



VetCompass™ Newsletter December 2021

As we approach the end of 2021, we can reflect on yet another strange, challenging but often wonderful year. The COVID-19 Pandemic continues to affect how we live and work, and even think. Remote working and communications make us appreciate the value of good IT systems for enhancing our lives. These changing worldviews on the value of electronic data for good evidence highlight the increasing value of Big Data projects such as VetCompass. Reliable evidence based on the full spread of first opinion clinical records is now recognised as a critical component of the evidence-based medicine revolution for veterinary professionals and 2021 has been another bumper year where VetCompass has been privileged to contribute to this progress. Huge thanks to all the veterinary teams at the practices participating in VetCompass for your continued support – this is truly a team effort of unparalleled size and success.

There are some nice examples of VetCompass outputs that are changing how veterinary professionals view and interact with their clinical worlds peppered throughout this newsletter. A few examples of these include:

1. Free and open access to all VetCompass publications is provided online at <https://www.rvc.ac.uk/vetcompass/papers-and-data/original-publications>
2. With 18 new peer-reviewed papers published during 2021, the evidence base for veterinary teams is growing faster than ever before.
3. Results from Emily Hall's PhD on heat-related illness in dogs showing that 70% of cases are triggered by exercise means that we are now proposing to update the public message on this condition to 'Dogs die in hot cars and on hot walks'.
4. Emily Hall's PhD on heat-related illness in dogs has led to the publication of a new clinical grading tool for this condition that can assist veterinary professionals to triage these cases <https://www.rvc.ac.uk/Media/Default/VetCompass/210324%20EH%20Heat%20Stroke%20infographic.pdf>
5. Imogen Schofield's PhD on Cushing's Disease has led to the development of The VetCompass Cushing's Diagnostic Prediction Tool: <https://www.rvc.ac.uk/Media/Default/VetCompass/Documents/cushings-prediction-tool.pdf>
6. VetCompass has developed a wide range of infographics that are freely available for veterinary practices to download and use <https://www.rvc.ac.uk/vetcompass/audio-visual-resources/research-infographics>
7. A 2021 VetCompass paper on aural haematoma in dogs has proposed a new theory on the causation of this condition <https://www.nature.com/articles/s41598-021-00352-0>
8. Another VetCompass paper published this year revealed the prevalence of commonly diagnosed disorders in UK in dogs: <https://pubmed.ncbi.nlm.nih.gov/33593363/>
9. Further work has been published this year within the VetCompass team summarising current trends in antimicrobial use: <https://pubmed.ncbi.nlm.nih.gov/34692805/>

Over the coming year, VetCompass will continue to lead the way in generating evidence to support veterinary teams and to improve companion animal welfare. Projects that are just commencing will extend our knowledge into key areas including antimicrobial stewardship, rabbit health and causal inference. We will continue to extend the VetCompass collaborator teams to include increasing numbers of partners at organisations across the UK as well as internationally. All in all, although a very challenging year, 2021 has also seen some remarkable achievements from so many persons and teams involved with VetCompass. We sincerely thank you all for your contributions to animal welfare by both your direct work in practice and also by sharing your wisdom within the various research teams in VetCompass.

We wish you all a very safe and happy Christmas and a Happy New Year!

The VetCompass Team



Ongoing projects:

Annual Roundup From The Equine VetCompass Team

Back in January, as we adjusted to new covid-secure ways of working, **Sarah Allen** headed to the first online British Equine Veterinary Association Congress (postponed from September 2020) to share some of her PhD findings in the Clinical Research Abstracts stream. The first abstract described longevity and mortality in 25,693 horses and ponies under the active care of five UK practices. Equines lived to a median of 19 years (IQR 13-26), with pony breeds having the longest and sports horses the shortest lives. The annual mortality risk was 3.0% (95% CI 2.8-3.2%), with musculoskeletal and digestive disorders the most common reasons for equine loss. The second abstract focused on the prevalence, clinical presentation and management of equine wounds in UK primary-care practices. Wounds were a common reason for veterinary care (prevalence of 5.3% in attended equines, 95% CI 5.0-5.6%) and most often involved the distal limb (43.2% of cases (95% CI 40.6-45.9%). Systemic antimicrobials were prescribed for the majority of wounds (79.5% of cases, 95% CI 77.3-81.5%) and serious complications were rare. The final abstract described the use of protected (third and fourth generation cephalosporins and fluoroquinolones) antimicrobials in equids under veterinary care. Approximately, 8.8% (95% CI 8.1-9.6%) of equids receiving systemic antimicrobials were prescribed protected antimicrobials. Disappointingly and in conflict with responsible antimicrobial use guidelines, 80.7% (95% CI 77.1-83.8%) of protected antimicrobial prescriptions were made without prior culture and sensitivity testing.



