A FMD Vaccine Bank Network: A Developing Concept

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ABSTRACT

A network of FMD Vaccine Banks has been initiated with the support of vaccine bank executors (worldwide) that participated in a workshop held at Pirbright in April 2006. Terms of Reference (TOA) that provide guidance for coordinated vaccine banks are under consideration. A key benefit from this network would be the formation of a virtual ‘global’ vaccine bank that could orchestrate additional emergency cover with vaccine or antigen from member’s reserves. Participation of commercial companies in this network is crucial and essential.

INTRODUCTION

The purpose of this poster is to describe the concept of creating a FMD Vaccine Bank Network and to encourage collaborations between FMD Vaccine Bank Managers, Owners, Technical Representatives, Manufacturers and Authorised Parties.

Foot-and-mouth disease (FMD) vaccine banks are reserves of stored concentrated FMD antigen that have been established by individual countries and groups of countries for vaccination of livestock in an emergency. Each vaccine bank faces similar issues over strain selection, formulation, manufacture, storage and regulation of vaccines, which are now dealt with independently. Practical and economic benefit could be realised through collaboration between vaccine banks.

The OIE convened an ad hoc meeting on FMD antigen and vaccine banks in June 2004, recognizing that a virtual (International) vaccine/antigen bank network would have two main benefits:

(a) facilitating information exchange on the ability of banked vaccine strains to protect against current circulating FMD virus;
(b) and (ii) providing access for members to reduce the burden of stockpiling of all antigens by the network.

The network had three principal outcomes (a) a revised Memorandum of Understanding (MOU) for an International Network of Vaccine Banks for Foot-and-mouth Disease Vaccine; (b) consideration of the Standards/protocols that should be followed by the banks; and (c) Methods and format for reporting these key standards and protocols to the network. In follow-up teleconference unanimous support was given to the creation of an international FMD Vaccine Bank Network (Bashiruddin 2006b). Basis for reagent exchange between Network participants were:

• standards/protocols were described in the 2006 OIE chapter on Vaccine Reserves;
• harmonised test procedures;
• common quality/source of antigen and their over-riding manufacturing standards.

A Code of Practise that has already been agreed and common testing procedures and reporting formats would build trust and facilitate approval for information exchange. This would add a further dimension to establishing the global picture for FMD and effectiveness of certain vaccine strains, as well as an up-to-date source on vaccine developments in the FMD field. A secure web based data entry and repository for this network was seen as a priorly following ratification of the MOU that is being converted to a Terms of Reference.

PROGRESS TOWARDS A NETWORK

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CONCEPT AND BENEFITS

The decision on managing what and how much to hold in a vaccine bank, is currently considered in isolation taking into account the global status of FMD. Financial implications inevitably play a role. The minimum dose holdings of vaccine strains in an emergency bank has recently been considered for Europe (Decker and Barnett, 2007).

A coordinated approach to antigen/vaccine bank activities around the world through a Network could be a better approach facilitating the harmonisation of standards for vaccine banks, ensuring better control of FMD in the event of an outbreak, and reducing some of the costs arising from the maintenance of such reserves.

Such a Network could aim to:

1. Increase co-operative effort, mutual support and back-up for vaccine bank Network members in order to improve international control of FMD by vaccination.
2. Consider common vaccine bank issues such as vaccine dose requirements, virus strain selection, manufacture, formulation, testing and regulatory control, storage, security, maintenance, monitoring and disposal, to:
   a. share information and best practices;
b. avoid duplication of effort and realise economies;
c. harmonise approaches and define standards where appropriate;
d. promote rationalisation and sharing of bank reagents;
e. investigate possibilities for the sharing of banked antigens, working towards a virtual international bank for FMD vaccines;
3. Identify routes for independent testing and assessment of FMD antigens/vaccines.
4. Improve the availability of emergency vaccines and access to a wider range of vaccine types and quantities.
5. Monitor progress and technical developments relating to emergency FMD vaccines.
6. Identify and promote areas of research that could lead to improvements in emergency FMD vaccine banks.
7. Increase the efficiency of vaccine banks and the proficiency of vaccine bank staff.
8. Offer expertise to member countries and to international disease control agencies such as OIE and FAO to assist in the control of FMD by vaccination.
9. Identify and propose solutions to any constraints in the functioning of the Network.

THE WAY FORWARD

To move forward, it is important that coordinated activity on global antigen/vaccine banks retains momentum and support in order to develop standards for vaccine bank antigens, ensure better control of FMD in the event of an outbreak and reduce the cost of individual membership. Clearly, it will be some time before this concept will be ratified and have all the necessary signatories. Additional financial support would be welcomed, possibly from a new EU collaborative project, to continue the progress that has already been achieved and to develop this goal further. This will provide an endorsement of the Network, the infrastructure and process to hold routine meetings, support its web based reporting system to allow the exchange of information or reagents and incorporate participation of commercial companies which will undoubtedly be a valuable step toward efficient control of FMD outbreaks.

References

Decker A. and Barnett P. (2007). Minimum size of antigen stocks in the EU vaccine bank Report of the 37th Session of the OIE convened an ad hoc meeting on FMD antigen and vaccine banks in June 2004, recognizing that a virtual (International) vaccine/antigen bank network would have two main benefits:

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This ad hoc group met again in April 2005 to discuss development and operation of a potential vaccine bank Network (ToR4) noting synergies to an EU funded FMD and CSF Coordination Action (C.A.) project initiated in January the previous year. Issues relating to a network and its potential to contribute significantly to the improved control of FMD worldwide were discussed. The concept of a Network of FMD Banks was initiated following a meeting in April 2006 (Bashiruddin 2006a).

“A shared knowledge is power.”

Francis Bacon

Søren Alexandersen
NAFMDVB meeting, March 2009

“...vaccine banks hold more than just antigens!”

Søren Alexandersen
NAFMDVB meeting, March 2009

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