



## VetCompass™ Newsletter December 2018

The core ethos of VetCompass is to enhance companion animal welfare by improving the evidence base available to practitioners. The past year has been extremely productive, with results from several completed projects shared widely and many new projects begun. The research database has also grown enormously, ensuring we can continue to generate reliable information about the conditions vets see.

### Re-Inventing Diagnosis and Management of Canine Hyperadrenocorticism

Imogen Schofield started her PhD project in January 2018, funded by Dechra, and has hit the ground running. Hyperadrenocorticism (Cushing's disease) is regularly diagnosed and managed within primary-care practice. However questionable diagnostic tests and monitoring tools may be limiting accurate diagnosis. So far, Imogen has aimed to address these issues through:



- **The Big Canine Cushing's Project:** A quality of life tool and clinical scoring system have been developed and validated, practical for primary-care practice.
- **VetCompass study:** The diagnosis, management and survival of dogs with hyperadrenocorticism have been investigated. Findings include:
  - The ACTH stimulation test predominates diagnosis and disease differentiation is infrequently performed.
  - Over 95% of dogs diagnosed are treated with trilostane (Vetoryl).
  - Median survival from diagnosis is 510 days. (ie 50% of dogs survive 1.4 years from when they are diagnosed).
  - Poorer survival with increasing bodyweight, age and in those where no changes are made to their treatment dose.
- **Machine learning using VetCompass data:** Future work aims to apply machine learning methodology to predict the diagnosis of dogs with hyperadrenocorticism.



To find out more or be involved in the study visit: <https://www.rvc.ac.uk/vetcompass/projects/re-inventing-canine-hyperadrenocorticism#tab-the-big-canine-cushing-s-project>

### Antimicrobial use in Companion Animals



Alice Tompson is a second year PhD student based at **London School of Hygiene & Tropical Medicine** and **RVC**. Her project, funded by a **Bloomsbury College studentship**, investigates antimicrobial use in companion animals.

Previous VetCompass analyses have established that **antimicrobials are frequently used by first opinion small animal practices**. Alice's project returns to these data to explore the variation in such use. She will also be spending time in veterinary practices observing daily life and interviewing vets, support staff and pet owners.

By producing a contextualised understanding of antimicrobial use, **Alice's work will help us to understand better the pressures to prescribe and inform the design of evidence-based stewardship interventions** for this setting.



## Key Findings about Urinary Incontinence in Bitches



We congratulate Camilla Pegram who recently successfully achieved a Masters of Research (MRes) for work on urinary incontinence (UI) in bitches.

The project, **funded by BSAVA PetSavers**, evaluated associations between neutering and UI in bitches under primary veterinary care in the UK. A case-control study explored all-cause UI and a cohort study explored early-onset UI diagnosed at  $\leq 8$  years.



The main results - Factors associated with UI	
Case-control study	Cohort study
<b>Neuter status</b> – Neutered bitches at greater risk of UI than entire bitches	<b>Neuter status</b> – Neutered bitches at greater risk of early-onset UI than entire bitches
<b>Age</b> – Increasing age associated with increased risk of UI	<b>Age at neuter</b> – Bitches neutered <6 months at greater risk of early-onset UI than those neutered $\geq 6$ months within the first 2 years following neuter
<b>Breed</b> – E.g. Hungarian vizsla at high risk of UI	<b>Breed</b> – E.g. Irish setter at high risk of early-onset UI
<b>Bodyweight</b> – Increasing weight associated with increased risk of UI	<b>Bodyweight</b> – Increasing weight associated with increased risk of early-onset UI

Full results from both studies are under submission for publication in JSAP.

This work has improved understanding of UI in the bitch and the study results can help inform the neuter decision-making process.

## New projects underway

- Leptospirosis in dogs: Collette Taylor has recently started a PhD project titled “**Canine leptospirosis: Improving diagnostics and understanding of the epidemiology of disease in UK dogs**”. Leptospirosis is globally an important re-emerging zoonotic disease. The aims of this PhD are to:
  - Improve the diagnostics of Leptospirosis through novel bacterial outer membrane targets
  - Utilise VetCompass™ data to characterise the epidemiology of Leptospirosis disease and vaccine trends in dogs attending UK practices.





- Diabetes mellitus in dogs: Angela Heeley is working on a project exploring **the potential association between early-life usage of antimicrobials and the subsequent diagnosis of diabetes mellitus in dogs**. It has been suggested that the increased use of antibiotics in human medicine, and their impact on the developing gut-microbiota when used in early life, may be a factor in the development of Type 1 diabetes mellitus in children. Spontaneous diabetes mellitus in dogs is a good potential model for Type 1 diabetes in humans, and as our dogs share our environment there are likely to be many similarities between our microbiomes. This project will help to improve our understanding in order to rationalise and guide our antimicrobial choices.
- Heat Stroke in dogs: Emily Hall at Nottingham Trent University has started a project titled **“Hot Dogs – investigating the epidemiology of canine heatstroke presenting to UK primary care veterinary practices”**. The project is in collaboration with VetCompass™ and funded by Dogs Trust. Heatstroke is a potentially fatal, yet often preventable, condition for dogs that can be caused by exercise (exertional heatstroke), or confinement in hot conditions (environmental heatstroke). Utilising VetCompass™ data this project aims to:
  - Report the incidence of canine heatstroke cases presenting to primary care veterinary practices in the United Kingdom.
  - Determine canine factors associated with increased risk of heatstroke.
  - Identify the predominant underlying cause of canine heatstroke in the United Kingdom (exertional versus environmental heatstroke).



## VetCompass Publications 2018

- [Survival after diagnosis of hypertension in cats attending primary care practice in the United Kingdom](#)
- [Labrador retrievers under primary veterinary care in the UK: demography, mortality and disorders](#)
- [Demography and disorders of the French Bulldog population under primary veterinary care in the UK in 2013](#)
- [Mortality resulting from undesirable behaviours in dogs aged under three years attending primary-care veterinary practices in England](#)
- [Epidemiology of Road Traffic Accidents in Cats attending emergency-care practices in the UK ‘ is published in the Journal of Small Animal Practice](#)
- [Prognostic factors in dogs with presumed degenerative mitral valve disease attending primary-care veterinary practices in the United Kingdom](#)
- [Seizure occurrence in dogs under primary veterinary care in the UK: prevalence and risk factors](#)
- [Lipoma in dogs under primary veterinary care in the UK: prevalence and breed associations](#)
- [Prevalence, duration and risk factors for appendicular osteoarthritis in a UK dog population under primary veterinary care.](#)



- [Signalment risk factors for cutaneous and renal glomerular vasculopathy \(Alabama rot\) in dogs in the UK](#)
- [Urinary incontinence in male dogs under primary veterinary care in England: prevalence and risk factors](#)
- [The companion dog as a model for human aging and mortality](#)
- [Do female dogs age differently than male dogs?](#)

Full acknowledgements to all published articles are provided on our [website](https://www.rvc.ac.uk/vetcompass/learn-zone#tab-publications-library)  
<https://www.rvc.ac.uk/vetcompass/learn-zone#tab-publications-library>  
Journals access may require log-in

Finally ...

We would like to pass on our best wishes to all current and future veterinary practices and collaborators.



Merry Christmas and a Happy New Year



For further details:



More information on VetCompass projects can be found at [www.rvc.ac.uk/vetcompass](http://www.rvc.ac.uk/vetcompass)



Alternatively, please contact the VetCompass team (pictured left) by

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