The number of veterinary practices contributing equine data to the VetCompass™ programme has now grown from 5 to 39. Data from these practices has supported a further antimicrobial usage project, funded by the Veterinary Medicines Directorate, exploring systemic and Category B (third and fourth generation cephalosporins, fluoroquinolones and polymixin B) antimicrobial use in 64,332 equids under veterinary care, and risk factors for systemic and Category B antimicrobial prescription. A brief summary of our findings is available in the 2020 Veterinary Antimicrobial Resistance and Sales Surveillance report and we hope to share more with you very soon.

The final project conducted by the equine VetCompass™ team this year, explored the impact of the COVID-19 pandemic on equine veterinary care. This work was funded by the Royal College of Veterinary Surgeons. Like so many industries, especially those providing a customer-facing service, normal working practices were severely disrupted following the introduction of the first national lockdown. The equine veterinary profession responded quickly, embracing new technologies and employing other covid risk-mitigating strategies, so that by June 2020, equine veterinary activity had returned towards near normal levels. A great display of adaptability and resilience.

If you would like any further information about any of our projects or how to get involved, then please do get in touch.



Improved Stewardship to Protect Veterinary Antimicrobial Usage in UK Cats and Dogs

The UK veterinary surveillance networks VetCompass and SAVSNET have shown persistently high prescribing rates of antimicrobials to cats and dogs over the last ten years. Recent efforts assessing the influence of stewardship interventions on changing prescribing behaviours have shown that some change is possible. Still, there remains a need to establish scalable and evidence-based interventions designed around the realities of first-opinion clinical practice.



Ben Walker is leading a two-year project in collaboration with the Pets at Home Vet Group. With generous funding from the Petplan Charitable Trust, this project started in September 2021. The project aims to identify and promote effective and practical antimicrobial stewardship interventions for widespread adoption in first-opinion veterinary practice.

The study objectives are to:

- Benchmark current antimicrobial usage in dogs and cats.
- Develop and implement a range of antimicrobial stewardship interventions based on a Theoretical Domains Framework.
- Evaluate the impact of these interventions in a randomised, controlled trial.
- Support widespread adoption of the most effective interventions across the UK.

We hope that this study will identify a series of practical, affordable, and evidence-based interventions to promote enhanced antimicrobial stewardship programs within first-opinion clinics. In addition, conducting a randomised, controlled trial using VetCompass data should provide tools and experience to help future VetCompass projects.

Medications and the development of Diabetes mellitus in Dogs

The rise in the incidence of Type 1 Diabetes in humans in recent years is thought to be associated with exposure to environmental factors. One hypothesis is that these environmental factors include exposure to antibiotics in early in life. This exposure can affect the microbiome and its subsequent interactions with the developing immune system, thereby increasing the risk of that individual developing diabetes.

There are a number of similarities between Type 1 Diabetes and diabetes mellitus in dogs, and therefore these diseases may have some shared risk factors. This project aims to use the VetCompass database to explore the exposure of dogs to antibiotics and the subsequent diagnosis of diabetes mellitus. In addition, the project also explores the use of glucocorticoids, another frequently prescribed medication, as a risk factor for the disease. It is hoped to publish the findings of this study in 2022.



VetCompass eClinical Trials



Camilla Pegram started a PhD in October 2021 titled “VetCompass eClinical Trials (VETs) – Generating Interventional Evidence from Observational Data”, funded by Dogs Trust.

Veterinarians are encouraged to apply ‘evidence-based principles’ in their daily clinical work, but the paucity of relevant published evidence on veterinary interventions has limited the current clinical welfare gains from evidence-based medicine for dogs (1). Evidence-based medicine that reports the clinical effects of therapy relies heavily on randomised control trials that are invariably complex, slow, expensive and frequently ethically challenging. With over 95 peer-reviewed publications, the VetCompass Programme (2) has added substantially to the evidence-base that reported on associations between demographic, clinical and therapeutic features and a wide range of health outcomes. However, ‘association does not imply causation’ so the holy grail of assigning causality remains to be achieved.

