

# Guidelines on the Preparation and Management of Human Swine Influenza in Schools

## PURPOSE

This set of guidelines aims to provide advice for schools on the management of Human Swine Influenza (HSI) (Influenza A/H1N1).

## BACKGROUND

Originally known to circulate among pig populations, the swine flu viruses do occasionally infect human beings. In this present international human swine influenza (swine flu) outbreak, human-to-human transmission has occurred.

This particular strain of swine influenza virus is a new virus arising from mixing of viral genes from pigs, birds and human beings. Since the recognition of novel swine-origin influenza A (H1N1) virus in Mexico and the United States, the disease has rapidly spread to many countries. Experience in overseas countries and areas, including Japan and New York City, has shown that the infection can spread easily among students as they move between classes and mix among peers.

The Government announced on 12 May 2009 the disease control strategy for HSI and the management of contacts of confirmed HSI cases. Public health strategies against pandemic influenza are characterized in two phases: containment and mitigation.

**Containment** applies when Hong Kong is free from HSI or when there is insignificant local transmission. Containment involves stringent port health measures, aggressive isolation of cases, contact tracing, quarantine and chemoprophylaxis to cut off disease introduction and transmission.

**Mitigation** applies when local transmission of HSI becomes significant and containment strategy is no longer appropriate or feasible. Mitigation aims at relieving disease burden and mortality through hygiene measures, social distancing, medical resource mobilization, self-care and other measures.

The advice contained in the guidelines provides a general guidance for school management on the prevention, early detection and management of HSI

cases and outbreaks.

### Symptoms

The symptoms of HSI are usually similar to those of human seasonal influenza and include fever, cough, sore throat, runny nose, muscle pain and headache. Some people infected with swine flu may also have nausea, vomiting and diarrhoea.

### Mode of transmission

Human-to-human transmission of HSI is thought to occur in the same way as seasonal flu is spread among people, mainly through coughing or sneezing. People may also become infected by touching objects soiled with flu viruses and then touching their mouth, nose or eyes.

Infected people are capable of infecting others beginning one day before symptoms develop and up to seven or more days after becoming sick, meaning that the disease could be passed on to others without the patient knowing it.

HSI viruses are not known to be transmissible to people through eating properly handled and cooked pork or pork products. Cooking pork to an internal temperature of 70°C (160°F ) kills the swine flu virus.

### Treatment for HSI

The swine influenza virus is sensitive to oseltamivir (Tamiflu ®) or zanamivir (Relenza ®). Antiviral agents can reduce the severity and duration of illness but must be used under doctor's prescription and given in the early stage of illness. Thus, it is important that people with symptoms of swine flu consult a doctor as soon as possible, especially if they have a history of visiting an affected place or contact with sick persons.

Whether a doctor prescribes antiviral drugs to a patient will depend on the circumstances and health needs of the patient, taking into consideration the presence of any contraindication and balancing the benefits of taking the anti-viral drugs against the possible adverse side effects. Indiscriminate use

of antiviral drugs may give rise to drug resistance.

## **GET PREPARED FOR HUMAN SWINE INFLUENZA PANDEMIC**

When a pandemic draws near, it may not be possible to totally eliminate the risk of infection. However, the community as a whole can reduce the risk considerably if every one maintains vigilance by adopting proper preventive measures.

In order to reduce the risk of HSI outbreak in schools, school management should observe the following advice.

### General measures

- Ensure a clean and hygienic school environment, including school buses:
  - regular disinfection of school equipment, door knobs and lift buttons with 1 in 99 diluted household bleach (mixing one part of 5.25% hypochlorite solution with 99 parts of water), use 70% alcohol for metallic surface;
  - cleaning of floor, doors and windows regularly;
  - proper maintenance of toilet facilities and floor drains including adequate supply of liquid soap, disposable towels or hand-dryers; and
  - maintaining good indoor ventilation, including opening windows as widely and as many as possible and/or well-maintained air conditioning system together with turning on exhaust fans at the same time.
- Observe the infection control guidelines for schools issued by the Centre for Health Protection (CHP):
  1. Advice on School Disinfection at the Height of Influenza Season ([http://www.chp.gov.hk/files/pdf/Advice\\_on\\_School\\_Disinfection\\_Eng.pdf](http://www.chp.gov.hk/files/pdf/Advice_on_School_Disinfection_Eng.pdf))
  2. Guidelines on Prevention of Communicable Diseases in Schools / Kindergartens / Kindergartens-cum-Child Care Centres / Child Care Centres ([http://www.chp.gov.hk/files/pdf/School\\_full\\_eng\\_20090115.pdf](http://www.chp.gov.hk/files/pdf/School_full_eng_20090115.pdf))
- Support students and staff in adopting good personal (e.g. frequent and proper hand hygiene, maintain cough manner, use serving chopsticks

and spoons at meal time) and environmental hygiene (e.g. provision of liquid soap, lidded rubbish bin and regular refuse disposal).

