Influenza at the human-animal interface

Summary and assessment as of 5 November 2012

Human infection with avian influenza A(H5N1) virus and associated animal health events

From 2003 through 5 November 2012, 608 laboratory-confirmed human cases with avian influenza A(H5N1) virus infection have been officially reported to WHO from 15 countries, of which 359 died. Since January 2012, 30 human cases of influenza A(H5N1) virus infection have been reported to WHO. Since the last update (1 October 2012), no new laboratory-confirmed human cases with influenza A(H5N1) virus infection were reported to WHO. The last human case with confirmed H5N1 infection reported had onset date on 24 July 2012.

An increase in the number of H5N1 poultry outbreaks would be expected to occur over the coming months, with the arrival of winter, and there are indications that the normal seasonal increase in outbreaks in poultry is beginning. Human infections can be expected any time the virus is circulating in poultry.

Public health risk assessment for avian influenza A(H5N1) viruses: The public health risk for the virus remains unchanged.

Figure 1: Epidemiological curve of avian influenza H5N1 cases in humans by country and month of onset
Human infection with other non-human influenza viruses

A(H3N2) variant virus infection

The United States of America (USA) reported no additional human cases of influenza A(H3N2)v, and no additional deaths, even after schools resumed in the autumn 2012. The large majority of cases have been associated with swine exposure, though instances of likely human-to-human transmission have been identified. No sustained human-to-human transmission of this virus has been reported.

Limited serological studies\(^1,2,3,4\) indicate that adults may have some pre-existing immunity to this virus but children do not. Seasonal vaccines do not provide cross protection against A(H3N2)v infection. WHO has identified several candidate vaccine viruses specific for A(H3N2)v that could be used to produce an (H3N2)v vaccine if needed\(^5\).

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1 Antibodies Cross-Reactive to Influenza A(H3N2) Variant Virus and Impact of 2010-11 Seasonal Influenza Vaccine on Cross-Reactive Antibodies-United States, MMWR Vol 61/No 14 April 13, 2012
3 Waalen et al, Age-dependent prevalence of antibodies cross-reactive to the influenza A(H3N2) variant virus in sera collected in Norway in 2011; Euro Surveillance 2012; 17(19) web link: http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20170;
4 Danuta Skowronski et all, Cross-reactive and vaccine-induced antibody to emerging swine influenza A(H3N2)v, JID 2012, http://jid.oxfordjournals.org/content/early/2012/08/07/infdis.jis500.full.pdf+html
5 http://www.who.int/influenza/vaccines/virus/candidates_reagents/variant_a_h3n2/en/index.html
Overall public health risk assessment for influenza A(H3N2)v viruses: Further human cases and small clusters may be expected as this virus is circulating in the swine population in the USA and people may continue to be exposed. Close monitoring of the situation is warranted.

Because influenza viruses evolve constantly and change characteristics and behavior unpredictably, WHO continues to stress the importance of global monitoring of variant influenza viruses and recommends to all Member States to strengthen routine surveillance activities.


Relevant Links:

WHO Table: Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO:
http://www.who.int/influenza/human_animal_interface/EN_GIP_LatestCumulativeNumberH5N1cases.pdf

WHO Table: H5N1 avian influenza: timeline of major events

WHO Archive: Avian Influenza situation updates:

World Organisation of Animal Health (OIE) webpage: Web portal on Avian Influenza:

Food and Agriculture Organization of the UN (FAO) webpage: Avian Influenza:

Updated unified nomenclature system for the highly pathogenic H5N1 avian influenza viruses
http://www.who.int/influenza/gisrs_laboratory/h5n1_nomenclature/en/index.html