This PhD project aims to develop and apply novel causal inference methods that evaluate real world interventions via routinely collected veterinary EPRs. These methods will be applied to VetCompass data to provide real world inference for some key interventions. The objectives are to:

1. Extend and adapt novel causal inference and statistical methods for existing clinical data for Virtual eClinical Trials (VETs) to generate evidence comparable to RCT studies.
2. Estimate and compare the clinical effectiveness of real-world interventions in 4 conditions with welfare importance in dogs in the UK: osteoarthritis, otitis externa, chronic diarrhoea and cruciate ligament rupture.



Camilla has started exploring cruciate ligament rupture and aims to initially evaluate whether management type (surgical versus conservative) ‘causes’ differential outcomes including duration of pain relief use and lameness in affected dogs.

Moving from reporting association to reporting causality offers greater confidence in predicting outcomes from clinical interventions and could support much more effective evidence-based medicine in the future.

To find out more about the project visit: <https://www.rvc.ac.uk/vetcompass/research-projects-and-opportunities/projects/projects/vetcompass-eclinical-trials>

References

1. Dean RS. Veterinary clinical trials are on trial. Veterinary Record. 2017;181(8):193.
2. VetCompass. VetCompass™ Programme London: RVC Electronic Media Unit; 2020 [Available from: <http://www.rvc.ac.uk/VetCOMPASS/>].



Online canine-health information sourcing by UK canine caregivers

Michelle Farrow is a MRes student investigating how canine-health information sourcing by caregivers influences their decision making for presenting their dog to a veterinarian.

A survey will be circulated through a snowball approach using various social media networks.

The survey explores the validity of caregivers' decisions in response to a series of validated vignettes representing common acute and chronic (e.g. acute diarrhoea and seizures) canine health conditions. The validity of the participant's decision making will be explored for the most probable condition and their perception of urgency for each condition reviewed. The survey will also explore caregivers' feelings by exploring how anxious the participant would feel if their dog presented in such a way and how confident they are in the validity their responses, as well as their ability to navigate online resources.

Vignettes will be <50 words and presented in lay language. The vignettes will reflect real clinical presentations extracted and adapted from the VetCompass Programme combined with expert opinion of RVC general practitioners and specialists in the fields relevant to the vignettes. Participants will be randomly allocated a set of 3 vignettes and will report:

1. The most likely of three medical conditions that could cause this health presentation;
2. Their assessment of urgency (categorical) ranging immediate emergency presentation to a veterinary surgeon, to self-care;
3. The body system most likely to be affected;
4. How anxious they would feel it was their dog (Likert scale);
5. Their confidence in the validity of their responses to part (1, 2 & 3)

Following the vignettes, participants will be questioned on how they determined their answers, the influence that each source utilised had on their decision making and more general questions about their online canine-health information sourcing and decision making.

Caregivers residing in the UK, aged >18 years old and currently owning at least one live dog will be recruited via social media and shared by animal welfare and veterinary organisations. Questions relating to the demographics of the participant will be included.

Michelle will hopefully be launching her survey in January 2022 and would appreciate your support in promoting her study.



VetCompass farm animal health surveillance

Doaa Elkholly started her **Bloomsbury funded** PhD project in October 2019 working on antimicrobial use in farm animals using both quantitative and qualitative research approaches.

VetCompass has recruited Twenty-three farm animal practices to participate in VetCompass studies. This year, Doaa has been exploring the treatment and clinical records for these participating practices to estimate the antimicrobial usage and to evaluate risk factors associated with the usage of the highest priority critically important antibiotics for human health (HP-CIAs).



- During 2019, 98,824 antimicrobial events were recorded from the treatment records of the 23 participating practices. Of these, (17.3%) were found to be HP-CIAs.
- Penicillins were the most frequently used AMs (29.9%) followed by tetracyclines (19.2%).
- Injectables represented the majority of the prescribed AM preparations (80.1%), followed by intramammary (11.8%).
- Factors associated with the usage of HP-CIAs included country, season, route of administration and practice type.
- England was at a higher risk of HP-CIAs usage. Spring had a lower risk of HP-CIAs usage. Intramammary and oral routes of administration had a lower risk of being HP-CIAs compared to injectables. Exclusively farm practices had decreased risk of HP-CIAs usage.

