

SUMMARY OF AVIAN INFLUENZA ACTIVITY IN EUROPE, ASIA, AND AFRICA, 2006–2009

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Important Findings

Events during the period extending from 2006 to 2009 have been overshadowed by the ongoing panzootic with H5N1 (highly pathogenic notifiable avian influenza [HPNAI]), which has afflicted 63 countries and three continents (Africa, Asia, and Europe) during the review period. Two countries, Indonesia and Egypt, have formally declared the disease endemic to the World Organisation for Animal Health, while others have used a variety of approaches aimed at containment, control, and eradication. These approaches have achieved variable success, but in 2009 several countries that had previously declared themselves free of H5N1 HPNAI became reinfected. In addition, the virus continued to be detected widely in wild bird populations, even in the absence of local poultry outbreaks. Other poultry outbreaks with HPNAI have been reported in South Africa (in ostriches with H5N2 in 2006) and the U.K. (in chickens with H7N7 in 2008). Also notable was the report of H5N2 HPNAI in wild bird populations in North Africa in 2007. Improved active surveillance systems and vigilance for notifiable avian influenza (NAI) in domestic poultry, especially in host groupings, in which clinical signs following infection may be inapparent (e.g., domestic waterfowl), have inevitably resulted in the detection and reporting of other activity. Low pathogenicity NAI H5 or H7 viruses were isolated/detected from poultry in Belgium (H5N2, 2008), Chinese Taipei (H5N2, 2008), Denmark (H5N2, 2006; H7N1, 2008), France (H5N2, 2007), Germany (H7N3, 2008), Italy (H7N7, 2006; H7N3, 2007–08), the Netherlands (H7N7, 2006), Portugal (H5N2, 2007; H5N3, 2007), the Republic of Korea (H7N8, 2007; H5N2, 2008), and the U.K. (H7N3, 2006; H7N2, 2007). In addition, there has also been significant activity with H6 and H9 viruses in poultry populations, especially in Asia.

Significance of Findings

The prospects for global control in the short term and medium term remain unrealistic, and therefore the veterinary community faces a huge challenge in implementing lasting control efforts at a global level. Continued vigilance through enhanced surveillance has assisted in the early detection of LPNAI viruses in the domestic poultry compartment. This has potentially been successful in minimizing the risk of widespread infection that has the potential to result in the emergence of virulent viruses through mutation of LPNAI viruses in domestic poultry. During the review period there were only three instances (two of which were in poultry) of other HPNAI viruses in poultry. In addition, the detection of H5N2 HPNAI in wild birds in the apparent absence of infection in local poultry is also of particular interest. The scale of the international

effort to monitor influenza infections in the veterinary and wild bird sector presents significant opportunities to the scientific community as it attempts to gain a better understanding of the epidemiology and ecology of these viruses.

Additional Information

There are a number of unique and significant features of the epidemiology of this panzootic with H5N1 HPNAI, features that involve not only all sectors of commercial poultry production but that also entail significant spread to mammalian populations, including humans. The continued spread to humans has been attributed to close contact with infected poultry or activities associated with the killing and dressing of poultry for human consumption. The establishment of this virus in free-range commercial ducks, village poultry, and live bird markets is an important feature that has resulted in extensive spread of the virus. In addition, for the first time, extensive spread of HPNAI was attributed in part to the movement of wild birds that had become infected, presumably through direct or indirect contact with infected poultry. The role of wild birds in the spread of virus has been subject to extensive international debate and uncertainty, but the likelihood is that both wild birds and activities associated with domestic poultry have been responsible for the spread.

In the period leading up to 2006, extensive use was made of stamping-out protocols in an effort to control the disease, and this led to the death or slaughter of hundreds of millions of birds. Subsequently, some countries, particularly those that had become reinfected or those in which the virus might be considered endemic, looked for alternative approaches to control, especially through the use of vaccination.

As a result of the extensive spread of H5N1 HPNAI, many countries have had to acquire the capability to diagnose and control the disease, and this has resulted in increased awareness and reporting not only of HPNAI but of other notifiable AI viruses. This monitoring has been further heightened through concerns about the zoonotic potential of avian influenza viruses in general and has been part of global pandemic preparedness. As a result, information on global activity with AI viruses, particularly in the poultry sector, has significantly increased, which reflects either genuine changes in the epidemiology of the disease or, perhaps more likely, better detection and reporting. This dramatic increase in surveillance, monitoring, and reporting throughout the world has made producing a summary document for three continents (Africa, Asia, and Europe) a daunting task. As a result, this report should be regarded as an indication of reported isolations of AI in the three continents during the period ranging from 2006 to 2009 (up to April 1, 2009). This report is neither a complete nor exhaustive record and is focused on incursion of AI viruses into domestic poultry, but also includes events in wild birds that are of particular relevance for veterinary health.

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