

2019

**Brachycephalic Working Group
Framework for a partnership approach
to improving brachycephalic dog
health and welfare**



BWG

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1. Introduction

Owning pet animals comes with responsibilities. Animals that are kept as pets and for breeding and showing should enjoy a good quality of life in return for the meaningful companionship, enjoyment and other benefits that they bring to their owners.

UK animal welfare legislation requires that a person responsible for an animal's welfare must ensure that the animal's five welfare needs are met so that these animals experience, at the very minimum, a life worth living. Under the UK Animal Welfare Acts, a person responsible for an animal's welfare must ensure that the following needs are met:

- (a) a suitable environment,
- (b) a suitable diet,
- (c) to be able to exhibit normal behaviour patterns,
- (d) to be housed with, or apart from, other animals, and
- (e) to be protected from pain, suffering, injury and disease

To help achieve this, when animals are selectively bred, for example to be companions, show animals or working dogs, behavioural or conformational traits that may improve or maintain their health and wellbeing should be selected for and traits that may damage their health and wellbeing should be selected against.

Although it may be true that harmful traits are not deliberately selected for to be harmful, nonetheless health-limiting consequences may inadvertently accompany selection for other desired features. In the case of brachycephalic dogs (dogs with short muzzles), selecting for a flattened face shape has unintentionally led to associated health problems in a substantial proportion of brachycephalic animals. In brachycephalic breeds such as Bulldogs, Pugs and French Bulldogs, some of these problems can include:

- Anatomical defects of the upper airway causing breathing difficulties (e.g. Brachycephalic Obstructive Airway Syndrome (BOAS))
- Recurring skin infections related to skin folds
- Eye disease
- Inability to give birth naturally (requiring Caesarean section)
- Spinal disease as a result of vertebral malformations, lordosis and kyphosis which may or may not be related to screw-tailed or short-tailed morphology.

Reducing and eliminating these health problems is a shared goal of everyone who cares about dogs and their health and welfare. Several reports have been published on improving the health and welfare of selectively bred dogs, with recommendations for positive steps that could be taken by those with opportunities to act (Bateson, 2010, APGAW, 2009, Rooney and Sargan, 2008). Those with such opportunities include owners, dog breeders, dog registering bodies (such as the UK Kennel Club), dog breed clubs, veterinary professionals, academics, government and animal charities.

In 2016, a brachycephalic working group (BWG)** with representatives from most of these areas was formed in order to focus on improving the health and welfare of brachycephalic dogs and agree shared actions. Different bodies have different opportunities to act; however, by acting together, separate parts of a puzzle can come together to create greater overall progress.

The BWG has the following members:

Academia & Research – Royal Veterinary College, University of Cambridge,
 Dog breed clubs – Bulldog, French Bulldog, Pug
 Veterinary profession – British Small Animal Veterinary Association (BSAVA), British Veterinary Association (BVA),
 Dog registration and welfare – Kennel Club
 Animal charities and welfare – Dogs Trust, PDSA, RSPCA
 Owners, Breeders, Veterinary surgeons

** Throughout this document, “BWG” will be taken to include all members of the Group, unless stated otherwise

2. Shared objectives

The BWG recognises that brachycephalic dog breeds are predisposed to certain health problems linked to their brachycephalic shape. Conformation-related welfare impacts vary within these breeds and individual dogs within brachycephalic breeds may be affected by these problems to a greater or lesser extent.

The group highlights the importance of generating evidence for, and awareness of, these health problems and of addressing their causes and effects. It notes that in a peer-reviewed study, up to 60 per cent of owners of dogs with BOAS did not recognise their dog's clinical signs as a problem (Packer et al., 2015). Similarly, veterinary professionals may describe a brachycephalic dog's breathing difficulty as "normal for the breed". Failing to recognise, or normalising, these health problems reduces the imperative to make improvements, both for affected dogs and future generations.

