is a genetic predisposition to an exaggerated Immunoglobulin E (IgE)-mediated immune response to allergens in the environment. The treatment of atopy will be different to the treatment of non-atopic allergy.

Swedish Agria data

Swedish Agria insurance morbidity data

Swedish morbidity and mortality insurance data were also available from Agria for the. Reported rates are based on dog-years-at-risk (DYAR) which take into account the actual time each dog was insured during the period (2006-2011). The number of DYAR for the American Cocker Spaniels in Sweden during this period was 500<1000. The full Swedish insurance results are available through https://dogwellnet.com/ , but key findings are reported below.

The most common specific causes of Veterinary Care Events (VCEs) for Agria-insured French Bulldogs in Sweden between 2006 and 2011 are shown in Figure 2. The number of DYAR for the French Bulldog in Sweden during this period was between 500 and 1,000, so these results should be interpreted with caution. The top five specific causes of VCEs were vomiting/diarrhoea/enteritis, dermatitis/pyoderma/folliculitis, allergy/atopy, otitis and itching. When relative risk of specific causes of VCEs was compared for the French Bulldogs to all breeds, some interesting findings were reported. The specific causes of VCEs ordered by relative risk are shown in Figure 2. In this analysis, the top five specific causes of VCEs ordered by relative risk were malformation or developmental abnormalities of the respiratory tract, oesophagus, trauma to the eyeball, trauma to the cornea/sclera and breathing problem (upper).

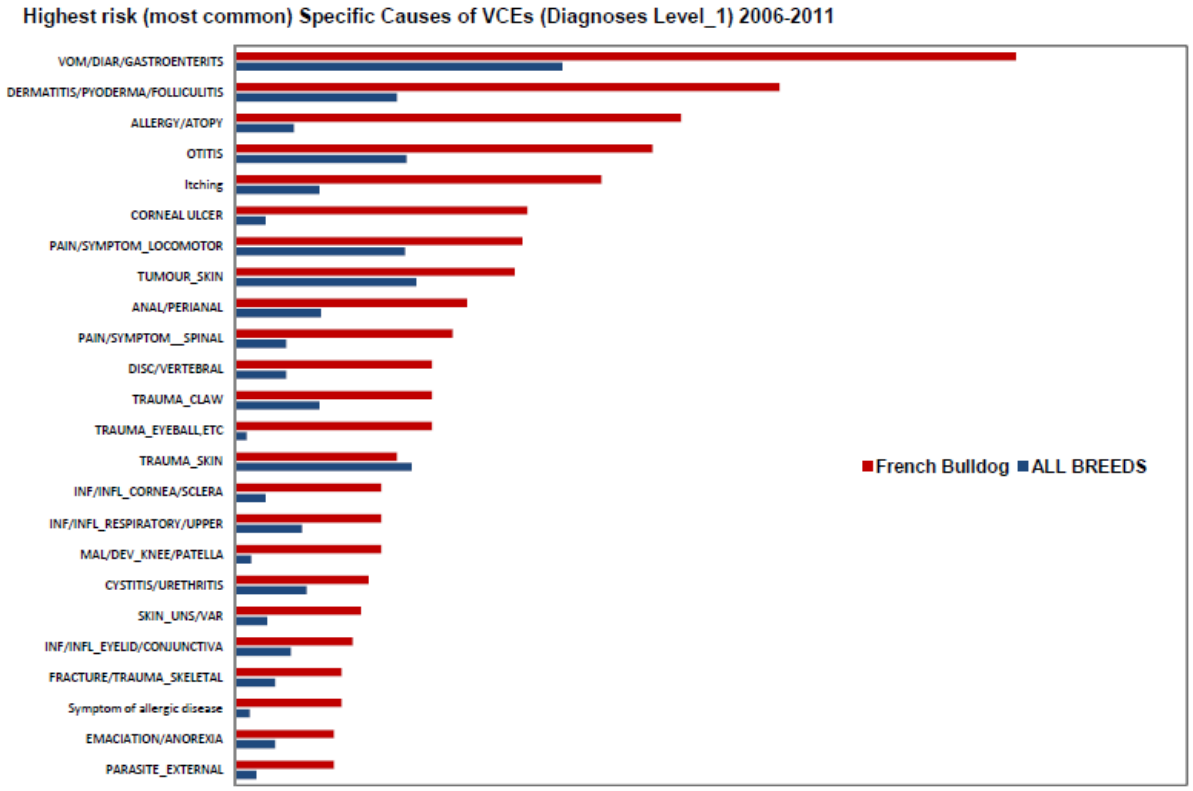

Figure 2: The most common specific causes of VCEs for the French Bulldog compared to all breeds in Sweden 2006 - 2011, from Swedish Agria insurance data.

