

SURVEILLANCE OF THE SWISS EQUINE HEALTH: THE VALUE OF EQUINELLA, A VETERINARIAN-BASED VOLUNTARY REPORTING SYSTEM

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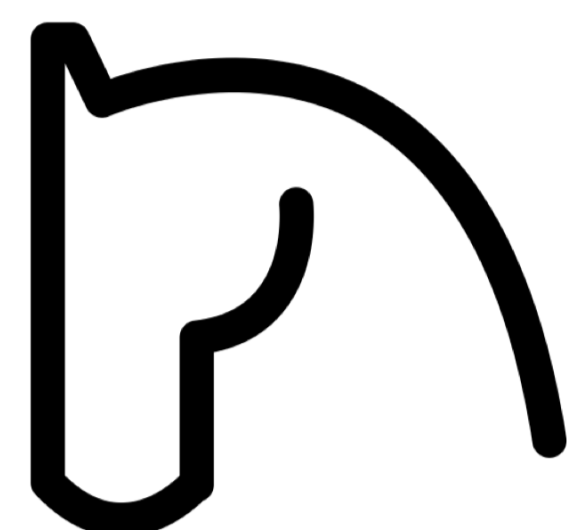
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What is it about ?



Equines are the far most diversely utilized animal species and can be encountered at various occasions, such as equestrian sports, breeding and meat production. Thus, controlling equine diseases is important from an economic point of view for the equine industry, but also with regard to public health as numerous equine diseases are zoonotic.

Detecting and controlling diseases in this population is very challenging because of the wide range of areas equines are involved.

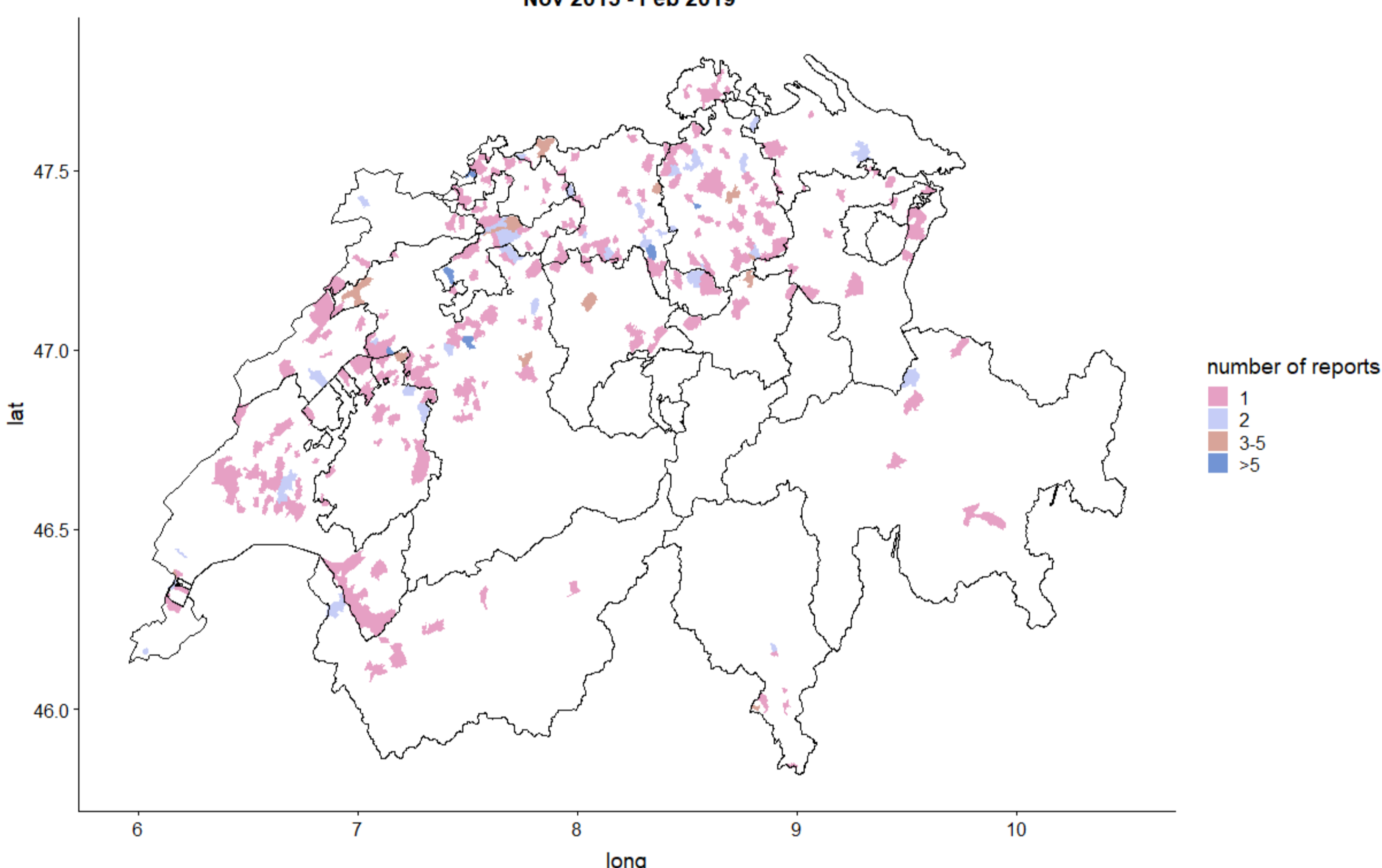
In Switzerland, equine health is tracked with the help of Equinella: a veterinarian-based voluntary reporting system. This surveillance system aims at 1) strengthening the early detection of emerging diseases, and 2) collecting information about the occurrence of non-notifiable diseases.

