# Agria Breed Stats

*Brechyconference*

*Brenda Bonnett, DVM, PhD*

International Partnership For Dogs

**Hot Topics on DogWellNet.com**

**Brachycephalics**

Many articles already on the website on Breed-Specific Breeding Strategies; programs at dog shows, fitness testing, etc.

DogWellNet.com

# Hot Topics on DogWellNet.com

## Brachycephalics

- New formal research from the Royal Veterinary College in the UK
  - Interesting – measuring skulls, etc.
  - Good evidence of the severity of BOAS in individual dogs

- Quoted… *and misquoted …*

# Statistics / data / information

**All of us show bias when it comes to what information we take in.**
*(... and then share)*

**We typically focus on anything that agrees with the outcome we want.**

Noreena Hertz

*http://www.brainyquote.com/quotes/keywords/bias.html*

*Agria*
*Djurförsäkring*

# Background to Agria data: Collaboration since 1994

- Agria Animal Insurance

- SLU – Swedish University of Agricultural Sciences

- 

- University of Guelph, Canada

- Swedish Kennel Club (SKK)

# Background to Agria data: Collaboration since 1994

Insurance

dish University of Agricultural

of Guelph, Ca

**Partnership !**

**'Demanded' by the breed clubs/ SKK !**

*agria*
*Djurförsäkring*

# Background to Agria Breed Statistics

- Agria Insurance:

  - **Willingness to share**

  - Research and development funded by Agria-SKK Research Fund.

    - Database has been used in **>32 scientific publications** in refereed journals

*Agria* 
*Djurförsäkring*

# Background to Agria Breed Statistics: Dogs

- Approximately **40% of the Swedish population**

  - **80% of insured dogs are purebred**
  - On average **>76%** of dogs within a breed are **registered with SKK**

- Dogs insured to any age (best representation <12 years)

- Coverage is very broad; some exclusions
  - Owner must realize there is a problem and take dog to vet.
  - Visits within 120 days must exceed 'self-risk'

- Stats calculated **per dog** NOT per claim or visit
  - Therefore may differ from veterinarians' perceptions
  - 'Conservative estimates'

*Agria*
*Djurförsäkring*

# Agria Breed Statistics and the Work of Breed Clubs

## Identifying the *most important* conditions in a breed

- Most **common** conditions – i.e. affects the most dogs?

- Breed shows a **higher risk** compared to other breeds
  - Hereditary, use, other reasons

- The most **severe**
  - **Health**: veterinary care, death

  - **Welfare** – suffering, poor quality of life, impact on overall soundness and well-being

*Agria* ▪
*Djurförsäkring*

# Agria Breed Statistics and the Work of Breed Clubs

## Identifying the *most important* conditions in a breed

- Those conditions we can **measure**/ detect and about which **something can be done**…

- Conditions recognized by the public as affecting health / welfare

  - **Breathing**

  - **Eyes**

*Agria* **◼**
*Djurförsäkring*

# Agria Breed Statistics
# and the Work of Breed Clubs

**Identifying the *most important* conditions in a breed**

- Those conditions we can **measure**/ detect and about which **something can be done**…

- Conditions recognized by the public... welfare

- **Breathing**

Agria statistics are part of the 'Big Picture'

*Agria*
Djurförsäkring

# Population Statistics

**Interpretation:**

**number sick or number dead**

**÷**

**dog-years-at-risk (HEALTHY AND SICK DOGS)**
(number of dogs and how long we followed them)

How common is it?

- **Rate** per 10,000 DYAR

- **Risk** compared to All Breeds  (Rate in Breed divided by rate in All Breeds)

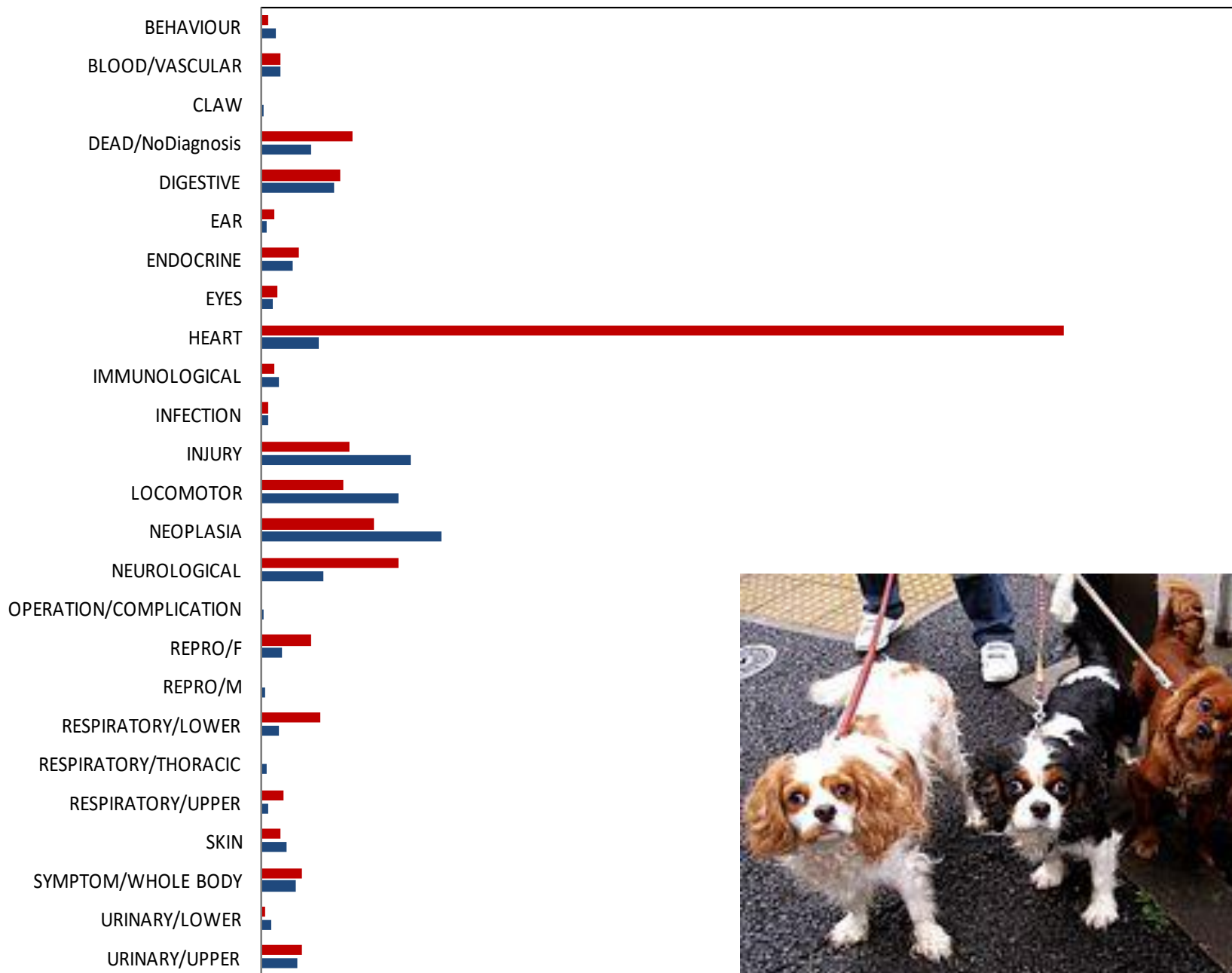Is the condition **more** or **less** likely in this Breed compared to All Breeds, combined?

*Agria*
*Djurförsäkring*

# Updates: 2006-2011

- **6 years of data**

  - Over 120 breeds

  - Comparative: **Breed: All Breeds**

# Examples of Dog Updates…
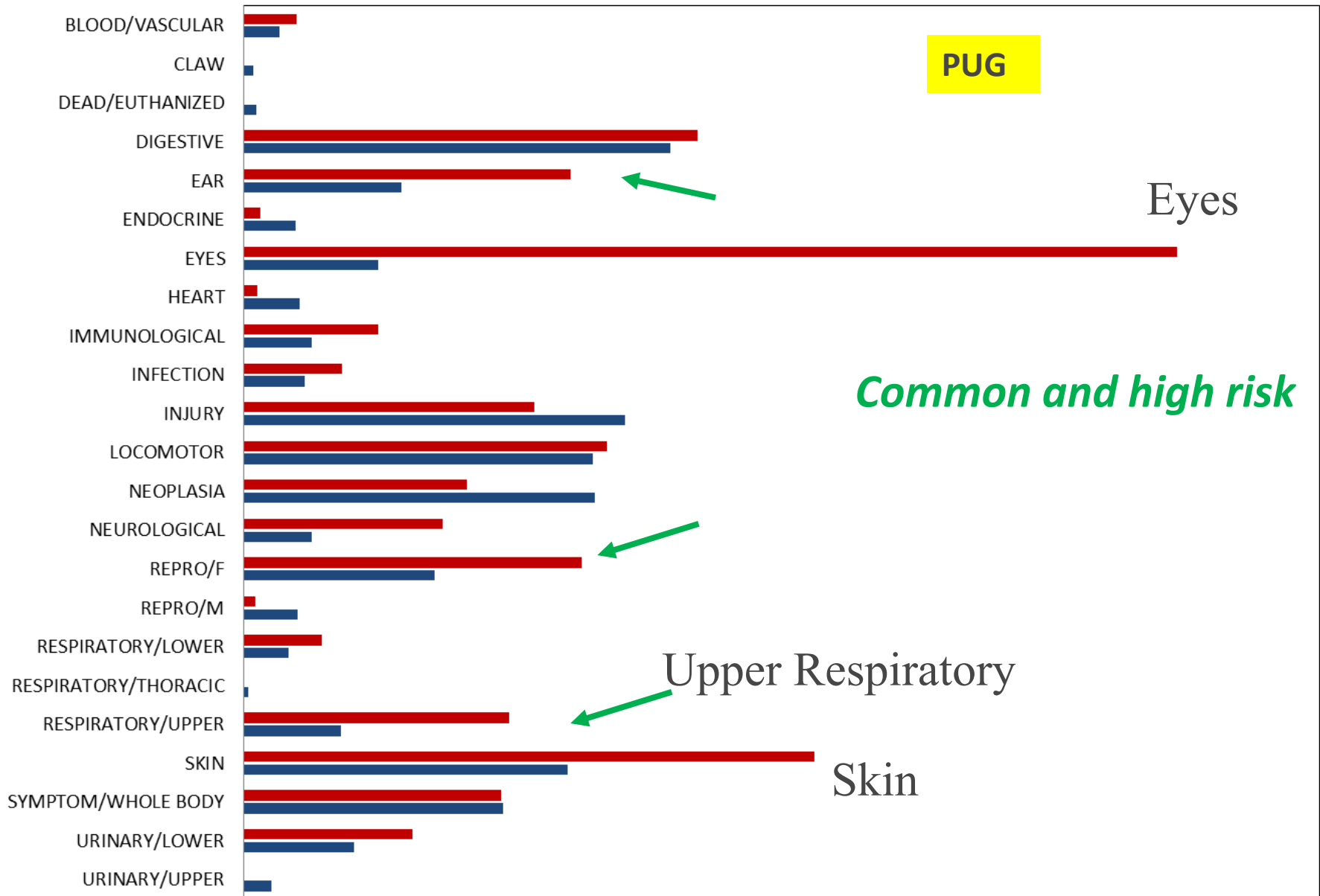
**General Causes of Death : Rates in 2003/06** ■ Cavalier King Charles Spaniel