The group wants to see a reduction in the number of dogs affected by BOAS and other brachycephaly-related health problems. This can be achieved by reducing the negative impacts of brachycephaly on the current generation of brachycephalic dogs and by breeding healthier dogs for future generations.

The group is concerned by the rapid rise in ownership and number in some breeds of brachycephalic dogs in the UK - both those that are Kennel Club-registered and also those in the wider dog population, including unregistered purebred brachycephalics and so-called designer crosses that include brachycephalic parents. The BWG will work collaboratively towards smaller numbers of better-informed owners acquiring the healthiest examples within these brachycephalic breed types but will continue to promote ownership of healthy dogs because of the significant benefits to humans from dog companionship. Appearance has been demonstrated to be the number one influence upon owners who choose brachycephalic breeds, but other factors including a breed being good with children, a good companion breed, and breed size being suited to lifestyle are associated with the choice of a brachycephalic breed (Packer et al., 2017, Sandøe et al., 2017) . Thus dogs who closely fit these other criteria can be identified and promoted.

As a result of its actions, the group wants to limit the number of brachycephalic breeds relinquished to rehoming organisations. Without urgent and wide-ranging action being taken now, the group predicts that such relinquishment will reach crisis levels over the coming years.

3. How we will achieve these goals: supply and demand

The BWG's goals will be met through actions that influence both supply of, and demand for, these brachycephalic breeds and also through enhancing the health of current and future generations of these dogs. The group recognises that there are many different stakeholders in relation to the brachycephalic dog issue in the UK and will harness the different opportunities that various members within the group have to influence these goals, as follows:

3.1 Supply

Dogs are only available for ownership if puppies are bred. Breeding healthier puppies, and ensuring they are well socialised, tends towards healthier adult dogs.

In recent years there has been an increase in the number of both registered and unregistered brachycephalic breeds (O'Neill et al. 2016). This increased demand has fuelled an increase in high volume breeders both within and outside the UK to provide the supply. This raises concerns about the standards of those breeders that adapt to fulfil the demand, whereby these breeders may or may not have a good understanding of the breed specific health requirements to breed healthy puppies.

The BWG recognises that there are several distinct sub-populations of owned brachycephalic dogs in the UK; for example, those that are bred by Kennel Club-registered breeders who may plan to show or breed from these dogs or may choose to sell them as pets; those that are bred by high-volume breeders that are not registered with the Kennel Club and are primarily aimed at the pet market; those that are bred by one-off or occasional breeders in the UK; and those that are bred outside of the UK.

The group recognises interrelationships between these populations and the subgroups that exist within each. For example, the showing population can have a “catwalk” effect, with pet dogs bred to emulate show dogs that have received public recognition and reward. This can be a positive influence – if healthy show dogs are recognised and rewarded, they will set a positive example for breeders of pet dogs to emulate and the pet-buying public to expect.

Additionally, some award-winning show dogs will be used to breed family pets. If the award-winning dogs are healthy, there is a higher chance of the resulting family pets also being healthy.

The group recognises that all those involved with breeding and showing dogs, whether Kennel Club (KC)-registered or not, have opportunities to increase the supply of healthy dogs used for showing or kept as pets.

The following opportunities have been identified:

3.1.1 Breed Health and Conservation Plans

The BWG supports the Kennel Club's project to develop Breed Health and Conservation Plans for individual breeds (The Kennel Club, 2017) and welcomes the Kennel Club's intention to formulate these with BWG input for brachycephalic breeds. The Breed Health and Conservation Plan has an overarching aim to facilitate

a clear and defined prioritisation of health concerns which will be achieved by applying evidence-based criteria to identify all health concerns. The Breed Health and Conservation Plan additionally aims to provide breeders with information and resources to support balanced breeding decisions that make health a priority. Plans are currently in process for Bulldog, French Bulldog, Pekingese and Pug with additional breeds to be added over the coming years. The BWG supports special focus on intractable health problems in brachycephalic breeds and considerations for evidence-based approaches, including (but not limited to) data collection and generation, health testing, estimated breeding values (EBVs), and various alternative breeding strategies.

