



horses in the group, which were all unvaccinated, also displayed clinical signs consistent with equine influenza virus (EIV) infection. Five unvaccinated horses from a riding school in the Cardiff area of Wales showed seroconversion to EIV on paired blood samples using the HI test. Other horses and ponies on the premises also showed clinical signs consistent with EIV infection.

REVIEW ARTICLE

Successful eradication of equine infectious anaemia (EIA) from Ireland

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Ireland experienced an outbreak of equine infectious anaemia (EIA) in 2006. This was the first outbreak of this disease in Ireland with evidence of transmission of infection. During the outbreak, two broad control strategies were used, including movement controls on premises and individual horses, and a programme of surveillance of premises and individual horses. The commitment from the Irish government, in terms of human and financial resources, was substantial. No EIA cases have been detected in Ireland since December 2006.

Infection was first detected on 15 June 2006, in a mare (case C1[p3]) following euthanasia at a veterinary hospital. During the following 6 months, a total of 38 cases were detected, in two distinct epidemiological clusters (centred on counties Meath and Kildare) (Figure 1, from More et al., 2008, with permission).

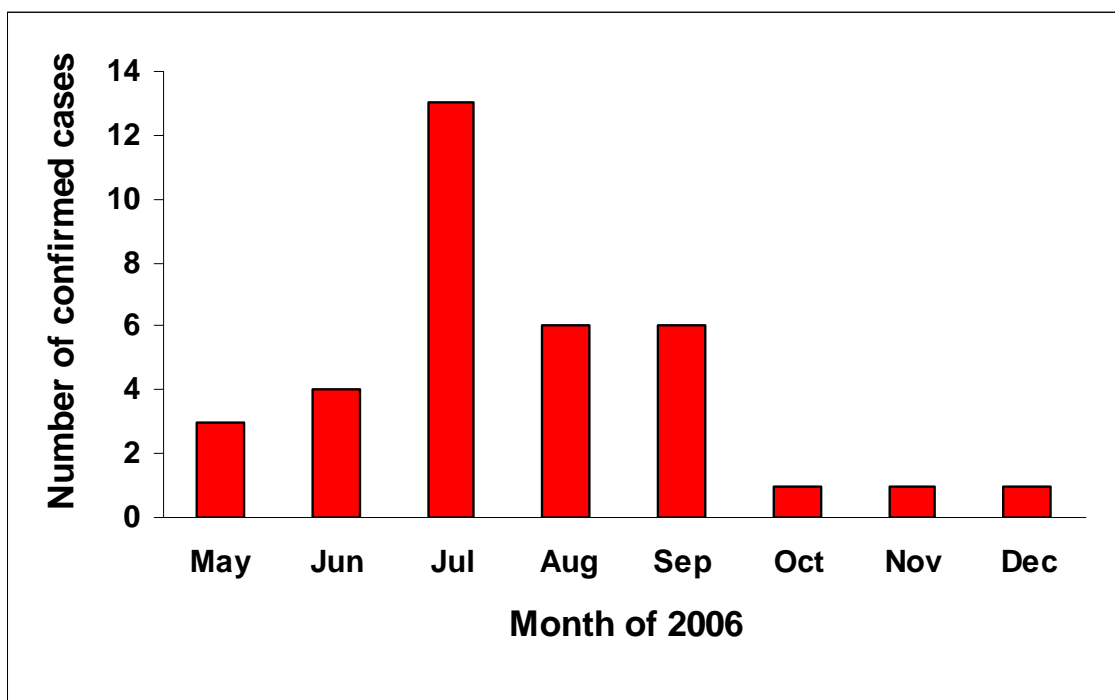


Figure 1: The number of confirmed EIA cases during 2006, by month date of diagnosis

Thirty five of these cases were confirmed, with serological and/or virological evidence of infection with EIA virus, based on results from the agar gel immunodiffusion (AGID, Coggins) test, one or more commercially-available ELISA tests, immunoblot and/or



quantitative PCR and RT-PCR. A further three (unconfirmed) cases had clinical and/or epidemiological (but no collaborating serological and/or virological) evidence consistent with EIA infection. The outbreak affected horses from 18 separate home premises in 8 Irish counties (Kildare, Meath, Dublin, Wicklow, Wexford, Limerick, Louth and Monaghan) and 1 county (Derry) in Northern Ireland (Figure 2, from More et al., 2008, with permission). Twenty one cases were linked to the Meath cluster, and 17 to the Kildare cluster.

