

PREVALENCE AND RISK FACTORS OF *LEISHMANIA* INFECTION IN DOGS IN PORTUGAL- A CROSS-SECTIONAL STUDY

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Introduction

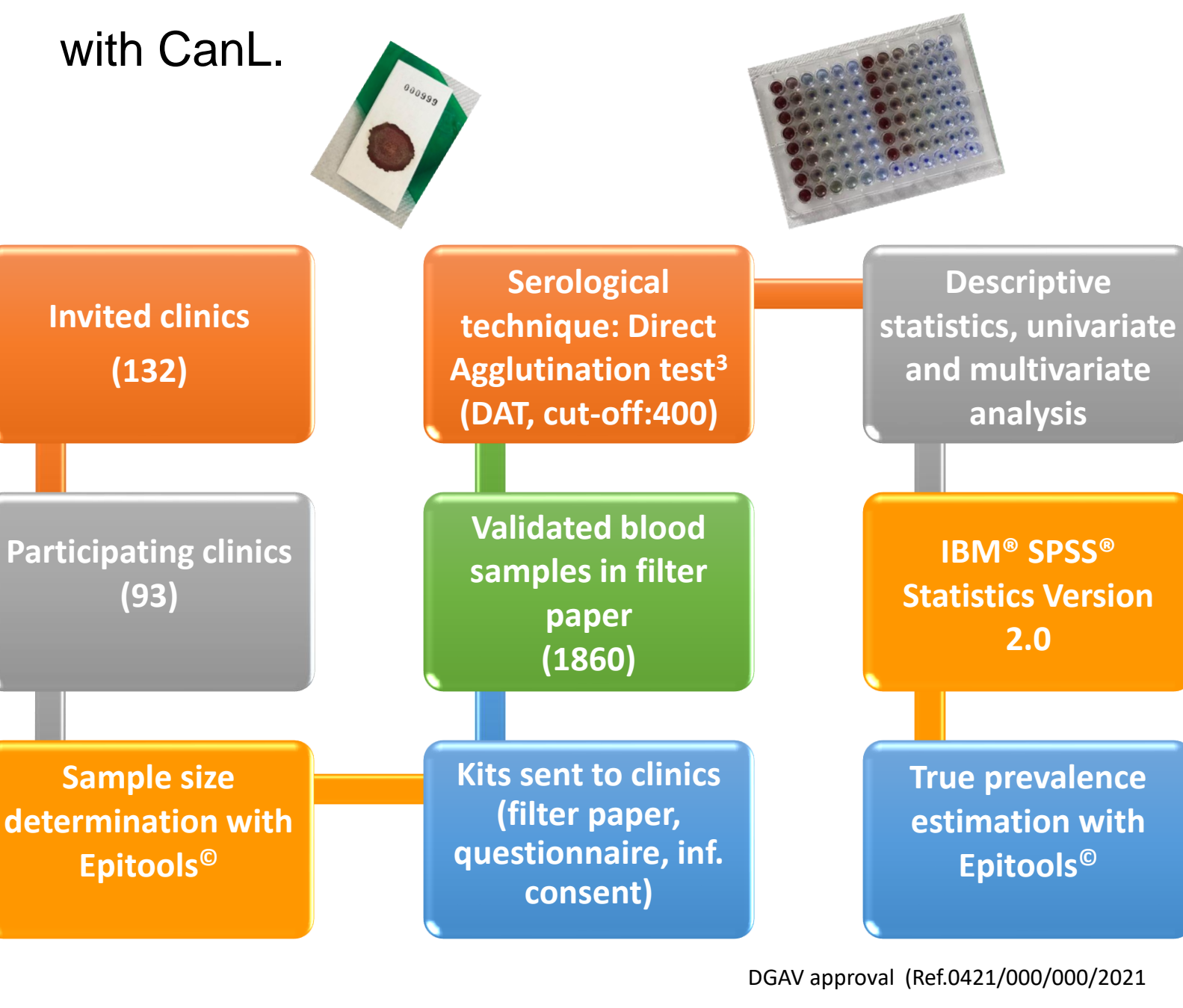
Canine leishmaniosis (CanL) caused by *Leishmania infantum* is an **important zoonosis** in **southern European countries** where this disease is endemic and dogs, as domestic animals, are in close contact with humans. In Portugal CanL assumes a relevant veterinary concern. The **last national survey** was conducted over a decade ago with overall **seroprevalence of 5.6%**¹. Since then, **new prophylactic measures**, such as vaccines, have been introduced **in Europe**².

