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Dear Doctors,

Human swine Influenza A (H1N1) infection in the United States

I would like to draw your attention to recent cases of human swine influenza A (H1N1) infection in the United States of America (US).

The Centers for Disease Control and Prevention of the United States (USCDC) reported two cases of human infection with swine influenza in US in its publication, the Morbidity and Mortality Weekly Report (*MMWR Dispatch issued on April 21, 2009*). On 13 April and 17 April 2009, CDC received two separate reports of unsubtypeable influenza A infection involving two children who resided in adjacent counties in southern California. The first one was a 10-year-old boy of San Diego County who developed fever, cough and vomiting since 30 March 2009. The second case was a 9-year-old girl of Imperial County who developed cough and high fever. Both cases recovered uneventfully after symptomatic treatment and both had not received influenza vaccine during this influenza season. CDC determined that the virus was swine influenza A (H1N1) on 14 and 17 April 2009, respectively. Epidemiological investigation by CDC has not identified history of direct exposure to pigs in both cases and no epidemiological linkage between these two cases was identified. Preliminary genetic characterization of the swine influenza viruses in these two patients showed that they were closely related genetically, substantially different from human influenza A(H1N1), resistant to amantadine and rimantadine, and contain a unique combination of gene segments that previously has not been reported among swine or human influenza viruses in the United States or elsewhere.

After confirmation of these cases, enhanced surveillance for possible additional case has been implemented in affected counties. As of 23 April 2009, five additional cases have been identified by the US CDC (3 from California and 2 from Texas). Preliminary information suggested that the clinical courses of all seven cases were relatively mild and all of them recovered. Investigations are being carried out in the US to determine how easily the virus spreads between people.



Swine influenza is a respiratory disease of pigs caused by type A influenza that regularly cause outbreaks of influenza among pigs. The classical swine flu virus (an influenza type A H1N1 virus) was first isolated from a pig in 1930 and it is known to circulate among pig populations since then. The H1N1 swine flu viruses are antigenically different from human H1N1 viruses and swine flu viruses do not normally infect humans. However, sporadic human infections with swine flu do occasionally occur. Most commonly, human cases of swine influenza happen in people with direct exposure to pigs (e.g. workers in the swine industry). Limited, non sustained human-to-human swine influenza transmission has been documented in the published literature. In addition, some confirmed swine influenza cases have not had a history of exposure to pigs. Although uncomplicated influenza-like illness (fever, cough or sore throat) has been reported in many past human swine influenza cases, mild respiratory illness (nasal congestion, rhinorrhea) without fever and occasional severe disease has also been recorded. Other symptoms reported with human swine influenza infection include vomiting, diarrhea, myalgia, headache, chills, fatigue, and dyspnea. Though rare, conjunctivitis has been documented. Severe disease (pneumonia, respiratory failure) and fatal outcomes are possible.

CDC received reports of approximately one human swine influenza virus infection every one to two years in the US. Since December 2005, 12 cases of human infection with swine influenza have been reported in US prior to April 2009.

In Hong Kong, we have a sensitive laboratory surveillance system for influenza virus. The Public Health Laboratory Service Branch (PHLSB) of CHP is also capable of doing further genetic analysis of influenza isolates to detect swine influenza. In the past, PHLSB detected sporadic swine flu infections in human (a H3N2 swine flu in 1999 and a H1N1 swine flu in 2001). The first case in 1999 was a 10-month-old girl who presented with fever and influenza like illness. She recovered uneventfully and no secondary spread was identified. The second case in 2001 involved a 4-month-old girl who presented with bronchiolitis and also made uneventful recovery. No further spread was detected in both cases.

For more information regarding the swine influenza A (H1N1) outbreak in US, you may visit the following CDC webpage (<http://www.cdc.gov/flu/swine/recommendations.htm>). The Centre for Health Protection (CHP) has been closely monitoring the progress of further epidemiological investigation in US. We are also communicating with the World Health Organization for further advice.

Yours sincerely,



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轄下執行疾病預防
及控制之專業架構
The Centre for Health
Protection is a
professional arm of the
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disease prevention and
control