

Economic assessment of veterinary surveillance programmes that are part of the national control plan of Switzerland

Barbara Häsler¹, Keith S. Howe², Reto Wyss³, Thomas Lüthi³, Eric Breidenbach³, Katharina D.C. Stärk¹

¹ Veterinary Clinical Sciences, Royal Veterinary College, Hawkshead Lane, North Mymms, Hatfield AL9 7TA, United Kingdom, ² Centre for Rural Policy Research, College of Social Sciences and International Studies, University of Exeter, Devon, EX4 4QE, United Kingdom, ³ Federal Veterinary Office, CH-3003 Bern

Key words

Economics, Surveillance, Intervention, Mitigation, Animal Health

Aim of the study

To facilitate the allocation of scarce resources and to support decision-making by providing a practical tool for the economic assessment of surveillance programmes that are part of the Swiss national control plan.

Material and methods

Conceptual frameworks were developed to explore the technical and economic relationships between mitigation as a source of economic value and surveillance and intervention as sources of economic cost. The theoretical concepts were applied to the Swiss surveillance programmes for avian influenza virus, bluetongue virus serotype 8, bovine viral diarrhoea virus, and salmonella. Lessons learned were combined in a practical guide for decision-makers to facilitate the economic assessment of surveillance.

Results and significance

The technical relationship of animal disease surveillance to intervention and mitigation is conceptualised from a policy perspective in a system that divides the mitigation process into three stages: sustainment, investigation and implementation. Understanding of these technical relationships lays the foundation for applied economic analysis.

A theoretical framework elaborates the economic principles of resource allocation for disease mitigation. It describes criteria for the optimal level of disease mitigation for surveillance and intervention according to whether they are economic complements or substitutes. Further, it highlights the impact of externalities and explains the practical significance of economic criteria.

The economic assessment of implemented surveillance programmes provides important insights into the economic value of these programmes, relationships between surveillance, intervention and mitigation and the boundaries to the application of economic principles.

The practical guide helps decision-makers to plan, design, and conduct or commission economic assessments of current and future government veterinary surveillance programmes. Flow charts guide step by step through a set of relevant questions that helps identifying a suitable approach and data requirements for the analysis.

Publications, posters and presentations

Häsler, B. (2011) Economic assessment of veterinary surveillance programmes that are part of the national control plan of Switzerland. PhD thesis. Royal Veterinary College, University of London, United Kingdom

Häsler, B.; Howe, K.S.; Stärk K.D.C. (2011) Conceptualising the technical relationship of animal disease surveillance to intervention and mitigation as a basis for economic analysis. BMC Health Services Research, <http://www.biomedcentral.com/1472-6963/11/225>.

Häsler, B.; Howe, K.S.; Hauser R.; Stärk K.D.C. (2011) Economic evaluation of avian influenza virus surveillance in Switzerland. Proceedings of the first International Conference on Animal Health Surveillance. Lyon, France, 17-20 May.

Häsler, B.; Howe, K.S.; Hauser R.; Stärk K.D.C. (2012) A qualitative approach to measure the effectiveness of active avian influenza virus surveillance with respect to its cost: A case study from Switzerland. Preventive Veterinary Medicine 105, 209– 222.

Project 1.08.09

Project duration April 2008 to March 2011