

An economic evaluation of potential surveillance strategies for the control of Bovine Viral Diarrhoea Virus in England

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Purpose:

Economic analysis of surveillance systems is valuable for decision-making: it shows the consequences of different alternatives and helps ensure that maximum benefit from disease mitigation is obtained from a given amount of resources. Bovine viral diarrhoea virus (BVDV) is a non-notifiable endemic disease of cattle in England with a significant economic impact, yet it lacks a national control and a decision-making process for its elimination. To improve coordination of existing local schemes a surveillance system is needed to establish prevalence levels in order to develop an efficient control strategy.

Methods:

Therefore a study was designed to holistically develop and evaluate BVDV surveillance for England that would enhance resource use efficiency. A proposed surveillance framework included a centralized data coordination and management system, and was compared to the current system (the baseline) with cost-effectiveness analysis that utilises a new surveillance evaluation tool recently developed by the project RISK SUR (www.fp7-risksur.eu). Surveillance costs were being estimated using publications and interviews with decision-makers from the different existing schemes. The effectiveness is expressed as the ability of the system to detect disease in an endemic situation. A cost-effectiveness analysis looking at technical outcome is conducted to look at different surveillance options, also taking into account different ways of coordinating and managing the data in a centralized way.

Results:

Results indicate that a Surveillance Centre for BVDV would cost £60,000 per annum for personnel and overheads. Further results, as well as further sensitivity analysis on their robustness, will be presented.

Conclusion:

The estimated improvement in effectiveness demonstrates that such a Centre would improve sensitivity of surveillance and if well linked to a national control programme lead to economic gains.

Relevance:

An evaluation of the cost-effectiveness of an improved BVDV surveillance system presents a strong case for the implementation of the improved strategy, presenting decision-makers with the requisite evidence for setting-up a BVDV control programme.