

## **Strategy and Management of Human Swine Influenza (HSI) Late Containment and Early Mitigation Phases**

### **Introduction**

The Government announced on 12 May 2009 the disease control strategy for human swine influenza (HSI) and the management of contacts of confirmed HSI cases, particularly focused on the containment phase. This note provides an update in the light of further developments of the global situation of HSI, the latest information about HSI from the World Health Assembly (WHA) and our local experience in the effectiveness of containment measures.

### **Global Trend of HSI**

2. During the past week, newly confirmed cases of HSI have continued to emerge in more countries, and the total number of countries/areas with confirmed cases has increased up to 41 as of 18 May 2009. Apart from Mexico, US and Canada in North America, there is evidence suggestive of community spread in Spain and UK in Europe and Japan in Asia (notable for being the first country in our region, the Western Pacific Region of the World Health Organization (WHO), to show evidence of community transmission). The global number of confirmed HSI cases has continued to rise, totalling 8,500 as of 18 May 2009.

3. As we have noted previously, when most places of the world are affected by HSI, it is unlikely that Hong Kong can be spared of local transmission for an extended period, notwithstanding the tightened port health measures taken which are already among the most stringent around the world. With over 13,000 inbound travellers on average per day coming into Hong Kong from US, Canada, UK and Japan, it would not be possible to halt all travelling from these countries, and it is only a matter of time before the first local HSI case emerges in Hong Kong.

### **Latest Information from WHA**

4. The WHA currently underway in Geneva is discussing among other things the measures to tackle HSI as a global pandemic, and we have had first hand information exchanges with health experts about HSI. There appears to be emerging evidence that this novel virus remains relatively milder so far with limited mutability and oseltamivir (known by trade name as Tamiflu) remains an effective chemoprophylaxis against HSI so far. There also appears to be evidence that mortality rate outside Mexico is fairly similar to that of seasonal flu. Some countries

which already have significant community transmission of the virus have adopted measures akin to treating seasonal flu in mitigating the pandemic. The critical success factor for most countries is still early diagnosis with treatment and isolation, and early tracing of close contacts to be put under medical surveillance or some sort of supervision, ideally with prophylaxis with oseltamivir. There is obviously a need to continuously adjust containment and mitigation measures accordingly as we gain more knowledge about the virus and as the global pandemic evolves.

## **Local Experience with HSI**

5. Meanwhile, our local experience with HSI so far, particularly the administration of chemoprophylaxis to all close contacts as well as the treatment of the three confirmed cases of index patients, have provided us a locally specific, empirical, scientific basis to assess the effectiveness of our containment measures. Taking stock of Hong Kong's experience thus far, none of the over 400 close contacts quarantined, with or without chemoprophylaxis administered, have shown symptoms of or been tested positive with the virus. As for the contacts of these close contacts, in turn, their risk of being infected has been demonstrably negligible. Literature has indicated that the viral load of the infected and in turn the risk of infecting others is very low before symptoms developed. Treatment of the index patients also suggests that administration of oseltamivir can contain the viral load of the patients and the risk of infecting others to a reasonably low level, especially when combined with adequate personal protective measures such as wearing of face masks and keeping of good personal, especially hand, hygiene.

## **Late Containment Phase**

6. With the HSI progressing into a global pandemic and with the virus already wide-spread in North America and more recently spreading to our close neighbour Japan with signs of community transmission, it is our assessment that we are now probably at the late stage of the containment phase of our disease control strategy. It is a matter of time before we will have occurrence of the first local HSI case<sup>1</sup>, signifying the transition into the mitigation phase of our strategy when mitigation takes priority. This may occur in the very near future, but before it does, during this late containment phase, we will continue to uphold the same objective of containing possible onward transmission by imported index cases thus delaying community spread.

7. In this regard, we have reviewed the effectiveness of our containment

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<sup>1</sup> i.e. 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.

measures taking into account –

- (a) the latest global trend especially the large number of travellers from countries where community transmission is evident;
- (b) the latest information about HSI from WHA especially the relatively milder severity of disease and limited genetic mutability so far; and
- (c) the effectiveness of the chemoprophylaxis which is also borne out by our local experience with quarantine and treatment.

