

Qualitative and quantitative analysis of equine mortality in France using complementary sources of data

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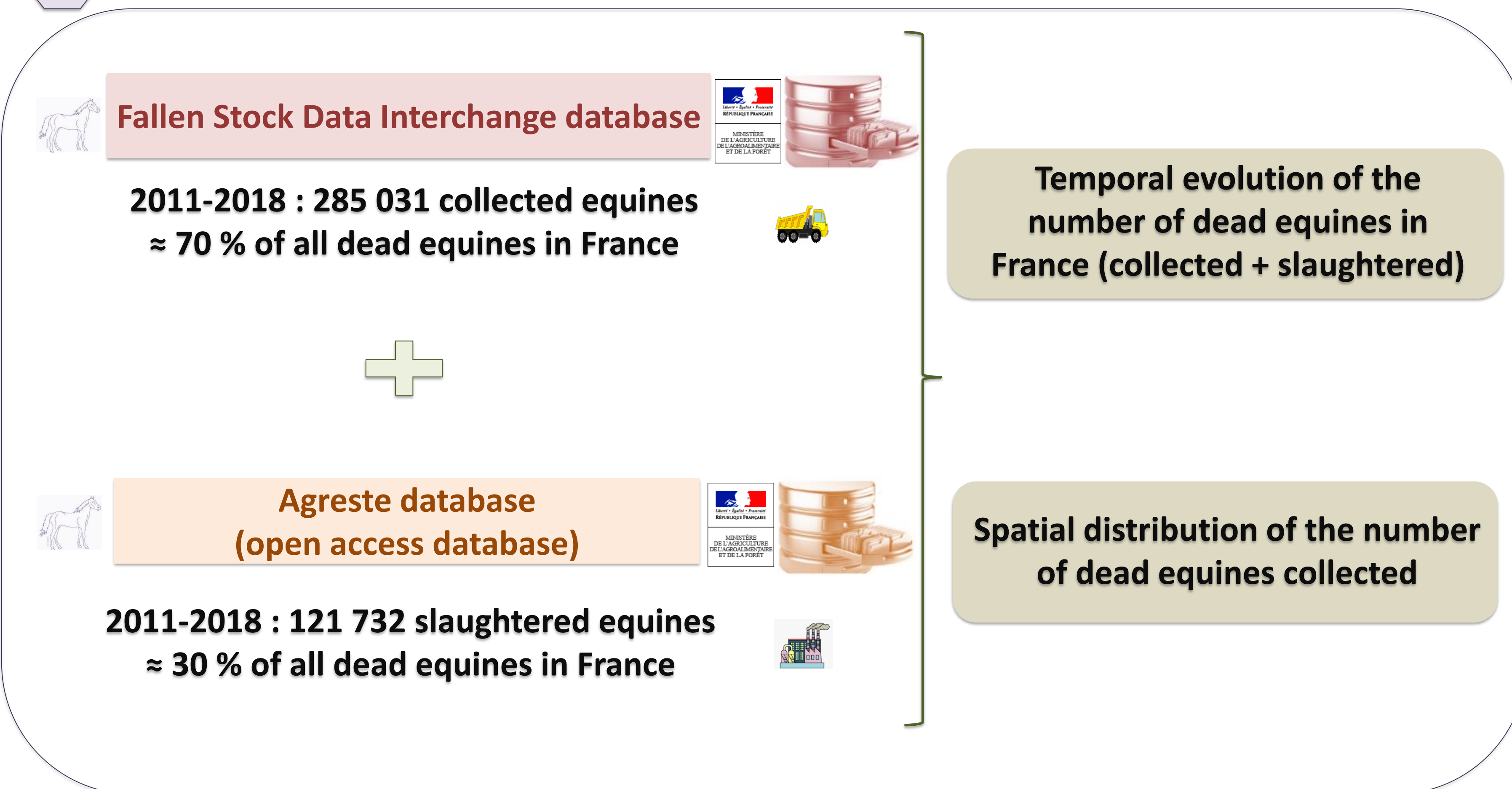
INTRODUCTION

Qualitative and quantitative information about equine mortality is relatively scarce, yet it could be of great value for epidemiological purposes. In France, data from rendering plants are centralized in the Fallen Stock Data Interchange database (FSDI) and data from slaughterhouses in the Agreste database. These two databases are managed by the French Ministry of Agriculture. Besides, since 2015 necropsy data are centralized in a national database managed by the French surveillance network for equine mortality causes (Resumeq). Complementary information about mortality causes is also available in the survey realized in France from equine owners.