The objectives of our study were to:

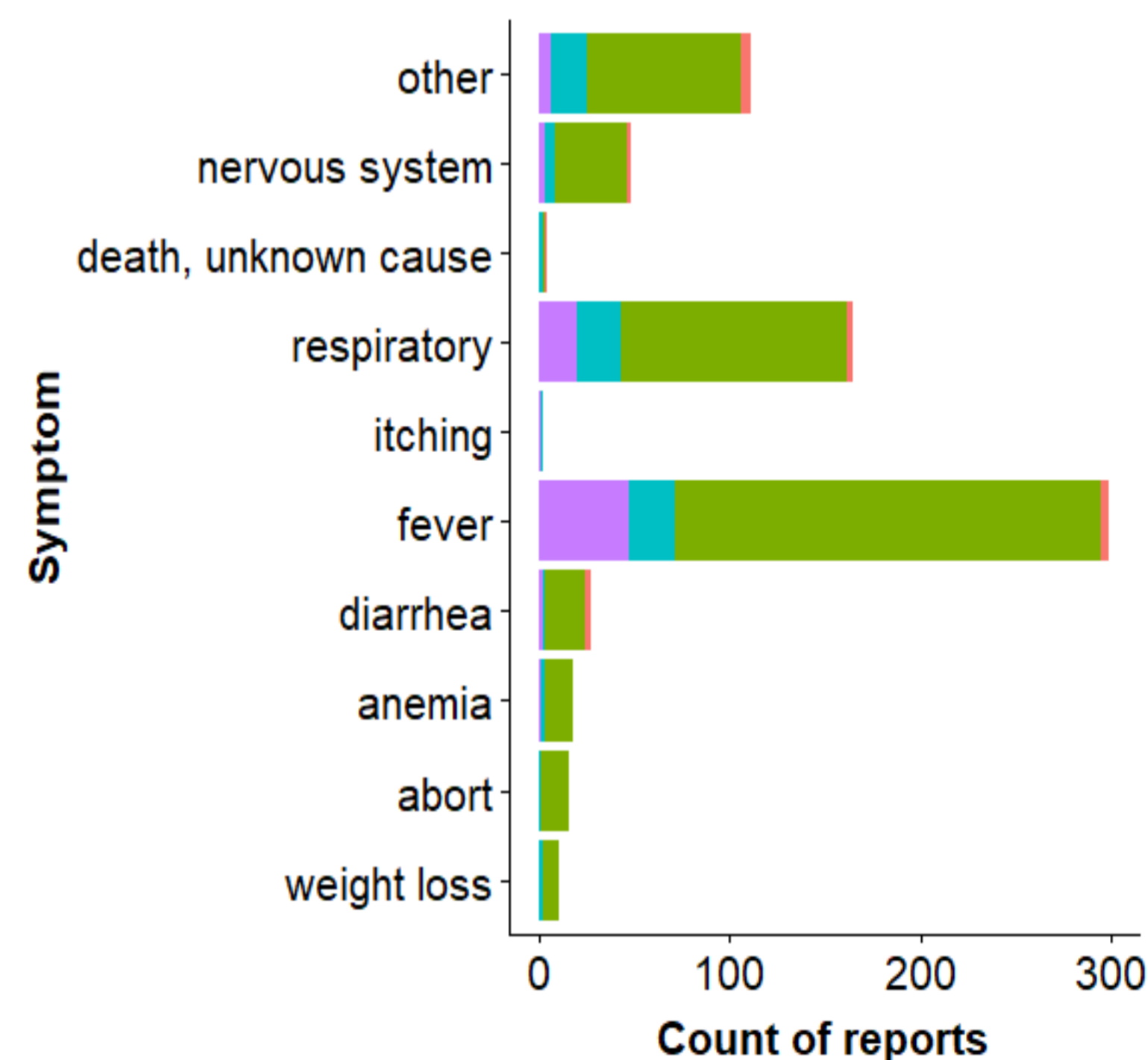
- describe the data submitted to Equinella
- assess the representativeness of Equinella regarding the Swiss equine population