- BEHAVIOUR
- BLOOD/VASCULAR
- CLAW
- DEAD/NoDiagnosis
- DIGESTIVE
- EAR
- ENDOCRINE
- EYES
- HEART
- IMMUNOLOGICAL
- INFECTION
- INJURY
- LOCOMOTOR
- NEOPLASIA
- NEUROLOGICAL
- OPERATION/COMPLICATION
- REPRO/F
- REPRO/M
- RESPIRATORY/LOWER
- RESPIRATORY/THORACIC
- RESPIRATORY/UPPER
- SKIN
- SYMPTOM/WHOLE BODY
- URINARY/LOWER
- URINARY/UPPER

# General Causes of VCEs : Rates in 2006-2011

■ Pug    ■ ALL BREEDS

**PUG**

- BLOOD/VASCULAR
- CLAW
- DEAD/EUTHANIZED
- DIGESTIVE
- EAR
- ENDOCRINE
- EYES
- HEART
- IMMUNOLOGICAL
- INFECTION
- INJURY
- LOCOMOTOR
- NEOPLASIA
- NEUROLOGICAL
- REPRO/F
- REPRO/M
- RESPIRATORY/LOWER
- RESPIRATORY/THORACIC
- RESPIRATORY/UPPER
- SKIN
- SYMPTOM/WHOLE BODY
- URINARY/LOWER
- URINARY/UPPER

Eyes

*Common and high risk*

Upper Respiratory

Skin

*Djurjorsakring*

of VCEs Ordered by Relative Risk compared to All Breeds 2006-2011
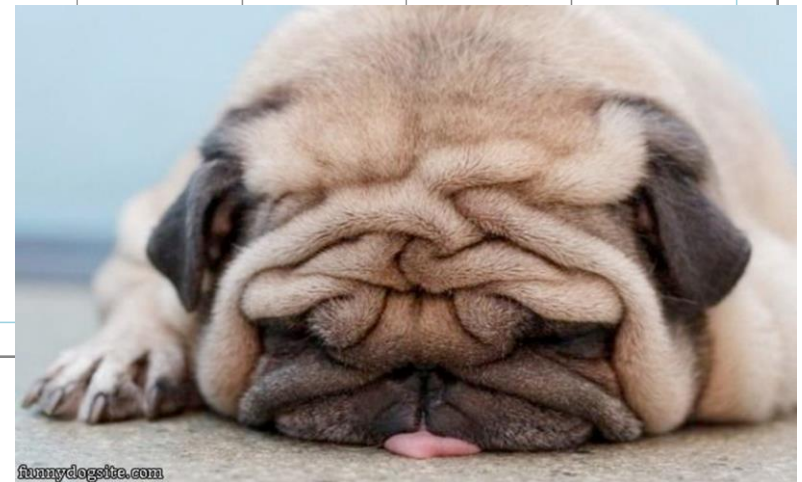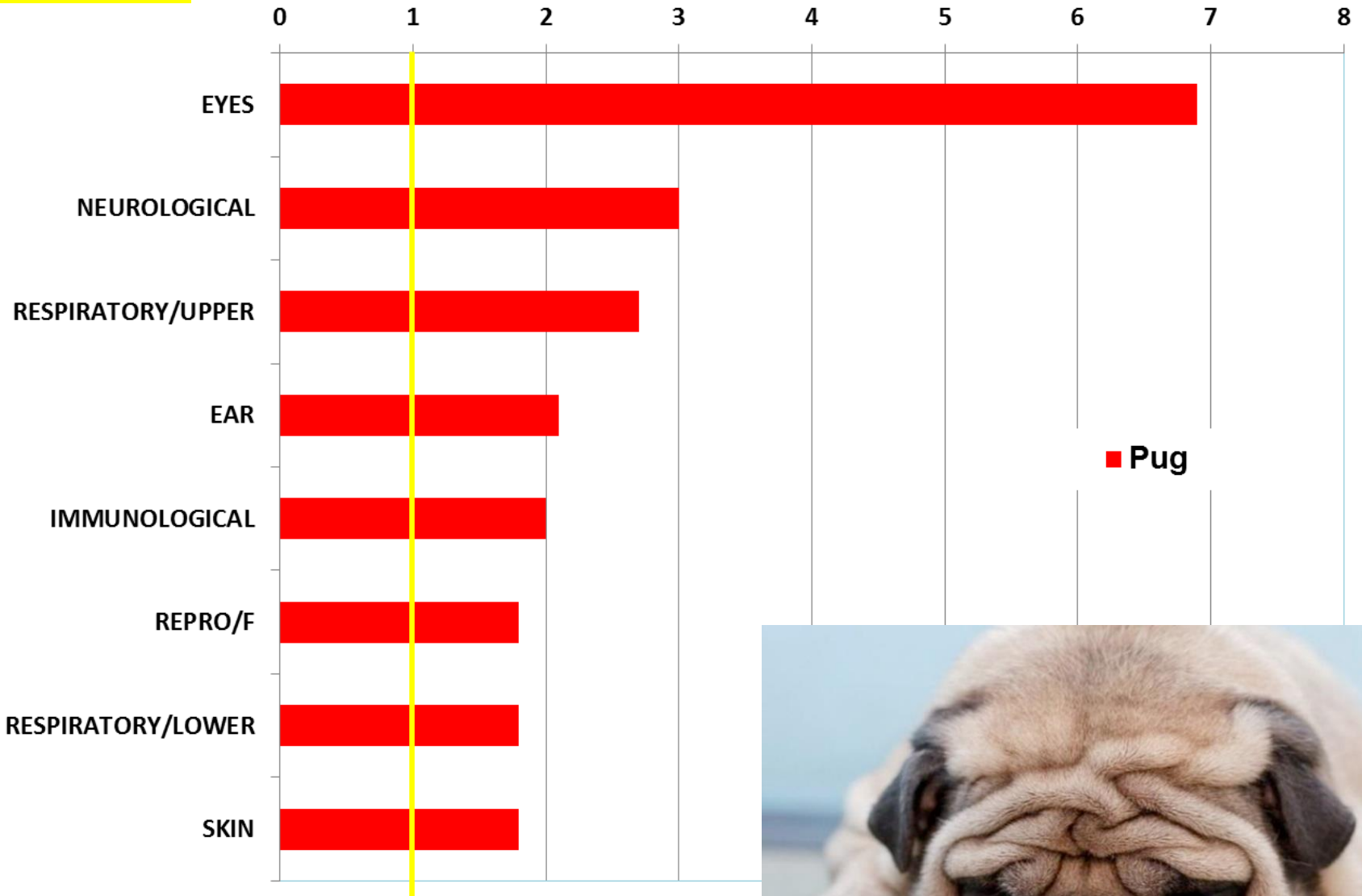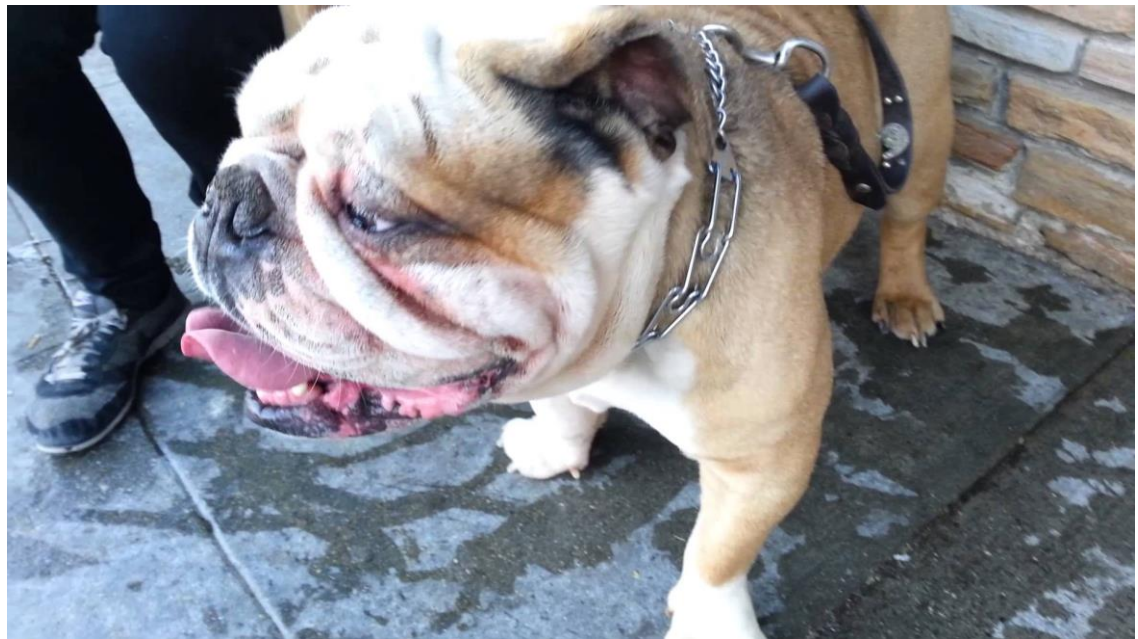
More Specific Diagnoses