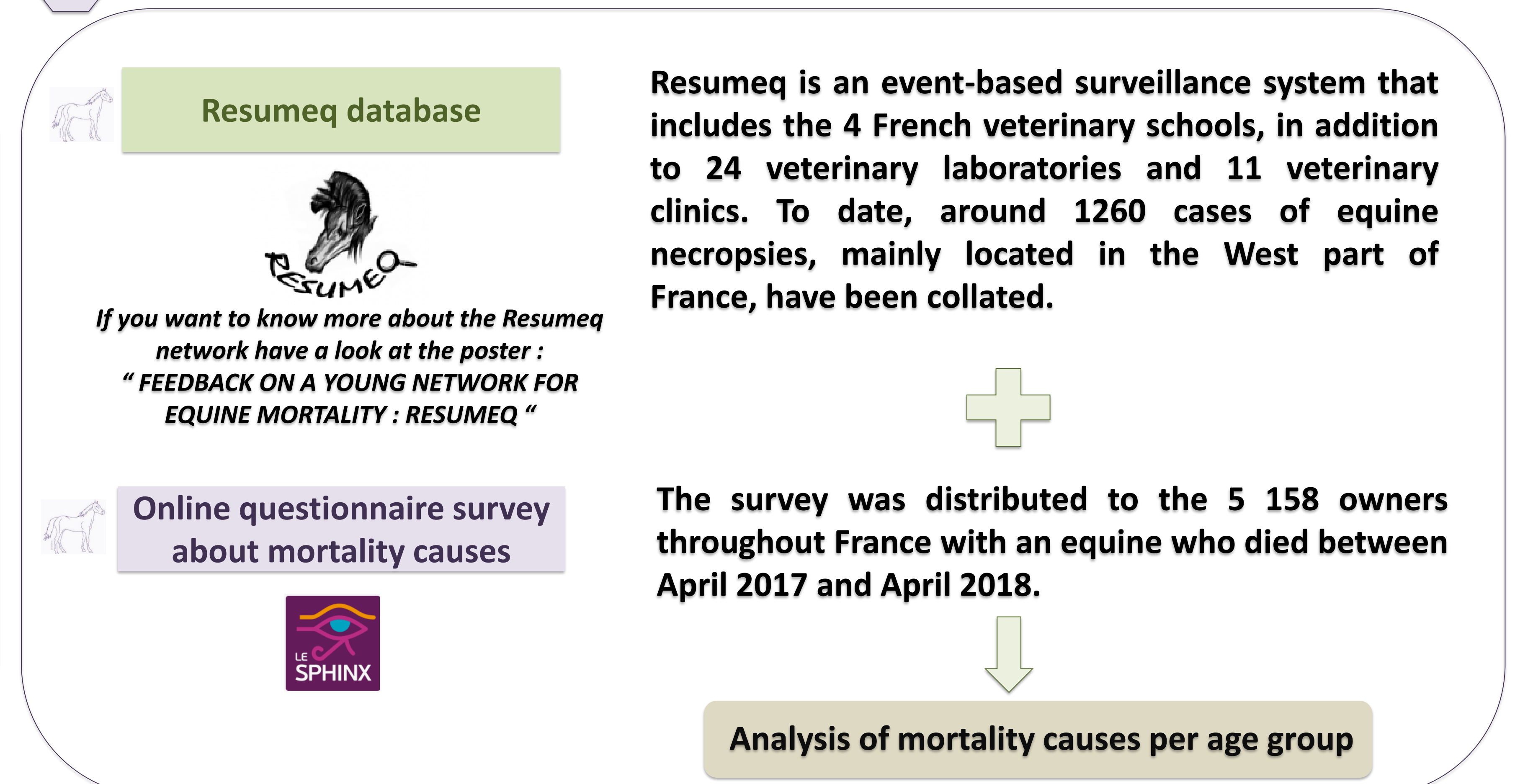
The objective of this study was to give an overview of the French equine mortality using these available sources of data

