

Veterinary Medical Writing

SECTION EDITOR



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How to increase your *n*: Real-world data in veterinary medicine

Why re-invent the wheel? There are inventions and lessons learned that we can implement from human medicine.^{1,2} We herein report an easy option to acquire routinely collected data to foster research as already practiced in human medicine.^{3,4}

Our world is changing at fast pace – Research

Ten years ago, randomised controlled trials were regarded as the gold-standard and the term *real-world evidence* was rarely used. Since then, the demand for real-world evidence data, its acceptance, and amount has steadily increased. The old “hierarchy of evidence” is superseded as real-world evidence now complements randomised controlled trials that usually represent only a minority of real-life patients.^{5,6}

In humans, real-world data were traditionally created through observational registries. But with

increasing digitalisation, alternative data sources are now available, including electronic health records, pharmacy and health insurance databases, or even patient-powered research networks.^{3,7,8} By-products of the daily operations healthcare system such as electronic health records are relevant for many reasons, e.g., they avoid costly *de novo* data collection, provide statistical power through a large sample size, avoid study bias through inclusion and exclusion criteria, and can provide timely answers. Reporting guidelines for studies using routinely collected health data are summarised in the RECORD and RECORD PE statements.⁴

Our world is changing at a fast pace – Veterinary medicine

The world of veterinary medicine has changed as well. Twenty years ago, many veterinary practices

were still manually writing their records on paper cards, with a secretary manually typing the invoice weeks later. Nowadays, life without practice management software is unthinkable as it facilitates all aspects of the practice’s daily functions. Ever becoming more sophisticated, the software is also increasingly being used by universities and other large institutions to gather data for scientific purposes, providing statistical tools and a system environment comparable with traditional databases (access control, audit trial etc).

How to increase your “n”

While it is common practice to use practice management software for analysis of a practice’s own patients, a fairly new approach is to merge data from different practices or universities, allowing an easy solution for the increasing

demand for real-world data. Connecting data from several practices or universities quickly increases the sample size and hence provides a more robust scientific dataset that also allows for more sophisticated statistical analysis. Technically, this is fairly easy to do, depending on the practice management software in use. First, one needs to define the data to be extracted (e.g., species, breed, age, sex, disease, laboratory values). Thereafter, the participating veterinarians need to confirm their agreement to export their anonymised data by the simple click of a button. After being processed by the practice management software, the data are then exported to a CSV (comma-separated values) file, or if necessary, to other formats such as XML (extensible markup language).

Limitations include that data are restricted to that collected during the period of practice management software use, and that data may not always be complete. However, there is a fair amount of data collected in a standardised way that can be instantly accessed and analysed. If needed, additional questions could also be implemented and the practice management software could be used similarly to electronic case report forms; these cases would require manual data entry.

This new option is a cheap and convenient resource for a wealth of data and presents analysis potential for epidemiology, determination of risk factors, disease specific questions, etc.

There are 14 million cats and more than 9 million dogs in Germany alone;⁹ the electronic medical records of these are resources that should

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not be ignored or wasted, as they can foster the rapid advancement of research in veterinary medicine.

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Conflicts of Interest

Isabelle Wohllebe is an employee of GP Software GmbH, a company that provides the practice management software Vetera.

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