On the qualitative side, Doaa has been interviewing vets in two participating practices. She will also interview farmers and other stakeholders to investigate the barriers and facilitators behind prescribing antimicrobials in farm practices. The analysis of the vets' interviews in the first site have already highlighted a number of key messages, including:

- Participants showed good understanding of AMR, responsible use of AMs and the term critically important antimicrobials.
- Supermarket contracts and the farm assurance schemes were found to be facilitators for reducing the AMs use and the use of HP-CIAs.
- Ease of administration and the withdrawal period of the AMs were found to be influencing veterinarians' choice of AMs.

A better understanding of antimicrobial usage in farm animals and the influences behind prescribing will help to provide much needed baseline data from farm practices.



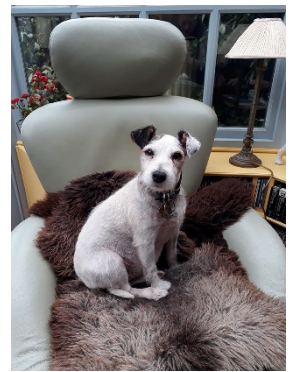
Primary-care perspectives on Cushing's syndrome in dogs

Imogen Schofield has submitted her PhD thesis in December 2021. Her PhD investigated Cushing's syndrome in dogs under primary veterinary care, and was funded by Dechra Limited. Imogen's PhD has led to 5 peer-reviewed publications so far.



During this work, Imogen developed multiple research outputs using VetCompass data that aimed to support vets in practice to enhance the diagnosis and management of Cushing's syndrome. These have included:

- A **new tool for vets** to assess the likelihood of Cushing's syndrome in their canine patients. The tool is made up of 10 'predictive' factors for Cushing's syndrome. If you suspect Cushing's in your patient, the tool will tell you the probability of that dog having the condition. This **can help you decide whether further testing is needed and is freely accessible** here:
 - o <https://www.rvc.ac.uk/Media/Default/VetCompass/Documents/cushings-prediction-tool.pdf>
- **Two novel scoring tools** for owners to complete during monitoring consultations for dogs with Cushing's syndrome to assess their clinical signs over time and changes to their quality-of-life. These have been included on the Dechra webpage here:
 - o <http://www.canine-cushings.co.uk/monitoring>
 - o Or signing up to the Dechra Learning Academy here: <https://www.dechra.co.uk/therapy-areas/companion-animal/endocrinology/cushings-disease/monitoring-and-treatment-of-cushings>



Finally, Imogen has also explored the world of VetCompass big data through the use of AI and machine-learning to identify which dogs that are most likely to be diagnosed with Cushing's syndrome in practice, following a vets suspicion of the condition. This work has recently been published and is available **open access** here:

- <https://www.nature.com/articles/s41598-021-88440-z>



The Kennel Club Charitable Trust – VetCompass Collaboration

The Kennel Club Charitable Trust (KCCT) project within VetCompass continues to contribute to improved dog welfare in several real and tangible ways. The KCCT funding has been provided to VetCompass annually since 2018 with the project name of 'Evidence-based prioritisation of disorders using epidemiological data on dog breeds from VetCompass primary-care veterinary clinical records.



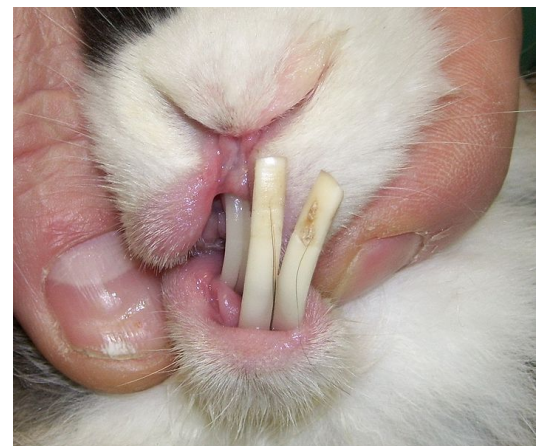
The project aims to support the Kennel Club's (KC) 'Breed Health and Conservation Plan (BHCP)' project. It was recognised several years ago that the efforts to improve breed health such as the Kennel Club's BHCP were heavily constrained by a paucity of relevant health and demographic data. The KCCT-funded project within VetCompass aims to deliver at least four peer-reviewed papers annually. In reality, this funding has supported many more projects than this target, with 9 papers in 2018, 8 papers in 2019, 10 in 2020 and 14 in 2021. These papers are now supporting the Kennel Club to develop evidence-based breed-specific strategic health plans for key breeds in need of health assistance.