Aims

- Evaluate the presence of **anti-*Leishmania* antibodies** in **dogs in Portugal**;
- Update **seroprevalence** for *Leishmania* infection and identify **risk factors**;
- Promote surveillance for *Leishmania* infection** in domestic animals and assess its real impact on Public and Animal Health in Portugal.

Sampling & Methods

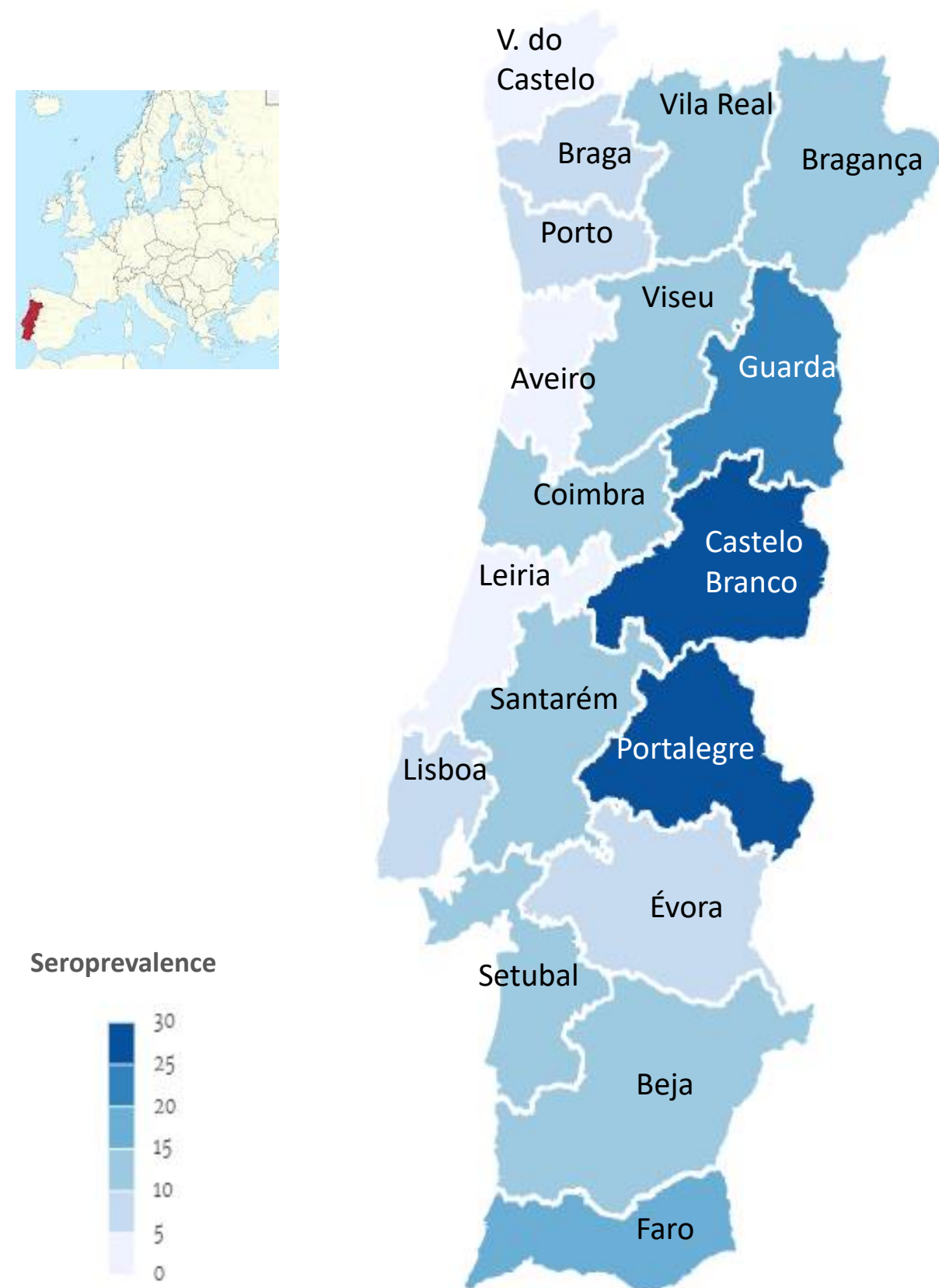
- Cross-sectional study** was conducted in **Jan-Mar 2021** in **domestic dogs** from mainland **Portugal**.
- Minimum stratified proportional sampling** (CI 95%, Precision 3%; 93% Sensitivity and 100% Specificity³, SIAC data, previous true prevelances¹)
- Questionnaire**: dogs' living place, age, sex, breed, living habits, prophylactic measures (repellents & vaccine), and presence of clinical signs compatible with CanL.