MATERIALS & METHODS

1 Quantitative analysis

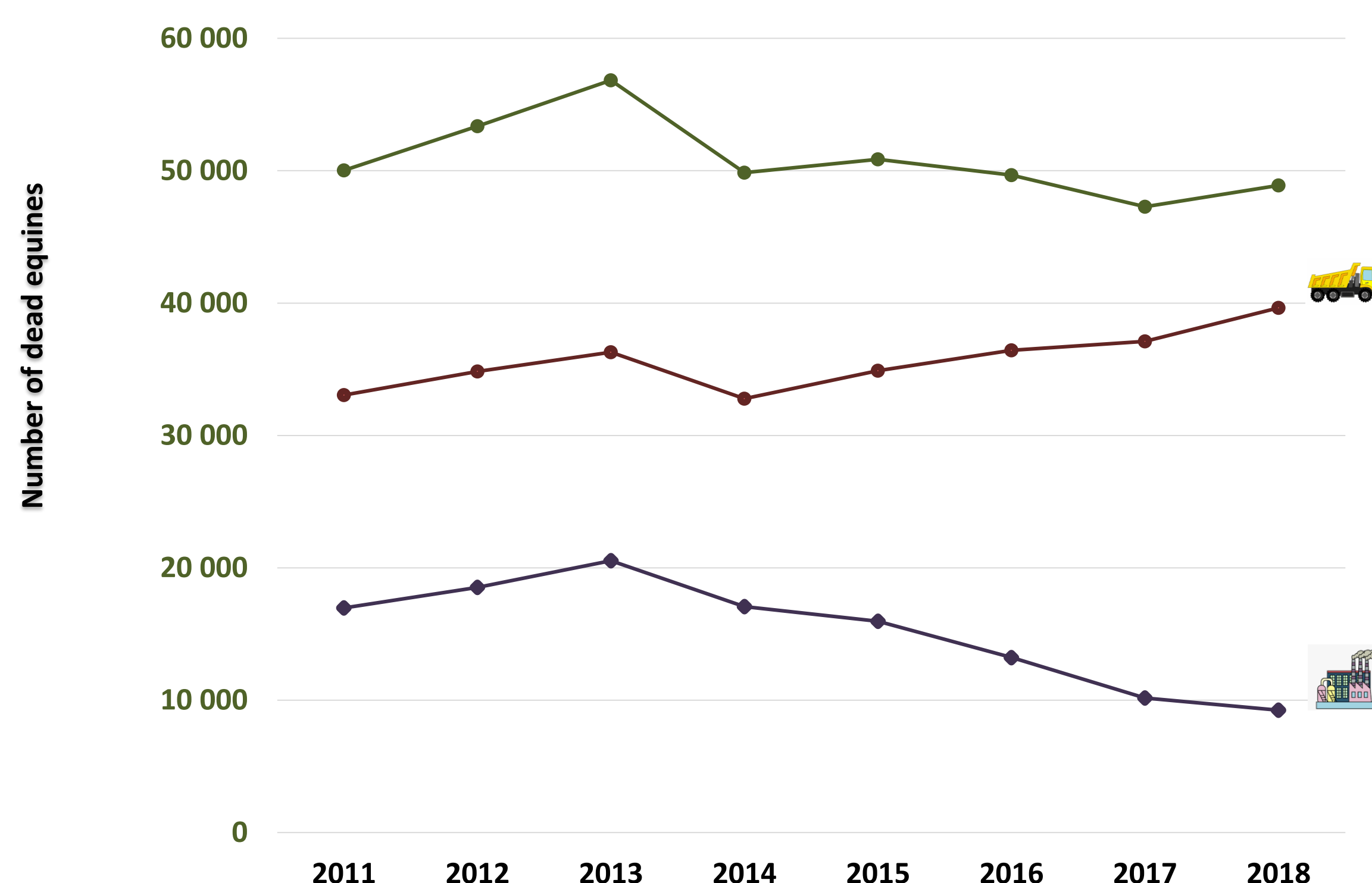


2 Qualitative analysis



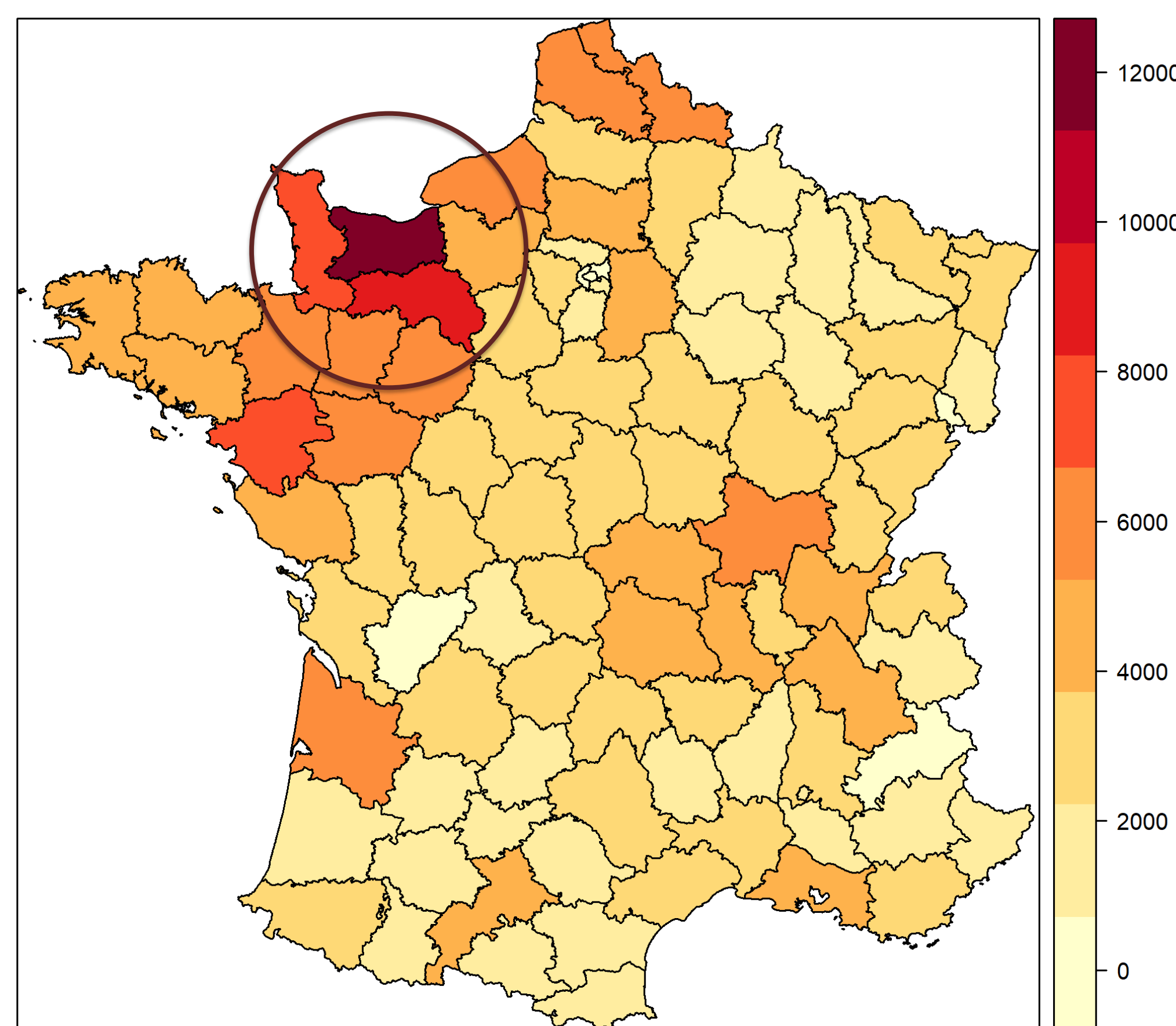
RESULTS & DISCUSSION

Evolution of the number of dead equines in France over the 2011-2018 period