This VetCompass collaboration with KCCT shows the power of charity funding to make a real difference to dog welfare when the focus of the work is firmly linked to applied methods of translating academic research into welfare action.

Conformation-related dental and aural disease in pet rabbits

Maria Jackson is undertaking a VetCompass MRes to investigate whether lop eared rabbits are predisposed to dental and aural disease compared with erect eared rabbits. This study is part-funded by UFAW: The Universities Federation for Animal Welfare.

The study includes over 162,000 rabbits under first opinion veterinary care in 2019. There is some weak evidence in the literature that lop eared rabbit breeds are predisposed to dental and aural conditions (Johnson and Burn 2019; Richardson *et al.* 2019), but this larger-scale MRes study is needed to fully understand the clinical implications for UK rabbits. If breed dispositions are identified, it is hoped that this information can help to shift the desire of the public away from owning breeds with extreme conformations. The health and welfare needs of the animals should be prioritised above human-centric desires.



Johnson, J. C., & Burn, C. C. (2019). Lop-eared rabbits have more aural and dental problems than erect-eared rabbits: a rescue population study. *The Veterinary record*, 185(24), 758. <https://doi.org/10.1136/vr.105163>

Richardson, J., Longo, M., Liuti, T., & Eatwell, K. (2019). Computed tomographic grading of middle ear disease in domestic rabbits (*Oryctolagus cuniculi*). *The Veterinary record*, 184(22), 679. <https://doi.org/10.1136/vr.104980>



Heat-related illness in Dogs

Heat-related Illness in Dogs: Early Recognition and Treatment Recommended

The “Hot Dogs – investigating the epidemiology of canine heatstroke presenting to UK primary care veterinary practices” project is funded by a Dog’s Trust Canine Welfare Grant and the team includes **Emily Hall**, **Dan O’Neill** and **Dominic Barfield** from the RVC and **Anne Carter** and **Jude Bradbury** from Nottingham Trent University.

The project reviewed heat-related illness in dogs under primary veterinary care in 2016 and found brachycephalic (flat-faced) dogs and overweight dogs were at increased risk, with the Chow Chow, English Bulldog and French Bulldog at greatest risk of heat-related illness among common UK breeds. Overall, 1 in every 7 dogs affected by the condition died as a result. With global temperatures predicted to continue rising, heat-related illness is likely to become more common and more serious. It is therefore vital that dog owners understand the risk factors so they can protect their pet.

Another key finding from the project is that around three quarters of heat-related illness cases in UK dogs are triggered by exercise in hot weather (predominantly walking). The team are therefore recommending a new public message, “Dogs Die in Hot Cars AND on Hot Walks” to help owners better understand how to prevent this potentially fatal condition.

The latest findings from the Hot Dogs project highlight the importance of recognising heat-related illness quickly and seeking veterinary advice for affected dogs. The team used the clinical records of affected dogs to create a new Clinical Grading Tool which recognises that heat-related illness is a progressive disorder. Without early recognition and management, the condition will worsen. Over half of the dogs with severe heat-related illness died as a result of the condition (only 43.2% survived). Dogs presented early for veterinary treatment with mild signs of heat-related illness (altered breathing, reluctance to play/walk and tiredness) were more likely to survive (97.8%). The clinical signs associated with each stage of the disorder are shown on the [infographic](#) attached.

The team are currently working to identify both intrinsic (canine) and extrinsic (trigger, environmental, geographical) risk factors for severe and fatal heat-related illness in the New Year.

Publications:

- Incidence and risk factors for heat-related illness (heatstroke) in UK dogs under primary veterinary care in 2016 (<https://www.nature.com/articles/s41598-020-66015-8>)
- Dogs Don’t Die Just in Hot Cars—Exertional Heat-Related Illness (Heatstroke) Is a Greater Threat to UK Dogs (<https://doi.org/10.3390/ani10081324>)
- Proposing the VetCompass clinical grading tool for heat-related illness in dogs (<https://www.nature.com/articles/s41598-021-86235-w>)





Pandemic Puppies

The RVC **Pandemic Puppies** project was launched in 2020 as a collaboration with VetCompass in an effort to understand the full depth of changes to UK puppy-buying habits in the wake of the COVID-19 pandemic. The initial study was funded by the BVA's **Animal Welfare Foundation** and led by **Rowena Packer** along with **Dan O'Neill, Claire Brand, Zoe Belshaw, Camilla Pegram** and **Kim Stevens**. The study involved an online questionnaire of owners who bought puppies during 2019 or 2020 to compare the 'how's and whys' of Pandemic Puppy purchasing versus 'typical' dog purchasing in the UK.



