

# Why Do We Record Disease?

By *Martin Wierup*

Swedish Animal Health Service, S-12186 Johanneshov.

## Historical aspects

Control and prevention of animal diseases require insight in disease occurrence in all its respects. Different ways of recording occurrence of diseases and, when possible and relevant, also of the infectious agents have therefore always been a natural part of the traditional veterinary profession. This was well exemplified by Calvin W Schwabe in his book *Veterinary Medicine and Human Health* (Schwabe 1964). In his introduction, Schwabe also underlines the wide area and complex status of this field by the following quote from Rudolf Virchow: "Between animal and human medicine there is no dividing line- nor should there be. The object is different but the experience obtained constitutes the basis of all medicine".

Increased demands for a basis as correct as possible for decisions on the allocation of resources for disease control can perhaps be seen as the main reason for the considerable improvement of methods for recordings that have taken place during the last 30-year period. In the 1970s the term epidemiology was introduced, as reflected in different text books in this field (Schwabe et al. 1977, Thrusfield 1986 and 1995, Martin et al. 1987 and Noordhuizen et al. 1997). The epidemiology emphasized a holistic approach to disease and epidemiology was not merely the study of epidemics. For the need to look into the future, and also the economic consequences of disease intervention, the focus was on cost- benefit calculations and mathematical models to mimic disease outbreaks, as

also are presented in the textbooks above. The current focus on risk assessment can be seen as a further step whereby the risks associated with different hazards can be compared (Mac Diarmid, 1993).

## Current situation

### *Diseases*

The reason for recording diseases today is well described in the text books presented above and can be briefly be summarised as follows.

Outbreaks of the *epizootic diseases* are costly both to the individual producers and to countries due to costs related to the eradication procedures but secondarily also due to export bans decided on an international basis. There are also international demands on how to prove the freedom of these diseases both during infection- free periods and following an outbreak. It is therefore obvious that necessary resources have to be devoted to obtain and maintain an optimal surveillance in relation to these diseases in order to fulfil national and international demands.

The *zoonotic pathogens* like salmonella, campylobacter and EHEC merit increased attention due to their importance for human health. Most countries have experienced the economic power and importance of negative consumer reactions because of negative information in the media on diseases caused by this group of pathogens. An optimal control in relation to surveillance is therefore also clearly jus-

tified for this group of diseases. The need of having correct surveillance data is also required for the control itself.

However, in the remaining group of diseases i.e. *other notifiable and non-notifiable diseases*, sometimes also referred to as *production diseases*, we find those that today are limiting the health and the economy of animal production. For the producer, it is therefore today of immediate and greatest importance to control and prevent these diseases

It is worth emphasising that before starting monitoring for a specific disease a clear strategy has to be worked out for the handling of those infected animals that might be found. It should also be noted that monitoring and surveillance of disease should be considered as a tool for decision-making and not as a goal in itself.

### Health control

Monitoring and surveillance is also needed for the *evaluation of interventions*, basically the recording of prevalence and incidence of specific diseases, eg following the use of vaccines, antimicrobials or the introduction of different production systems.

It is of special interest that many valuable disease-recording systems in health controls are based on observational results like the recording of lesions at slaughter or production data such as weight gain, pregnancy and farrowing rate. These data are often of *non-etiological* type but are good tools for further evaluation of possible occurrence and involvement of specific infectious diseases.

Recent years have seen increased demands for monitoring diseases of special interest eg from importing countries or from the livestock industry as part of health controls for production, or *quality control programmes* directed primarily at the consumer.

### EU – perspective

From an EU perspective for the Nordic countries arguments on eg the disease situation, usually need *solid scientific support*, and results from correct monitoring and surveillance are usually of crucial importance. These arguments / works should be facilitated by *cooperation between countries*, eg by the use of the same methods for recording as are now practised for control of salmonella in the Scandinavian countries. It also seems likely that the decreasing demand and quality of official national *controls of trade* between EU-countries will partly be compensated by increasing control and monitoring within quality control programmes of individual industrial production cooperations or companies.

### Future perspective

In the future it is likely that the technical *improvement of methods* for surveillance and monitoring of diseases will be further improved. The international cooperation is also likely to lead to *harmonisation in the methods* used to facilitate correct comparison of primarily the disease situation between different countries.

### References

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**Sammanfattning**

Översiktligt presenteras utvecklingen av metodiken för sjukdomsregistrering, de nuvarande motiven för registrering av olika typer av sjukdomar liksom användningen inom hälso- och kvalitetskontrollsystem.

Behovet för de nordiska länderna av korrekt utförda och utvärderade epidemiologiska studier som stöd för argument om sjukdomskontroll inom EU betonas.