Action 1: The Kennel Club to develop Breed Health and Conservation Plans for several brachycephalic breeds, including Bulldog, French Bulldog, Pekingese and Pug. Bespoke plans for each breed to be developed in collaboration with relevant stakeholders, including breed clubs, researchers, Breed Health Coordinators, and, for brachycephalic breeds, in consultation with the BWG. Such plans should also be made available to breeders of puppies that will not be registered with the Kennel Club so that the plans have the greatest possible welfare impact.

3.1.2 Breed standards

The basis of breed shows is the judging of pedigree dogs against the 'Breed Standard', which is a picture in words that describes each breed of pedigree dog. For breeds where a dog's conformation is linked with health problems, the breed standard should be clear in describing a healthy conformation, to encourage necessary changes to improve breed health. Bateson (2010) and the Council of Europe (1995) proposed the use of diagrams, quantitative ratios and conformational limits to improve precision and avoid conformation-related diseases.

Action 2: For BWG members to review the breed standards for brachycephalic breeds and recommend any changes for consideration by relevant breed health coordinators and breed clubs, the Breed Standards & Conformation Sub-group of the KC Dog Health Group and the KC Breed Standards and Studbook Sub-committee.

3.1.3 Show judging

The BWG accepts that show judges have important direct and indirect roles in promoting healthy behaviour and conformation in the breeds that they cover. As part of the KC Breed Watch** initiative of the Kennel Club, show judges are required to ensure only dogs that meet the breed standards that clearly describe healthy conformations, are placed. This requires effective training, placing an emphasis on

health-related points (particularly when updates have been made) and an ongoing process of revalidation through continuing development. Training is currently provided by the Kennel Club through annual Breed Watch education days, the Kennel Club academy and judges' education seminars.

** Breed Watch is a system for those involved with dog breeding and showing, and in particular dog show judges, to identify and report any breed specific conformational issues which may lead to health problems. Breed Watch points of concern are reviewed by the Breed Standards and Conformation Sub-Group of the KC Dog Health Group.

Brachycephalic Category 3 breeds have a point of concern in BreedWatch for special attention by judges to check for 'Dogs showing respiratory distress including difficulty in breathing or laboured breathing.' A standardised exercise tolerance test (ETT) could be developed and used by judges to assess these limitations better.

Action 3: The BWG to review points of concern for brachycephalic category 2 and 3 breeds, including exaggerated conformation and "difficulty breathing", and make recommendations to the Breed Standards and Conformation Sub-Group of the KC Dog Health Group.

Action 4a: BWG to understand and review current judge training (including continuing development) and practice, including the use of in-show health assessments such as exercise tolerance tests, with opportunity to make recommendations to the Breed Standards & Conformation Sub-group of the KC Dog Health Group.

Action 4b: BWG to review the current vet-check systems in place at major dog shows, with opportunity to make recommendations to the Breed Standards & Conformation Sub-group of the KC Dog Health Group.

3.1.4 Brachycephalic health assessment

A wider health assessment for brachycephalic dogs could be used to structure veterinary consultations around breed-related health with owners of brachycephalic dogs. Such a health assessment would aim to improve the welfare of the current population of brachycephalic dogs and could also be used to inform breeding decisions and to promote selection of healthy parents. BVA has indicated its intention to explore such a scheme, the principle of which is supported by the BWG. The Bulldog and French Bulldog breed clubs already have their own health schemes, and the Pug breed club are in the process of establishing their own scheme. It is noted that working with breeds clubs to develop existing schemes may be more effective than attempting to create new schemes.

Action 5: BVA to investigate brachycephalic health scheme with breed health co-ordinators and Kennel Club, informed by other BWG members.

3.2 Demand

Assisting the dog-buying public to recognise and demand healthier puppies will help promote the breeding and supply of healthier dogs.