of VCEs Ordered by Relative Risk: Pug compared to All Breeds 2006-2011
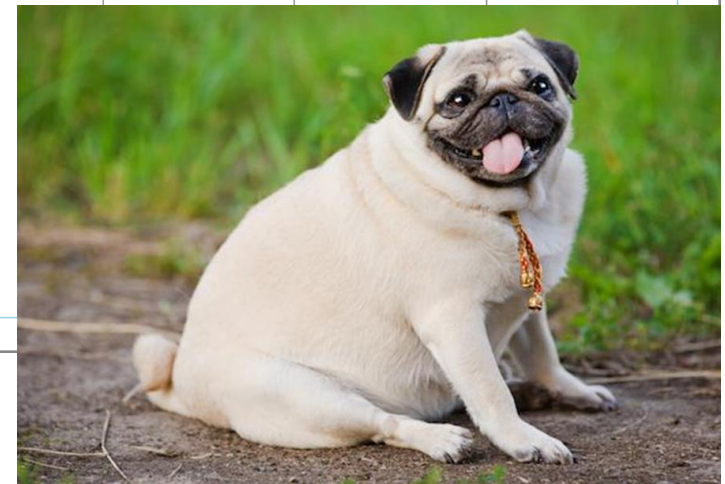
**Overall Rates of Veterinary Care 2006-2011**
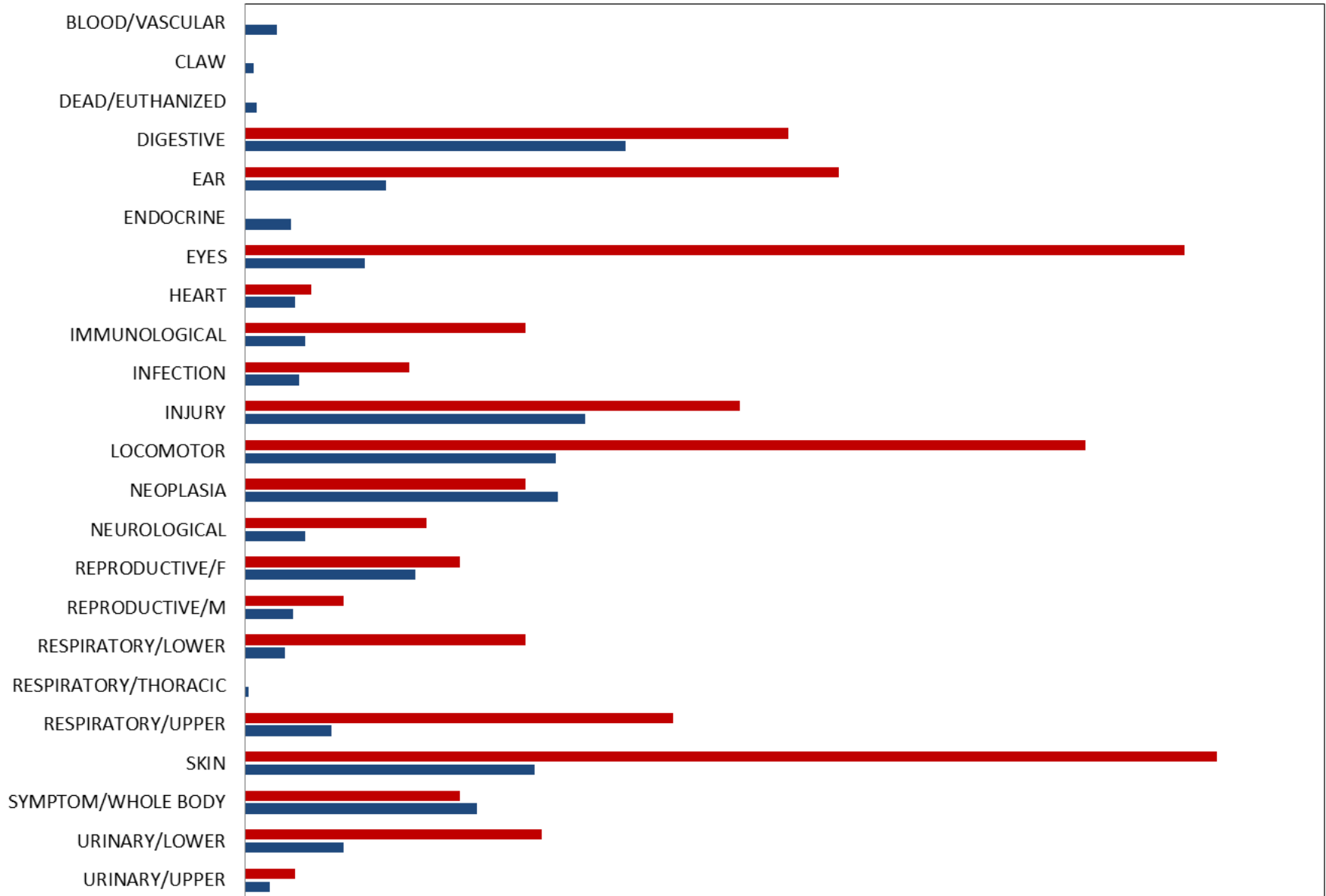
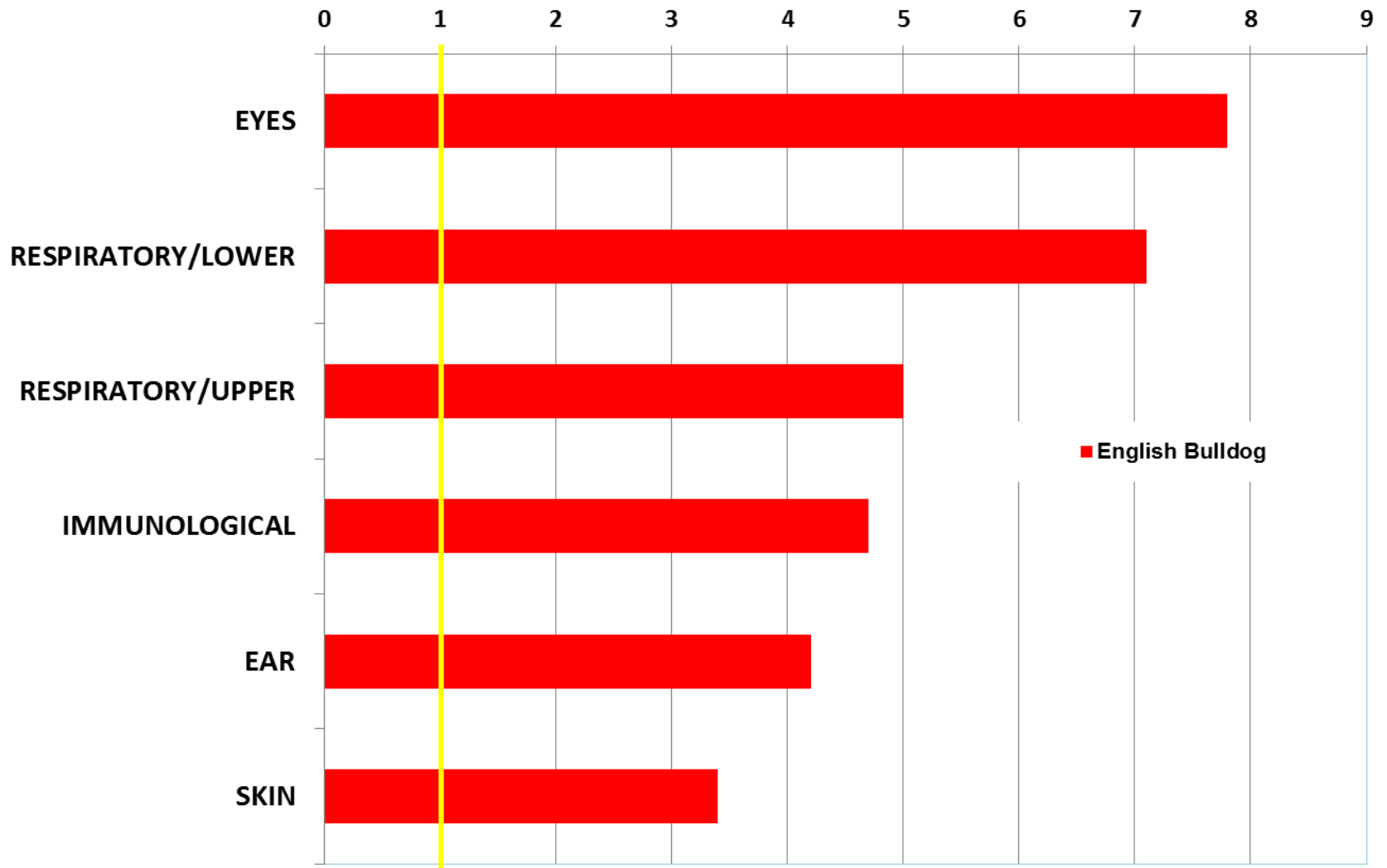Legend: ■ English Bulldog  ■ ALL BREEDS

