

Welfare Impacts from Sudden and Large Population Increases in Individual Dog Breeds

Position Statement

UK Brachycephalic Working Group

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Executive summary

This position statement highlights the potential health and welfare harms from sudden and large increased population counts for any breed or type of dog. We focus specifically here on recent dramatic population changes in the UK for some brachycephalic (flat-faced) dog breeds including the French Bulldog, Pug and Bulldog as examples of these changes and effects.

Sudden and large increases in population counts can lead to serious welfare issues that may be either predictable or unexpected for affected breeds or types of dogs. Such issues include breed-related health issues, health deterioration with ageing, improper sourcing of puppies (puppy farms and importation), unsuitable ownership profiles and rehoming/abandonment, and decreased genetic diversity.

These welfare issues are complex, inter-related and often result from complex interactions between human behaviours and inherent dog health issues. The Brachycephalic Working Group concludes that sudden and large population increases in dogs are undesirable and, as a generality, are likely to result in harms to the health and welfare of the affected breeds and types of dogs.

Conclusions

It is the conclusion of the Brachycephalic Working Group (BWG) that sudden and dramatic increases in the popularity of individual breeds or types of breeds of dog generally lead to adverse overall health and welfare outcomes for the breeds concerned and therefore efforts should be made to smooth out changes in population structures to dog breeds.

While this position statement concentrates on current concerns regarding the welfare issues around the sudden increase in popularity of some key brachycephalic breeds (e.g. Pugs, French Bulldogs and Bulldogs), these population principles also apply to other dog breeds and even other species with extreme conformations.

Calls to action

1. The BWG ask that all those individuals and groups with substantial influence on increasing the popularity of dog breeds should consider the potential negative impacts of their actions on the health and welfare of these breeds before engaging in activities that promote increased popularity of these breeds.
2. BWG asks all advertisers, brands, companies and influencers to work with BWG to improve dog welfare by not using dogs with brachycephaly or other extreme conformations as promotional aids in the media (1, 2).
3. Prospective owners who are considering acquiring a brachycephalic breed or other breeds with extreme conformations that have recently increased in popularity should carefully consider the health and welfare problems associated with their targeted breed-types and seek advice from their veterinary practice before acquiring these breeds (3-5).
4. We advise anyone buying or selling a puppy to use the freely downloadable [Puppy Contract](#), which has been developed by the RSPCA and the Animal Welfare Foundation (AWF) to empower puppy buyers and help avoid the problems that can arise from buying a puppy from an irresponsible breeder (6).
5. Veterinary practices should offer pre-purchase consultations for prospective dog owners. These consultations can be based on the PDSA [“Which pet?” consultation framework](#), Potential health problems of certain breed types can be clearly explained in these consultations (7).
6. Novel research should be carried out to better understand the social influences that drive breed demand for brachycephalic breeds or other breeds with extreme conformations in order to develop targeted behaviour-change strategies that will influence dog-acquisition behaviours and breeding/production drivers.

Background

Since dogs were domesticated around 15,000 years ago, a spectrum of breeds has developed. Many of our current breeds are still recognisable from drawings and descriptions that go back for centuries, although the precise conformation of individual breeds constantly changes over time. Since the founding of the Kennel Club in 1873, information has been recorded on the popularity of the registered subset of each breed. During this period, the popularity of registered breeds has often increased and decreased widely. The breeds most commonly registered with the Kennel Club in the 1920s were the German Shepherd Dog and the Fox terrier. By the 1940s, the Cocker Spaniel had taken over, only to be overtaken by the Poodle in the 1960s. The 1980s saw the re-ascendency of the German Shepherd Dog before being replaced by the Labrador Retriever which held the title from the 1990s until 2018 when the French Bulldog took over as the UK's most registered pedigree dog breed (8). However, the Kennel Club registers just one third of all dogs in the UK and therefore registrations statistics may not fully mirror the breeds seen in the overall UK dog population. However, there are limited data on the breed breakdowns for the overall UK dog population that extend back further than a decade.