Results

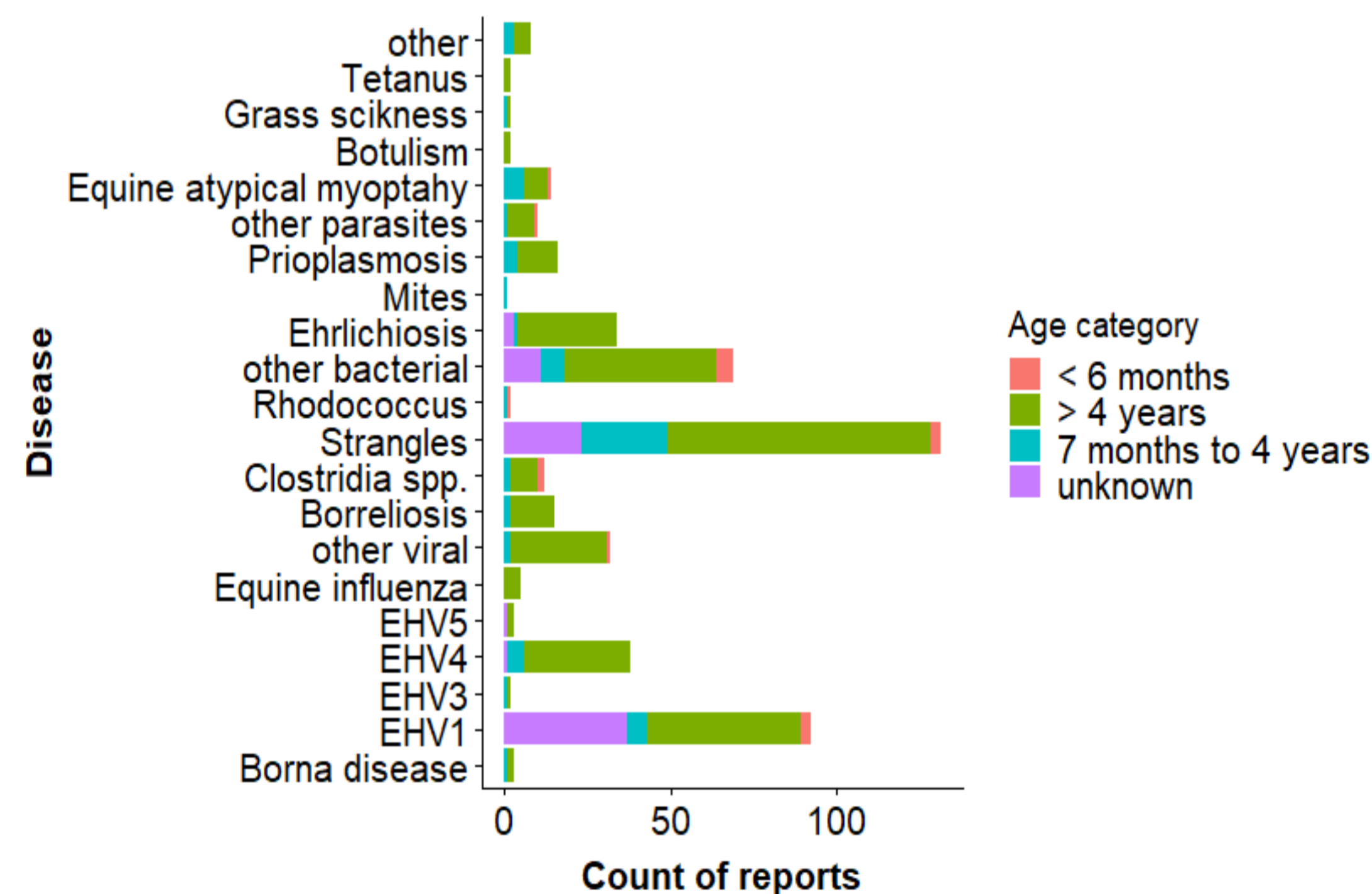
Reports submitted to Equinella per zip code
Nov 2013 - Feb 2019