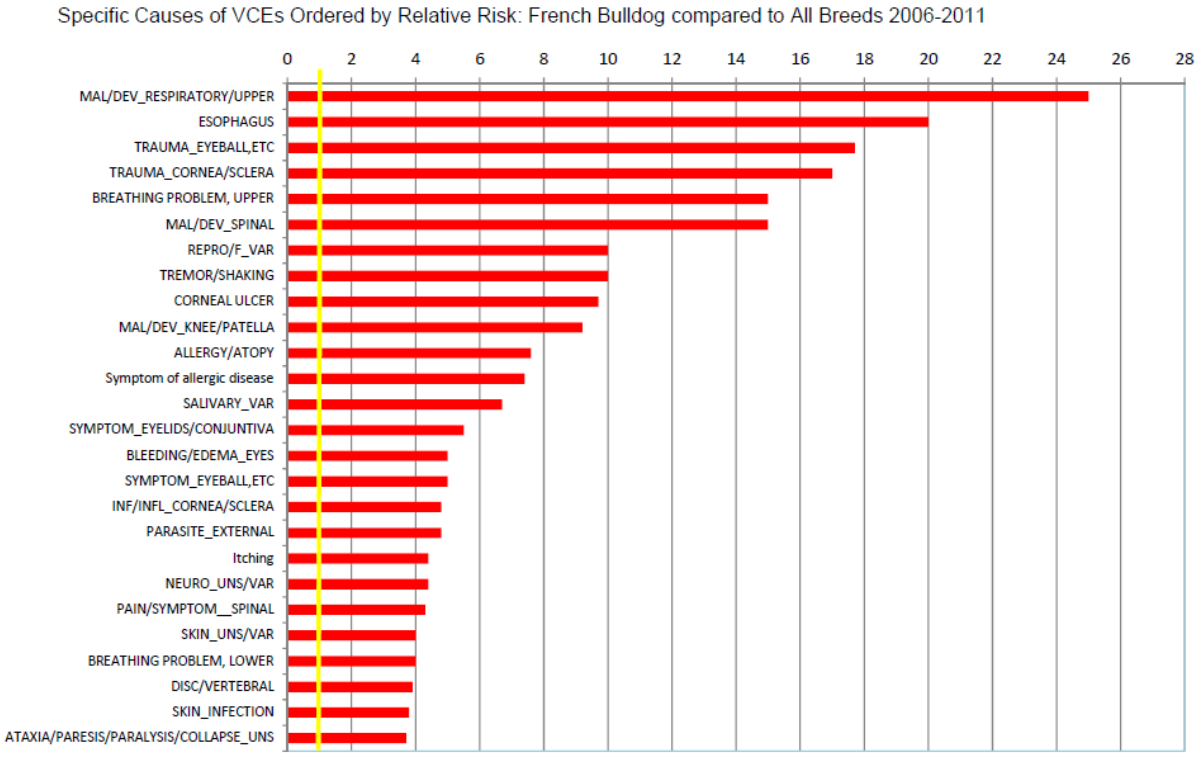

Figure 3: The specific causes of VCEs for the French Bulldog ordered by relative risk compared to all breeds in Sweden 2006 - 2011, from Swedish Agria insurance data.

Swedish Agria insurance mortality data

The median age at death for French Bulldogs from Swedish Agria insurance data was 2.5 years for males and 3.75 years for females. The most common specific causes of death were disc/vertebral, being hit by a car/train/vehicle, breathing problem (upper) and malformation or developmental abnormalities of the respiratory tract (Figure 4).