- Any student or staff returning from an affected place should wear a surgical mask for seven days as a precautionary measure. They should seek medical consultation from public clinics or hospitals immediately if fever or influenza-like symptoms appear.
- Relieve staff members from work and advise students to stay at home if they are sick.
- Offer surgical masks to them if they have influenza-like symptoms while arranging them to see a doctor.
- Keep a clear staff and student sickness record.
- To prevent possible outbreak of influenza or HSI, children with fever and respiratory symptoms are strongly advised not to attend school till 48 hours after symptoms have subsided.
- Pay attention to the latest HSI situation and the announcements of the Department of Health and Education Bureau.
- Study the Hong Kong Government - Emergency Preparedness for Influenza Pandemic in Hong Kong and develop in-house supplies of protective equipment.  
([http://www.info.gov.hk/info/flu/eng/files/checklist-e\\_flu\\_eng\\_20070705.pdf](http://www.info.gov.hk/info/flu/eng/files/checklist-e_flu_eng_20070705.pdf))

#### Schools with cross-boundary students

- Remind parents of the cross-boundary students not to send their children to school when they develop influenza-like symptoms such as fever, sore throat and cough
- Remind the drivers and staff of the cross-boundary school buses not to bring students with influenza-like symptoms to school. Arrangements should be made for the parents/ guardians to accompany the students home safely.

#### Schools with students participating in overseas exchange programme

- Strict adherence to personal and environmental hygiene is essential for prevention of swine flu. DH reminds students to watch out for the latest developments in the swine flu outbreak when planning travel. If travel to areas affected by swine flu is unavoidable, they should prepare

adequate face masks and alcohol-based handrub and take all necessary precautionary measures. See health advice for travellers at [www.chp.gov.hk](http://www.chp.gov.hk).

- Remind students planning to study abroad or studying abroad to pay attention to announcements from the local government, follow local public health guidelines and not to have contact with sick people, particularly from areas reporting confirmed cases of human swine influenza in the last 7 days.
- Remind students to buy travel insurance.
- While abroad, if they show influenza-like symptoms, such as fever, cough and sore throat, they should seek medical attention where they are and immediately. Wear a mask and seek medical attention immediately. To protect their own safety and for the health of travel collaterals, they should not travel.
- Should they develop symptoms while on board, put on a mask and notify the crew immediately. The crew will in turn follow established procedures and alert ground control and port health. Port health team will board the flight to assess and follow up on landing.
- For those who are returning from affected areas, pay close attention to their health and wear a mask for 7 days after arrival. They should seek medical consultation from public clinics or hospitals and contact the Department of Health (DH) hotline 2125 1111 immediately if fever or influenza-like symptoms appear.

## **MANAGING HUMAN SWINE INFLUENZA IN SCHOOLS**

### Detection of outbreak

Influenza can be caused by different types of influenza viruses. However, it is not possible to differentiate seasonal influenza from HSI by symptoms alone. Should there be any increase in respiratory illnesses or absenteeism among the staff or students, occurrence of outbreak is suspected. If, for instance, three or more students in the same class suffer from respiratory infection symptoms in succession within a short time, school management should promptly report to the Central Notification Office of the Department of Health (Tel: 2477 2772; Fax: 2477 2770) for immediate epidemiological investigations and outbreak control. Person-in-charge of schools, kindergartens and child care centres should also report to Education Bureau's District School

Development Section/Joint Office for Pre-primary service and Social Welfare Department's Child Care Centres Advisory Inspectorate where appropriate.

### Isolation and contact tracing

Should there be any confirmed case(s) of HSI, the case(s) will be kept in public hospital for medical treatment and isolation until they are non-infectious.