Symptom reports submitted to Equinella
Nov 2013 - Feb 2019



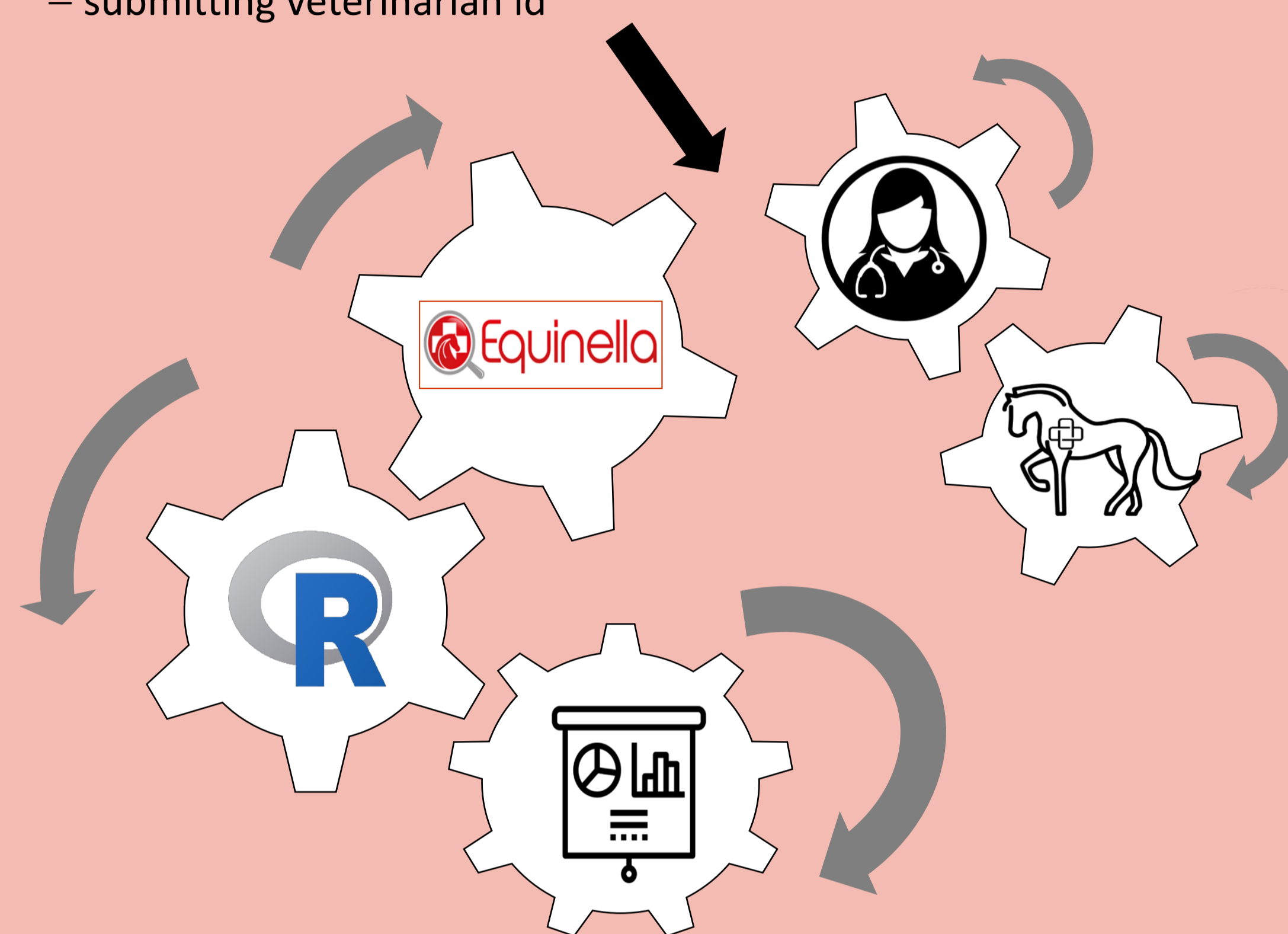
Disease reports submitted to Equinella
Nov 2013 - Feb 2019