In January 2017, the Kennel Club reported a large increase in the number of Kennel Club registrations of brachycephalic breeds. This demographic phenomenon is also reported in the wider population of both registered and unregistered dogs in the UK (O'Neill et al., 2016). Given the high incidence of health problems related to brachycephaly in these breeds, the BWG is concerned about an associated population-based increase of ill health and compromised welfare in the pet dog population.

Many prospective dog owners may wish to know about breed-related health problems before acquiring a dog. Illness and injury can cause owners distress and incur veterinary costs, which are reducible if breeds with a lower incidence of breed-related health problems are selected. The following opportunities have been identified to assist prospective dog owners who are considering acquiring either KC-registered or non-registered brachycephalic breeds.

3.2.1 Marketing and advertising

Brachycephalic dog breeds are commonly used to market products and services, which may help perpetuate their desirability. The BWG are exploring ways of highlighting health and welfare problems associated with brachycephalic breeds to advertisers in order to dissuade them from using these breeds to promote their brands. Such considerations form part of corporate social responsibility (CSR) for companies. For companies with underdeveloped CSR commitments, brand protection may be another reason for avoiding the negative publicity generated by the UK's leading dog health and welfare organisations acting in unison.

Action 6: BWG to communicate with companies and marketing bodies to seek commitments that they will not use brachycephalic breeds in their designs and imagery.

3.2.2 Puppy Contract and Puppy Information Pack

The BWG fully supports the Puppy Contract and Puppy Information Pack, as a tool for creating informed consumers and demand for healthy puppies. Widespread public awareness and uptake of this free resource will be furthered by all BWG

members repeatedly and consistently promoting it through their various communication channels, at every point throughout the puppy-buying process.

Action 7: Following 2017 launch with the Kennel Club, ensure Puppy Contract and Puppy Information Pack are prominent in BWG member communication channels, e.g. websites, social media and any print or broadcast media output on puppy-buying.

3.2.3 The veterinary profession

The veterinary and veterinary nursing professions have direct contact with brachycephalic dogs and their owners in veterinary practices. Veterinary professionals are credible and trusted leaders in animal health and welfare; their professional declarations require them to ensure animal welfare is their overriding consideration for animals under their care. There is a concurrent duty and public expectation that they will also raise public awareness of preventable health and welfare problems, to effect societal change.

The veterinary profession has opportunities to promote animal health and welfare at the levels of individuals (e.g. through consultations with animal owners), communities (e.g. veterinary practices undertaking educational and outreach activities) and nationally (e.g. veterinary associations stimulating and contributing to public and political debate).

Individual veterinary professionals improve the welfare of very many brachycephalic dogs every day, through the diagnosis and medical and surgical treatment of health problems linked to brachycephaly.

Other actions that *individual veterinary professionals* can increasingly take to improve the welfare of brachycephalic dogs include the following:

- I. Promote and undertake brachycephalic health assessments (see Action 5)
- II. Focus on obesity prevention and treatment, to ensure all owners of brachycephalic dogs are aware of health harms caused by obesity and how being overweight can exacerbate other health problems linked to brachycephaly (e.g. respiratory disease)
- III. Report conformation-altering surgery and Caesarean sections undertaken for Kennel Club-registered dogs, to the Kennel Club (https://thekennelclub.formstack.com/forms/veterinary_form_6)
- IV. Sensitively convey to owners that frequent respiratory sounds by their dog such as snorting and snoring are not normal, but instead are clinical signs of compromised breathing which is distressing and can, in some cases, be alleviated with veterinary treatment

Other, non-veterinary members of BWG, can also reinforce these health messages through their associations' contacts with charity supporters and dog breeders.