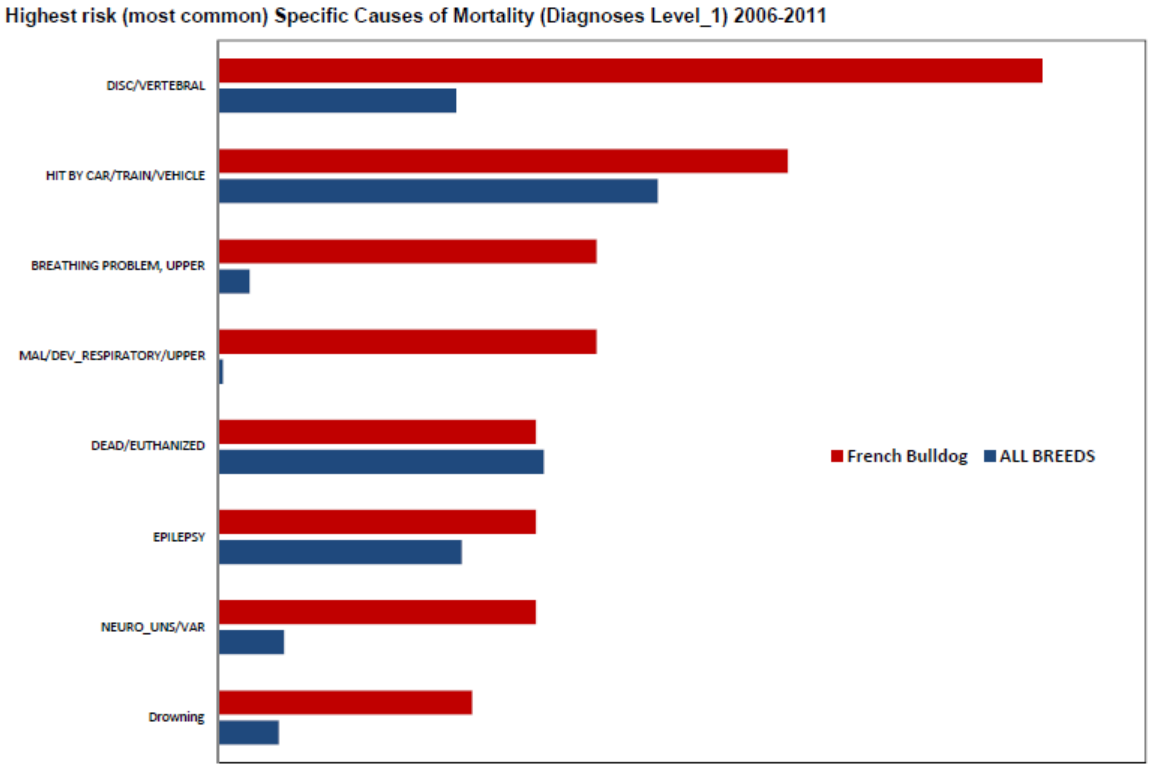

Figure 4: The most common specific causes of death for the French Bulldog compared to all breeds in Sweden between 2006 and 2011, from Swedish Agria insurance data.

Breed-specific health surveys

No breed-specific health surveys are currently available.

Visual health check reports/clinical reports/judges' health monitoring

As a category two breed judges' health monitoring forms are mandatory. The points of concern reported are shown below in Table 3. There are some important limitations to consider, such as:

- An increase in awareness of Breed Watch since its launch may correlate with increased reporting
- The data represents show dogs only, which total a minute percentage of the overall population

- Dogs shown more than once with visual concerns may be reported several times

Table 3: Percentage of French Bulldogs exhibited at Dog shows with points of concern for 2016 to 2018. Those with a * indicate new points of concern.

In 2017 the points 'inverted tail', 'lack of tail', 'screw tail' and 'tight tail' were combined into 'lack of tail, screw tail, inverted tail and tight tail' which explains the sudden uptake of this point of concern and fall in the old points.

Point of concern	**2016**	**2017**	**2018**
* Excessive wrinkle	0.13%	0.00%	0.00%
* Eye/Eyelid abnormalities	0.00%	0.16%	0.00%
* Lower lip over incisors (tight lip)	0.00%	0.21%	0.00%
Difficulty breathing	0.35%	0.82%	0.00%
Dogs showing respiratory distress including difficulty breathing or laboured breathing	0.00%	0.07%	0.61%
Exaggerated roach in the top line	2.03%	0.00%	2.17%
Excessively prominent eyes	0.73%	0.49%	0.11%
Incomplete blink	0.91%	2.10%	0.07%
Incorrect bite	1.73%	0.37%	0.68%
Inverted tail	0.30%	0.16%	0.39%
Lack of tail	4.58%	0.00%	1.60%
Lack of tail, screw tail, inverted tail and tight tail	0.00%	2.05%	3.21%
Overly short neck	0.91%	2.27%	0.00%
Pinched nostrils	7.73%	2.01%	4.99%
Prominent eyes	0.00%	0.00%	0.46%
Screw tail	0.60%	5.15%	0.04%
Short neck	0.00%	0.97%	2.56%
Signs of dermatitis in skin folds	0.13%	0.62%	0.11%
Tight tail	1.94%	9.07%	0.53%
*Weak hind movement	0.69%	0.21%	0.18%
Total	**2482**	**2686**	**2808**

DNA test results

There are currently DNA tests available for French Bulldogs for hereditary cataract (HC-HSF4), degenerative myelopathy (DM), hyperuricosuria (HUU), canine multifocal retinopathy (CMR1), cystinuria type III and dilated cardiomyopathy (DCM).