The response was astounding, with over **7500 responses**. The findings regarding owners' motivations for and behaviours whilst purchasing puppies have been published in the open access journal *Animals* (<https://www.mdpi.com/2076-2615/11/9/2500>).

- The results show that:
 - Over 1 in 10 Pandemic Puppy owners had not considered buying a dog before the pandemic.
 - 2 in 5 Pandemic Puppy owners felt that the pandemic had influenced their decision to buy their puppy, most commonly because they had more time to care for a dog.
 - Pandemic Puppy owners were more likely to be first time dog owners, to have children in their household and pay a deposit before seeing their puppy compared to 2019 puppy purchasers.
 - Pandemic Puppy owners were less likely to look for a breeder who performed health tests on their breeding dogs and less likely to view their puppy in person compared to 2019 puppy purchasers.
 - Pandemic Puppies were more likely to be younger at purchase, to have been delivered or collected from outside the breeder's property, be seen without their littermates and to cost over £2000 when compared to 2019 puppies.
 -

A second publication is in preparation examining the demographics, health, socialisation experiences and behaviour of the Pandemic Puppies. That paper will highlight some potential welfare concerns in terms of behaviour and health for this unique cohort of dogs.

In addition, an **UFAW Summer Studentship** enabled **Erin Burnett**, a second-year veterinary student at Nottingham Vet School to work with the Pandemic Puppies team looking at the behaviour and motivations of owners purchasing '**Designer Crossbred**' dogs compared to purebred dogs. A paper from this work is also in preparation.

More recently, **Battersea Dogs and Cats Home** has awarded a 12-month Research Grant to **Rowena Packer, Dan O'Neill** and **Claire Brand** for further study of the Pandemic Puppy phenomenon in the UK. This new funding will allow the Pandemic Puppies team to continue to follow the original cohort of Pandemic Puppies as they enter adulthood via a planned series of longitudinal surveys into their health, behaviour and welfare. In addition, aspects of the dog-owner bond along with COVID-19 impacts will be examined to better understand any challenges owners are facing with this unique cohort of dogs.

Open Access Publication:

Pandemic Puppies: Characterising Motivations and Behaviours of UK Owners Who Purchased Puppies during the 2020 COVID-19 Pandemic: (<https://www.mdpi.com/2076-2615/11/9/2500>)



Other activities:

Widening dissemination using infographics

Research alone doesn't change animal welfare; effective dissemination is also important to share this information with relevant stakeholders and opinion-formers. VetCompass aims to summarise and present the key findings from research papers in digestible and eye-catching presentations and share these widely.

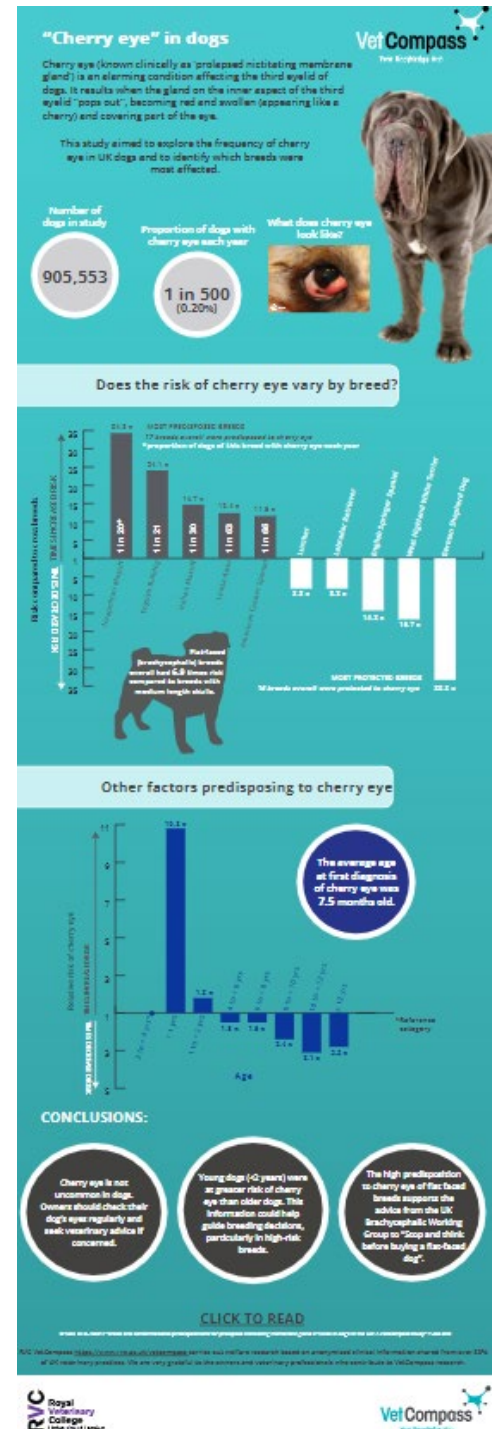
VetCompass has reframed the typical academic model whereby scientific research is mainly shared with just other scientific colleagues. Instead, by presenting cutting-edge science via infographics and by disseminating these widely, VetCompass is empowering owners, breeders and veterinary professionals to apply the latest evidence to improve their animal's health, and consequently human health.

