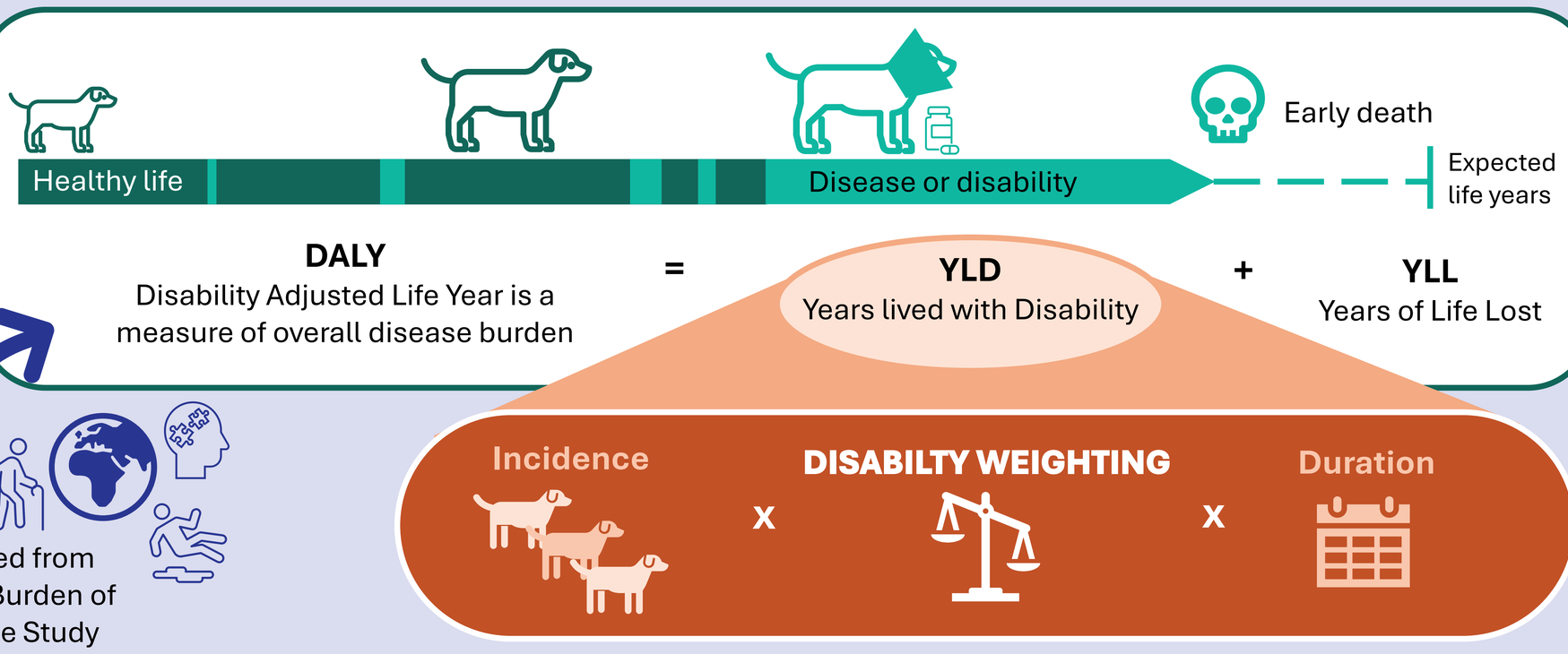
Developing disability weightings to inform canine disease burden assessment in the UK

Georgina Barry BVetMed MRes MRCVS gbarry3@rvc.ac.uk

Georgina Barry[1], Dave Brodbelt[1], Dan O'Neill[1], Kendy Teng[2]

Affiliations: [1]VEEPH Group, Pathobiology and Population Sciences and WOAH Collaborating Centre in Risk Analysis and Modelling, Royal Veterinary College
[2]Department of Veterinary Medicine, College of Veterinary Medicine, National Chung Hsing University

BACKGROUND and KEY QUESTIONS



What disability weighting methods have been used previously?

How can these methods be used for canine diseases?

What are the key ethical, bias, and interpretation challenges?

METHODS FOR ASSIGNING DISABILITY WEIGHTINGS

survey *and / or* panel

DOG or TIME TRADE-OFF

Dog Trade-off: Participants decide how many dogs with one disease should be helped vs. a different disease
Time Trade-off: Participants choose between dogs living X years with a disease or a shorter time in perfect health.

Prioritises valued health interventions
Reflects **population preferences**
Directly measures **disability weighting**
Captures **preference strength**

Oversimplifies complex health decisions
Raises **ethical concerns**
Hard to compare diverse diseases
Challenging for survey participants

VISUAL ANALOGUE SCALE

Participants mark a point on a scale (usually 0 to 100) to rate the severity of a disease, with 0 = unassisted death and 100 = perfect health.

Simple and **efficient**
Gives **absolute severity ratings**
Subjective and open to interpretation
Easy to apply and repeat
Provides **continuous data** for better stats

Subjectivity **increases variation**
Marker accuracy is **uncertain**
Presentation can bias responses
Categorisation may add bias

PAIRED COMPARISON

Participants compare two diseases and choose which is worse. Statistical models rank the conditions.

Simple and **intuitive**
Binary choices **enhance consistency**
Repeated comparisons **strengthen ranking**
Network approach enables indirect ranking

Requires **many** comparisons
Bias from unfamiliarity or pairings
Needs **post-hoc anchoring**
Doesn't measure **severity difference**

Want to know more about my PhD?
Scan here

ACKNOWLEDGEMENTS

The authors are grateful to the **Dogs Trust** for their funding of this research. Thanks to **Noel Kennedy (RVC)** for VetCompass software and programming development. We acknowledge the **practices** who collaborate in VetCompass.