Actions that *veterinary practices* can take to improve the welfare of brachycephalic dogs include the following:

- I. Offer pre-purchase consultations, such as the PDSA "Which pet?" consultation framework, and information events to counsel prospective owners on the health problems experienced by brachycephalic breeds
- II. Promote the Puppy Contract and Puppy Information Pack through the practice communication channels, e.g. website, social media, waiting room displays, newsletters and in local print and broadcast media
- III. Promote available health schemes (e.g. BVA/KC Health Schemes), including those for brachycephalic breeds when developed
- IV. Enrol the practice in clinical surveillance programmes such as VetCompass and Savsnet, to contribute to data gathering and evidence generation
- V. Develop a practice communication strategy to repeatedly, clearly and consistently communicate the health problems experienced by brachycephalic breeds through the practice communication channels
- VI. Develop practice policy to ensure that practice communication channels (particularly social media) do not portray brachycephalic breeds as cute, humorous or appealing
- VII. Ensure practice policy supports staff to appropriately convey evidence-based information and advice to owners of brachycephalic dogs
- VIII. Support local breed clubs and representatives to develop and implement plans to improve breed health

Actions that *veterinary and veterinary nursing associations* can take to improve the welfare of brachycephalic dogs include the following:

- I. Produce collaborative materials to support practice-level actions (e.g. waiting room posters)
- II. Make and take opportunities to clearly, repeatedly and professionally communicate the health and welfare problems experienced by brachycephalic dogs to the general public
- III. Promote the Puppy Contract and Puppy Information Pack through key communication channels
- IV. Provide CPD on veterinary practice and policy relating to brachycephalic dogs
- V. Ensure that marketing and communication strategies do not portray brachycephalic breeds as cute, humorous or appealing
- VI. Support Kennel Club activities to promote breed health, e.g. through public statements and input to committees and working groups

There are also opportunities for several of the listed veterinary activities to be undertaken, supported and reinforced by breed clubs and the Kennel Club. It is important for all stakeholders to provide consistent messaging on these issues. The BWG noted that health messaging to improve the welfare of brachycephalic dogs must be delivered respectfully and sensitively to dog owners who care deeply about their dogs, but that breed clubs and the Kennel Club are in leadership positions and are trusted by their members to provide progressive, evidence-based advice that will protect and enhance their public standing.

Action 8: Veterinary members of BWG to collaboratively undertake activities at the individual, community and national levels (as outlined above) to influence demand for healthy dogs.

4. Research

The BWG recognises the ongoing requirement for funded research to inform the group's strategic activities; for example:

- Extending gathering of surveillance data, to understand prevalence and trends in health problems linked to brachycephaly
- Establishing optimum methods for non-invasive functional health testing (i.e. exercise tolerance tests to be used before breeding/showing) for standardisation and harmonisation across breed clubs
- Establish the currently poorly recognised physiological syndromes associated with brachycephaly such as sleep disorders or lack of thermal regulation
- Enhanced research using animal welfare science techniques to better understand the welfare impacts from brachycephaly e.g. the welfare cost from sleep apnoea or inability to exercise fully
- Improving, where necessary, the evidence base for reviewing and developing breed standards (e.g. for conformation-related dental and spinal cord diseases)
- Understand social influences upon purchasers of brachycephalic breeds that drive breed popularity (e.g. celebrity/media influence), and develop targeted educational strategies to promote responsible purchasing behaviours
- Develop human behaviour change interventions for influencing key stakeholders (e.g. breeders, judges and puppy buyers) to uptake evidence that could improve breed health and welfare
- Establish testing methods based on DNA sampling that will allow identification of dogs at risk of BOAS and other brachycephaly-specific conditions including the pups

Action 9: BWG members to promote, support and engage with research that aims to improve and increase the evidence base on brachycephalic dog health and welfare.

5. Next steps

The BWG will review and report on the progress of action owners at each BWG meeting and throughout the delivery of this plan. This information will be available to all with an interest in brachycephalic dog health.

The group's commitment to co-ordinated, partnership activity will ensure that the most meaningful actions are taken to positively influence the supply and demand of dogs, to improve dog health.

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