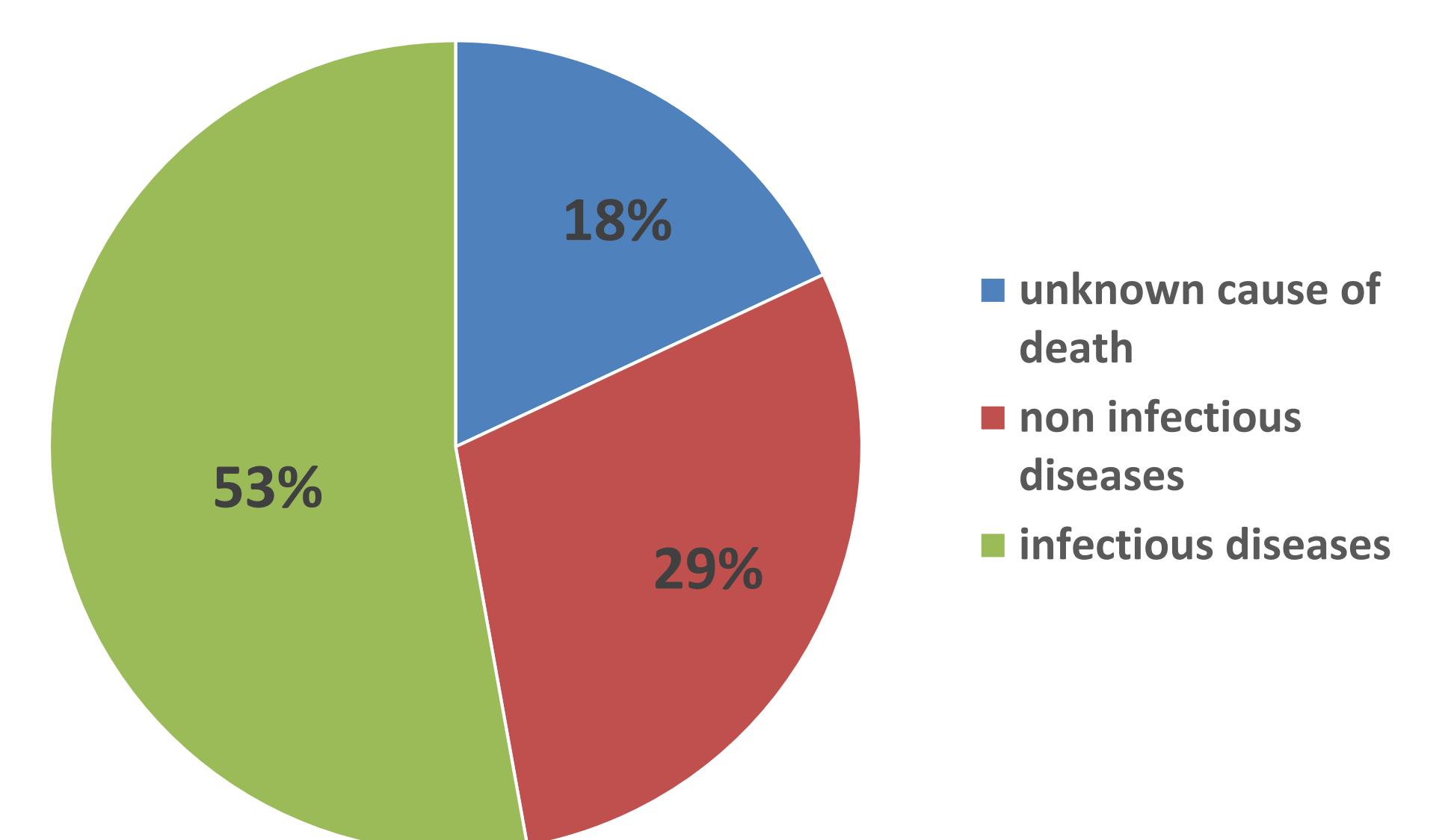
The decrease of the number of slaughtered equines is linked to the strengthening of sanitary regulations.

Spatial distribution of the number of dead equines collected over