General Causes of VCEs : Rates in 2006-2011

Legend: English Bulldog (red), ALL BREEDS (blue)

Categories (top to bottom):
BLOOD/VASCULAR, CLAW, DEAD/EUTHANIZED, DIGESTIVE, EAR, ENDOCRINE, EYES, HEART, IMMUNOLOGICAL, INFECTION, INJURY, LOCOMOTOR, NEOPLASIA, NEUROLOGICAL, REPRODUCTIVE/F, REPRODUCTIVE/M, RESPIRATORY/LOWER, RESPIRATORY/THORACIC, RESPIRATORY/UPPER, SKIN, SYMPTOM/WHOLE BODY, URINARY/LOWER, URINARY/UPPER

Djurförsäkring
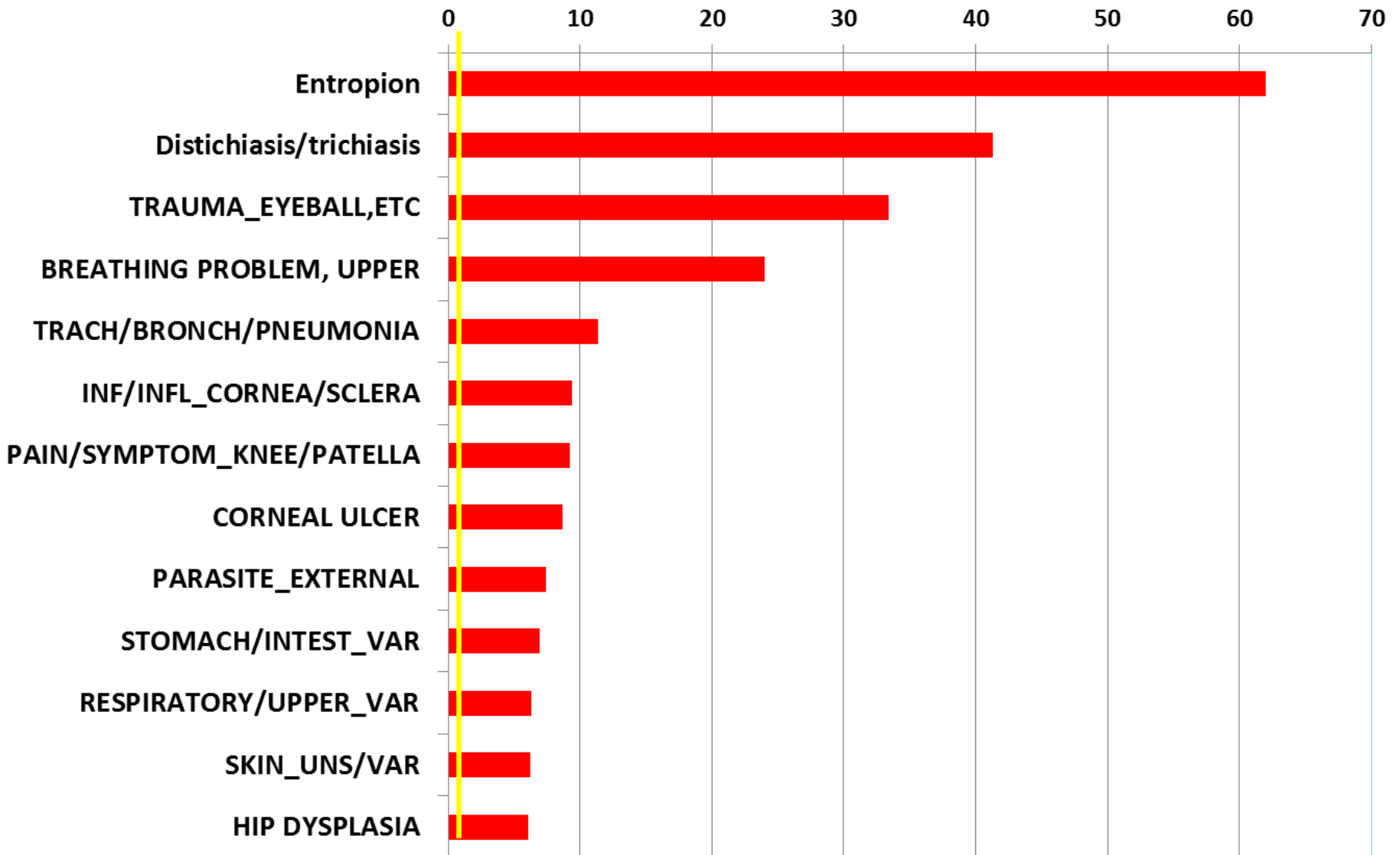
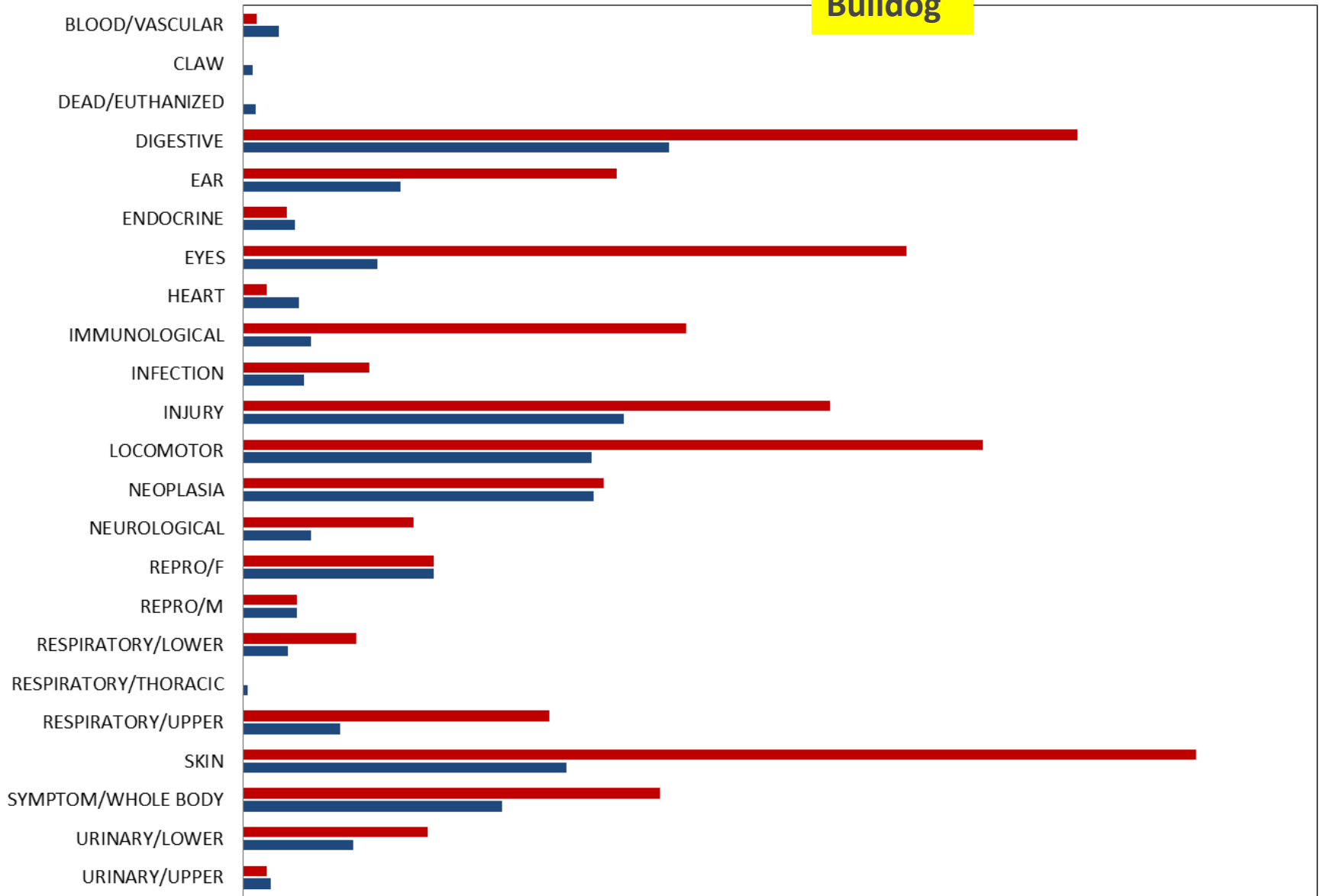General Causes of VCEs Ordered by Relative Risk compared to All Breeds 2006-2011

