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Panel on Health Services

**Background brief prepared by the Legislative Council Secretariat
for the meeting on 16 December 2013**

**Measures for the prevention and control of
human infections of avian influenza A(H7N9)**

Purpose

This paper summarizes the concerns of the members of the Panel on Health Services ("the Panel") on measures for the prevention and control of human infections of avian influenza A(H7N9).

Background

2. Influenza A(H7) viruses are a group of influenza viruses which normally circulate among birds. The avian influenza A(H7N9) is one subgroup among the larger group of H7 viruses. Although some human cases of infection with A(H7) viruses have occasionally been detected, mainly in people directly exposed to infected poultry or contaminated environments, no human infections with A(H7N9) viruses have been reported until the outbreak on the Mainland in the first half of 2013.

3. On 31 March 2013, the National Health and Family Planning Commission ("NHFPC") of the Mainland notified the World Health Organization ("WHO") of the first three cases of human infection with avian influenza A(H7N9) virus. As of 10 December 2013, a total of 143 laboratory-confirmed cases of human infection with avian influenza A(H7N9) were reported, including 140 cases on the Mainland (involving 10 Provinces and two Municipalities), one imported case (from Jiangsu Province) in Taiwan and two cases in Hong Kong.

4. According to WHO, most human avian influenza A(H7N9) cases have reported contact with poultry or live animal markets. Knowledge about the main reservoirs and the extent and distribution of the virus in animals remains

limited. Although four small family clusters have been reported among previous cases, evidence does not support sustained human-to-human transmission of this virus. While further human cases and small clusters may be expected if the virus continues to circulate on the Mainland, the current likelihood of community level spread of this virus is considered low.

5. Influenza A(H7) is a statutorily notifiable disease in Hong Kong. This apart, the Administration has implemented a number of measures to safeguard Hong Kong against human infections of avian influenza A(H7N9). These include disease surveillance; liaison with other health authorities; enhancing port health measures, providing guidelines on infection control to healthcare professionals, residential care homes and schools; and strengthening risk communication, publicity and health education.

6. The Government has developed a Preparedness Plan for Influenza Pandemic ("the Preparedness Plan") to set out its action plan in case of an influenza pandemic. The up-to-date Preparedness Plan includes a three-level response system, i.e. Alert, Serious and Emergency. Each response level represents a graded risk of pandemic affecting Hong Kong, and prescribes a given set of public health actions required.

Deliberations of the Panel

7. The subject matter of prevention and control of human infections of avian influenza A(H7N9) has been discussed by the Panel on 8 April 2013. The deliberations and concerns of members are summarized below.

Timely dissemination of information

8. Members considered that the issue of timely alerts and orderly dissemination of credible information on the development of the outbreak of H7N9 avian influenza were of paramount importance for the various sectors of the community to take precautionary and control measures. Any time lapse between the patient's disease onset and notification on confirmed human infection cases might undermine the effectiveness of the measures implemented. In this connection, members urged the Administration to strengthen the communication and response network with the Mainland health authorities and step up its efforts in keeping the public informed of the latest influenza situation in Hong Kong and other parts of the Mainland.

9. The Administration assured members that it had all along been maintaining close communication with the Mainland health authorities, including NHFPC, and WHO to ensure expeditious notification of infectious disease outbreaks. Members were advised that NHFPC would continue to

openly and transparently make regular reports to WHO and its Members States. Likewise, the Administration would continue to liaise closely with the Mainland health authorities to obtain more information on all the suspected and confirmed cases of human infections with avian influenza A(H7N9).

Tests for rapid diagnosis of infection

10. Concern was raised about the turnaround time for tests for rapid diagnosis of human infections with avian influenza A(H7N9), and whether there would be any variations in the testing standard adopted by the laboratories on the Mainland and those in Hong Kong.

11. According to the Administration, the only available diagnostic test was polymerase chain reaction ("PCR"). Any suspected cases fulfilling the reporting criteria and notified to the Department of Health ("DH") would immediately be isolated in negative pressure rooms of public hospitals. Specimens from the patients would be sent to the Public Health Laboratory Services Branch of the Centre for Health Protection ("CHP") for PCR testing. The test results would be available in three to four hours. The Administration had maintained communication with the Mainland authorities on the standard for virus testing.

Port health measures

12. Members were concerned that Hong Kong would be more susceptible to the risk of local outbreaks of human infections with avian influenza A(H7N9) resulting from imported cases due to the large number of travellers between Hong Kong and the Mainland. There was a suggestion that inbound travellers coming from areas with confirmed cases of human infections with avian influenza A(H7N9) should undergo temperature check before departing for Hong Kong, or be asked to fill in health declaration forms upon arriving Hong Kong to facilitate early identification of and timely responses to public health emergencies.