DNA test results are only recorded for Official Kennel Club DNA Testing Schemes which involve collaboration between the Kennel Club, the breed clubs and the DNA testing facilities to ensure the tests are valid and give accurate results for dogs tested. Currently the Kennel Club records DNA test results from approved laboratories for HC-HSF4 and DM only.

Hereditary Cataracts (HC-HSF4)

The results of the French Bulldogs DNA tested for hereditary cataract (HC-HSF4) up to 01/03/2019 are shown in Table 4. No dogs have been recorded as hereditarily affected.

Table 4: HC-HSF4 DNA test results held by the Kennel Club for French Bulldogs up to 01/03/19.

Total Number of Results	CLEAR	CARRIER	HEREDITARILY CLEAR
15312	2804 (18.3%)	31 (0.2%)	12477 (81.5%)

Degenerative Myelopathy (DM)

The results of the French Bulldogs DNA tested for Degenerative Myelopathy (DM) up to 01/03/2019 are shown in Table 5. No dogs have been recorded as affected, hereditarily affected or hereditarily carrier.

Table 5: DM DNA test results held by the Kennel Club for French Bulldogs up to 11/01/18.

Total Number of Results	CLEAR	CARRIER	AFFECTED	HEREDITARILY CARRIER	HEREDITARILY CLEAR
4379	1348 (30.8%)	511 (11.7%)	59 (1.3%)	48 (1.1%)	2413 (55.1%)

Canine Health Scheme results and EBVs

Under the Assured Breeder Scheme it is a recommendation for breeding stock to participate in the BVA/KC/ISDS Eye Scheme annually, undergo DNA testing for HC-HSF4, participation in the French Bulldog Health Scheme and DNA testing for DM. However, all the British Veterinary Association (BVA)/Kennel Club (KC) Canine Health Schemes are open to dogs of any breed.

Estimated breeding values (EBVs) are currently only available for breeds with large numbers of dogs with hip and elbow scores for the respective EBV.

HIPS

In total 43 French Bulldogs have been hip scored as part of the BVA/KC Hip Dysplasia Scheme in the 15 years to 2018. The median hip score received was 11 (range 5 – 93).

ELBOWS

Eleven French Bulldogs have been elbow scored as part of the BVA/KC Elbow Dysplasia Scheme since it launched in 1998. Of these, nine were graded 0 and two graded as a 1.

EYES

The French Bulldog is currently on Schedule B for HC (early developing) under the BVA/KC/International Sheep Dog Society (ISDS) Eye Scheme. Schedule A lists the known inherited eye conditions in the breeds where there is enough scientific information to show that the condition is inherited in the breed, often including the actual mode of inheritance and in some cases even a DNA test. Schedule B lists those breeds in which the conditions are, at this stage, only suspected of being inherited. However, the BVA still records the results of dogs of other breeds which have participated in the scheme. The results of Eye Scheme examinations of French Bulldogs which have taken place since 2010 are shown in Table 6.

Table 6: Reports on French Bulldogs which have participated in the BVA/KC/ISDS Eye Scheme since 2012.

Year	**Number seen**	**Comments**	
2012	10 adults	No sightings reported	
2013	46 adults 5 litters	Adults 1 – entropion 1 – persistent pupillary membranes 1 – other cataract 1 – choroidal hypoplasia 1 – cherry eye 1 – micropunctum	Litter 1 – multifocal retinal dysplasia
2014	30 adults 4 litters	Adults No sightings reported	Litter 1 - distichiasis
2015	46 adults 3 litters	Adults 1 – multifocal retinal dysplasia	
2016	42 adults 1 litter	Adults 2 - distichiasis	

Other ocular conditions: Literature produced by the American College of Veterinary Ophthalmologists (ACVO) for breed ocular predispositions reported the French Bulldog to be susceptible to several conditions: distichiasis, entropion, imperforate lacrimal punctum, prolapsed gland of the third eyelid, corneal dystrophy, exposure/pigmentary keratitis, persistent pupillary membranes, cataract and retinal dysplasia (Genetics Committee of the American College of Veterinary Ophthalmologists, 2018). The following prevalence estimates were reported (Table 7).

Overall 78.0% of the dogs examined in 2018 had normal eye conformation and were unaffected by ocular disease. It should be remembered that these were American dogs.