Specific Causes of VCEs Ordered by Relative Risk: English Bulldog compared to All Breeds 2006-2011
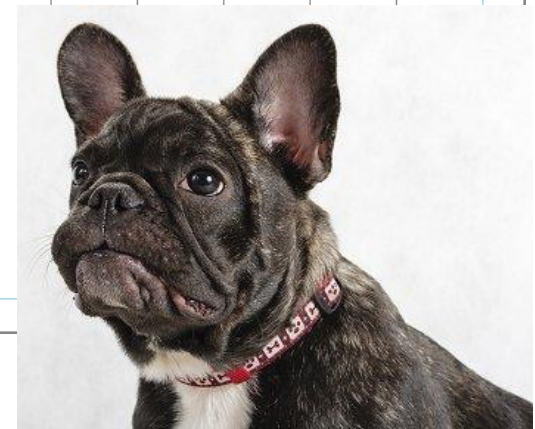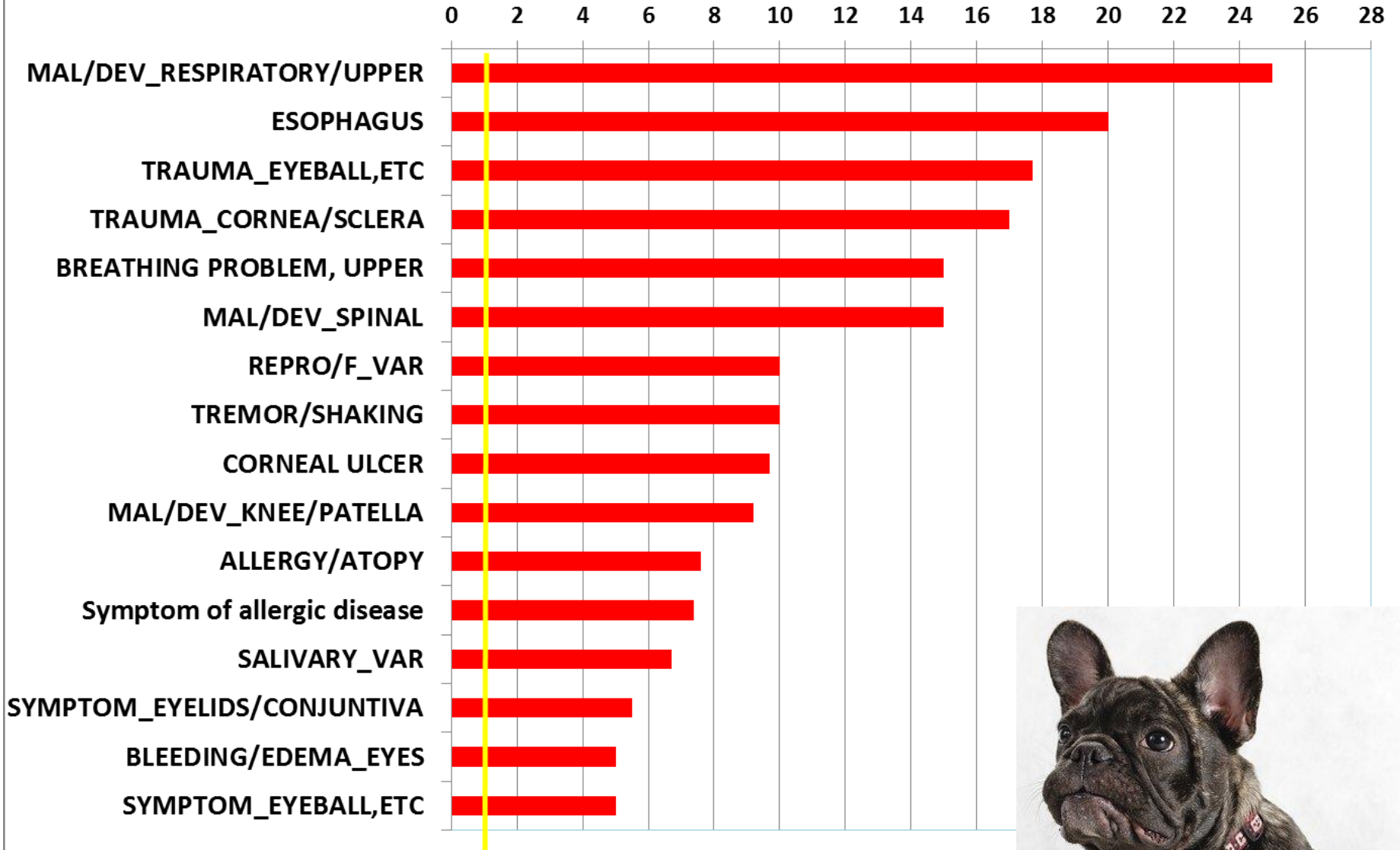
General Causes of VCEs : Rates in 2006-2011

Legend: French Bulldog (red), ALL BREEDS (blue)

Categories (top to bottom):
- BLOOD/VASCULAR
- CLAW
- DEAD/EUTHANIZED
- DIGESTIVE
- EAR
- ENDOCRINE
- EYES
- HEART
- IMMUNOLOGICAL
- INFECTION
- INJURY
- LOCOMOTOR
- NEOPLASIA
- NEUROLOGICAL
- REPRO/F
- REPRO/M
- RESPIRATORY/LOWER
- RESPIRATORY/THORACIC
- RESPIRATORY/UPPER
- SKIN
- SYMPTOM/WHOLE BODY
- URINARY/LOWER
- URINARY/UPPER

Djurförsäkring

Specific Causes of VCEs Ordered by Relative Risk: French Bulldog compared to All Breeds 2006-2011

# Overall – similar risk… but higher for certain conditions



General Causes of VCEs Ordered by Relative Risk compared to All Breeds 2006-2011

- EYES
- RESPIRATORY/LOWER
- URINARY/UPPER
- HEART
- REPRO/F
- RESPIRATORY/UPPER
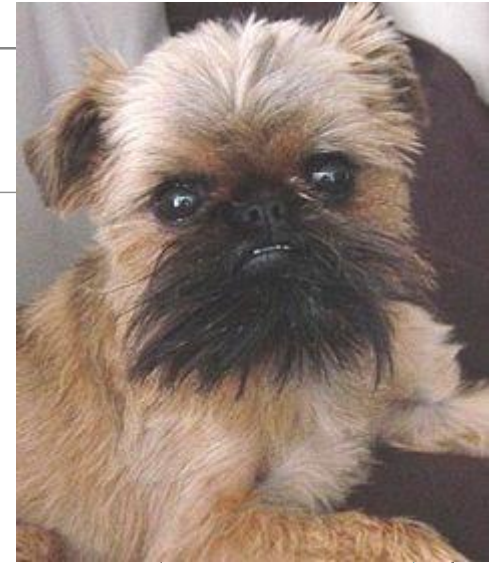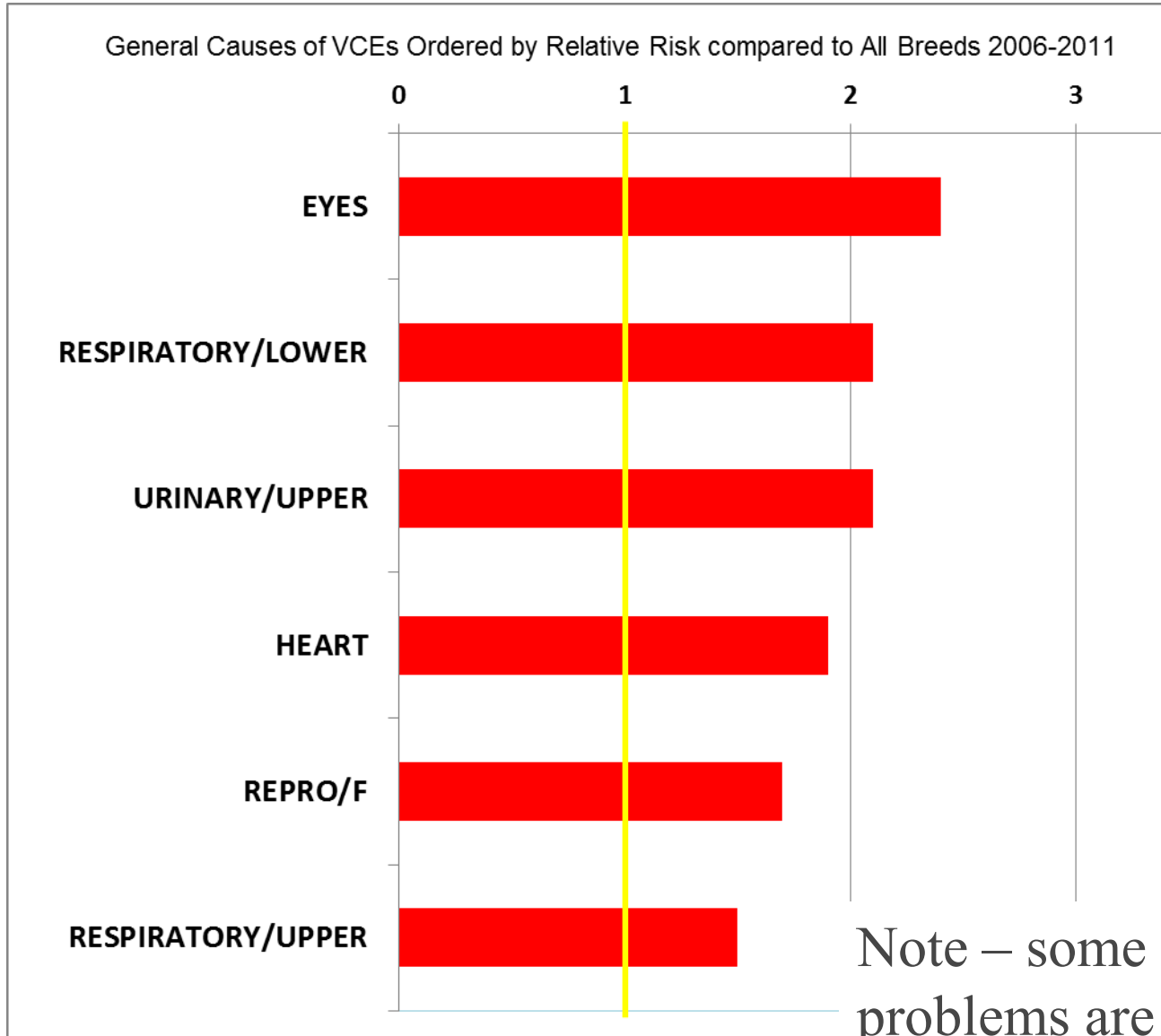
■ Griffons

Note – some of the high risk eye problems are not those generally associated with Brachycephaly.

