

Implementation of vaccination strategies on British dairy farms: Understanding challenges and perceptions

Results of farmer and veterinary surgeon interviews

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Introduction

Vaccination is an important tool in the prevention and control of disease. In Britain there are approximately 38 vaccines registered for use in cattle, offering protection against a number of viral, bacterial, parasitic and fungal pathogens (NOAH, 2015). Although the exact coverage of these vaccines is unknown, previous work has shown that 86% of cattle farmers use one or more vaccines on their farm (Cresswell et al., 2014). The vaccination decision-making process is often facilitated by a veterinary surgeon and farmers have indicated that veterinary surgeons are their preferred provider of vaccines. Despite the apparently widespread use of vaccines there is limited evidence describing the decision-making behind the vaccination of cattle and there is no national policy or overarching strategy for cattle vaccination that farmers and veterinary surgeons can use.

The aim of this research was to identify the motivators and barriers of farmers and veterinary surgeons to the implementation of vaccination strategies on British dairy farms. In order to achieve this aim, semi-structured interviews were conducted with farmers and veterinary surgeons across Great Britain.

In total, 26 farmers contributed to 24 interviews, and 15 veterinary surgeons contributed to 14 interviews between May 2013 and April 2014. The farms and veterinary practices were located throughout England, Scotland and Wales.

Key findings:

- Interviews confirmed variability in the use of vaccines; 16 farmers were currently using one or more vaccines, and three farmers had never vaccinated their cattle
- At the time of the interviews the most commonly used vaccines among farming participants were BVD, leptospirosis and IBR. This corresponds with what veterinary surgeons perceive to be the 'core' vaccines.
- Farmers and veterinary surgeons perceive vaccines to be an effective and useful tool to control and prevent disease on British dairy farms
- Farmers and veterinary surgeons are motivated to vaccinate cattle if there is evidence of disease on-farm, or a perceived high risk of disease entering a farm

- Vaccination decision-making is a *process* and not a one-off event, and farmers perceive their veterinary surgeon to have an important role throughout this process
- Local epidemiology is important to vaccination decision-making and veterinary surgeons are often trusted advisers in this area.
- Farmers trust their veterinary surgeon's advice on vaccination, however this does not always mean the advice is followed
- Veterinary surgeons were risk averse when it came to vaccination advice and were reluctant to advise against the use of vaccines because of the risk of a subsequent disease outbreak
- Vaccination on British dairy farms is generally implemented in reaction to 'a problem'- this problem is usually the diagnosis, confirmed or suspected, of a vaccine-preventable disease on a farm; however, the problem could also be an increased risk of disease, for example a disease breakdown on a neighbouring farm
- Veterinary surgeons tend to group farmers into 'character types' based on their perception of their clients' attitudes and characteristics, and tailor their vaccination communication accordingly
- There is scope for a more proactive approach from veterinary surgeons with regards vaccination, however their time and resources are scarce
- Compliance was not a barrier to *implementation* of vaccination but it was a barrier to *effective* vaccination.
- Veterinary surgeons were concerned about veterinary surgeon and farmer compliance in areas such as cold storage and administration instructions. They did express a lack of knowledge as to which aspects of poor compliance did affect a vaccine's efficacy

An alternative way of presenting the practical implications of the findings of this research is to consider what each of the major stakeholders should know as a result of the research, what they need to consider in relation to the results, and what they need to do with the information. The major stakeholders in this study are dairy farmers, their veterinary surgeons and AHDB Dairy.

Table 1 Table of the practical implications of the results of this research

	Know	Considerations	Do
Dairy farmers	Their herd's disease status. This is important in order to make informed vaccination decisions.	What is their goal in using a particular vaccine or choosing animal health strategies?	Ensure regular contact and discussion with their vet surrounding vaccination. Ensure compliance with administration and storage instructions.
Vets	Their farmers are motivated to vaccinate if shown a need. Cost is a minor issue compared to a need to vaccinate. Farmers trust their vet and see their vet as their primary advisor and source of information on vaccination.	What are the farmer's goals and what is important to them? How can more time and resources be provided to enable vets to discuss disease prevention and control with clients?	Increase farmers' disease status awareness. Be proactive in initiating vaccine discussions. Use different communication methods to reach different farmers. Be proactive in identifying compliance issues.
AHDB Dairy	The vet is a trusted and important source of information and advice to farmers. Farmers are individuals and vary in terms of disease control priorities, risk perception and use of vaccines. Vets look for information to increase confidence in their advice to farmers. Farmers and vets are motivated to vaccinate dairy cattle given a need. Cost is a minor issue to farmers.	What is AHDB Dairy's role in the optimisation of vaccine use in the dairy industry? Vaccination is not a solution for disease control in itself, therefore future work and recommendations should be consider how vaccines can be used alongside other measures. Are guidelines useful and practical? A 'one size fits all' approach to vaccination is not necessarily appropriate	When creating future initiatives ensure the inclusion of the veterinary profession in all stages of development and implementation. Prioritise the following research areas: <ul style="list-style-type: none"> • Farmers' and vets' attitudes to the use of other biosecurity measures • The use of, and attitudes towards, vaccination guidelines from the perspectives of farmers and vets • The identification of methods of, and areas where, effective knowledge transfer can happen to optimise current practice

Conclusions

Challenges to cattle vaccination arise from differences in how risk is perceived and farmers' potential lack of awareness of their herd's disease status. The results of this study indicate there are four main areas where further research would be beneficial: the farmer-veterinary surgeon relationship; the evidence and risk related decision-making behind vaccination; the issue of compliance, and the use of vaccination guidelines. Understanding and enhancing the relationship between farmers and veterinary surgeons is a crucial step for optimisation of vaccination strategies. The outcomes from this study will be joined with results from work investigating farmers' and veterinary surgeons' attitudes to biosecurity as well as the opinions of other industry experts. The culmination of the outcomes of these studies will result in a consensus panel with the aim to produce 'best practice' guidelines for the implementation of biosecurity measures and vaccination on British dairy farms.

Part of this research has been published in an Open Access format in the *Veterinary Record* (Richens et al., 2015).

References

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