Table 7: ACVO examination results for French Bulldogs, 2000 - 2018

Disease Category/Name	Percentage of Dogs Affected		
	2000-2009 (n=1654)	**2010-2017** (n=2588)	**2018** (n=164)
Eyelids			
Distichiasis	6.0%	6.9%	7.3%
Entropion	1.1%	1.0%	0.6%
Nasolacrimal			
Imperforate lower nasolacrimal punctum	0.3%	1.5%	1.8%
Cornea			
Corneal dystrophy	0.5%	1.0%	1.2%
Uvea			
Persistent pupillary membranes (iris to iris)	2.1%	3.4%	0.6%
Persistent pupillary membranes (iris to cornea)	1.7%	1.2%	0.0%
Persistent pupillary membranes (endothelial opacity/no strands)	0.1%	1.7%	2.4%
Lens			
Cataracts (significant)	3.9%	2.6%	4.3%
Retina			
Retinal dysplasia	2.6%	2.0%	1.2%

Adapted from: https://www.ofa.org/diseases/eye-certification/blue-book

Respiratory Functional Grading Scheme (RFG)

The University of Cambridge/KC RFG Scheme was launched for French Bulldogs, Bulldogs and Pugs in February 2019. Results up to 03/12/2018 for dogs of the breed graded under the scheme are shown in Table 9 below.

Table 9: University of Cambridge/KC RFG Scheme results for French Bulldogs, 2016 - 2018

Grade	Total Dogs		Male		Female	
0	57 (15.2%)	190 (50.8%)	19 (11.1%)	70 (40.9%)	38 (18.7%)	120 (59.1%)
1	133 (35.6%)		51 (29.8%)		82 (40.4%)	
2	156 (41.7%)	184 (49.2%)	83 (48.5%)	101 (59.1%)	73 (36.0%)	83 (40.9%)
3	28 (7.5%)		18 (10.5%)		10 (4.9%)	
Total	374		171		203	

French Bulldog Health Scheme

The French Bulldog Club of England also run their own health scheme consisting of three levels

Bronze:

Completion of the visual health assessment by a veterinary surgeon which includes:

a) Heart auscultation
b) BOAS assessment
c) Nostril grading
d) Eye examination (for signs of excessive tearing, entropion, ectropion, distichiasis, pannus, enlarged third eyelid, eyes of unequal size, dry eye, and corneal scarring)
e) Any narrowing of the ear canal and signs of hearing loss
f) Any skin affliction
g) Patella score
h) Spinal palpation
i) Tail examination
j) Temperament evaluation

Silver:

To have obtained the Certificate of Participation in Bronze Level with the following results:

a) BOAS assessment (Grade 0 or 1)

b) Nostrils Grade 1 or 2 (depending on vets comments exceptions can be made if nostrils are grade 3 but BOAS must be a grade of 0 or 1)

c) Normal heart test

d) Patella score (Grade 0 or 1)

e) DNA tested for HC-HSF4 (Clear result)

f) DNA test for Degenerative Myelopathy (normal or carrier accepted)

Gold:

To have obtained the Certification of Participation in Bronze and Silver level with the following:

a) To be at least two years of age
b) To have obtained a BOAS grade 0 or 1 under the University of Cambridge/KC RFG
c) Repeated heart test with a normal reading (dog must be 2 at age of testing)

d) Spinal X-ray

To date 2828 certificates have been issued, of which 1854 were bronze level, 858 silver level and 116 gold. Over 2018 336 new participants received certificates. Of the total participants 1337 were bitches and 517 dogs, of which 1514 were standard colours and 340 colour not recognised.

Reported caesarean sections

Veterinary surgeons and breeders are requested to report when a litter is delivered by caesarean section. There are some caveats to the associated data; it is doubtful that all caesarean sections are reported, so the number reported each year may not represent the true proportion of caesarean sections undertaken in each breed. In addition, these data do not indicate whether the caesarean sections were emergency or elective. The number of litters registered per year for the French Bulldog and the number of reported caesarean sections in the breed for the past 10 years are shown in Table 8.

Table 8: Number of litters of French Bulldogs registered per year and number of caesarean sections reported per year, 2008 to 2018.

Year	**Number of Litters Registered**	**Number of C-sections**	**Percentage of C-sections**	***Percentage of C-sections out of all KC registered litters (all breeds)***
2008	245	1	0.41%	0.05%
2009	357	0	0.00%	0.15%
2010	531	9	1.69%	0.35%
2011	667	51	7.65%	1.64%
2012	1021	356	34.87%	8.69%
2013	1485	493	33.20%	9.96%
2014	2089	709	33.94%	10.63%
2015	3155	1066	33.79%	11.68%
2016	4620	1633	35.35%	13.89%
2017	5783	2192	37.90%	15.00%
2018	7047	2972	42.17%	17.21%

Genetic diversity measures

The effective population size is the number of breeding animals in an idealised, hypothetical population that would be expected to show the same rate of loss of

genetic diversity (rate of inbreeding) as the population in question; it can be thought of as the size of the 'gene pool' of the breed. In the population analysis undertaken by the Kennel Club in 2015, an estimated effective population size of 132.2 was reported (estimated using the rate of inbreeding over the period 1980-2014). The rate of inbreeding has remained relatively steady and is within the level thought to be sustainable. This means that there is a suitable balance between selective breeding and inbreeding, therefore the genetic diversity is being effectively managed (Food & Agriculture Organisation of the United Nations, "Breeding strategies for sustainable management of animal genetic resources", 2010).