# RESPIRATORY/UPPER:
## Relative Risk Compared to All Breeds

| Breed | Relative Risk |
|-------|---------------|
| *B* English Bulldog | ~5.0 |
| Great Dane | ~3.4 |
| *B* Boston Terrier | ~3.2 |
| *B* French Bulldog | ~3.2 |
| Norwich Terrier | ~3.1 |
| Irish Wolfhound | ~3.0 |
| Scottish Deerhound | ~2.8 |
| *B* Pug | ~2.6 |
| Dogue de Bordeaux | ~2.5 |
| *B* Japanese Chin | ~2.4 |
| *B* Pomeranian | ~2.3 |
| German Spitz Small | ~2.2 |
| Miniature Bull Terrier | ~2.2 |
| Irish Red Setter | ~2.1 |
| Mixed Breed | ~0.5 |

Scale: 0.00, 2.00, 4.00, 6.00
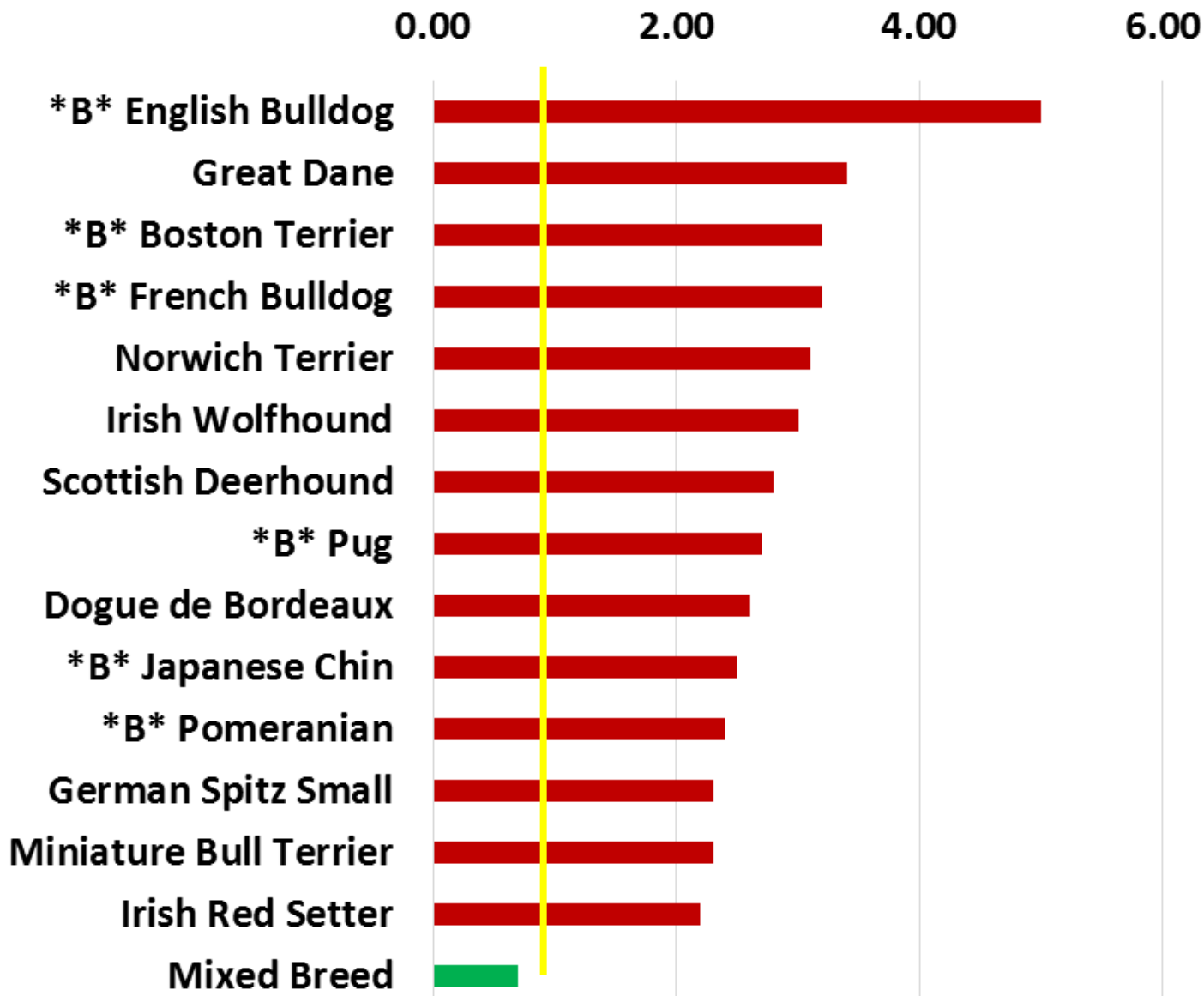
# RESPIRATORY/UPPER: Ranking for
# Relative Risk Compared to All Breeds

| Brachys | Rank/ 200 |
|---|---|
| English Bulldog | 1 |
| Boston Terrier | 3 |
| French Bulldog | 4 |
| Pug | 8 |
| Dogue de Bordeaux | 9 |
| Japanese Chin | 10 |
| Boxer | 25 |
| CKCS | 27 |
| Griffons | 46 |
| Pekingese | 47 |
| Shih Tzu | 62 |
| Affenpinscher | 77 |

*Agria*
*Djurförsäkring*

# Veterinary Care EYES: Risk Compared to All Breeds



| Breed | Risk |
|---|---|
| English Bulldog | ~7.8 |
| Pug | ~6.9 |
| French Bulldog | ~4.9 |
| Cane Corso | ~4.8 |
| Boston Terrier | ~4.3 |
| Shih Tzu | ~4.2 |
| American Cocker Spaniel | ~4.2 |
| Bullmastiff | ~4.0 |
| Clumber Spaniel | ~3.9 |
| Neapolitan Mastiff | ~3.8 |
| Boxer | ~3.6 |
| Great Swiss Mountain Dog | ~2.9 |
| Dogo Argentino | ~2.8 |
| Mixed Breed | ~0.7 |

*Djurförsäkring*
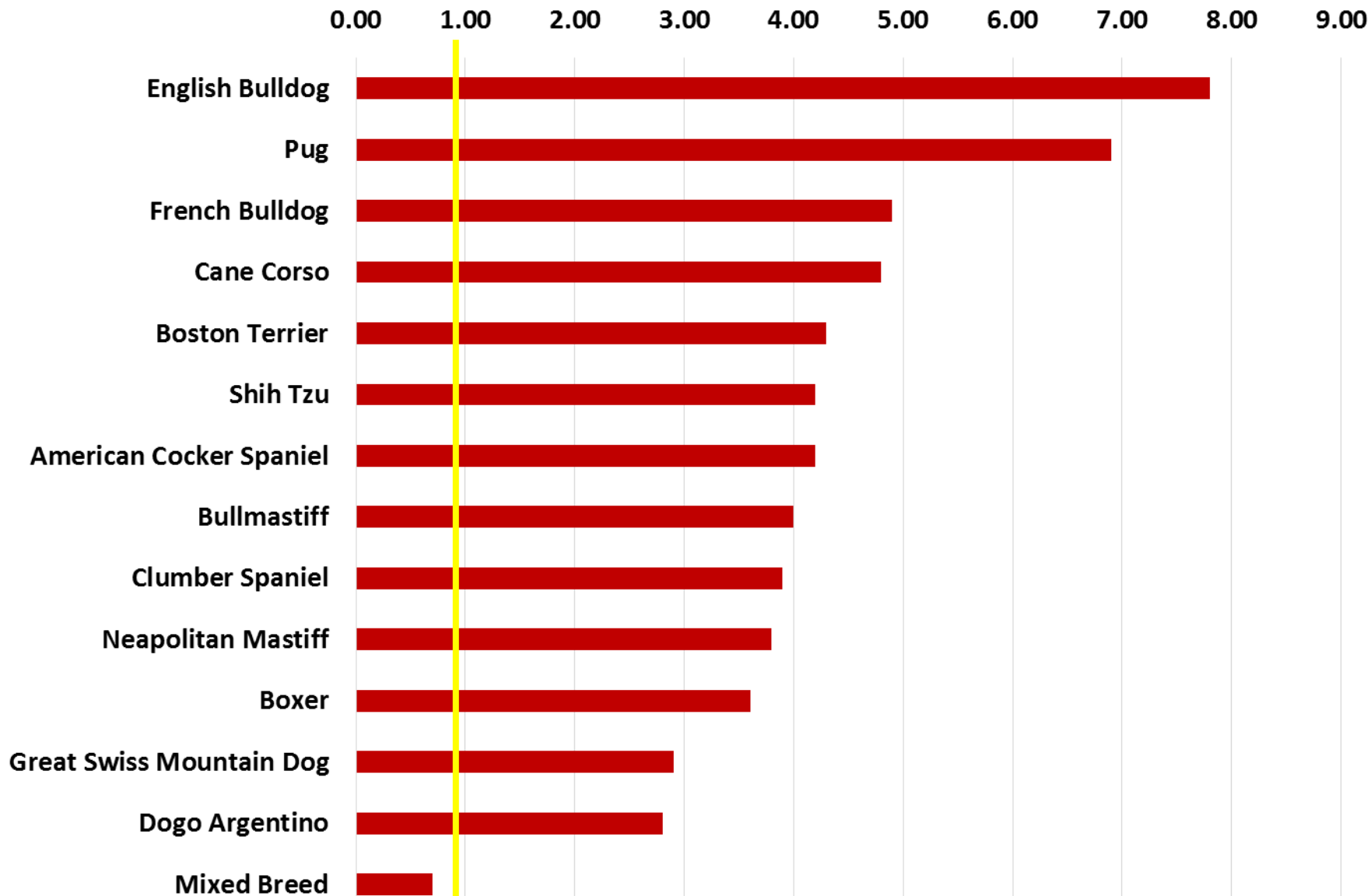
# Veterinary Care Eyes: Ranking for
# Relative Risk Compared to All Breeds

| Brachys | RANK |
|---------|------|
| English Bulldog | 1 |
| Pug | 2 |
| French Bulldog | 4 |
| Boston Terrier | 6 |
| Shih Tzu | 7 |
| Boxer | 12 |
| Griffons | 20 |
| Pekingese | 21 |
| CKCS | 22 |
| Affenpinscher | 31 |
| Japanese Chin | 58 |