13. The Administration advised that it was difficult to request the affected places to check whether their outbound travellers had fever or respiratory symptoms before departure. It was possible that an infected person might not have symptoms. There were also divergent views over the effectiveness of requiring travellers bound for Hong Kong to fill in the health declaration forms, albeit that it could facilitate contact tracing in certain circumstances. There was also possibility that travellers chose not to provide full information when filling in the forms. The Administration stressed that at present, a series of port health measures, including broadcasting health messages on board for flights, vessels and rails arriving Hong Kong; surveillance of travellers having fever through temperature screening at all boundary control points; regular updates to the tourism industry, including the message that inbound agents should advise travellers feeling unwell to postpone their trip to Hong Kong until recovery, had

been put in place to safeguard Hong Kong against infectious diseases. WHO also did not advise special screening at points of entry with regard to the disease nor did it currently recommend any travel or trade restrictions. DH would continue to monitor the development and follow up WHO's recommendations on port health measures, and would step up control measures as appropriate.

14. On the concern about the accuracy of the infra-red devices for screening the body temperature of all arriving passengers at the boundary control points in Hong Kong, the Administration explained that the infra-red devices did not seek to take the exact temperature of travellers, but rather served as a mass screening for fever among inbound travellers to identify suspected cases. Travellers detected to have fever would undergo further medical assessment.

Control measures on imported poultry

15. There was a view that the Administration should suspend the import of live birds (including live poultry), poultry meat or products from Guangdong Province and Shenzhen Municipality in cases of confirmation of outbreak of influenza A(H7N9) in poultry populations, or confirmation of cases of human infections with avian influenza A(H7N9), in these places.

16. The Administration advised that all imported poultry from the Mainland had to be sourced from registered farms recognized by the Mainland authorities. All live poultry bound for Hong Kong had to be accompanied by an official animal health certificate to confirm that the poultry had been tested negative for avian influenza virus. Starting from 11 April 2013, the Centre for Food Safety would also collect tissue swabs sample from poultry in each consignment at the Man Kam To Animal Inspection Station for PCR test for influenza A virus, covering both H5 and H7 viruses. The consignments would then be transported to the Cheung Sha Wan Temporary Wholesale Poultry Market. The test results would be available in four to five hours. Only those consignments that passed the test would be released for sale.

Preparedness in healthcare and education settings

17. Concern was raised as to whether there would be adequate supply of personal protective equipment ("PPE") for frontline healthcare workers, and antiviral drugs such as Tamiflu in time of outbreak in the community.

18. According to the Administration, a three-month stock of PPE, including 38 million surgical masks and 1.4 million N95 respirators, was maintained by the Hospital Authority ("HA"). As regards antiviral drugs, Hong Kong currently had a stock of around 18 million doeses of Tamiflu to prepare for local outbreaks. In addition, there was a total of 1 400 isolation beds with special facilities for infectious diseases in public hospitals.

19. Some members were concerned about elderly people residing in elderly homes and school children who might be more prone to infectious disease outbreaks. They urged the Administration to provide the welfare and education sectors with clear guidelines and assistance as well as a one-stop enquiry service for these institutions to obtain more information about the influenza pandemic. According to the Administration, CHP had set up a dedicated webpage on its website which carries the latest information on the disease, guidelines for different sectors of the community and health advice. It had also disseminated relevant messages and guidelines to doctors, residential homes for the elderly, schools and kindergartens to strengthen the surveillance, prevention and control of influenza.

Latest developments

20. Hong Kong confirmed two cases of human infection with avian influenza A(H7N9) virus on 2 and 6 December 2013 respectively. According to the Administration, the first case involves a 36-year-old woman. She had onset of cough on 21 November 2013 and developed fever on 22 November 2013. She was admitted to hospital on 27 November 2013. She had visited Shenzhen on 17 November 2013 and had slaughtered live chicken for cooking and consuming. The second patient is an 80-year-old man with underlying medical condition who lives with his family in Shenzhen. He traveled from Shenzhen to Hong Kong on 3 December 2013 for further management of his chronic illness. He was admitted to hospital on that day. He was afebrile on admission, but developed fever on 6 December 2013. The epidemiological investigations into the two cases by CHP, including contact tracing, are ongoing. Close contacts of these cases were put under quarantine for 10 days since their last contact with the patient and were prescribed with the antiviral Tamiflu for prophylaxis, followed by 10 more days of medical surveillance. Other contacts remain under medical surveillance and were offered Tamiflu prophylaxis.

