Update on Avian Influenza

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The cumulative number of confirmed cases of human avian influenza since the beginning of the year is 34 cases with 26 deaths. The HPAI subtype H5N1 is unprecedented since there are no records of an epizootic having lasted so long a time and having covered such a wide geographical area in such a short period of time. Up till the end of May this year, 12 countries/territories have notified the reoccurrence of HPAI H5N1 following its previous eradication, thus indicating that the virus is continuing to circulate. These are the Republic of Korea, Hong Kong (SARPRC), India, Iran, Israel, Japan, Laos, Switzerland, Thailand, Turkey, Ukraine and the United Kingdom (wild birds).

First EU prepandemic vaccine

Last May, GSK's new vaccine Prepandrix was the first prepandemic vaccine to obtain a centralised marketing authorisation. It is formulated with a novel adjuvant system designed to achieve high immune response to a low dose of antigen which is long lasting and active against a broad range of H5N1 strains. The current age indication is 18-60 years. During clinical trials it was found to be well tolerated and showed cross protection.

Scientists publishing in *Nature* call for diversification of antiviral stockpiles

The potential impact of pandemic influenza makes effective measures to limit the spread and morbidity of virus infection a public health priority. Antiviral drugs are seen as essential requirements for control of initial influenza outbreaks caused by a new virus, and in prepandemic plans there is a heavy reliance on drug stockpiles.

The principal target for these drugs is a virus surface glycoprotein, neuraminidase N1, which facilitates the release of the virus and thus the spread of infection. The presence of N1 neuraminidase on both avian H5N1 and human seasonal influenza A subtype H1N1, shows that both virus sub-types have the same mechanism of resistance to oseltamivir. This data adds weight to the hypothesis that because the molecular structure of zanamivir is a minimal modification of the natural sialic acid substrate, use of zanamivir should minimize the viability of any drug resistant mutations at the enzyme active site, and thus reduce the chances for development of resistance. Due to these findings, scientists recommend the diversification of pandemic stockpile with both types of neuraminidases.