Universiteit Utrecht

**Faculty of Veterinary Medicine**
Department of Companion Animal Health

# Breed related disorders in four breed populations in the Netherlands

## *Situation compared to crossbreeds based on primary practice data*

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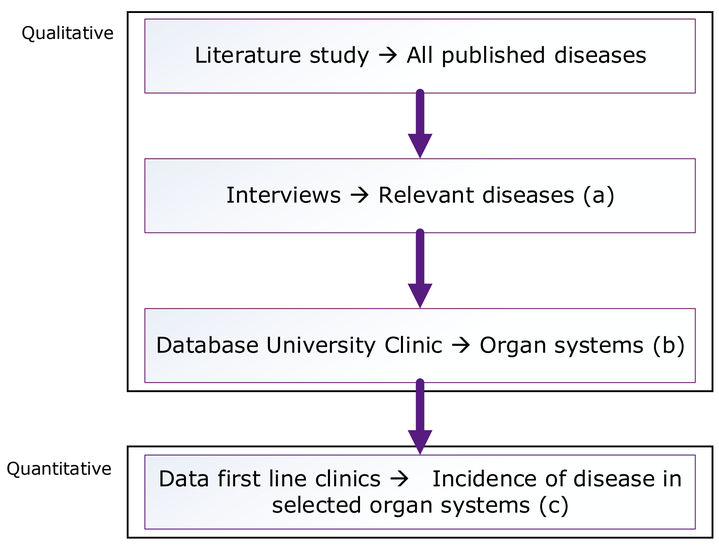
## Introduction

To develop a sound health policy, breeders need to know the incidence and impact of breed standard related disorders and inheritable diseases in a pedigree breed's population. At government's request, the faculty of Veterinary Medicine, Utrecht University, performed a pilot study to measure incidences of breed related disorders in four breeds: Chihuahua, French Bulldog, Labrador Retriever and Persian cat. The **aim** was to compare these incidence rates to the rates found in crossbreeds and create an objective view on the disease situation in these breeds.

## Methods

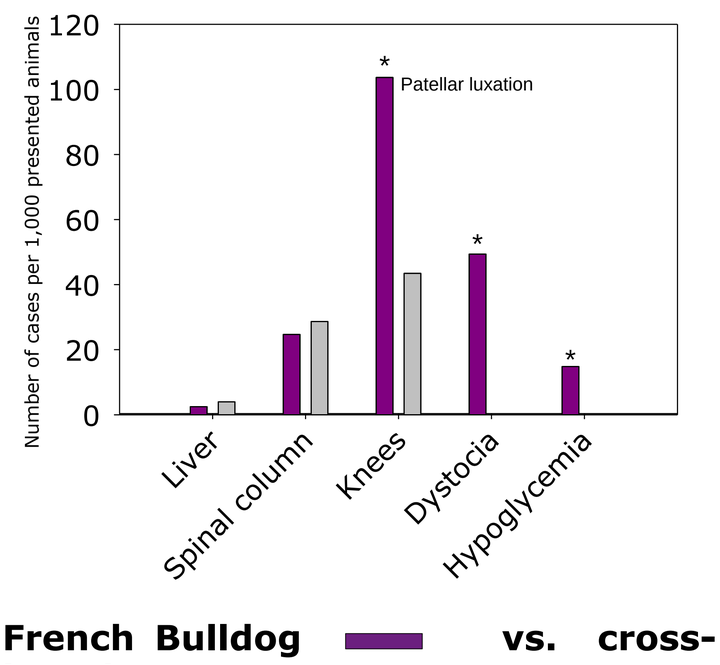
**Qualitative and quantitative steps to collect information on breed related disorders**