Sample main descriptive stats	no.	%
Pure breeds	921 (1860)	49.6%
Short fur	1119 (1860)	60%
Dogs living mostly/ exclusively outdoors	648 (1860)	34.8%
Use of effective repelentes	774 (1860)	41.5%
Vaccinated dogs	271 (1860)	14.9%

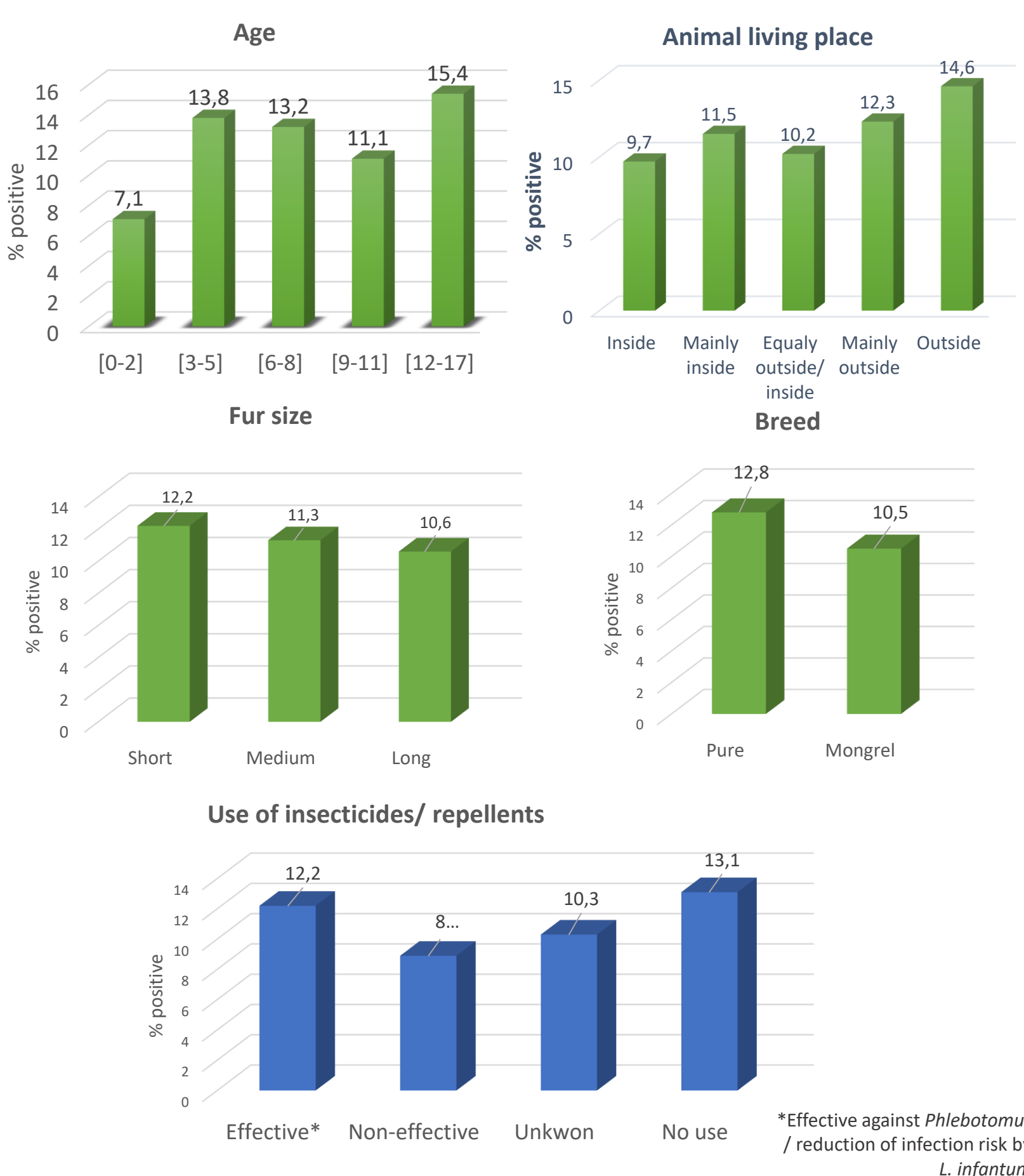
National seroprevalence

	No. positive dogs (total)	True prevalence (%)	95% CI
Whole Sample	217 (1860)	12.5	10.3-13.2
Excluding Vaccinated Dogs	142 (1553)	9.8	8.4-11.5



- Seroprevalence** varied from **30.5%** (95%CI 19.9 - 43.8) **to 0.0%** (95%CI 0.0 - 7.5);
- Interior Districts** presented **higher seroprevalence**: Portalegre (30.5%), Castelo Branco (29.9%), Guarda (19.3%)