Dissemination strategies used to date for these findings and recommendations have included:

1. General and veterinary-specific press releases
2. Radio and other media interviews
3. Social media posts including Twitter and Facebook
4. Sharing by organisational partners such as the Kennel Club or British Veterinary Association
5. Sharing by veterinary clinical practices
6. Infographics

Each VetCompass infographic summarises the key study findings which are presented using images, graphical data and links to the full study, along with action points or take home messages for owners and breeders. The infographics can be directly accessed by the general public, or can be used as a resource by veterinarians. For prospective pet owners considering a particular breed, or when a vet has just diagnosed an animal with a specific condition, we are now entering an era where veterinarians can direct owners to the relevant VetCompass infographic as an eye-catching, educational and evidence-based resource that will offer reliable information and advice.

The infographics are freely available to download from the RVC VetCompass website: <https://www.rvc.ac.uk/vetcompass/learn-zone/infographics>



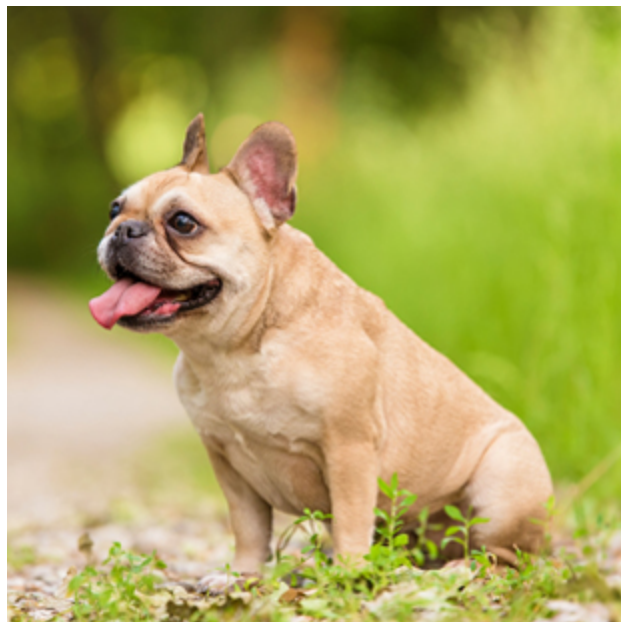


RVC Brachycephalic Research Team

The RVC is a world-leader among research centres that investigate brachycephalic health and welfare.

The RVC sees the brachycephalic issue as a highly complex system and therefore takes a holistic approach to brachycephalic research that covers basic and population science, human social factors as well as clinical and welfare work. RVC academics and researchers are recognised globally as international experts who work collaboratively within multi-disciplinary teams to generate new knowledge that ultimately improves animal welfare.

As part of these efforts, the RVC has now formed a dedicated Brachycephalic Research Team to maximise collaborative focus on the priority issues among the brachycephalic questions. Comprising many experts in their fields, this team will work towards providing an ever-stronger evidence-base on which positive reforms can be built.



VetCompass is leading the epidemiology discipline, bringing an evidence-based approach to the health and welfare issues of brachycephalic breeds. Experts in behavioural science, ophthalmology, neurology, anaesthesiology, ethics, dermatology, internal medicine, emergency and critical care, soft-tissue surgery, orthopaedics and genetics are also involved.