Teachers and students with close contact\* with the case will be offered directly observed chemoprophylaxis (DOC) plus medical surveillance. DOC plus medical surveillance will involve daily reporting to specified clinics of DH for taking chemoprophylaxis (anti-viral medications) and medical check. This ensures the taking of chemoprophylaxis by the person and the checking of any symptoms of infection by the Department of Health. Strong advisory for personal protective measures would also be provided to those under medical surveillance including refraining from going out as far as possible, wearing face masks and keeping good personal hygiene.

Persons subject to DOC plus medical surveillance will need to undertake that they will adhere to the DOC and medical surveillance requirements, failing which they will be put under quarantine. Quarantine will be maintained for those who fail to adhere to DOC plus medical surveillance, and may still be applied in exceptional circumstances where the situation warrants.

Other staff and students of school who have come into contact with a case but not meeting the definition of close contact are regarded as social contacts. They would be offered medical surveillance and chemoprophylaxis as appropriate. During this period, they should ensure good personal and home hygiene, and keep a record of daily activities and persons coming into contact. The overall goal is for social contacts to step up vigilance and to look out for early signs of disease (if they should develop it) to report to the health authority for control measures as soon as possible. Social contacts put under medical surveillance are advised to put on a

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\* Close contact is defined as having cared for or lived with a person who is a confirmed or probable case of human swine influenza, or having been in a setting where there was a high likelihood of contact with respiratory droplets and/or body fluids of such a person. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, physical examination, or any other contact between persons likely to result in exposure to respiratory droplets.

mask during the surveillance period.

Thorough disinfection of the school is essential. The concentration of bleach can be increased (e.g. 1 part of 5.25% household bleach in 49 parts of water for non-metallic surface) for cleansing and disinfection of the premises. Use 70% alcohol for metallic surfaces.

### Management of school hostel

Should there be any residents of school hostel, visitors or staff infected with HSI, staff of CHP will make a site visit to the affected hostel to conduct case investigation.

School management should co-operate with DH in case investigation and contact tracing by:

- providing details of residents, staff and visitors who have contact with the index patient if available;
- providing floor plan, resident list, staff list and visitor list;
- arranging venues for interviews with residents / staff;
- restricting visitors;
- suspending intake of new residents to the affected floor before thorough disinfection;
- assisting in follow-up of health status of residents and medical surveillance of contacts (residents and staff) if necessary;
- assisting in monitoring the residents' compliance to chemoprophylaxis if necessary;
- giving advice to and facilitating any resident or staff who develops influenza-like symptoms to consult a doctor and take any other measures as deemed necessary;
- refraining sick staff and staff requiring medical surveillance from work;
- disinfecting the hostel; and
- strictly observing hostel precautionary measures for maximum protection of residents and staff.

The contacts (residents / staff) requiring DOC or confinement are expected to

- strictly observe personal and environmental hygiene;
- refrain from work or attending classes during the period;

- refrain from going out as far as possible and wear face masks
- report symptoms of influenza to designated person / CHP direct; and
- comply with the chemoprophylaxis regimen.

### School closure

As a prudent measure to slow the local transmission of HSI, when the first local HSI case<sup>†</sup> occurs, the Government will consider closing all primary schools, kindergartens, and nurseries for up to 14 days. Other schools with a confirmed HSI case will be closed for 14 days in the first instance. The arrangements will be reviewed as appropriate, school management should note the latest arrangement announced by the Department of Health and Education Bureau on school closure.

During the suspension period, schools, if required, should remain open to serve those children whose parents have difficulties in arranging alternative child care, while making necessary arrangements to avoid dense congregation of children to minimise the risk of disease transmission. Students should be advised not to go to crowded places unless absolutely necessary.

Schools should maintain a close contact with CHP and Education Bureau for advice and support during the period of school closure.

### Re-opening of schools

School management should note the latest territory-wide arrangement on the re-opening of schools and the advice from the Department of Health and Education Bureau.

Before school resumption, school management should adopt the following measures to maximise protection of its students and staff:

- Ensure a clean and hygienic school environment
- Communicate well with staff/students
- Communicate well with parents

After school resumption, school management should continue to:

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<sup>†</sup> The occurrence of a confirmed local case that has no identifiable link, such as travel to an affected area in the previous 7 days, or exposure to a confirmed index case with such history or his secondary contacts.