the 2011-2018 period per department in France

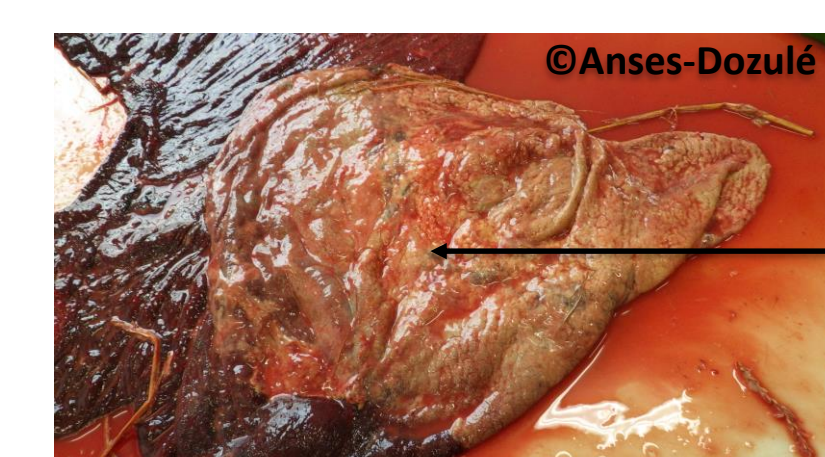


The spatial distribution of the collected equines seems similar of the live equine population estimated by the French horse and riding institute.