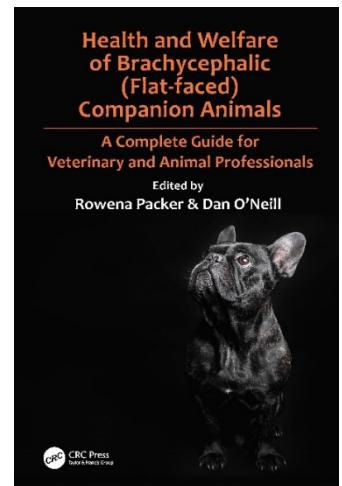
The RVC will never stop caring for existing flat-faced animals and their owners, as shown by our record of research, clinical and teaching activities. However, the RVC is also aware of the many problems that face flat-faced animals due to the recent large rises in their popularity combined with their intrinsic health issues. With this supportive and caring background in mind, the RVC Brachycephalic Research Team advises anyone thinking of purchasing a flat-faced animal to **'Stop and think before buying a flat-faced dog'**.

Read more at: <https://www.rvc.ac.uk/research/focus/brachycephaly>



VetCompass supports first book dedicated to welfare improvement in brachycephalic (flat-faced) companion animals

Brachycephalic (flat-faced) companion animals are currently facing a huge health and welfare crisis. Dogs, in particular, are suffering from a 'perfect storm' of intrinsic conformation-related predispositions that are being amplified by the extrinsic population boom for certain brachycephalic breeds such as the French Bulldog and Pug. But yet, for many owners, these dogs represent the perfect companion: endearing personas and looks that are wrapped up in a socially desirable package. But where is the truth here? How can we both love the look of flat-faced dogs but yet accept that this look is associated with huge welfare issues? What is the evidence on the main health issues of flat-faced dogs? What are we doing nationally and internationally to help reduce the welfare impact from brachycephaly in dogs? Should humans even own flat-faced animals?



These were the questions that two of the VetCompass team, Dr Rowena Packer and Dr Dan O'Neill, set out to answer in a new book, **Health and Welfare of Brachycephalic (Flat-faced) Companion Animals: A Complete Guide for Veterinary and Animal Professionals**. With 20 chapters co-authored by 29 internationally-recognised experts, this book aims to change how veterinary care is delivered to brachycephalic companion animals. Many of the chapters feature evidence generated by VetCompass that is thoughtfully assembled and interpreted by the expert co-authors. The book is yet another example of how good evidence is being applied to update our shared world-views on animal welfare and ultimately how to improve the lives of companion animals.



UK Companion Animal Health Surveillance

VetCompass Publications 2021

1. [Disorder predispositions and protections of Labrador Retrievers in the UK](#)
2. [Prevalence of commonly diagnosed disorders in UK dogs under primary veterinary care: results and applications](#)
3. [Non-neoplastic anal sac disorders in UK dogs: Epidemiology and management aspects of a research-neglected syndrome](#)
4. [Frequency, breed predisposition and demographic risk factors for overweight status in dogs in the UK](#)
5. [Proposing the VetCompass clinical grading tool for heat-related illness in dogs](#)
6. [Proportion and risk factors for death by euthanasia in dogs in the UK](#)
7. [Epidemiology of periodontal disease in dogs in the UK primary-care veterinary setting](#)
8. [Reporting the epidemiology of aural haematoma in dogs and proposing a novel aetiopathogenetic pathway](#)
9. [Frequency and predisposing factors for canine otitis externa in the UK – a primary veterinary care epidemiological view](#)
10. [Frequency and risk factors for naturally occurring Cushing's syndrome in dogs attending UK primary-care practices](#)
11. [Machine-learning based prediction of Cushing's syndrome in dogs attending UK primary-care veterinary practice](#)
12. [Hypoadrenocorticism in dogs under UK primary veterinary care: frequency, clinical approaches and risk factors](#)
13. [Spatio-temporal distribution and agroecological factors associated with canine leptospirosis in Great Britain](#)
14. [Incidence and demographic risk factors for leptospirosis in dogs in the UK](#)
15. [Dog breeds and body conformations with predisposition to osteosarcoma in the UK: a case-control study](#)
16. [Keratoconjunctivitis sicca in dogs under primary veterinary care in the UK: an epidemiological study](#)
17. [Understanding Antibiotic Use in Companion Animals: A Literature Review Identifying Avenues for Future Efforts](#)

For further details:

More information on VetCompass projects can be found at www.rvc.ac.uk/vetcompass

Alternatively, please contact the VetCompass team (pictured below)

by **Email:** vetcompass@rvc.ac.uk



 **Merry Christmas!** 