Annual mean observed inbreeding coefficient (showing loss of genetic diversity) and mean expected inbreeding coefficient (from 'random mating') over the period 1980-2014 are shown in Figure 5. As with most breeds, the rate of inbreeding was at its highest in this breed in the 1980s and 1990s. This represents a 'genetic bottleneck', with genetic variation lost from the population. However, since the early 2000s the rate of inbreeding has been negative, implying moderate replenishment of genetic diversity (possibly through the use of imported animals).

It should be noted that, while animals imported from overseas may appear completely unrelated, this is not always the case. Often the pedigree available to the Kennel Club is limited in the number of generations, hampering the ability to detect true, albeit distant, relationships. For full interpretation see Lewis et al, 2015 https://cgejournal.biomedcentral.com/articles/10.1186/s40575-015-0027-4.

The current breed average inbreeding coefficient is 2.5%.

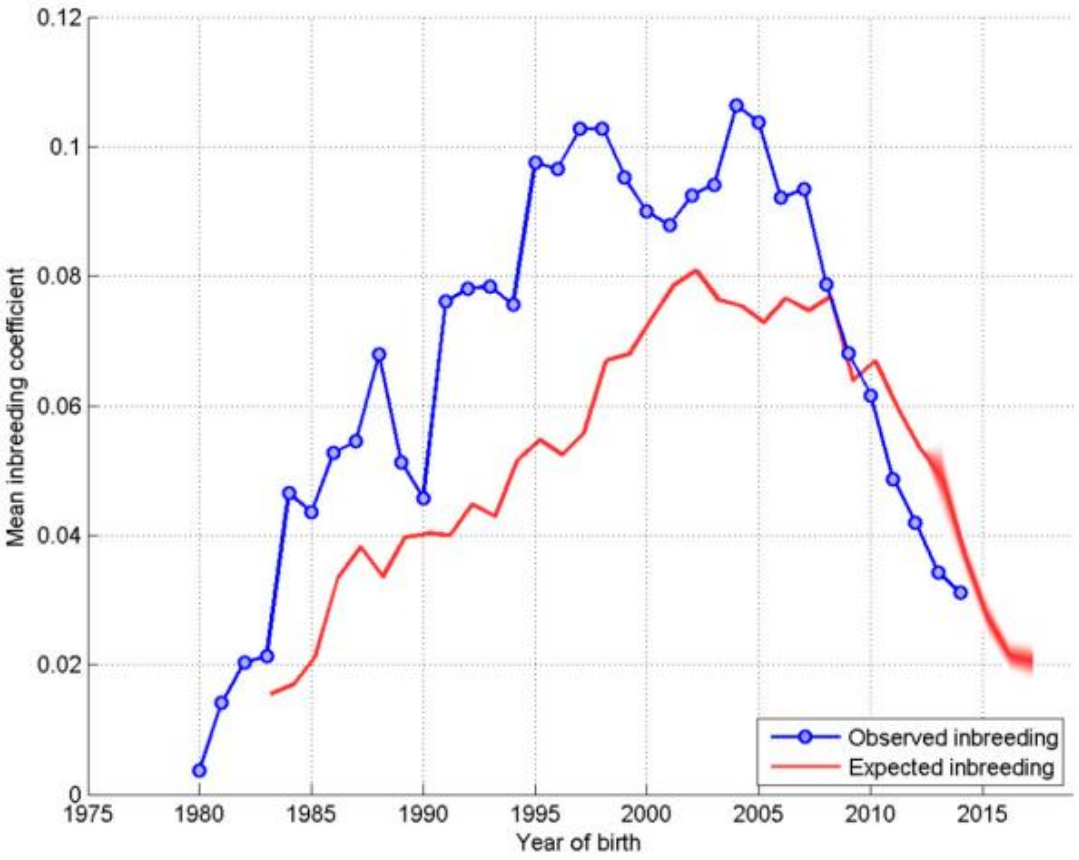

Figure 5: Annual mean observed and expected inbreeding coefficients

Below is a histogram ('tally' distribution) of number of progeny per sire and dam over each of seven 5-year blocks (Figure 6). A longer 'tail' on the distribution of progeny per sire is indicative of 'popular sires' (few sires with a very large number of offspring, known to be a major contributor to a high rate of inbreeding). It appears that the extensive use of popular dogs as sires has increased (the 'tail' of the blue distribution lengthening in figure 6).