21. The Government escalated the response level under the Preparedness Plan from "Alert" to "Serious" on the day of confirmation of the first human infection case. HA activated the Serious Response Level in public hospitals on 3 December 2013. An expert working group under HA has met to discuss the treatment protocol of human infections of avian influenza A(H7N9). With regard to imported live poultry, as a precautionary measure, the Administration suspended the import of live poultry from the registered farms in Shenzhen starting from 3 December 2013. To enhance the existing surveillance, the reporting criteria for human influenza A(H7N9) infection has been updated by including workers in live poultry industry as an additional epidemiological criteria with effect from 6 December 2013. The updated reporting criteria are in **Appendix I**. DH will make arrangement to send the patient of any

suspected case meeting the reporting criteria to regional public hospital for isolation, testing and treatment. DH has also liaised with the Auxiliary Medical Service and the Civil Aid Service to deploy additional manpower at border control points to conduct random temperature checks using handheld devices. Suspected cases will be immediately referred to public hospitals for follow-up investigation.

22. At the Council meeting of 4 December 2013, Dr Hon KWOK Ka-ki raised an urgent oral question on the first confirmed case of human infection of avian influenza A(H7N9). The question and the Administration's reply are in **Appendix II**.

23. On 11 December 2013, CHP received notification from the Health and Family Planning Commission of Guangdong Province that among the 70 environmental samples collected from 13 live poultry markets in Shenzhen, three samples collected from two live poultry markets in Longgang tested positive for the avian influenza A(H7N9) virus.

Relevant papers

24. A list of the relevant papers on the Legislative Council website is in **Appendix III**.

Council Business Division 2
Legislative Council Secretariat
16 December 2013

Reporting criteria for Human Influenza A (H7N9) infection

An individual fulfilling both the Clinical Criteria AND Epidemiological Criteria should be reported to CHP for further investigation.

Clinical Criteria

- Patient with influenza-like-illness (fever $>38^{\circ}\text{C}$ with cough or sore throat); **OR**
- person with severe pneumonia; **OR**
- person died of unexplained acute respiratory illness.

Epidemiological Criteria

One or more of the following exposures in the 10 days prior to symptom onset:

- contact with a human case of influenza A (H7N9); **OR**
- contact with poultry or wild birds or their remains or to environments contaminated by their faeces in countries/areas with documented avian influenza A (H7N9) infection in birds and/or humans in the recent 6 months ^{Note}; **OR**
- consumption of raw or undercooked poultry products in countries/areas with documented avian influenza A(H7N9) infection in poultry and/or humans in the recent 6 months ^{Note}; **OR**
- close contact with a confirmed influenza A(H7N9) infected animal other than poultry or wild birds; **OR**
- worked in a laboratory that is processing samples from persons or animals that are suspected from avian influenza infection; **OR**
- worked in the live poultry industry

Note: The list of affected areas is regularly uploaded to the Centre for Health Protection website (http://www.chp.gov.hk/files/pdf/global_statistics_avian_influenza_e.pdf)

Source: Website of the Centre for Health Protection at <http://www.chp.gov.hk>

Press Releases 4 December 2013

LC Urgent Q2: First confirmed case of human infection of avian influenza A(H7N9) in Hong Kong

Following is an urgent question by the Dr Hon Kwok Ka-ki under Rule 24(4) of the Rules of Procedure and a reply by the Secretary for Food and Health, Dr Ko Wing-man, in the Legislative Council today (December 4):

Question:

The first case of human infection of H7N9 avian influenza in Hong Kong, which was confirmed on the 2nd of this month, has aroused public concern. The patient concerned had physical contact with chickens while she was on the Mainland, where an H7N9 avian influenza epidemic broke out during the spring season this year, resulting in 139 infected cases in which 45 people died. In this connection, will the Government inform this Council whether:

(a) it has assessed the risk of an immediate outbreak of H7N9 avian influenza epidemic in Hong Kong; if it has, of the assessment results; if not, the reasons for that;

(b) it has put in place any emergency measures to counter the H7N9 avian influenza epidemic in case of such an outbreak, including measures to handle local live poultry, quarantine arrangements for poultry imported from the Mainland, epidemic prevention measures at boundary control points (including body temperature checks, health declarations by arriving and departing travellers, etc.), as well as issuing travel alerts and setting up an inter-departmental working group for coordinating efforts and conducting drills; if it has, of the conditions under which the various measures will be implemented and their details; if not, how the Government ensures that the epidemic will be under control; and

(c) it has put in place any medical preparations to counter an H7N9 avian influenza epidemic, including case identification check-ups at out-patient clinics as well as accident and emergency departments, infection control and isolation measures in hospitals, as well as clinical and medication guidelines; if it has, of the implementation details; if not, the reasons for that?