The recent rapid rise in popularity of the French Bulldog is a phenomenon that brought wide implications. A decade ago, French Bulldogs comprised less than 1% of all Kennel Club registrations, but by 2018, the breed accounted for over 14% of all registrations. The Pug has also risen in popularity from 1.6% of registrations in 2008 to 3.9% in 2018 while the Bulldog rose from 1.7% in 2008 to 4.3% in 2018 (8). These three breeds belong to a group of breeds that are called brachycephalic (flat-faced) and which are currently in the midst of a wave of popularity. However, while gradual and small changes in breed popularity may have limited direct welfare impacts on the breeds concerned, the sudden and dramatic increase in the popularity of some of these brachycephalic breeds has triggered a major welfare crisis in dogs in the UK. In response to this crisis, the Brachycephalic Working Group (9) has been established to help understand and control these issues.

We expand here on some of the health and welfare issues relating to the sudden and dramatic increases in popularity that we have identified from the recent brachycephalic phenomenon in the UK. Awareness of these issues may encourage people planning to acquire a puppy of these affected breeds to re-consider their choice. It is likely that the same drivers that have promoted recent rapid popularity of brachycephalic breeds will switch to other breed and types of dogs in the future unless pro-active steps are taken to control these outcomes and to decouple dog breed ownership decisions from fashion or trends. The information below will generally also apply to other breeds that may be similarly affected by sudden popularity increases in the future.

Critical aspects relating to sudden and large popularity increases

Popularity

Not just a brachycephalic phenomenon

The rise in the popularity of the French Bulldog, Pug and Bulldog has been a dramatic phenomenon over the past decade (3-5). However, it is likely that similar dramatic popularity changes will also occur with other breed and dog types over time. The Miniature Smooth-Coated Dachshund has risen three-fold from 0.9% in 2008 to 2.8% of Kennel Club registrations in 2018. The issues around sudden popularity change are an overall dog problem rather than just being an individual breed problem. However, it is some brachycephalic breeds that are currently suffering the greatest consequences.

Why some breeds become so popular

There are many drivers suggested to explain sudden and dramatic increases in popularity in dog breeds. Effects of social media and the wider media including advertising and TV/film are believed to be very influential. Celebrity endorsement of certain breeds on social media often gives these breeds a 'must have one' appeal. The use of specific breeds or types of dogs in advertising for products that are unrelated to these dogs is a further driver to increased popularity where a long list of manufacturers have linked their advertising to French Bulldogs, Pugs and Bulldogs (1, 2).

Images of these breeds with their baby-like faces evoke a maternalistic feeling in humans and promote a desire for ownership (10).

Paradoxically, raised awareness of health issues in brachycephalic breeds may also stimulate a nurturing response in some people that promotes a desire for ownership (10, 11). The role of the dog in the modern human household is also changing. Prospective owners now have revised and different priorities for the characteristics that they value in their new dog. Dogs are becoming more integral to family structures and the priorities for new owners are shifting from breeds that are good outdoors and need lots of exercise towards smaller breeds that are domestically more acceptable and require less exercise (11). However, it is clear that there are substantial information gaps on the human and social factors behind the recent phenomenal increases in the popularity of some brachycephalic breeds. Consequently, there is an urgent need for novel research efforts to improve our understanding of the social influences that drive breed demand and that can help to develop targeted strategies that will influence purchasing behaviours and breeding/production drivers.

Breeding

Rapid increases in demand by the public for certain breeds generally leads to a *sellers' market* whereby the demand initially outstrips supply and therefore the price of puppies can rise dramatically. When the ability of responsible breeders to meet this demand is outstripped, the vacuum may be filled by unscrupulous and irresponsible breeders and puppy dealers who see potential for large profits but who have little regard for the welfare of the breeding animals and the puppies themselves. Bitches may be bred excessively and kept in poor environments. Puppies and pregnant bitches may be imported following long and stressful journeys across Europe (12). The genetic and general health of these puppies from irresponsible sources may be very poor. From April 2020, 'Lucy's Law' will be enacted in the UK and means that puppies and kittens can no longer be sold by a third-party seller – such as a pet shop or commercial dealer – unless the people have bred the animal themselves. Instead, anyone looking to buy or adopt a puppy or kitten under six months must either deal directly with the breeder or an animal rehoming centre, although there are still potential ways around this by unscrupulous sellers who import pregnant bitches into the UK or use 'stooge' dams that are posed as the real mother (13).

Is popularity change always bad?

