

**For information on
9 March 2009**

Legislative Council Panel on Health Services

**Update on Prevention and Control Measures on
Human Avian Influenza Infection and Pandemic Preparedness**

PURPOSE

This paper provides an update on the Government's work in the prevention and control of human avian influenza and pandemic preparedness.

BACKGROUND

2. Avian influenza infection in human is usually caused by influenza A H5N1 and H9N2. Cases of human infection of avian influenza are mainly the result of close contact with live poultry and their droppings. On the other hand, an influenza pandemic occurs when there is an extensive human-to-human transmission of a new influenza virus or an influenza virus which has not been around for a long time. An influenza pandemic takes large toll as the majority of the population lack immunity to the virus. It is postulated that H5N1 avian influenza virus could be a candidate virus for pandemic if it acquires the property of efficient human-to-human transmission. At present, there is no evidence showing efficient transmission of avian influenza among human beings.

3. Since 2003, there have been 408 human cases of H5N1 in 15 countries as at 27 February 2009 according to the World Health Organization (WHO). The overall case fatality rate was about 60%. There were usually more cases in the period from January to March each year. The Department of Health (DH) has received notifications from the Ministry of Health (MoH) on eight confirmed cases of human H5N1 infection so far this year. Of these cases, five were fatal. Investigations conducted by the Mainland health authorities reveal that seven cases had contact with diseased poultry or exposure to live poultry market before disease onset. All eight cases were sporadic cases without epidemiological linkage and there was no evidence of human-to-human transmission.

4. In Hong Kong, the first outbreak of human H5N1 infection occurred in 1997, with 18 confirmed cases and six of them died. Another two imported cases were confirmed in 2003, of which one case succumbed. Since then, there has not been any human case of H5N1 infection in Hong Kong.

5. Besides, a total of five cases of human H9N2 infection were confirmed in Hong Kong in 1999, 2003, 2007 and 2008. The infection caused a milder disease than H5N1 infection and no death was recorded. The latest case notified in late December 2008 was concerned with a two-month-old baby girl who presented with respiratory symptoms and whose respiratory specimen was positive for influenza A H9N2 virus. She lived in Shenzhen with her parents and was brought to Hong Kong for treatment. The girl has recovered from the infection and her parents remained asymptomatic during the medical surveillance period.

STRATEGIES AND MEASURES FOR PREVENTION AND PREPAREDNESS

6. The Government has taken a multi-pronged approach to prevent avian influenza outbreaks and prepare ahead for possible pandemic influenza. We have adopted the following four major health-related strategies –

- (a) reduce risk of human infections;
- (b) early detection and rapid response;
- (c) enhance emergency preparedness for pandemic influenza; and
- (d) closer collaboration with the Mainland and international health authorities.

Details of the measures taken with respect to the four strategies are set out below.

(A) Reduce risk of human infections

Reduce infection risk from birds

7. The Government has put in place a series of measures to reduce the risk of virus transmission from poultry to human, such as

banning the keeping of backyard poultry, requiring the compliance with bio-security measures in local farms, controlling importation of birds including live poultry from infected places, requiring vaccination for local and imported chickens, banning the keeping of live poultry overnight at retail level, imposing stringent hygiene requirements for wholesale and retail markets, as well as enhancing testing and surveillance for avian influenza virus in poultry and the environment.

8. Besides, the Government proposed a live poultry trade buyout scheme with a view to controlling and limiting the number of poultry farmers, wholesalers, retailers and transporters, and is actively pursuing the development of a poultry slaughtering centre to achieve complete segregation of humans from live poultry.

Reduce infection risk in healthcare setting

9. To reduce the risk of healthcare-associated infections, a comprehensive infection control infrastructure has been set up. At present, each major public hospital has an infection control team to oversee infection control policies and practices. Hospital front-line staff also work closely with infection control officers to ensure early identification of infectious cases and implementation of appropriate actions to prevent the spread of the diseases. On the other hand, the Centre for Health Protection (CHP) of DH and the Hospital Authority (HA) provide infection control training programmes to healthcare and healthcare-related workers in the public and private sectors. Guidelines on infection control are issued for different institutional settings and professional groups.

10. An infectious disease block in the Princess Margaret Hospital with 108 isolation beds was completed in 2007. As at February 2009, there were a total of 1 444 isolation beds in the acute hospitals of HA to cater for isolation of infectious cases.

Publicity and public education

11. Health information on avian influenza and influenza pandemic preparedness is widely disseminated through various channels, such as television, radio, internet, health education telephone hotline, outreach programmes, seminars and distribution of health education materials. Such information increases public awareness and educate them on the preventive measures to be adopted at individual level.

12. In addition, DH distributes health education leaflets through airline check-in counters or on board flights to avian flu-affected areas to provide information to travellers on how to prevent avian influenza. Airlines also broadcast health messages on board flights from avian-flu affected areas to Hong Kong, advising travellers to seek early medical attention if feeling unwell. DH will continue to keep in contact with and update the travel industry on avian influenza situation through the Travel Industry Council of Hong Kong, and organise talks and seminars for the tour group coordinators.

(B) Early detection and rapid response

13. The new Prevention and Control of Disease Ordinance (Cap. 599) has come into effect since 14 July 2008. It brings local legislation in line with the International Health Regulations (2005) of the WHO and enhances Hong Kong's capacity to prevent and control public health crisis. Under this Ordinance, Influenza A (H2, H5, H7 and H9) are notifiable infectious diseases and CHP provides free laboratory support for confirmation or exclusion of these avian influenza infections.