Tools and data

How does Equinella work?

- **Submission of reports:** when an equine practitioner observes symptoms, or suspects a specific non-notifiable disease during a visit of a patient. Suspected disease reports can be confirmed after laboratory test results were obtained.
- **Content of the reported data:**
 - Equine id and age
 - postal code of equine's location
 - number of other equines on the premises
 - observed symptom and/or observed non-notifiable diseases
 - time point of first observation of the symptom and/or non-notifiable disease
 - time point of report submitted to Equinella
 - laboratory test results (if applicable)
 - submitting veterinarian id



Equinella data

- Reports from November 2013 to February 2019
- Practices declare the number of equines they have in their clientele

Swiss equine population data

- Number of equine per canton monthly assessed by the Swiss government

Comparison of data to estimate the equine population under surveillance by Equinella veterinarians

Equinella facts

- 99 voluntary participating veterinarians
- 93 practices from 17 out of 26 Swiss cantons
- 613 reports since November 2013
- Equinella covers approximately 65% of the Swiss equine population (see discussion)



Discussion and conclusions

- Equinella covers the majority of the Swiss equine population: reports are received from all over Switzerland and 65% of the Swiss equines are considered under surveillance.
- Equinella veterinarians report more frequently symptoms than diseases, which can be used to strengthen the early detection of emerging diseases.
- The third most frequent symptom reported is "other". In future, the list of symptoms proposed by Equinella could be adapted to better fit the practitioner's need.
- The two most frequent reported diseases are Strangles and Equine Herpes Virus 1.

Limitations:

- The number for equines covered by the Equinella practices are only rough estimates, which were based on information obtained from the veterinary practices at the time point of their registration and might not have been updated since then. In addition, the clientele of some of the practices and the university referral clinics could be overlapping.
- The number of reports submitted within ~5.5 years remains low.

Next steps:

- Work on strategies to reassess the equines covered by Equinella practices for more exact estimates of the equine population under surveillance
- Estimate the geographical distribution and seasonality of reported diseases
- Analyze time series of reported symptoms