8. We consider that the objective of the containment strategy can be reasonably achieved so long as we can maintain (a) good adherence to chemoprophylaxis supplemented by personal protective measures; and (b) close medical surveillance for symptoms and isolation as necessary. Based on these new scientific insights and the evolving global and regional situations, we have therefore refined the general guidance for contact management in different settings to administer directly observed chemoprophylaxis (DOC) plus medical surveillance as an alternative to quarantine for close contacts. See *Annex A* for details<sup>2</sup>.

9. DOC plus medical surveillance will involve daily reporting to specified clinics of the Department of Health for taking chemoprophylaxis 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. 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. 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. 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.

### **Special Consideration for Schools**

10. Schools remain a particularly important consideration. We remain of the view that, as a prudent measure to slow the local transmission of the disease, when the first local HSI case occurs (see footnote 1), classes of all primary schools, kindergartens, nurseries and other pre-schools should be suspended for up to 14 days

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<sup>2</sup> The two Annexes only provide general guidance. The classification and measures stated therein should not be understood as fettering the discretion of the Director of Health and health officers to take whatever is the most appropriate steps, which may differ from what is set out in the Annexes, in accordance with the actual circumstances, information and law.

in the first instance and to be reviewed as appropriate. During the suspension period, schools, if required, will 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.

### **Early Mitigation Phase**

11. It is now a matter of time before the first local HSI case occurs. When it does, we will be entering the early mitigation phase, when local transmission will still be in its early stage. In the light of the latest information about HSI, we would continue to maintain medical surveillance and chemoprophylaxis for close contacts during the early mitigation phase with a view to slowing the transmission of the disease. With community transmission in progress, there is no longer a scientific rationale to trace social or other contacts, where their risk of infection approximates that of the general public. The general guidance for management of HSI contacts during the early mitigation phases is set out at *Annex B*<sup>2</sup>.

12. As noted before, a range of public health measures may also be deployed in mitigation phase as the disease progress as appropriate:

- Active promotion and adoption of basic measures: personal protective measures such as hand hygiene and use of face masks; personal care for those who fall ill; environmental hygiene, etc.
- Social distancing: school closure, work place contingencies, cancellation of mass gatherings, etc.
- Antiviral stockpile mobilized for treatment of patients, chemoprophylaxis of healthcare workers and essential service providers in the public sector.
- Vaccine administration if available.
- Mobilize private sector, NGOs to increase medical surge capacity.
- Private enterprises mobilize business continuity plans.
- Self-care: sick patients stay home until their illness is over for at least 48 hours.
- Risk communication to different community segments.

13. Upon the occurrence of the first local HSI case, we will also be taking the following specific measures (apart from closing schools as referred in paragraph 10 above) –

- (a) To open in the first instance 7 designated HSI clinics of the Hospital Authority (HA) for patients with influenza symptoms, providing treatment including antiviral medication targeting high-risk patients e.g. patients with underlying medical conditions.

- (b) To further step up the cleansing and environmental hygiene efforts of the community, through coordinated actions by different government departments, as well as through collaboration with District Councils, community organizations, schools, and other volunteers.
- (c) To engage different sectors and stakeholders in the community, brief them on the disease control strategy and measures, prepare FAQs relevant to the sectors and stakeholders, and mobilize them to initiate response plans on preparedness for HSI.

14. Further measures and refinements of such may be taken during the mitigation phase as the pandemic progresses. As local transmission becomes sustained and significant, isolation and quarantine or medical surveillance for close contacts is no longer appropriate or practical. The priority would increasingly be on mitigation measures.