Dogs characteristics and living place

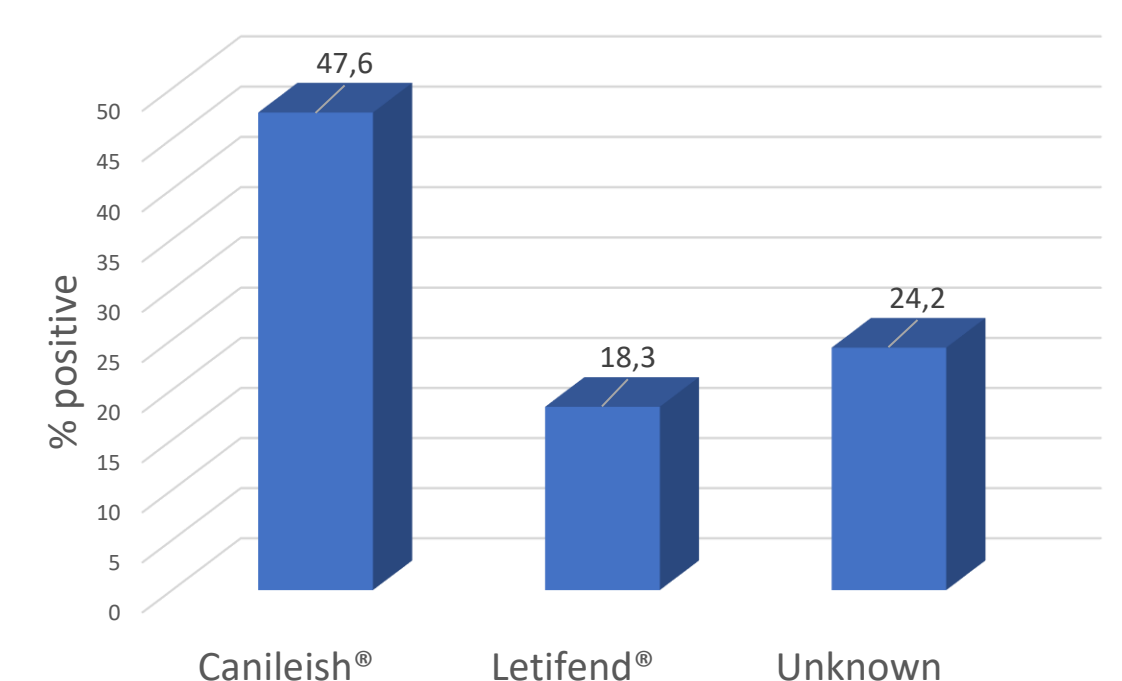
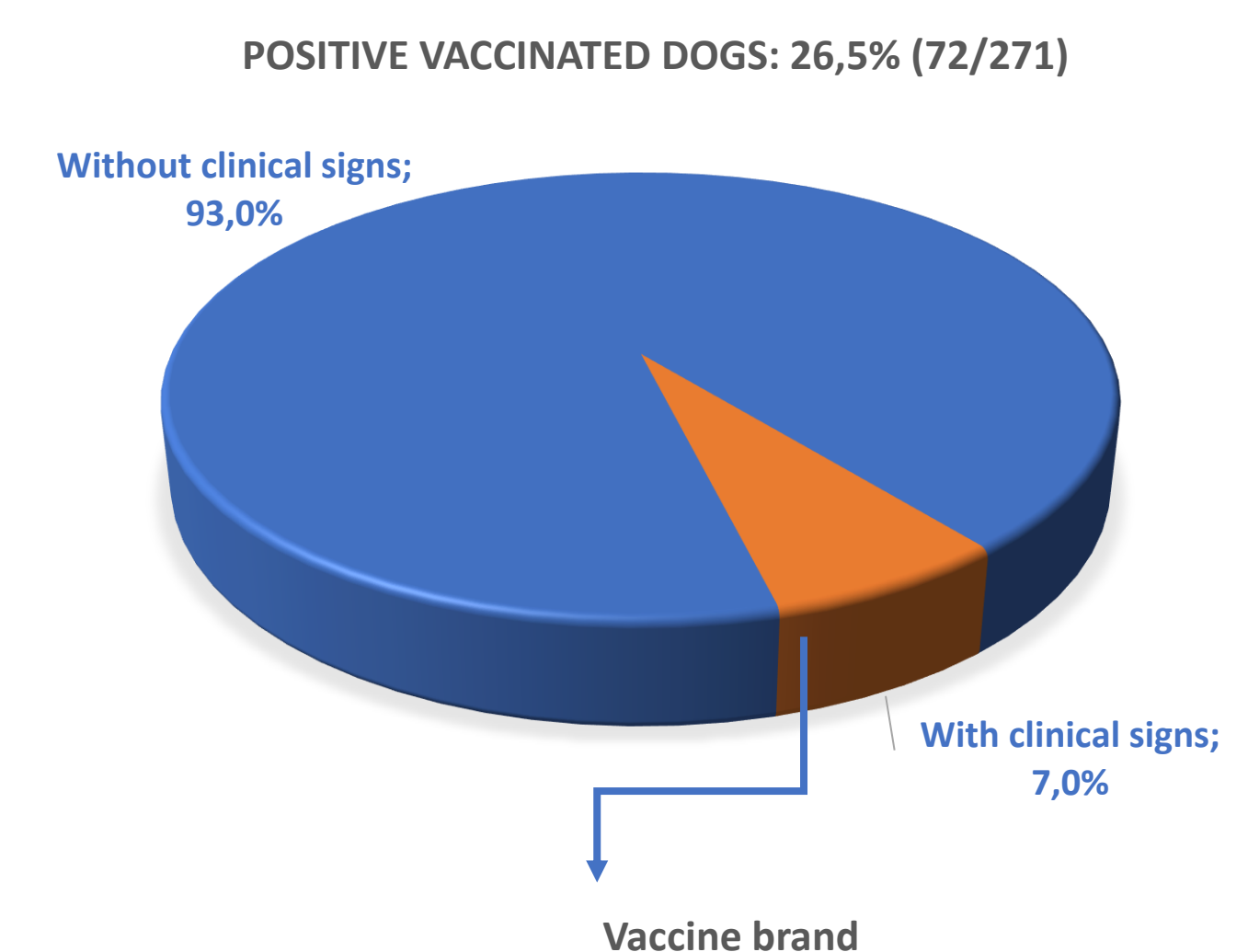
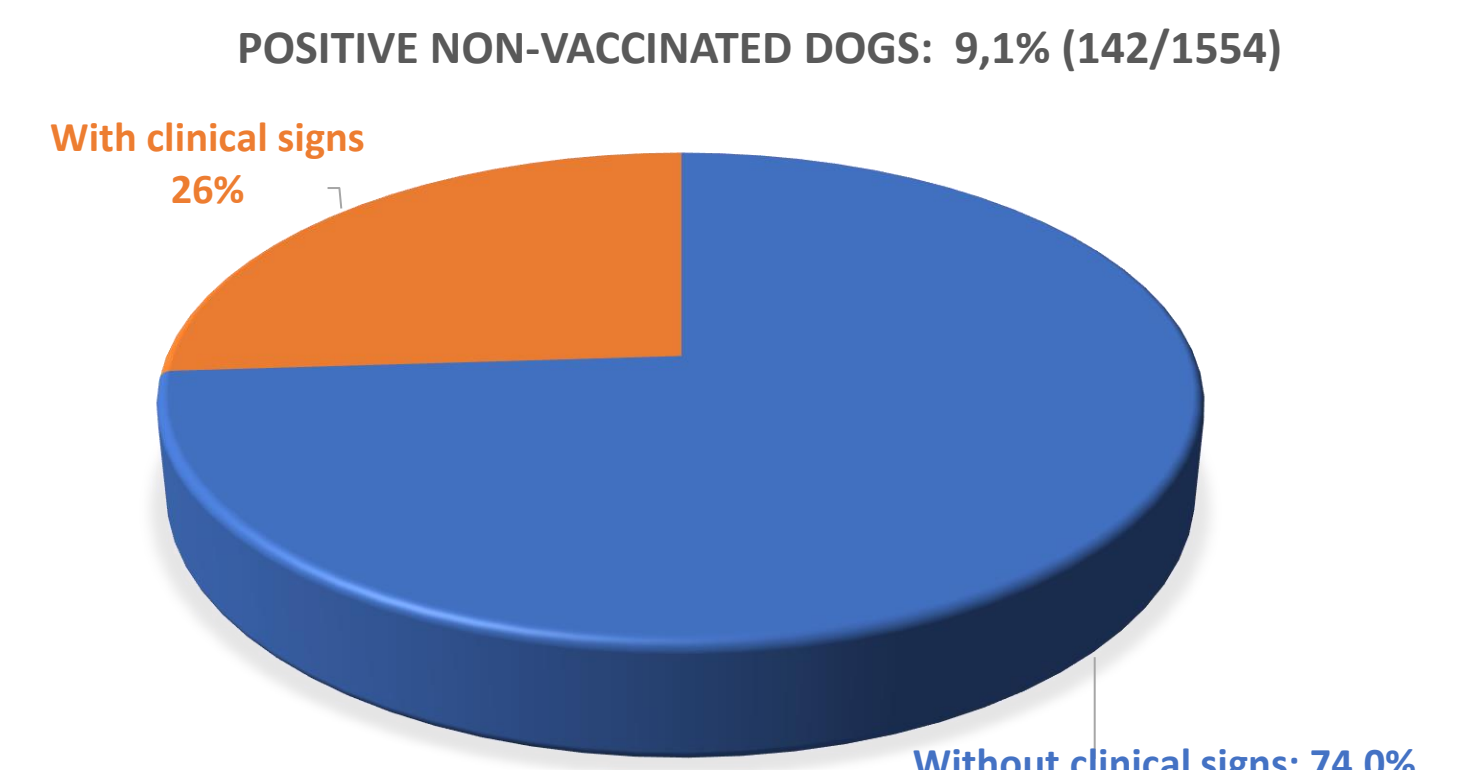


- Higher seropositivity in **older dogs**;
- No differences in fur size;
- Pure breed** with slightly higher seropositivity;
- Higher seropositivity in dogs living **mainly or exclusively outside**;
- Most used repellents: Seresto®, Advantix®, Scalibor®.

Results

Vaccination & Clinical signs

- From 112 dogs that presented clinical signs, 42 (37.5%) presented anti-*Leishmania* antibodies.



Risk factors associated with anti-*Leishmania* antibodies (Multivariate analysis)

Variables	aOR	95% CI	P-value
Dogs ≥ 2 years-old	1.68	1.09-2.60	0.020
Residing in the Interior	1.92	1.27-2.90	0.002
Living outdoors	1.45*	1.03-2.02	
Non-use of repellents	1.74	1.20-2.53	0.003

aOR, Adjusted odds ratio; * Univariate analysis

Conclusions

- The overall seroprevalence in Portugal increased in the last decade → **Portugal remains an endemic country for CanL**;
- Small percentage of vaccinated sick dogs** → role of vaccines in preventing the development of the disease in case the animal becomes infected.
- Continue **awareness** for the use of **prophylactic measures** in dogs (repellents/insecticides/vaccine).

References

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