UNIVERSITY OF
LIVERPOOL

Institute of Infection, Veterinary and Ecological Sciences

Contact: Jodie.Jackson@Liverpool.ac.uk

Old Age Dogs - using mixed methods health informatics to understand their care in primary veterinary practice.

Jodie Jackson¹, Lisa Wallis^{1,2}, Zoe Belshaw³, Enikő Kubinyi², Alexander German¹, Carri Westgarth¹, Alan Radford¹

¹University of Liverpool, ²ELTE Eötvös Loránd University, ³EviVet Research Consultancy

Objectives

This project aims to **determine** when vets consider a dog to have reached **old age** and to **identify** the **most common issues** discussed in old age dog consultations. There is **no agreed consensus** on the age at which dogs are considered to be 'old'. Therefore, an **alternative approach** was used to identify old age based on **veterinary clinical narratives**.

Varying definitions of 'old' dogs

Alternative approach based on veterinary clinical narratives

Results 1

For all four terms, **95%** of dogs were aged over **5 years old**, and use of each term **peaked at 10-15 years of age** (see figure 1).

Figure 1. Age distribution of dogs identified as 'old' by veterinarians based on the use of one of four terms (geriatric, elderly, senior and ageing) in the health narrative (n=16208).

Methods

Using **8,000,000** anonymised electronic health records, from sentinel UK veterinary practices participating in SAVSNET (a veterinary surveillance network), validated **regular expressions** were used to identify clinical narratives where the terms senior, geriatric, elderly, or ageing were used by the attending practitioner in the context of old age. Regular expressions are a text mining technique which extracts data by searching for a string of characters. At this preliminary stage of analysis, a subset of 100 'ageing' consultations was randomly selected for further classification (modified **ICD-10**, used for identifying global health trends and diagnostic classification) to determine the recorded reasons for presentation. After removal of consultations with missing data, 90 remained for analysis.

Results 2

The age when these terms were used to define a dog as 'old' **varied by breed**: the Jack Russell Terrier, Lhasa Apso, and the West Highland White Terrier were older on average; the German Shepherd Dog, Boxer, and the CKCS younger on average (see figure 2).

Figure 2. Average age terms were used to define a breed as 'old' by veterinarians (n=12818).

Figure 3. Syndromes recorded in the health narrative of 90 randomly selected dogs in the 'ageing' term.

Results 3

Based on preliminary analysis of the 'ageing' term, the most **common syndromes** recorded in the health narratives were **musculoskeletal**, **ocular**, and **integument issues** (see figure 3).

Impact

These findings shed light on the **onset of old age** in **different dog breeds**, and will inform the development of **targeted canine ageing** and wellbeing **health messaging** for use in Veterinary Practices.