



Monitoring of equine health in Denmark: The importance, purpose, research areas and content of a future database

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ABSTRACT

The plentiful data on Danish horses are currently neither organized nor easily accessible, impeding register-based epidemiological studies on Danish horses. A common database could be beneficial. In principle, databases can contain a wealth of information, but no single database can serve every purpose. Hence the establishment of a Danish equine health database should be preceded by careful consideration of its purpose and content, and stakeholder attitudes should be investigated.

The objectives of the present study were to identify stakeholder attitudes to the importance, purpose, research areas and content of a health database for horses in Denmark.

A cross-sectional study was conducted with 13 horse-related stakeholder groups in Denmark. The groups surveyed included equine veterinarians, researchers, veterinary students, representatives from animal welfare organizations, horse owners, trainers, farriers, authority representatives, ordinary citizens, and representatives from laboratories, insurance companies, medical equipment companies and pharmaceutical companies. Supplementary attitudes were inferred from qualitative responses.

The overall response rate for all stakeholder groups was 45%. Stakeholder group-specific response rates were 27–80%. Sixty-eight percent of questionnaire respondents thought a national equine health database was important. Most respondents wanted the database to contribute to improved horse health and welfare, to be used for research into durability and disease heritability, and to serve as a basis for health declarations for individual horses. The generally preferred purpose of the database was thus that it should focus on horse health and welfare rather than on performance or food safety, and that it should be able to function both at a population and an individual horse level.

In conclusion, there is a positive attitude to the establishment of a health database for Danish horses.

These results could enrich further reflection on the establishment of a Danish equine health database and prove useful to institutions abroad considering establishing similar databases.

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1. Introduction

Denmark has an equine population of approximately 180,000 animals (personal communication, Jørgen Kold, the Danish Agricultural Advisory Service, 2012); the Danish horse business contributes around 0.3% of the country's GNP (Madsen et al., 2009). Register-based epidemiological

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studies monitoring, among other things, the health status of the equine population are therefore important. However, such studies are not easily undertaken at present, because the necessary equine data are neither organized nor easily accessible. A centralized health database could therefore be beneficial. The Danish horse sector should be large enough to meet this need.

Certain types of data on Danish horses are already collected in accordance with legal requirements. The Danish Agricultural Advisory Service is required by EU and national legislation¹ to collect information on horse identity, date of birth, date of death, ownership and exclusion from the food chain. Since 2010, the Danish Agricultural Advisory Services has maintained records of approximately 40,000 horse owners and in 2012 records were expanded to include registration of horses (personal communication, Jørgen Kold, the Danish Agricultural Advisory Service). However, no geographical location data is maintained. Results from select events run under the auspices of the Danish Equestrian Federation are systematically and continuously incorporated into the Danish Agricultural Advisory Service database.

Currently health data on horses is limited to those diseases that are classified as notifiable and use of pharmaceuticals whose use is regulated by the Danish Medicines Agency in accordance with EU legislation.² Potentially veterinary clinical records are a source of large quantities of health and disease data, but the information they hold is most often retained by local veterinary clinics. In Sweden, systematized insurance databases exist that are suitable for population surveys (Penell et al., 2007; Egenvall et al., 2009). However, Denmark does not have such a system in place.

The large quantities of equine data that already exist in Denmark are mostly inaccessible today: they are disseminated across the country, they are not digitalized, and often they are categorized as confidential. If access were permitted and made feasible, the systematic merging of such data in a central database would facilitate important lines of research – e.g. into risk factors for disease. However, there are many different stakeholders in Denmark, who would need to be involved. It cannot be safely assumed that they have shared expectations about the purpose of a new equine health database.

Only a few studies have investigated stakeholder attitudes to the creation of certain horse health/disease databases; two examples are an international, multicentre, large-scale colic surgery database (Mair and White, 2005) and the implementation of the National Animal Identification System (NAIS), a United States animal disease tracking database focusing on contagious animal disease (Vanderman et al., 2009a,b). The impact of these stakeholder analyses is unclear, but the approach they focus on appears to be feasible, and stakeholder acceptance certainly seems to be a prerequisite for the creation of a

database. For example, Mair and White (2005) found that a majority of interviewees (95%) and questionnaire respondents (97%) in their questionnaire/interview survey of 128 equine surgeons indicated that a database would be useful, primarily for benchmarking purposes but noted that “a concerted effort by all involved to achieve a successful outcome” would be required. Forty-seven percent of 139 members of the American Association of Equine Practitioners were in favor of NAIS (Vanderman et al., 2009a,b) and the authors (Vanderman et al., 2009a) state that “The veterinary industry’s confidence in and compliance with the National Animal Identification System guidelines are imperative to the success of this disease eradication program”, and that the “acceptance of NAIS by veterinarians may influence its implementation by equine owners and ultimately affect the overall success rate of NAIS”.

Database purpose is one of the very important considerations early in database planning, as it is the foundation on which variables are defined, and their documentation and levels of detail set (Houe et al., 2011a). Some early Danish animal databases aimed to fulfill purposes such as control of milk production. Gradually, new purposes emerged, and the databases expanded by ‘budding’, allowing other types of data to be added. The new purposes, which came to include animal welfare evaluation, have created a range of new complications – e.g. regarding access to, and interpretation of, the data (Houe et al., 2011b). The lesson learned from these databases is that both the immediate and long-term use of a database must be analyzed at the outset in as much detail as possible. One should consider how the data are best stored and preserved, not only for the intended purpose, but also for future, unanticipated uses (Sestoft, 2011). Moreover, if one wants to collect, say, diagnostic information in a database, one has to agree on a data hierarchy and terminology (or controlled vocabulary).

The objectives of the present study were to identify stakeholder groups and ascertain what attitudes they have to a health database for horses in Denmark. We were interested in stakeholder opinion on several aspects of such a database: its importance, what purposes it should serve, which research areas it should cover, and what kinds of information it should contain. In addition, a number of practicalities (participation, financing, localization, and other concerns) will need to be addressed if the database is to be established successfully, and stakeholder opinion on these matters should also be sought. However, these issues will be examined in a separate paper.

2. Materials and methods

2.1. Study design

The study involved a cross-sectional survey in which a questionnaire was used to collect information. The questionnaire was available on paper as well as through a web-application.³ The results of this survey were responses

¹ Commission Regulation (EC) No. 504/2008 of 6 June 2008; Executive Order No. 1448 of 15/12/2009.

² Commission Regulation (EC) No. 1950/2006 of 13 December 2006 and Commission Regulation (EU) No. 37/2010 of 22 December 2009.

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