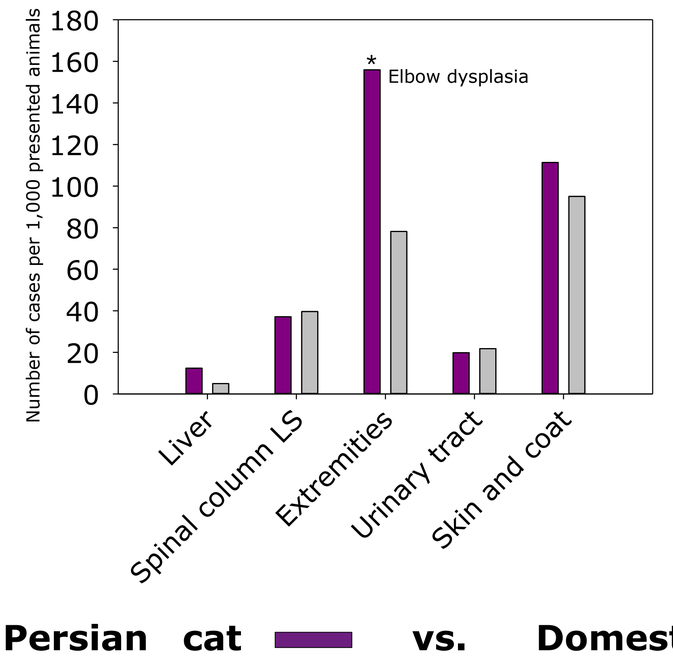

*(a)* Relevant diseases for the population in the Netherlands based on literature study and interviews of veterinary specialists.
*(b)* Organ systems selected by over-representation of the breed in a discipline of the University Clinic.
*(c)* Power analysis indicated 400 animals per breed and 1,000 crossbreeds were needed. These individuals were randomly selected at 10 primary clinics from all records in the period 1st January 2011 till 12th November 2013. Patient files were searched by means of keywords for disease in selected organ systems. In the dog breeds, animals with pedigree and look-alikes were distinguished.

## Results

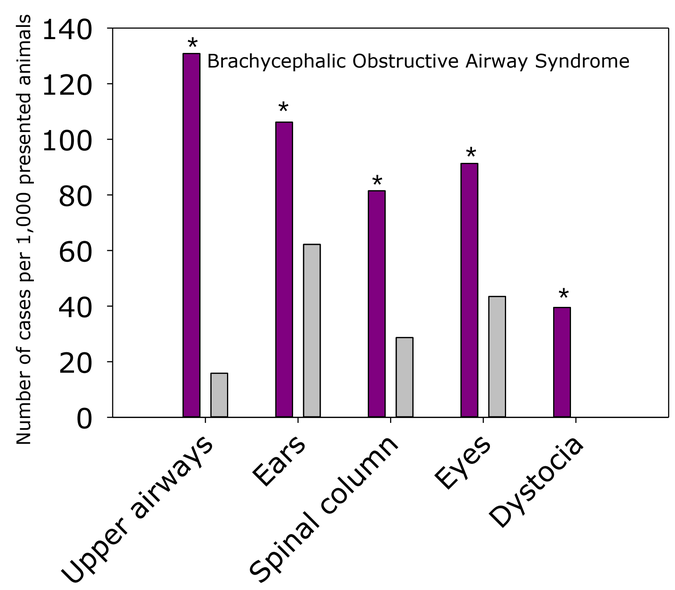
**Chihuahua vs. cross-breed**



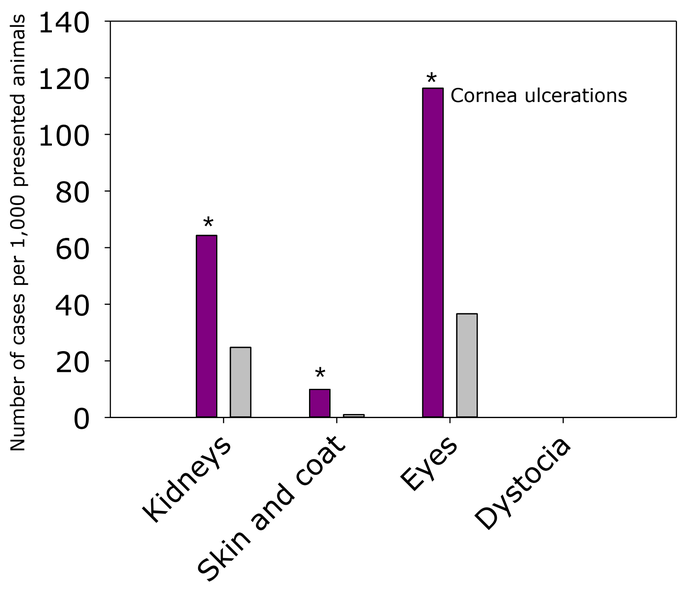

**Labrador vs. crossbreed**




**French Bulldog vs. cross-breed**




**Persian cat vs. Domestic shorthair**




Percentages of dogs <u>with</u> pedigree: Chihuahuas 6,4%; French Bulldogs 12,4%; Labrador Retrievers 20,5%.

** Organ systems in which disease frequency differs significantly between breed and crossbreed ($p < 0.05$, Fisher's Exact).*

## Conclusions

- ❑ The vast majority of the 3 dog breed populations is look-alikes.
- ❑ Relative to the crossbreed population visiting a primary practice, both the three canine and the feline population clearly show one disorder that is of highest importance.
- ❑ In the populations of the French Bulldog and Persian cat the most important diseases are related to their breed standards.
- ❑ This pilot study is the basis for a system of automatic collection of primary practice data. This system will generate information on breed related disorders in all dog and cat breed populations in the Netherlands.