Reply:

President,

On March 31, 2013, the National Health and Family Planning Commission (NHFPC) notified the first confirmed human cases of avian influenza A (H7N9). As at December 2, a total of 139 human cases of avian influenza A(H7N9) have been confirmed in the Mainland across 10 provinces and 2 municipalities, including 2 cases in Guangdong. In addition, the health authorities of Taiwan also reported one imported case from Jiangsu.

On December 2, 2013, Hong Kong confirmed the first human infection with avian influenza A(H7N9) virus. On the day of confirmation, the Government escalated the response level under the Preparedness Plan for Influenza Pandemic from "Alert" to

"Serious". On December 2 and 3 respectively, I chaired the Serious Response Level Steering Committee to co-ordinate the response measures by relevant bureaux and departments. We note that some press reports have alleged a delay in the identification of the case of avian influenza A(H7N9). I would like to clarify that the Hospital Authority (HA) took specimens of the patient on November 28 and 30, 2013 respectively for preliminary rapid tests, but the results were negative. On December 2, 2013, HA did further tests on the patient and the results were only confirmed positive at the time.

(a) According to epidemiological and laboratory investigation, contact with infected poultry or visiting wet markets with live poultry are important risk factors of human infection caused by the avian influenza A(H7N9) virus. At present, there is no evidence showing that avian influenza A(H7N9) virus can cause sustained human-to-human transmission, and the risk of community outbreaks remains low.

As regards the confirmed case in Hong Kong, according to our preliminary investigation, we believe it is likely an imported sporadic case. A number of people who have had close contact with the patient have received rapid testing and the results so far have been negative.

We will continue to closely monitor the developments and continue to investigate the source of infection and mode of transmission of the case, in order to conduct risk assessment in greater detail.

(b) and (c) The Government has been adopting the Preparedness Plan for Influenza Pandemic in taking measures for preparedness and response in case of an influenza pandemic. The document defines the response levels, the corresponding command structures to be set up, and measures to be taken. To make better preparations for influenza pandemic, on-going preventive measures adopted by the Government include:

(i) Enhanced surveillance: Influenza A(H7) is a statutorily notifiable disease and the virus is a scheduled infectious agent under the Prevention and Control of Disease Ordinance (Cap. 599). Any suspected or confirmed cases are required to be notified to the Centre for Health Protection (CHP) of the Department of Health (DH). On the other hand, CHP works with HA and private hospitals to enhance laboratory testing. DH also reviews its laboratory diagnostic strategy, enhances diagnostic service capacity, stockpiles necessary reagents and strengthens liaison with overseas counterparts on collection of updated information.

(ii) Liaison with other health authorities: All along, CHP maintains liaison with the World Health Organization (WHO), the Mainland and overseas health authorities to monitor the latest development, obtain timely and accurate information from places outside Hong Kong, and will modify local surveillance activities according to recommendations issued by the WHO.

(iii) Enhanced port health measures: DH has implemented a series of port health measures, including the display of posters about the disease at all boundary control points, delivery of health leaflets to arriving travellers coming from affected places, regular updates to the tourism industry through meetings and correspondences, enhanced surveillance of sick travellers and referral of suspected cases to public hospitals for further investigation. DH will continue to monitor and follow up on relevant recommendations on port health measures made by the WHO.

(iv) Prompt control and transparency in dissemination of results: Any suspected case fulfilling the reporting criteria and notified to CHP will be immediately isolated in a hospital setting. Specimens from the patient will be sent to the Public Health Laboratory Services Branch of CHP for testing. DH will release any positive testing results to the public as soon as possible.

(v) Infection control in healthcare settings: DH has provided guidelines on infection control to healthcare professionals, residential care homes and schools. It has also organised training to provide updated information to healthcare workers. Moreover, DH has collaborated with HA to set up a referral mechanism for cases from private sectors. DH has also urged the management of all private hospitals to be vigilant and to enhance their preparedness against the disease. They are advised to review and update the infection control guidelines and contingency plans in view of the latest development of the disease, and to ensure sufficient stock of personal protective equipment. Briefings for the hospital management and the healthcare workers have been arranged to provide them with the latest information on the disease and training on the related infection control measures.

(vi) Enhanced risk communication: DH promulgates in press releases and public announcements that travellers returning from affected places presenting with respiratory symptoms are advised to wear face masks, seek medical attention and reveal their travel and contact history to doctors. DH also provides updates on the disease and health advice to members of the public.

