Economics of different approaches to surveillance

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Effectively designed surveillance provides the information that is needed according to established quality criteria. Such criteria may be based on epidemiological measures, such as the precision of estimates, or other criteria such as timeliness. Efficient surveillance strategies for hazards of animal health and/or public health concern should provide a maximum of information in relation to the available but limited resources. In practice, the approach to sampling, sample size, diagnostic tools and dissemination of results should achieve the objectives of the surveillance activities with the minimal input of resources that is necessary to satisfy quality requirements.

The design of surveillance programmes is largely determined by their objective, i.e. declaration of disease freedom, establishing the prevalence of a hazard, or early warning. The design may be passive or active and may consider various aspects of disease epidemiology. Such risk-based surveillance has become one of the preferred design approaches to assure cost-effectiveness. However, a number of additional factors are likely to impact on the programme design.

The economic constraints to the design and execution of effective and efficient surveillance systems are many. These include lack of funding to implement a scheme that will precisely estimate the prevalence of the disease or other hazard and limitations in terms of competence or capacity to implement a minimal programme sustainably. Formal systems for evaluation are increasingly being used to assess the economic and technical performance of surveillance programmes.

National legal requirements, international standards and the requirements of trading partners also have a bearing on the design of surveillance programmes. Problems may arise if international standards are too prescriptive, if trade requirements are not scientifically based, and if the legal basis for surveillance activities is lacking.