

H7N9 2013 – Flu returns with a vengeance

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The rise of the flu - Early 2013

Avian Influenza A (H7N9) Outbreak Report

• 44 DEAD, 135 INFECTED

• First reported in China by the World Health Organization on April 1

• Virus detected in poultry

• Sporadic infections in humans, many with poultry exposure

• Scientists from Hong Kong Baptist University and Chinese University of Hong Kong create H7N9 future risk map

• Map shows bird migration patterns, estimations of poultry production and consumption

Scientists create deadly new viruses

Global industry infuriated

• Scientists led by Dr Chen Hualan from China's Harbin Veterinary Research Institute fuse bird, human flu to make new killer virus

• Created 127 viral hybrids of H5N1 and H1N1.

• Global industry feared leaking of these viruses could cause a pandemic

Dr Chen Hualan

"The studies demonstrated that H5N1 viruses have the potential to acquire mammalian transmissibility by re-assortment with the human influenza viruses. High attention should be paid to monitor the emergence of such mammalian-transmissible virus in nature to prevent a possible pandemic caused by H5N1 virus,"

China combats H7N9

• WHO: China responded swiftly to contain flu

• WHO: H7N9 unlikely to become a pandemic

• No evidence found of human-to-human transmission

The flu returns to haunt - Late 2013

First human to human transmission

- â€¢ World's first human-to-human bird flu virus transmission reported in China
- â€¢ British Medical Journal study showed how an infected father could have transmitted the virus to his daughter who had tended to him during his illness in early March 2013. Both died due to the infection.
- â€¢ Study conducted by an international team led by Yoshihiro Kawaoka

H7N9 Resurfaces - New Epidemic Wave

- â€¢ Four new cases of H7N9 reported in Eastern China
- â€¢ Scientists: Too early to predict if major outbreak possible
- â€¢ Wet markets stay open in spite of new reported cases
- â€¢ Vietnam, that shares a border with China faced increasing risk of infection
- â€¢ Doctors noticed H7N9 soon becoming resistant to antiviral drugs like Tamiflu

How the industry coped?

- â€¢ Scientists from National Chiao Tung University, Taiwan created an [ultra-fast DNA sequencer](#) to detect bird flu
- â€¢ [Taiwan's Adimmune Corp](#) developed H7N9 vaccine, to be released soon
- â€¢ Japan's Health, Labor and Welfare Ministry working on H7N9 vaccine
- â€¢ Australia-based CSL, US-based Greffex, Chinese biopharmaceutical giant Sinovac Biotech are trying to cut down vaccine manufacturing time
- â€¢ [NIH tests Sanofi, Novartis, GSK's investigational bird flu vaccine](#) at nine different sites
- â€¢ Vela Diagnostics' developed PCR-based Research-Use-Only genetic tests for H7N9 bird flu
- â€¢ Rush Gene Service helped develop H7N9 vaccine