Mortality causes for fetus and foals up to 24 hours old (Resumeq Network)

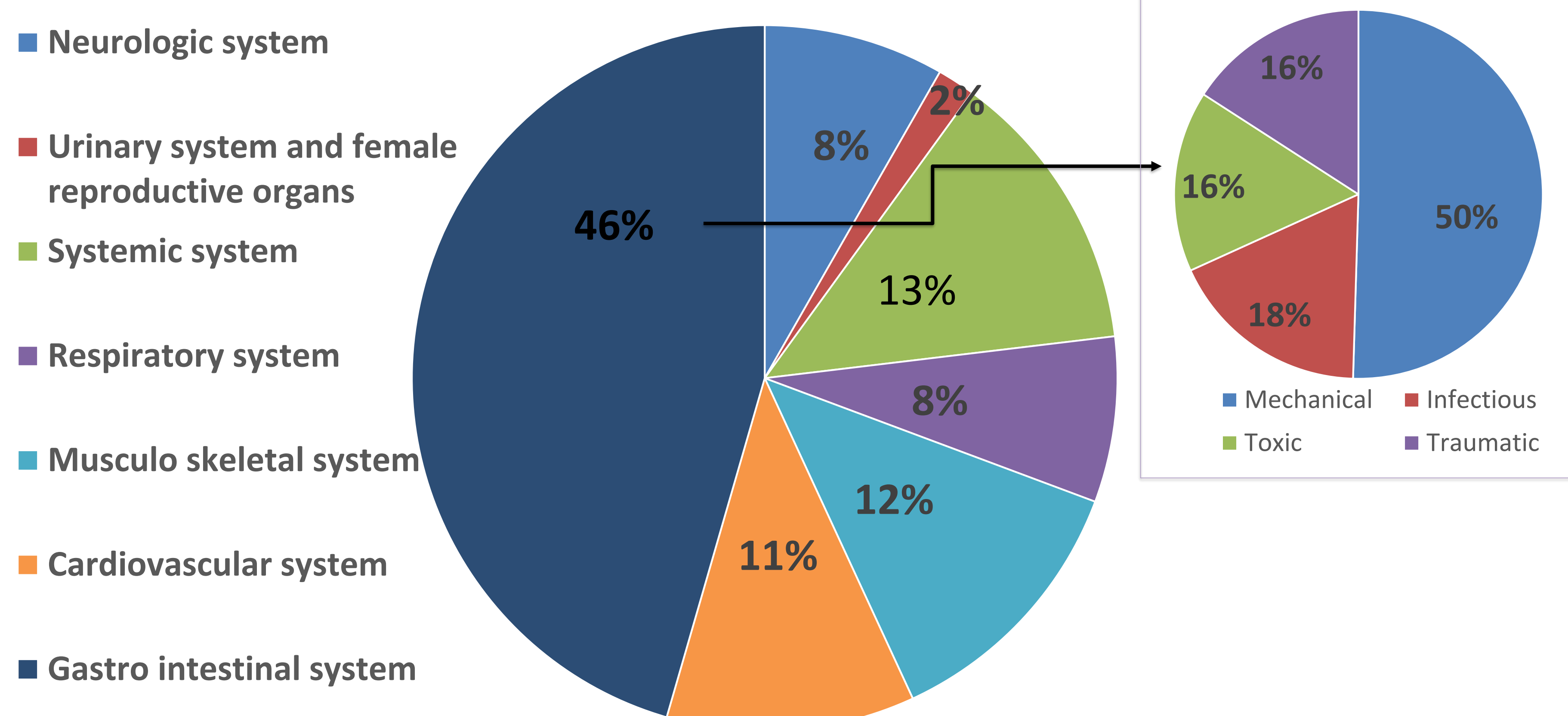


Abortions and stillbirths are mostly of infectious origins. *Streptococcus spp*, *Pasteurella spp* and *Klebsiella spp* are the most frequent isolated bacteria.