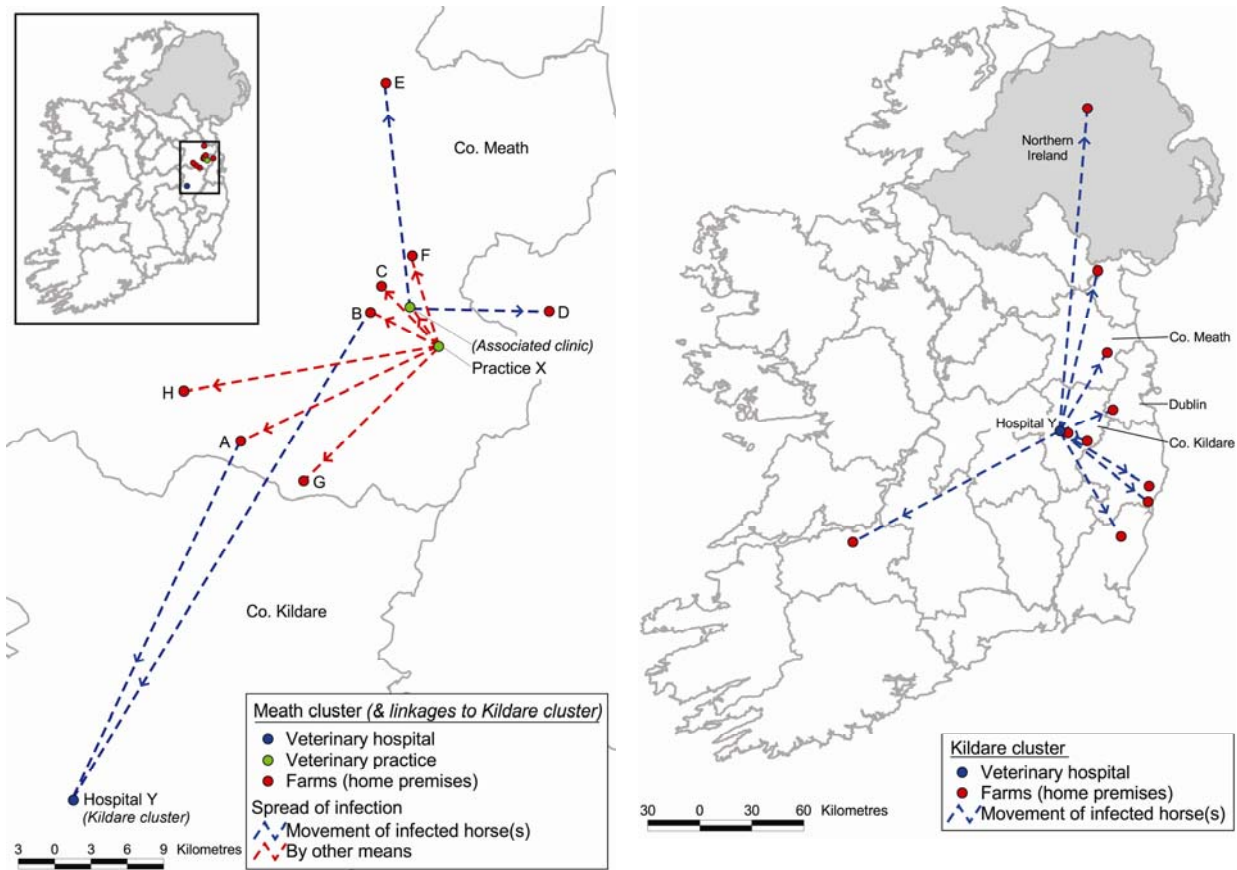


Figure 2: Location of the 38 EIA cases during the 2006 outbreak in Ireland, including EIA cases associated with the Meath (left) and Kildare (right) clusters

EIA was probably introduced into Ireland with the importation, without licence, of contaminated hyperimmune plasma, and it is likely that initial administration of this plasma, and much of the subsequent transmission and spread of the agent in the Meath cluster, was related to iatrogenic causes. In contrast to previous reports, principally from the US, vector-borne transmission was of lesser importance. Investigation of transmission in the Kildare cluster, which was centred at a veterinary hospital, was conducted using both qualitative and quantitative epidemiological investigation methods. For 16 of the 17 horses in the Kildare cluster, there was no evidence in support of commonly-described methods of transmission (iatrogenic, close-contact, vector-borne). Transmission was most likely to have occurred during a narrow infection window, during hospitalisation of case C1[p3] in Barn A. At this stage, we can only speculate as to the mechanism of transfer of infection from C1[p3] to at least 13 other horses in this barn during a 13 hour infection window.



A number of lessons-learned have been identified as a result of this outbreak, which may also be relevant to other countries:

- Cooperation was critical to eradication success, across organisations and disciplines and between government and industry;
- Epidemiological investigations, concurrent with ongoing control efforts, can play a critical role during exotic disease incursions;
- A range of factors have been identified to minimize the risk of further EIA incursions;
- The risk of equine infectious diseases will continue, highlighting the need for detailed planning in preparedness and response; and
- There is a need to critically evaluate the roles and responsibilities of both industry and government, noting the substantial level of private, as well as public, good associated with the national equine industry

Detailed information about the outbreak are presented in three papers in the November 2008 issue of the *Equine Veterinary Journal* (Volume 40, pp 702-711) including:

- The national response (control and eradication strategies, programme management, linkages with industry and the international community, resource issues) to the outbreak and lessons learned
- Detailed information about the epidemiological investigation methodology, the initial source of infection, aspects of diagnosis and clinical presentation during the outbreak, and the modes of transmission and spread in the Meath cluster
- The findings from the investigation of the Kildare cluster, with emphasis on the modes of transmission and spread of infection.

Reference

More, S.J., Aznar, I., Bailey, D.C., Larkin, J.F., Leadon, D.P., Lenihan, P., Flaherty, B., Fogarty, U. and Brangan, P. (2008). An outbreak of equine infectious anaemia (EIA) in Ireland during 2006: the investigation methodology, the initial source of infection, diagnosis and clinical presentation, the modes of transmission and spread in the Meath cluster. *Equine Veterinary Journal* **40**, 706-708.

Virology Disease Report for the Third Quarter of 2008

A summary of the diagnostic bacteriology testing undertaken by different contributing laboratories is presented in Table 2. For contagious equine metritis (CEM) 10 of 28 HBLB approved laboratories contributed data.

VLA CEMO Data for the period July to September 2008

We are again pleased to include data relating to CEM testing from the Veterinary Laboratories Agency (VLA), in this quarterly report. The sample population for the VLA is different from that for the other contributing laboratories as the VLA tests are principally in relation to international trade. No isolates were identified as CEMO positive by either HBLB approved laboratories or the reference laboratory at the VLA.