THE ROYAL SOCIETY

The Academy of Medical Sciences

Summary of oral evidence: Dr Ian Brown

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Dr Ian Brown is Head of Avian Virology and Director of OIE/FAO/EU International Reference Laboratory for Avian Influenza at the Veterinary Laboratories Agency (VLA) in Weybridge. The views expressed were the personal views of Dr Brown.

Members of the working group present were: Sir John Skehel, Professor Neil Ferguson, Dr John McCauley, Professor Karl Nicholson, Dr Geoffrey Schild and Professor Robin Weiss.

Key points

Surveillance

Dr Brown explained that the surveillance of the wild bird population is a difficult task which is very much dependent on members of the public reporting dead birds. Over the past five months around 45,000 birds have been sampled across Europe, without any evidence of the virus being present in the healthy wild bird population. A second strand of surveillance has focused on testing dead birds for presence of virus. This has resulted in detection of H5N1 HPAI in 741 birds, derived from over 60 species collected in a total of 13 EU member states. The denominator data for numbers of birds tested in this category is not yet available. Dr Brown highlighted the variability of surveillance across Europe, which is dependent on the infrastructure in each country, and the difficulty in generating any meaningful picture of the prevalence and movement of the virus across Europe. The European Union (EU) sets out how the surveillance must be done but does not fix how many samples should be taken.

Within the United Kingdom surveillance is primarily undertaken by the Wildfowl and Wetlands Trust (WWT), with additional support from the British Trust for Ornithology (BTO) and Royal Society for the Protection of Birds (RSPB). Dr Brown reported that the WWT had been very proactive in sampling during the winter at four sites in the UK and had fed this information into the VLA, Defra and the EU. A list of 15 species of birds to monitor had been agreed with ornithologists in the autumn of 2005. This was extended to around 30 species during the course of the winter as more susceptible species were identified and added to the list. The four sites were chosen as they covered the 15 initial target species. Dr Brown highlighted the criticisms of some experts that the sampling size is too low to pick up LPAI and therefore the data collected needs to be qualified. Practical considerations for the collection of large numbers of samples need to be balanced against the statistical appropriateness of any sampling frame. However, the dead bird surveillance has proved invaluable in tracking the spread of this virus.

Sample analysis

Dr Brown highlighted the significant staff resource at the VLA that has been redirected towards the identification, processing and testing of samples. Trained staff capable of providing sample analysis has increased five fold.

He explained that the laboratory had always operated a 24 hours service for samples sent from poultry farms and that the extra resource was being employed to decrease turn around times of samples from wild birds sent in for analysis. Following political pressure after the positive result of the swan in Cellardyke, they have reduced the turn around time from seven to five working days from the time an initial phone call is received to report a dead bird. Currently this has involved 5,500 birds in six weeks with no positive results, which is

extremely demanding on resources. The VLA hopes to review the amount of routine testing of wild birds in consultation with Defra and other experts to ensure enhanced targeting and risk are key components.

Sharing of data

The VLA has always disseminated sequence data from samples when there is a clear link to potential public health problems. The data is usually made available as either a sample or as sequence data. Dr Brown explained that whilst he agreed with criticisms of limited access to data it has to be balanced against obtaining samples from countries where a confidentiality agreement is part of the condition of receiving the sample. He reported that the VLA is hoping to move to a default Material Transfer Agreement (MTA) where data generated from the sample can be shared.

Dr Brown highlighted a number of exchanges of information and data take place between various animal and public health laboratories in the UK such as the Health Protection Agency and the WHO Influenza Centre at the National Institute of Medical Research. He reported that these exchanges were a mix of formal and informal contacts.

Avian influenza vaccines

The current control policy for avian influenza in the UK is based on the early identification of an outbreak, movement restrictions and culling animals at the affected premises. Vaccination is only likely to be used as a last resort if avian influenza becomes endemic in poultry and many factors would need to be balanced, but this would be a policy decision made by Defra. Dr Brown reported that he has been involved in some experiments to test the effectiveness of some vaccines but this work was very limited. This type of research and development was mainly conducted in industry. The experiments the VLA can undertake are limited to small scale trials under laboratory conditions. At a European level, research and development work is being conducted in institutes a number of countries including in France, Italy and the Netherlands where targeted vaccination against avian influenza is already happening. Dr Brown said that the VLA meets vaccine manufacturers to discuss ongoing research programmes.

There was discussion around the standardisation of avian influenza vaccines for poultry and the need for standardisation across all producers and the role of the OIE in this process; who he felt may be best placed to take a leading role. Dr Brown suggested that standardisation would be desirable but would only be feasible if industry were signed up to the process. Dr Brown added that any vaccination programme needs to be accompanied by a proper monitoring procedure as has been set up in Italy in order to differentiate between infected and vaccinated birds, to facilitate early detection of infection in vaccinated flocks.

National and international policy

The importance of the OIE in collecting data from the Far East and elsewhere was discussed. Dr Brown explained the information submitted by individual countries on outbreaks of avian influenza and reported by the OIE was useful, but could be made more valuable if the OIE required more detail on the location of each reported outbreak and the submission of a sample of virus for sequencing. In Dr Brown's view, the OIE are respected but have to consider international sensitivities in order to achieve early transparent reporting of disease amongst a membership of 187 member countries, so it is very difficult to get agreement and be highly prescriptive.

At the international level, Dr Brown highlighted his concerns that avian influenza policy was almost entirely focused on H5N1 in both animals and humans. He suggested that recent outbreaks of H2N2 in the United States and other outbreaks with various virus subtypes including H9 in Europe and elsewhere demonstrate that the H5 strain of avian influenza is not the only strain circulating in the bird or animal population that may present a real pandemic threat.