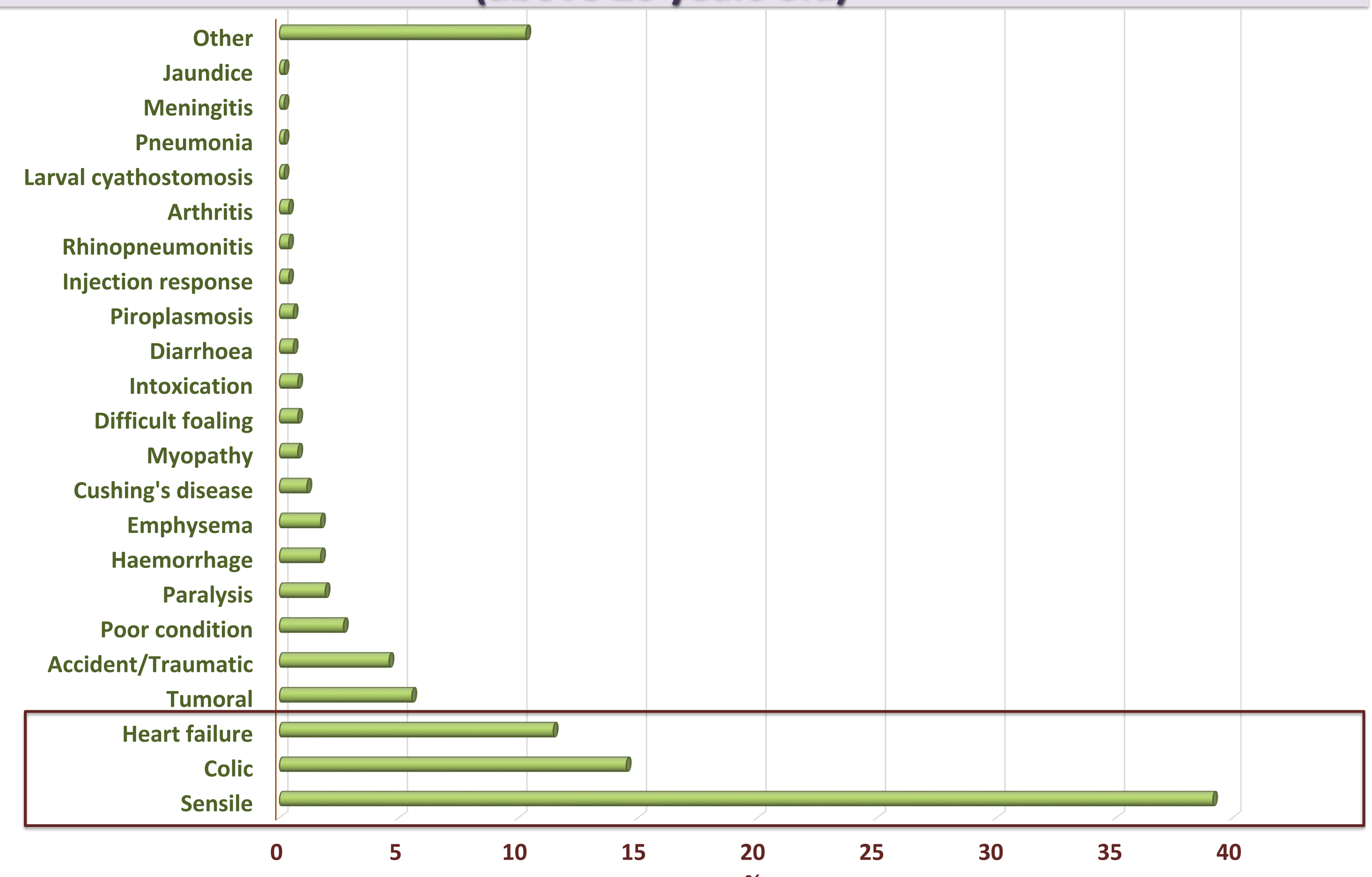
Macroscopic placentitis due to *Streptococcus zooepidemicus*

Mortality causes identified at necropsy for adult horses (n = 290) (Resumeq Network)



For adult horses (from 2 to 15 years old) mortalities are mostly due to the gastrointestinal system. Mechanical causes such as volvulus or torsion of the large colon are the most frequent.

Mortality causes for old horses according to the owners (n = 524) (above 20 years old)



For old horses (above 20 years old), the 3 main causes of mortality are sensile, colic and heart failure.

CONCLUSION

This study highlighted the complementarity of multiple sources of data to obtain an overview of equine mortality in France. The two Ministry of Agriculture's databases provide interesting quantitative data on French equine mortality. Regarding the mortality causes, Resumeq database allows to determine precisely the cause of death for equines submitted to necropsy while the questionnaire survey gives specific details on retired horses even if the information given by owners is less reliable.

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