*Agria*
*Djurförsäkring*

# RR for Corneal Ulcer

Data 2009-2013

| | 0.0 | 2.0 | 4.0 | 6.0 | 8.0 | 10.0 | 12.0 |

Brachycephalics

CKCS

Mollosoids-Brachy

TOY
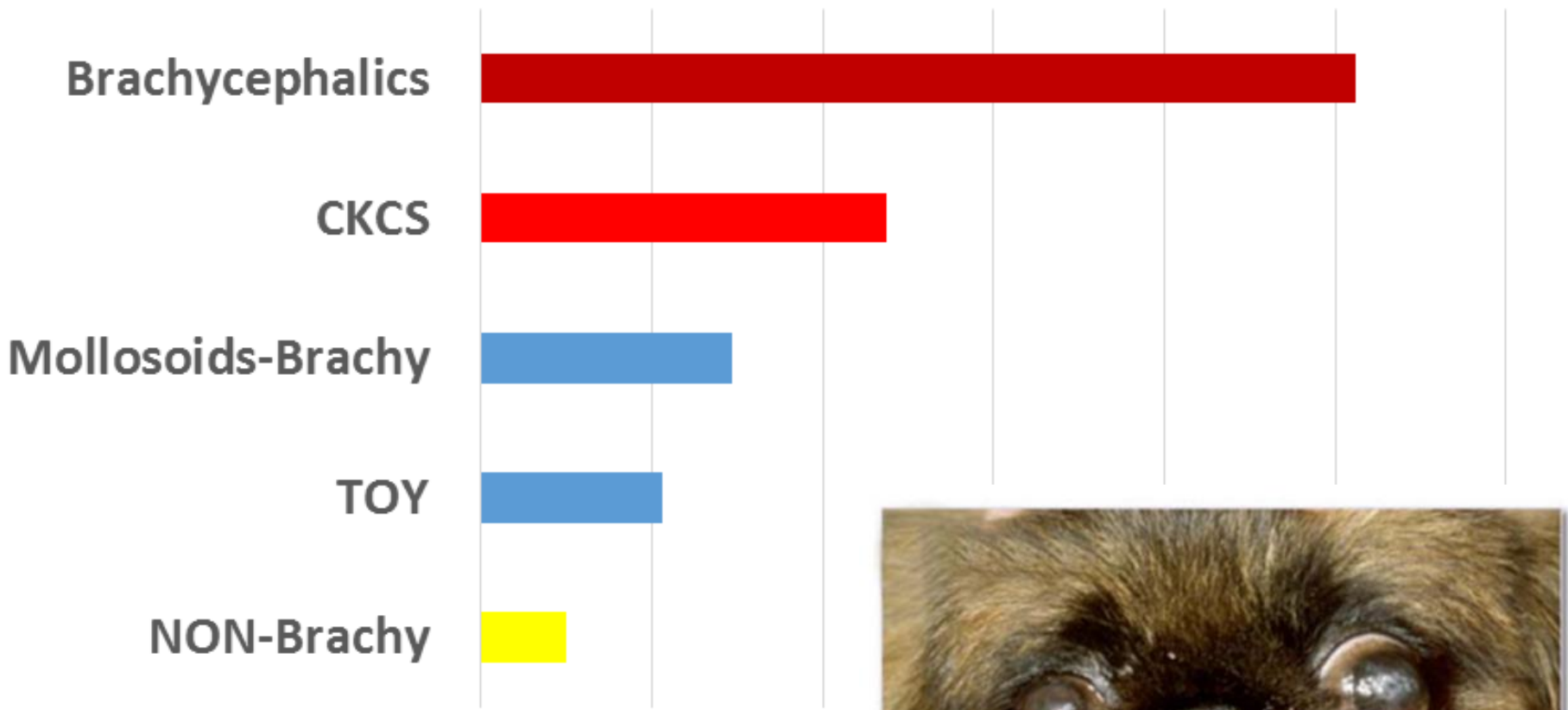
NON-Brachy

Data 2009-2013

"Breathing Problem" in dogs <6 years of age:
Relative Risk compared to Non-Brachy breeds
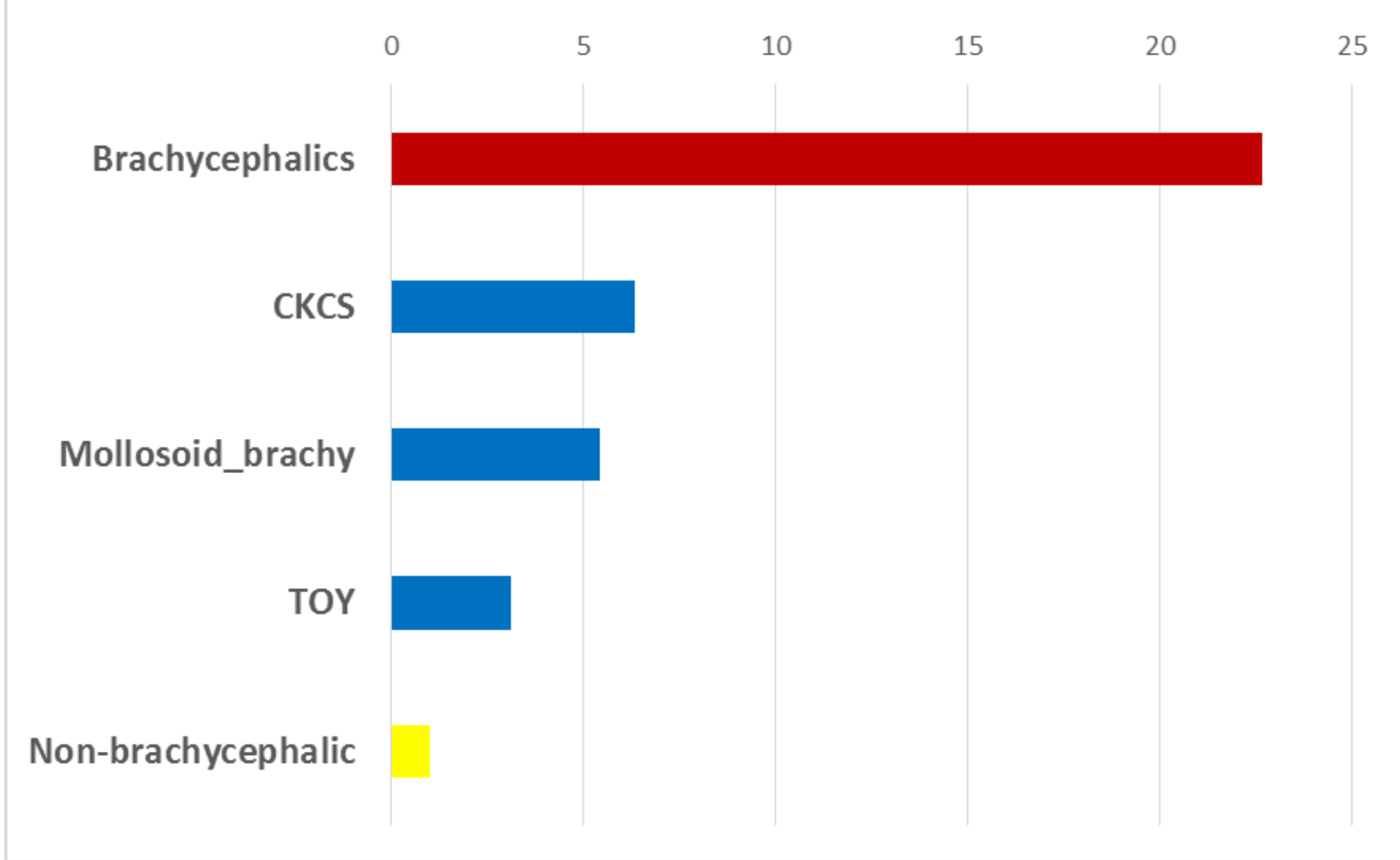
| Upper Respiratory Claims with a Registration Number | |
|---|---|
| Cavalier King Charles Spaniel | 96% |
| Chinese Crested Dog | 92% |
| Boxer | 90% |
| Tibetan Spaniel | 90% |
| Boston Terrier | 88% |
| Pug | 88% |
| Griffons | 83% |
| English Bulldog | 76% |
| OTHER | 74% |
| French Bulldog | 74% |
| Yorkshire Terrier | 71% |
| Pomeranian | 66% |
| Chihuahuas | 60% |
| Shih Tzu | 54% |