Breeds have always risen and fallen in popularity. If these changes are gradual and prolonged, the ability of responsible breeders to adapt to changing demand may result in minimal welfare damage. However, sudden and dramatic changes that overwhelm the capacity of responsible breeders to meet demands can lead to uncontrolled breeding and promote a supply chain that, could lead to serious health and welfare issues for these breeds.

It is also worth considering the potential negative welfare effects on breeds from sudden and large *decreases* in popularity, especially if these decreases were preceded by sudden and large increases. Breeding bitches and unsold puppies that are no longer needed or that have much reduced monetary values may be abandoned. Dogs that were purchased for their iconic popularity status may be relinquished in large numbers and overwhelm the capacity of charities to cope. Extreme changes in popularity can lead to manifold welfare challenges for affected breeds.

Health and welfare

Breed-related health issues

Brachycephaly (being flat-faced) is an extreme conformation in dogs and has been associated with several health and welfare problems in substantial proportions of the brachycephalic dog population (14, 15). These problems include:

- Breathing difficulties (16-18)
- Recurring skin fold infections (19)
- Eye ulcers (20, 21)
- Problems giving birth naturally (22, 23)
- Spinal problems (24)
- Heat-related illness (25)

Unfortunately, high levels of occurrence for many of these disorders in brachycephalic breeds is often accepted as *normal for the breed*, but these problems are certainly *not normal for a dog* (26). Owners of brachycephalic breeds need high awareness of these common breed-related problems and should build close links with their veterinary practice in order to provide the specific health care needed to limit and manage these risks. Sudden and dramatic increases in ownership of these breeds by owners with limited awareness of the high levels of care and financial resources needed to maintain the health of these dogs could lead to very high proportions of these dogs suffering from breed-related health problems that these owners may not even see as problems (i.e. 'normal for the breed').

Genetic diversity

Pedigree or purebred breeds have been bred for the last 150 years for form/type as well as for function. Stud books have been closed or nearly closed in the UK for much of this time, meaning that the parents of the subsequent generations have always come from amongst the dogs previously registered as within the breed. Breeding for both form (conformation, appearance) and function (ability to carry out specific tasks) occurs through a succession of breeding decisions about which dogs most closely conform to the type required. For every dog chosen as a parent for breeding, many dogs are rejected.

Selection for short heads and exaggerated conformations in the brachycephalic breeds has reduced the genetic variety that is a required feature of healthy populations of any breed. Several chromosomal localities concerned with skull shape are almost genetically invariant in all modern purebred individuals in these brachycephalic breeds. These chromosomal locations are surrounded by regions in each breed that also show minimal variation (known

as selective sweeps). Over time, variants on the chromosomes of dogs not used in breeding continue to be lost from the population in the following generations.

Why does this matter? New mutations occur in the genome at very low rates, and in random positions, but are often disadvantageous to health of offspring. In the majority of cases, this disadvantage is seen only if a mutated gene becomes homozygous: i.e. an affected puppy acquires copies of it from both mother and father. These come together to affect health (so called “inbreeding depression”). The more outbred (genetically diverse) the population, the less likely that this coming together of mutated genes will occur. The strong selection that has occurred in modern dog breeds means that they are often less genetically diverse than even the small populations of wild animals kept in zoos.

Even 25 years ago, Pugs and particularly French bulldogs were numerically quite small breeds in the UK with registrations in the low hundreds. Bulldogs had only 670 registrations in 1981, but started becoming more popular after that (8). These small population sizes maintained in breeds that were closed over 100 years ago, inevitably mean that they had very little genetic diversity by the time populations began to expand in the 1990s. Even in populations expanded by between about ten times (bulldogs) to more than 150 times (French bulldogs), a very low amount of variation exists, because new advantageous mutations occur at a very low rate per generation. Unpublished data from Cambridge University suggest that by 2018 each brachycephalic breed had only around 60% of the total variation seen in breeds like the Labrador retriever.

To make the genetic problems in these breeds even worse, there is now a great danger that a swift reduction in the population of these brachycephalic breeds will mean that only a small subgroup of the current population will be used for future breeding. These dogs will then carry forward an ever smaller proportion of the genetic variations that are important for breed health. This could raise disease problems previously unseen in all three breeds, including new problems associated with continual selection for conformational types, but also problems in any aspect of health that are associated with single gene variants (mutations) that become widespread within any of the breeds. In the case of recessive genes, this spread can happen without breeders being aware until, when a sire and a dam both carrying the mutation are crossed, then a proportion of the offspring will show the associated defect.

