



Feasibility and motivation of veterinarians to collect equine epi-data using smartphones

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1. Background

Observations of veterinarians can contribute to the timely detection of first disease outbreak cases as they are often the first point of contact when animals have health issues¹.

In animal health surveillance, the use of modern communication technologies such as SMS, web-based forms or smartphone (Web-) Apps has increased in recent years, offering a fast, user-friendly and cheap way to collect large quantities of epidemiological data². By using smartphones, practitioners can submit data in (near) real-time directly in the field and thereby improving the timeliness of an early detection surveillance system.

2. Reporting system

In the context of the reorganisation of “Equinella” (a group of sentinel equine practitioners), a new electronic reporting system was developed in 2013 as a collaboration between stakeholders from



Fig. 1 Equinella Web-App icon



Fig. 2 The Equinella smartphone, model ToughShield R500+ (www.tough-shield.com)

research (Vetsuisse Faculty, Bern), the Swiss Association of Equine Practitioners (SVPM) and the Federal Food Safety and Veterinary Office (FSVO). The system is based on an online platform and a Web-App (Fig. 1), allowing registered veterinarians to report symptoms as well as cases of non-notifiable diseases* either using computers or smartphones (Fig. 2). Submitted data are stored in a centralised database and automatically synchronised between devices.

* Notifiable diseases must be reported to the Cantonal Veterinary Officer.

3. Challenges

The success of practitioner-based surveillance systems depends on the willingness of veterinarians to submit data³.

To keep data collection easy without adding more workload, the system was designed to be self-explanatory and only a limited but essential set of information is collected. Check lists of individual and grouped symptoms as well as non-notifiable diseases are provided (Fig. 3), resulting in standardised data and simplifying the handling on smartphone displays.

To maintain participation of veterinarians:

- practice relevant information is provided through a regular newsletter which summarises trends / maps on reported symptoms and cases
- a reminder is sent regularly by e-mail
- a continued professional training is offered for free yearly
- a certain number of a robust smartphone specialised for the use in the field was distributed (Fig. 2)

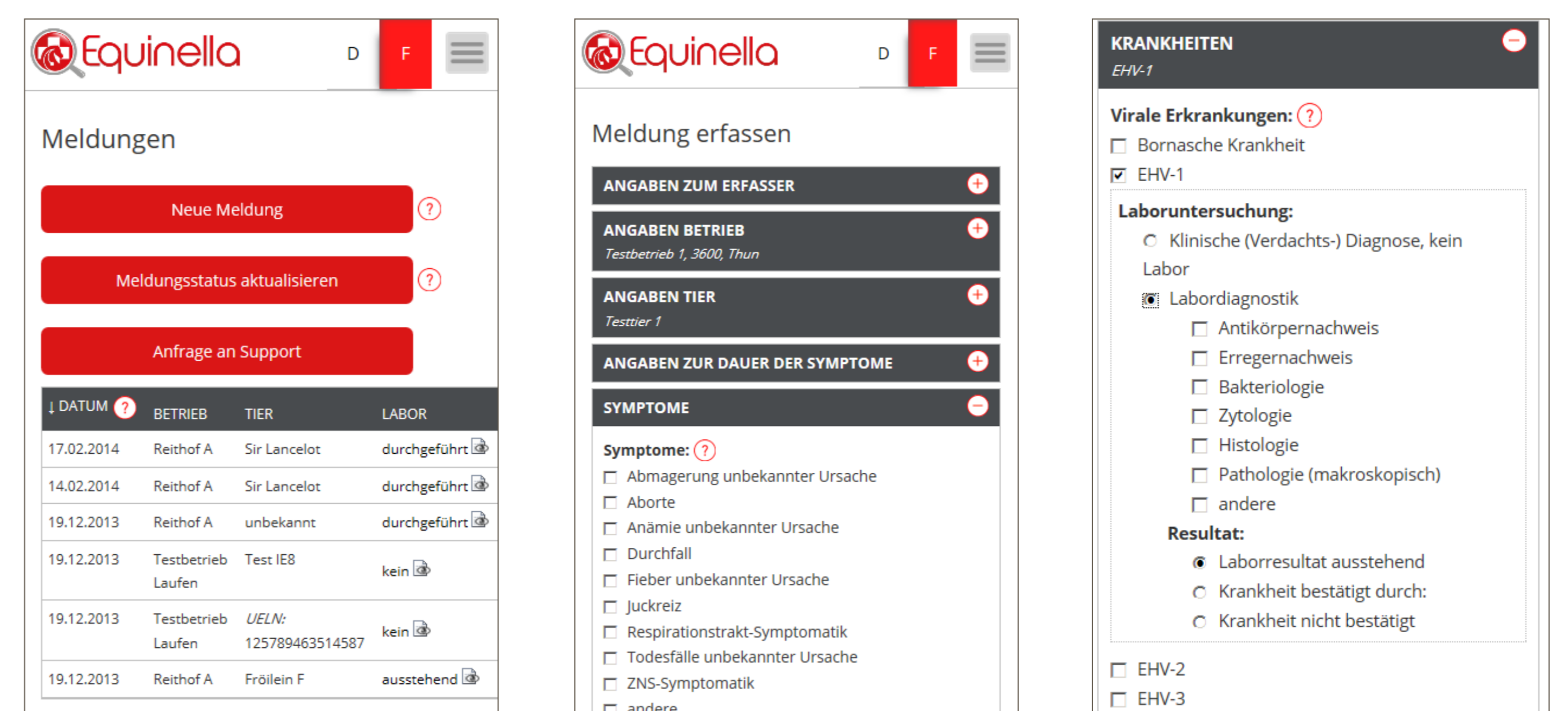


Fig. 3 Screenshots of the Equinella reporting platform on the smartphone display.

4. Pilot study

Towards the end of the first year of data collection, veterinarians will be interviewed to discuss their experiences of using Equinella. Furthermore, the motivation and non-technological constraints of practitioners to centrally submit clinical data in (near) real time will be evaluated.

5. Outlook

This study assesses the potential for a successful wider deployment of this epi-data collecting tool in the field by veterinarians (equine and non-equine). This finding is meaningful for the Swiss FSVO for the further building-up of a national early detection system in the next few years.

In the long run, the continuous real-time analyses of the Equinella data using temporal and spatial algorithms to detect anomalies that might be related to disease outbreaks will benefit the early detection of emerging infectious diseases; thereby allowing to take timely appropriate control measures.

References:

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