**Food and Health Bureau  
Department of Health  
19 May 2009**

**General Guidance for Management of Contacts of Confirmed Human Swine Flu Cases  
in Different Settings During the Late Containment Phase**

<b>Setting</b>	<b>Close contacts</b>	<b>Social/Other contacts</b>	<b>Remarks</b>
HSI in hotel	Guests and staff who stayed/served on the same floor/same service section on the same floor (depending on actual configuration), other close contacts: <b>directly observed chemoprophylaxis plus medical surveillance</b>	Other guests and staff at hotel: <b>medical surveillance, chemoprophylaxis</b>	Disinfect floor/section that the case stayed.
HSI on inbound flight	Passengers in same row and 3 rows in front and 3 rows behind and crew who have served the same cabin: <b>directly observed chemoprophylaxis plus medical surveillance</b>	Other passengers: <b>medical surveillance, chemoprophylaxis</b>	Advise to disinfect plane.
HSI in home, local resident	All close contacts: <b>directly observed chemoprophylaxis plus medical surveillance</b>	Social contacts: <b>medical surveillance, chemoprophylaxis</b>	Advise to disinfect household.
HSI in workplace	Co-worker close contacts: <b>directly observed chemoprophylaxis plus medical surveillance</b>	Other workers sharing same office environment: <b>medical surveillance, chemoprophylaxis</b>	Advise to disinfect workplace.
HSI in elderly home	All residents, unprotected staff and visitors with close contact: <b>directly observed chemoprophylaxis plus medical surveillance</b>	Visitors with no close contact: <b>medical surveillance, chemoprophylaxis</b>	Advise to disinfect elderly home. Elderly home staff to provide in-situ care. Infection control measures instituted early.

Setting	Close contacts	Social/Other contacts	Remarks
HSI in school	Teachers and students with close contact: <b>directly observed chemoprophylaxis plus medical surveillance</b>	Other staff and students of school: <b>medical surveillance, chemoprophylaxis</b>	For first local HSI case, all primary schools, kindergartens, nurseries and pre-schools may be closed for up to 14 days subject to review. Other schools with a confirmed case to close for 14 days in the first instance. Advise to disinfect schools.

**Note:**

- (1) The table above summarises the general guidance for management of contacts of confirmed human swine flu cases. The precise specification will have to be determined on a case-by-case basis having regard to actual circumstances of the settings.
- (2) Existing legislation allows the Director of Health and health officers considerable discretion to take the most appropriate steps in accordance with the actual circumstances, and **quarantine measures may still be applied where the circumstances warrant.**
- (3) For close contacts subject to directly observed chemoprophylaxis (DOC) plus medical surveillance, **quarantine would still be maintained for those who fail to comply or fail to report to DH for medical surveillance.**
- (4) First local HSI case is defined as 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.
- (5) During the late containment phase, contact tracing would not normally be conducted for public places with ill-defined contacts or where no contact list is available.

**General Guidance for Management of Contacts of Confirmed Human Swine Flu Cases  
in Different Settings During the Early Mitigation Phase**

<b>Setting</b>	<b>Close contacts</b>	<b>Remarks</b>
HSI in hotel	Guests and staff who stayed/served on the same floor/same service section on the same floor (depending on actual configuration), other close contacts: <b>medical surveillance, chemoprophylaxis</b>	Disinfect floor/section that the case stayed.
HSI on inbound flight	Passengers in same row and 3 rows in front and 3 rows behind and crew who have served the same cabin: <b>medical surveillance, chemoprophylaxis</b>	Advise to disinfect plane.
HSI in home, local resident	All close contacts: <b>medical surveillance, chemoprophylaxis</b>	Advise to disinfect household.
HSI in workplace	Co-worker close contacts: <b>medical surveillance, chemoprophylaxis</b>	Advise to disinfect workplace.
HSI in elderly home	All residents, unprotected staff and visitors with close contact: <b>medical surveillance, chemoprophylaxis</b>	Advise to disinfect elderly home. Elderly home staff to provide in-situ care. Infection control measures instituted early.
HSI in school	Teachers and students with close contact: <b>medical surveillance, chemoprophylaxis</b>	For first local HSI case, all primary schools, kindergartens, nurseries and pre-schools may be closed for up to 14 days subject to review. Other schools with a confirmed case to close for 14 days in the first instance. Advise to disinfect schools.

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- (3) First local HSI case is defined as 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.
- (4) During the early mitigation phases, contact tracing would not normally be conducted for social or other contacts as the priority shifts to mitigation measures.

**Food and Health Bureau  
Department of Health  
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