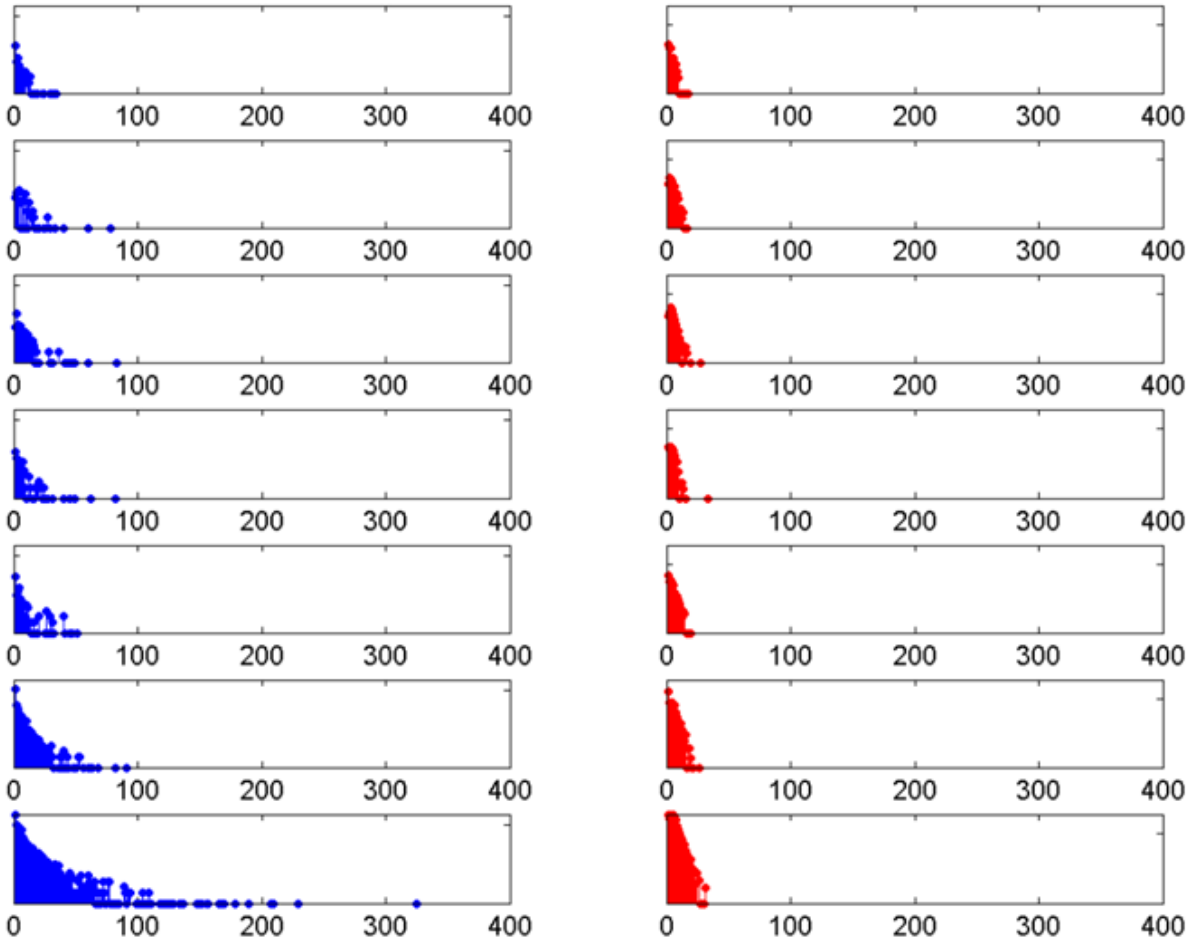

Figure 6: Distribution of progeny per sire (blue) and per dam (red) over 5-year blocks (1980-4 top, 2010-14 bottom). Vertical axis is a logarithmic scale.

Current research projects

The French Bulldog is part of the BOAS research project underway at the University of Cambridge.

SECTION 2: PRIORITIES

A meeting was held with the French Bulldog breed representatives on 8th April 2019, following the discussion of the breed's BHCP in 2018. This meeting was to discuss any further health research or developments in the breed's health that had occurred in the interim and to review the action points and priorities confirmed at the previous meeting.