We therefore urge breeders to ensure genetic diversity is retained in the French Bulldog, Pug and Bulldog by deliberately using sires and dams from across the whole breed population, and selecting on both health and vigour.

Age-related health issues

Brachycephalic dog breeds are predisposed to health conditions such as breathing problems, recurring skin fold infections, eye ulcers, spinal problems and heat-related illness. Many of these conditions become more likely and more severe as dogs get older (20). At the time that a breed first undergoes a popularity surge, the sudden entry of large numbers of puppies will tend to drive the average age of the population downwards. This is the current

situation in the UK whereby the average age of French Bulldogs (3), Pugs (5) and Bulldogs (4) is quite young. However, over time, these popularity bubbles of younger dogs will age and the health profiles of these breeds are predicted to deteriorate sharply as these ageing populations start to show the higher levels of health problems that are typical of older dogs. This demographic model therefore predicts that the health crisis for the brachycephalic breeds that have undergone recent rapid increases in popularity is set to worsen over the coming decade.

Procurement (supply and demand)

Sourcing of puppies: puppy farms and importation

One of the serious welfare issues related to sudden and dramatic increases in popularity revolves around sourcing the huge numbers of puppies needed to supply this new market. Established breeders are unlikely to be able or willing to meet this increase in demand for puppies. In consequence, demand will be filled by others who see a substantial financial opportunity. High volume irresponsible breeders (sometimes referred to as "puppy farms") can produce hundreds or thousands of puppies annually but the bitches are often kept in poor environments and the puppies are often poorly socialised and therefore are prone to behavioural problems later in life. Many puppies and pregnant bitches are also imported both legally and illegally into the UK from abroad from locations with lower health and welfare standards for dogs than in the UK (12). Importation brings additional risks of importing exotic diseases to the UK such as rabies, ehrlichiosis and leishmaniasis (27).

We would advise anyone buying or selling a puppy to use the freely downloadable Puppy Contract, which has been developed by the RSPCA and the Animal Welfare Foundation (AWF) (6). This contract aims to empower puppy buyers to try to avoid the problems that can arise from buying a puppy from an irresponsible breeder.

Information on individual breeds together with advice to help in avoiding purchasing a puppy from an irresponsible breeder can also be sourced from The Kennel Club's Assured Breeders Scheme (28) and the relevant breeds clubs (29-33)

Online puppy purchase

Acquiring a puppy directly by visiting the home of a registered breeder (28) may support some advantages for the dogs involved (e.g. better socialisation of the puppies and breeding conditions for the dam) as well as for the new owner (e.g. traceability, improved likelihood of buying a healthy and well-socialised puppy, a port of call if things go wrong). Conversely, online sales enable unscrupulous puppy dealers to profit from large volumes of sales with little or no aftercare and loss of the more intimate relationships that often develop between the original breeder and the new owner.

Ownership profiles and rehoming/abandonment

'Cutesy' portrayal of dogs on social media and in advertising may promote impulse purchasing behaviours and encourage irresponsible dog ownership. Owners may decide to acquire a dog based upon an immediate emotional decision without considering the full welfare and financial implications of dog ownership and the welfare needs of the dog. Impulse acquisition may leave owners unprepared for the financial costs of ownership of healthy dogs (e.g. food, vaccination, neutering, insurance, kennelling) let alone the added costs if their dog were to become ill. Dog ownership brings many joys but it also comes with responsibilities such as making time for walks and the need to plan when owners are away from home. Failure of new owners to adequately prepare for their new dog may partially explain why many UK charities report steeply rising counts of popular brachycephalic breeds being relinquished to charity care or just being abandoned.

To ensure that prospective owners make an informed choice about dog ownership, we recommend that prospective owners should carefully consider the health and welfare problems associated with certain breed-types and speak to their veterinary surgeon to obtain advice before acquiring a new dog.

As part of this, we would encourage veterinary surgeons to offer pre-purchase consultations, which can be based on the PDSA "[Which pet?](#)" [consultation framework](#), with prospective dog owners. The potential health problems of certain breed types can be clearly outlined in these consultations.

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