(vii) Publicity and public education: DH has organised various health education activities and provided health advice on the prevention of the disease, personal hygiene and environmental hygiene, targeting the general public as well as specific sectors of the community. DH has reminded and will continue to remind members of the public to take heed of personal hygiene, especially washing hands. A dedicated page has been set up on the CHP website which carries the latest information on the disease, guidelines for different sectors of the community and health advice. There is also a communication plan in the HA which includes staff forums, designated infectious disease information corners, establishment of a website etc.

(viii) Contingency plan and drills for concerted interdepartmental actions: DH will continue to update contingency plans on major outbreaks of infectious diseases, as well as conduct interdepartmental exercises and drills with concerned parties and stakeholders in close partnership. HA's designated contingency plans are in place. Since CHP was established in 2004, it has organised 13 exercises testing the preparedness and responsiveness of relevant departments on public health actions.

In connection with the first confirmed case of human infection of avian influenza A(H7N9) in Hong Kong, the Serious Response Level Steering Committee set up under the Preparedness Plan for Influenza Pandemic held a discussion and decided to, in addition to strengthening various on-going measures, adopt special measures as follows:

(i) CHP has taken immediate action and successfully located 17 close contacts and more than 200 other contacts of the first case. Seventeen close contacts of the patient have been quarantined and prescribed with Tamiflu prophylaxis. Close contacts without symptoms will be arranged to stay in non-hospitalised quarantine facilities. The Lady MacLehose Holiday Village of the Leisure and Cultural Services Department in Sai

Kung has been converted as a quarantine centre and is ready to receive asymptomatic close contacts.

(ii) HA has also activated the Serious Response Level in public hospitals since December 3. Frontline hospital staff at accident and emergency departments and general outpatient clinics are reminded to stay vigilant to patients seeking consultation at public hospitals. Enhanced surveillance and patient triage guidelines are in place to ensure timely reporting and early arrangement of clinical tests. More stringent infection control measures are enforced in public hospitals, which include restrictions on visiting. Visitors to public hospitals and clinics are now required to put on surgical masks and perform hand hygiene before and after visiting patient areas. An expert working group under HA has met to discuss the treatment protocol of human infections of avian influenza A(H7N9).

(iii) With regard to imported live poultry, in this first case of confirmed human contraction with avian influenza A (H7N9) in Hong Kong, the patient has reportedly visited a live bird market in Shenzhen, slaughtered and cooked a live chicken for consumption. However, details are not available. As a precautionary measure, we have suspended the import of live poultry from the registered farms in Shenzhen. CHP will continue to trace the possible source of infection of the patient. Upon availability of further information, we will discuss with the relevant Mainland authorities the import suspension arrangement on live poultry.

(iv) The Food and Environmental Hygiene Department (FEHD) has stepped up cleansing and disinfection of retail outlets for live poultry, as well as enhanced inspection to ensure strict compliance with the rule against overnight stocking of live poultry. FEHD has also disinfected the patient's residence.

(v) The Agriculture, Fisheries and Conservation Department (AFCD) conducted visits to 15 local chicken farms and taken specimens for testing on December 3. No irregularity was detected. It will conduct visits to the remaining 15 local chicken farms today. At the same time, AFCD will continue to inspect the poultry wholesale market, Yuen Po Street Bird Garden and pet bird shops etc. to ensure that the birds are in healthy and normal condition. It has also issued letters to the trade reminding them to stay alert and strictly follow the biosecurity and hygiene measures. AFCD will continue to take samples from dead birds and poultry for testing of avian influenza.

(vi) The confirmed case has been notified to the WHO, the NHFPC, the health authorities of Guangdong and Macau, the General Administration of Quality Supervision, Inspection and Quarantine of the Mainland as well as quarantine authorities of Guangdong, Zhuhai and Macau. We have liaised with the Shenzhen Entry-Exit Inspection and Quarantine Bureau in paying attention to travellers and cross-boundary students who present with fever or are symptomatic. Suspected cases will be immediately referred to public hospitals for follow-up investigation.

(vii) In addition to a dedicated webpage, CHP has also set up a hotline at 2125 1111 to answer the public's questions. The hotline operates from 9am to 6pm.

Thank you, President.

Ends/Wednesday, December 4, 2013
Issued at HKT 15:26

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**Relevant papers on measures for the prevention and control of
human infections of avian influenza A(H7N9)**

Committee	Date of meeting	Paper
Panel on Health Services	8.4.2013 (Item I)	Agenda Minutes CB(2)1139/12-13(01)

Council Business Division 2
Legislative Council Secretariat
16 December 2013