The new evidence base data was reviewed, starting with registration figures. It was commented that although the number of registered French Bulldogs has increased dramatically over the past decade, the reduced percentage increase for 2018 may suggest the beginning of a plateau for the breed.

It was noted that in the Breed Health Co-ordinators Annual Health Report for 2018 the breed recognised BOAS, spinal problems and allergies as the main health and welfare conditions for the breed. These priorities have remained the same since 2017, and the breed have continued to collect health data on concerns within the breed as well as assisting with the Respiratory Function Grading Scheme launch.

The breed specific Vet Compass study was published in 2018, and the results were discussed amongst the group. It was noted that the most prevalent conditions reported were otitis externa, diarrhoea, conjunctivitis, overlong nails and skin fold dermatitis. Regarding mortality, it was highlighted that the top causes for death in the breed were found to be brain disorders, spinal cord disorders, lower respiratory tract disorders, mass lesion and upper respiratory tract disorders. The breed representatives were surprised by the high percentage of brain disorders and highlighted that it would be beneficial to have a breakdown of the disorders recorded, to enable a better understanding to allow for further investigation and monitoring.

With regard to Breed Watch, the French Bulldog has remained a category two breed and the data collected from the mandatory breed judges' health monitoring forms for 2018 were discussed. The breed noted that they believe the percentage increase for some of the concerns is a result of an upsurge in the pet population being exhibited at shows. The breed representatives raised that the duplication of points of concern causes some confusion when reading the data, however, the Kennel Club highlighted that the duplication of points of concern is due to changes of terminology. The representatives also raised that categorisation of the points of concern would be beneficial for judges for when reporting health concerns and it was agreed that this can be reviewed at the next Breed standard and Confirmation subgroup meeting.

The DNA tests available for the breed were discussed, with the breed representatives noting that the Kennel Club does not recognise the DNA tests for cystinuria type III and dilated cardiomyopathy and they are unaware of cystinuria type III being a concern in the breed, except for one affected family line. Apprehensions were raised over the reliability of the test for the breed, as to date no mutation for the French Bulldog has been published. It was agreed that the Kennel Club would add additional wording in the plan to highlight that recognised tests have been audited and approved in their relevance to the breed.

With regard to Canine Health Schemes, the breed is currently still on Schedule B for HC (early developing) under the BVA/KC/ISDS Eye Scheme. A small number of dogs have been tested under the eye scheme, however, of those that have been through the scheme relatively few sightings have been noted. The breed representatives raised that the low uptake is owing to these concerns being monitored through the breed's own health scheme which is carried out by a general practice veterinarian with any suspected eye conditions being referred to an ophthalmologist.

The literature produced by the American College of Veterinary Ophthalmologists was discussed. The results suggested an increased percentage of dogs affected in 2018 for distichiasis, imperforate lower nasolacrimal punctum, corneal dystrophy, persistent pupillary membranes and cataracts. The breed representatives noted that while ACVO states the breed to be predisposed to these conditions, these data do not reflect the UK population.

The new University of Cambridge/KC RFG scheme was discussed with the group noting the successful uptake of the scheme.

The group reviewed the 2018 caesarean section data. It was noted that the caesareans appear to rapidly increase across all breeds from 2012, which is considered to be due to an increase of reporting from vets. However, the percentage of C-sections in the breed is significantly higher than the percentage for all KC registered litters. The breed representatives raised that it would be useful to have a breakdown of elective and emergency C-sections, as it is suggested that new breeders, and even some vets, perhaps lack the confidence to allow the breed to self-whelp. It was also highlighted that due to the persuasion for brachycephalic breeds to undergo C-sections, it is increasingly difficult when breeding to select lines which are known to be able to whelp naturally.

The group agreed that the breed priorities for the French Bulldog would remain as; BOAS, spinal disorders and allergies.

SECTION 3: ACTION PLAN

- The breed to continue to support and attend the Brachycephalic Working Group with the additional support of the Kennel Club
- The Kennel Club to raise press release issues with the BVA
- The Kennel Club to monitor outcomes of research into spinal research and explore the possibility of including French Bulldogs if relevant
- The Kennel Club/BWG to investigate re-categorisation of Breed Watch points of concern
- The Kennel Club to monitor outcomes and/or research on allergies which include the French Bulldog
- The Kennel Club to investigate a body conditioning scoring system for the breed
- The breed clubs to consider sharing further education, targeting the pet population specifically, with regard to obesity
- The breed clubs/Kennel Club to investigate the feasibility of a formal spinal scheme
- The Kennel Club will review progress with the breed in Spring 2021