Agria

*Djurförsäkring*

# Mortality … and age at death

# Mortality (all causes):
## Common, High Risk and Brachycephalic Breeds (minus Giant Breeds)
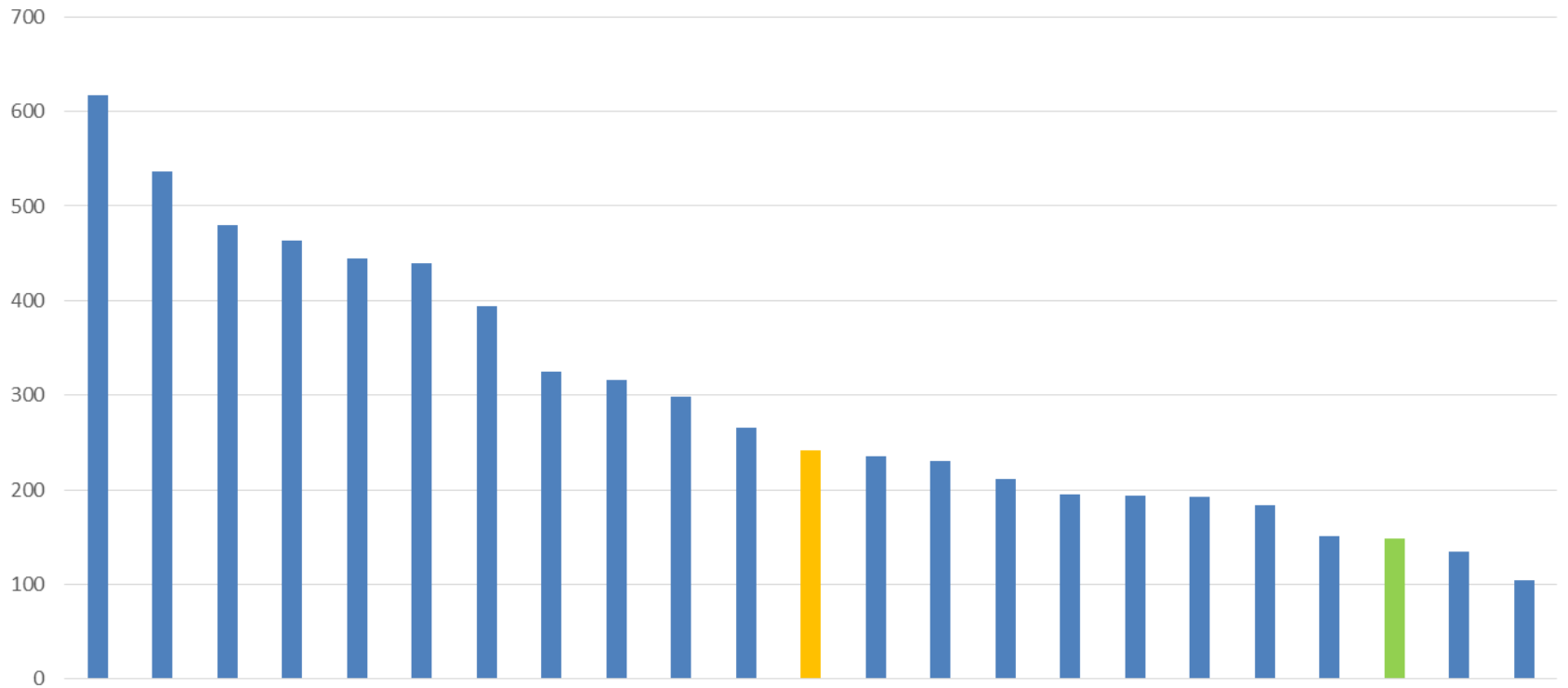
Median age at death in life-claimed dogs
Common, High Risk and Brachycephalic Breeds (minus Giant Breeds
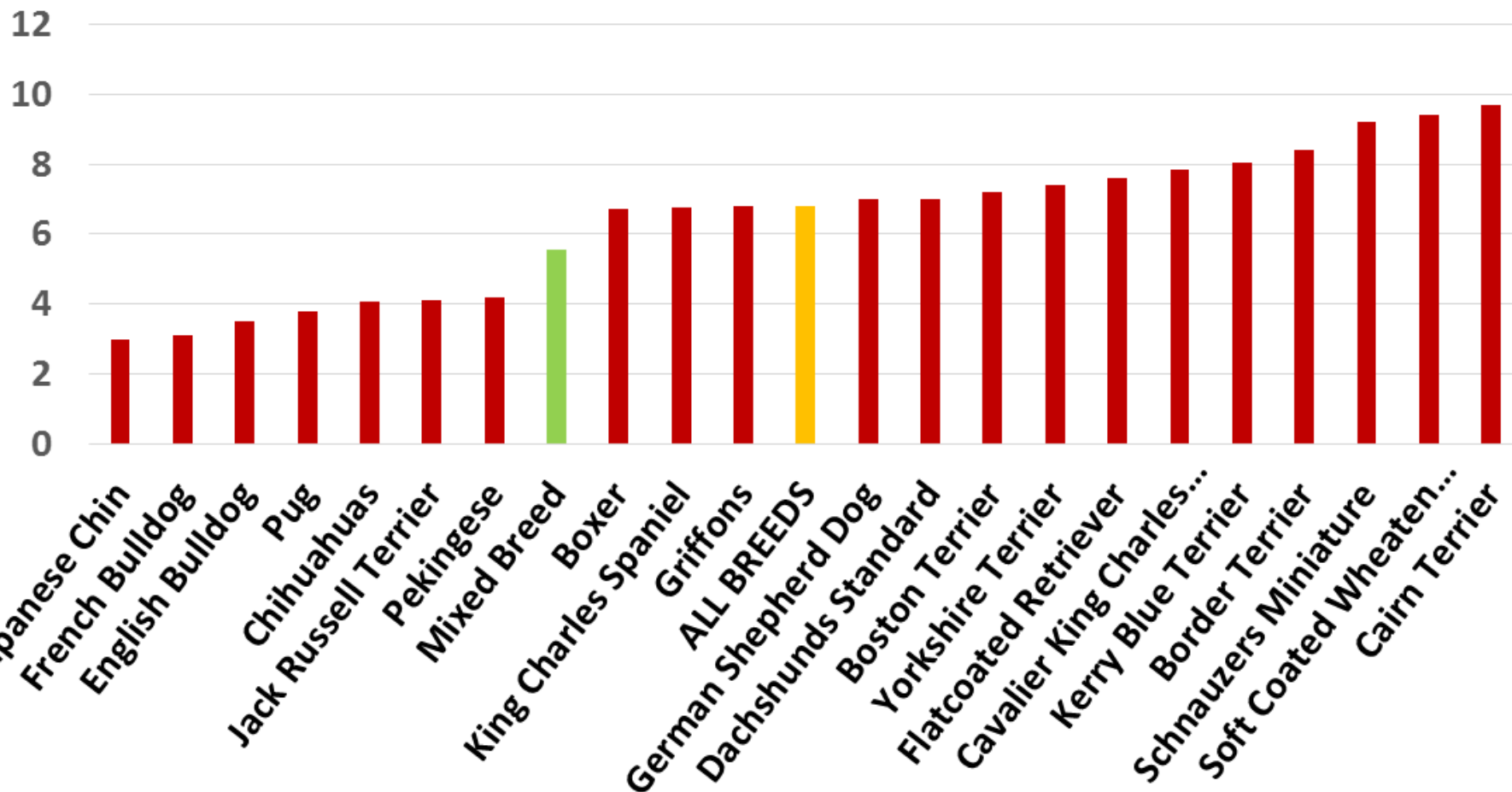
# Summary Comments on Death Data

- English Bulldogs and Japanese Chin:
  - High mortality rate and die at younger than average ages

- Pugs and French Bulldogs:
  - slightly increased rate of mortality compared to All Breeds, markedly higher than Mixed Breeds, and die at younger than average ages.

- Boston Terriers:
  - have lower mortality rate than All Breeds, somewhat higher than mixed breeds and die at a relatively high age.

*Agria*
*Djurförsäkring*
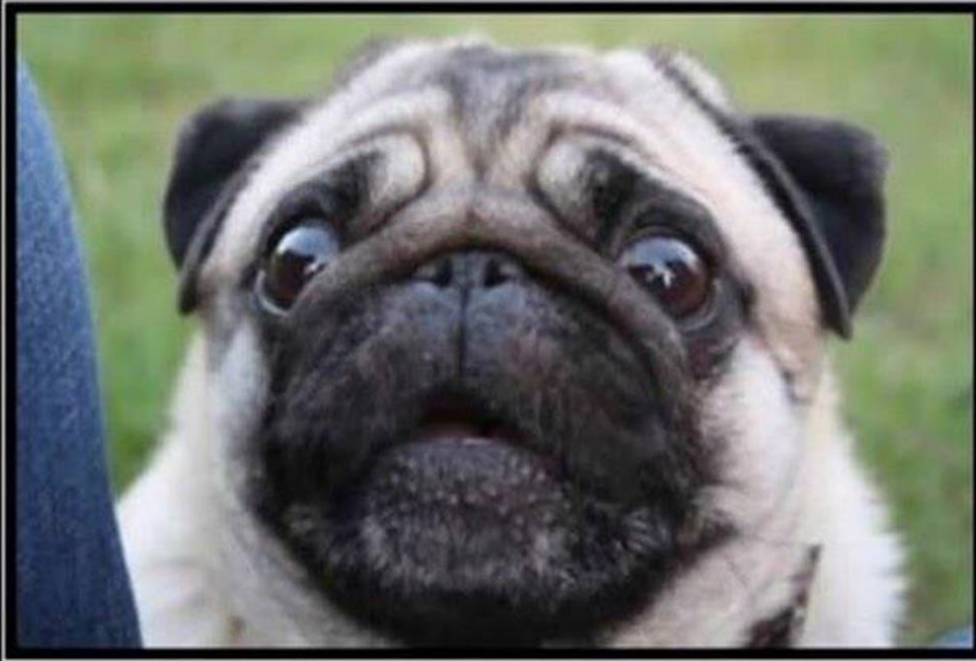
Cute and funny?
***Ignoring a welfare issue?***

Embedded in culture or mindsets – 'normal'
***Maybe it is time to change?***

What is **'okay'** in terms of levels / types of disease?

What is your role personally – and professionally?

How do we proceed with **respect, compassion and cooperation?**

*Djurforsakring*