- Check body temperature of students
- Maintain environmental hygiene
- Promote personal hygiene and healthy lifestyle
- Observe health condition of students and staff recovering from influenza
- Keep sick leave records of staff and students

#### Arrangements of assembly and activities

After school resumption or during a pandemic, holding an assembly with a lot of students in the school hall or other indoor premises should be avoided. If necessary, good ventilation should be maintained by opening windows and using exhaust fans. Overcrowding should be avoided. For guidelines on organizing public functions, school management may take reference to “Health Advice for Organizers of Public Functions” issued by CHP:

[http://www.chp.gov.hk/files/pdf/Guidelines%20for%20Organizers\\_20090522\\_e.pdf](http://www.chp.gov.hk/files/pdf/Guidelines%20for%20Organizers_20090522_e.pdf)

#### **USEFUL INFORMATION AND RESOURCES**

Please visit the website of the CHP at [www.chp.gov.hk](http://www.chp.gov.hk) on the latest situation and health education material on HSI.

#### Useful material and advices for schools

- Health education material on HSI on CHP website  
[http://www.chp.gov.hk/view\\_content.asp?lang=en&info\\_id=16702](http://www.chp.gov.hk/view_content.asp?lang=en&info_id=16702)
- Notification Form for Suspected Infectious Disease Outbreak in School/Kindergarten  
([http://www.edb.gov.hk/FileManager/EN/Content\\_243/School\\_notification\\_form-e2.pdf](http://www.edb.gov.hk/FileManager/EN/Content_243/School_notification_form-e2.pdf))
- Guidelines on Prevention of Communicable Diseases in Schools /Kindergartens /Kindergartens-cum-Child Care Centres / Child Care Centres  
([http://www.chp.gov.hk/files/pdf/School\\_full\\_eng\\_20090115.pdf](http://www.chp.gov.hk/files/pdf/School_full_eng_20090115.pdf))

- Health Advice on Using Drinking Fountains  
([http://www.chp.gov.hk/files/pdf/Guidelines\\_on\\_use\\_of\\_drink\\_fountain\\_public20080421.pdf](http://www.chp.gov.hk/files/pdf/Guidelines_on_use_of_drink_fountain_public20080421.pdf))
- Use Mask Properly  
([http://www.chp.gov.hk/files/pdf/Use\\_Mask\\_Properly.pdf](http://www.chp.gov.hk/files/pdf/Use_Mask_Properly.pdf))
- Guidelines for Hand Hygiene  
([http://www.chp.gov.hk/files/pdf/HandHygieneGuidelines\\_140308\\_Eng\\_Rev.pdf](http://www.chp.gov.hk/files/pdf/HandHygieneGuidelines_140308_Eng_Rev.pdf))
- A Supplement on Ventilation  
([http://www.chp.gov.hk/files/pdf/Eng\\_Booklet\\_Ventilation.pdf](http://www.chp.gov.hk/files/pdf/Eng_Booklet_Ventilation.pdf))
- Advice on School Disinfection at the Height of Influenza Season  
([http://www.chp.gov.hk/files/pdf/Advice\\_on\\_School\\_Disinfection\\_Eng.pdf](http://www.chp.gov.hk/files/pdf/Advice_on_School_Disinfection_Eng.pdf))
- Guidance note on monitoring of body temperature  
([http://www.chp.gov.hk/files/pdf/guidance\\_note\\_on\\_monitoring\\_of\\_body\\_temperature\\_en.pdf](http://www.chp.gov.hk/files/pdf/guidance_note_on_monitoring_of_body_temperature_en.pdf))
- Temperature Record Sheet Sample  
([http://www.edb.gov.hk/FileManager/EN/Content\\_243/recordsheet%20\(e\)rr.doc](http://www.edb.gov.hk/FileManager/EN/Content_243/recordsheet%20(e)rr.doc))

## Contact

### Department of Health:

- Central Notification Office, CHP: 2477 2772 (Fax: 2477 2770)
- HSI Hotline: 2125 1111
- Central Health Education Unit 24-Hour pre-recorded hotline: 2833 0111

### Education Bureau:

- Education Bureau 24-hour pre-recorded hotline: 2891 0088

### Hong Kong Examinations and Assessment Authority (HKEAA)

- HKEAA hotline: 3628 8860