14. In addition to the statutory notifications, we have established a comprehensive disease surveillance system through collaboration with HA and private hospitals, general practitioners and institutions on sentinel surveillance, laboratory surveillance, investigation of institutional outbreaks, hospital admissions data monitoring and media monitoring. Results of influenza surveillance are uploaded weekly on the CHP website for public knowledge.

15. In view of the large volume of travellers between Hong Kong and the Mainland and other countries, Hong Kong is susceptible to the risk of local outbreaks resulting from imported cases. In this regard, DH has implemented temperature screening for in-bound travellers at all Immigration Control Points. Those found to have fever or reporting illness will be further assessed and referred to hospital for further management if necessary. For any suspected avian influenza cases, rapid diagnosis using molecular methods will be conducted by CHP.

16. Once avian influenza infected cases are detected through the notification and surveillance systems, CHP will immediately carry out epidemiological investigation, implement necessary quarantine and isolation measures, conduct case finding, contact tracing and environmental surveys, and investigate the source of outbreak. Immediate control measures and medical surveillance will be instituted

as appropriate.

(C) Enhance emergency preparedness for pandemic influenza

Exercises and drills

17. We are mindful of the need to maintain effective response in case of pandemic influenza. To this end, regular exercises and drills are conducted to test and enhance the emergency preparedness of government departments in case of public health emergencies. For example, DH conducted an inter-departmental exercise code-named “Redwood” on 10 January 2009 to test the cooperation and response of various departments in the event of human cases of avian influenza. Besides, health authorities in Hong Kong, the Mainland and Macao organise joint exercises regularly to review the emergency response and notification mechanisms of the three places in handling cross-boundary public health emergencies. The last one, code-named “Exercise Great Wall 2008”, was conducted on 16 December 2008.

Antiviral stockpiling and use of pandemic vaccines

18. The stockpiling of antiviral drugs is an important element in the Government’s Preparedness Plan for Influenza Pandemic. On the advice of its Scientific Committee on Emerging and Zoonotic Diseases (SCEZD), CHP has stockpiled about 20 million doses of antiviral drugs to prepare for emergency situations. The stockpile includes both oseltamivir (Tamiflu) and zanamivir (Relenza). DH will review the antiviral stockpiling strategies from time to time, taking into account the recommendations of the SCEZD and WHO.

19. Regarding human vaccines against H5 avian influenza virus, SCEZD is deliberating the stockpiling of the vaccines, taking into account the efficacy, safety and quality assurance of the vaccines. The Government will continue to monitor the latest scientific development and recommendations of WHO in working out the strategies for stockpiling of vaccines as part of the preparedness plan.

Surge capacity

20. Rapid diagnostic tests for influenza using molecular methods are available and will be conducted for all suspected avian flu cases. Testing arrangements at various response levels have been agreed among all the testing laboratories, including the Public Health

Laboratory Centre (PHLC) of CHP and medical laboratories of five designated hospitals of HA. Technical capacity of these laboratories has been monitored through a quality assessment programme. Testing reagents are stockpiled. The laboratory support service will be strengthened when necessary to meet the increasing workload. On the other hand, DH is working closely with professional organisations in the recruitment of volunteers from nurses, doctors, pharmacists, allied medical personnel, and social workers in the private sector as well as non-governmental organizations. They will be invited to assist the Government when the pandemic strikes to maintain the provision of essential services.

Risk communication

21. Maintaining free and transparent information flow is an effective tool in reducing public anxiety and misunderstanding and empowering the public to play an active role in pandemic preparedness. To this end, CHP has a dedicated influenza webpage in its website to publish updated figures and provide the latest information on avian influenza and influenza pandemic. CHP also distributes information letters and guidelines to doctors, homes for the elderly, hostels for people with disabilities, schools, kindergartens and child care centres from time to time, so as to keep them informed of the latest situation and strengthen surveillance, prevention and control of the disease.

(D) Closer collaboration with the Mainland and international health authorities

22. The Government has been maintaining very close collaboration with WHO and overseas health authorities such as Centers for Disease Control and Prevention of the United States and the Health Protection Agency of the United Kingdom. We have also been providing technical advice to assist WHO in the formulation of avian influenza control guidelines, and participating in providing information on H5 viruses isolated in and distributed from our laboratory service. We also take part in monitoring antiviral resistance of influenza viruses and contribute to the knowledge on antiviral resistance. A Memorandum of Understanding with the Health Protection Agency of England and Wales was signed for closer ties in public health protection and experience sharing.

23. We have all along been maintaining close communication and co-operation with the Mainland and Macao health authorities to ensure

expeditious and effective exchange of important information about infectious disease outbreaks and incidents of the three places. Contingency measures have been taken to reduce the chance of infectious disease outbreak. Specifically, we signed a "Cooperation Agreement on Response Mechanism for Public Health Emergencies" with the Ministry of Health and the Macao Special Administrative Region in late 2005 which provides that the three places may form a joint emergency response group to facilitate sharing of intelligence, expertise and resources in case of cross-boundary serious public health emergencies in the Mainland, Macao or Hong Kong. Furthermore, a mechanism has been established whereby the Mainland and Macao communicate with Hong Kong about any sudden surge of infectious diseases with public health significance on a timely basis.

24. The continued occurrence of human avian influenza cases in other countries in the past years indicates persistence of the threat. The Government will continue to work with the Mainland and international health authorities as well as local stakeholders in its efforts to prevent and control the disease to safeguard the health of the public.

ADVICE SOUGHT

25. Members are invited to note the content of this paper.

**Food and Health Bureau
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