

# **Current situation and epidemiological update: observations from latest cases**

***Clinical Infection & Public Health Forum***

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SEB/CHP

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# Global situation H7N9

## Human

- Since the emergence of human H7N9 infections in Mainland China in **March 2013**, at least 926 human H7N9 cases have cumulatively been reported globally, including
  - 899 cases from 19 provinces/municipalities in **Mainland China**,
  - one case in Macau ; and
  - 26 cases **exported to other areas from Mainland China** (19 cases in Hong Kong, 4 cases in Taiwan, 2 cases in Canada and 1 case in Malaysia).
- Among them, there were at least 351 deaths with a **case fatality rate** of nearly **40%**.

# Global situation H7N9

- The number of reported cases of human H7N9 infection has markedly increased since the end of 2016.
- Since November 2016, at least 124 human H7N9 cases have been reported in Mainland China:
  - 57 cases in Jiangsu, 22 cases in Zhejiang, **15 cases in Guangdong**, 14 cases in Anhui, 6 cases in Jiangxi, 3 cases each in Fujian and Shanghai, and 2 cases each in Hunan and Shandong.

# Global situation H7N9

- The cases in Guangdong occurred in **Guangzhou (3), Jiangmen (3), Jieyang (2), Shenzhen (2), Zhaoqing (2), Dongguan (1), Muizhou (1) and Zhongshan (1)**.
- In addition, the first human H7N9 case in **Macau** was reported on December 14, 2016.
  - The case involved a 58-year-old poultry wholesaler who had contact with silky fowls with samples tested positive for avian influenza A(H7N9).
  - He was asymptomatic but his respiratory specimen was tested positive for influenza A(H7N9) by PCR.

# Global situation H7N9

- A study found that the **age and sex distribution**, and exposure history of human H7N9 cases in Mainland China reported during the fourth wave (Sep 2015–Aug 2016) were **similar** to those in the previous three waves since 2013.
- Among the reported infections in all the four waves, **85% reported exposure to live poultry**.
- There **is no evidence of increased transmissibility** from poultry or environmental exposures to humans in Mainland China or sustained human-to-human transmission.

# Global situation H7N9

## Poultry & Environment:

- H7N9 has already become enzootic in poultry in Mainland China.
- Since 2015, under the National animal avian influenza H7N9 monitoring program of the Ministry of Agriculture:
  - **poultry and environmental samples** taken from **markets** in Anhui, Fujian, **Guangdong**, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Shanghai and Zhejiang were tested **positive for H7N9** virus by virological tests.

# Global situation H7N9

- According to reports received by the Food and Agriculture Organization on surveillance activities for H7N9 viruses in Mainland China:
  - positive samples continue to be detected mainly from live bird markets, vendors and some commercial or breeding farms.

# Global situation H7N9

- Apart from Mainland China, samples taken from a consignment of **silky fowls in a wholesale poultry market in Macau** were tested positive for A(H7N9) on **December 13, 2016**. The affected silky fowls were imported from Mainland China.
- Locally, under the routine surveillance programme for avian influenza at markets and fresh provision shops commissioned by the Food and Environmental Hygiene Department (FEHD), a sample of faecal droppings of live poultry taken on **May 16, 2016** from a poultry stall in **Yan Oi Market** in Tuen Mun was tested positive for H7N9 virus.



# HK Human H7N9

- Cumulatively, **20 human H7N9 cases** (including 7 deaths) have been confirmed in Hong Kong (**all imported**) since December 2013.
- Among the cases, 19 were imported from Guangdong and one was imported from Jiangsu.
- In the current wave, 4 cases has been confirmed since December 2016.



# The First Case

# Patient demographics

- Date of notification: 19/12/2016
- 75 year-old retired male
- Past health: COAD, secondary polycythaemia

# Clinical progress

- 28/11/2016: Travelled alone to Changping, Dongguan and resided in 蘇坑村.
- 8/12/2016: Attended 東莞常安醫院心內科門診醫院 due to chest discomfort. No admission required.

# Clinical progress

- 9/12/2016:
  - Returned to Hong Kong via Lo Wu.
  - Due to productive cough, shortness of breath and chest discomfort, transferred by ambulance to North District Hospital, admitted to **general medical ward**.
  - **Patient denied history of visit to wet market or contact with poultry.**
  - Patient could not provide exact onset date.

# Clinical progress

- 9/12/2016:
  - CXR on admission had no evidence of pneumonia.
  - NPS positive for enterovirus / rhinovirus RNA but **negative for influenza RNA.**
- 17/12/2016:
  - Developed fever and desaturation.
  - CXR showed evidence of **pneumonia.**
  - Required **high flow oxygen therapy.**

# Clinical progress

- 18/12/2016: Transferred to **isolation room** and Tamiflu was given.
- 19/12/2016: **NPA** confirmed **positive for influenza A(H7N9) RNA** by PHLSB.
- 22/12/2016: Admitted to ICU.
- 23/12/2016: Intubated and required mechanical ventilation
- 25/12/2016: **Died**

# Exposure history

- On 20/12/2016, patient admitted having visited a wet market at 蘇坑村 (forgot exact date) and bought a slaughtered chicken home for cooking upon further enquiry.
- According to Dongguan health authority's information dated 21/12/2016:
  - There was a market with stalls selling live poultry in the village where the patient resided.
  - Patient's neighbour has reared backyard chicken.



# Contact tracing and management

- Close contact
  - Antiviral prophylaxis: 5 days of Tamiflu in treatment dose.
  - 10 days of medical surveillance after last exposure to the index patient and wear mask during the surveillance period.
  - Those who are contraindicated / intolerant to or refuse antiviral prophylaxis with Tamiflu, they should be put under quarantine for 10 days since last exposure.
- Other contact
  - 10 days of medical surveillance after last exposure to the index patient
- **Scientific Committee on Emerging & Zoonotic Diseases: Summary of Recommendations on Management of Close Contacts of Cases of Human Infection with Avian Influenza in Hong Kong (March 2015)**

[http://www.chp.gov.hk/files/pdf/summary\\_of\\_recommendations\\_on\\_management\\_of\\_close\\_contacts\\_of\\_avian\\_influenza.pdf](http://www.chp.gov.hk/files/pdf/summary_of_recommendations_on_management_of_close_contacts_of_avian_influenza.pdf)



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# Contact tracing and management

- 74 close contacts
  - Family members who visited the patient in hospital
  - In-patients of the same cubicle with the patient
  - HCW who had contacted the patient when he was receiving high flow oxygen therapy but without adequate PPE
- During medical surveillance, a total of 5 close contacts had developed respiratory symptoms and their NPA were tested negative for influenza RNA

# Contact tracing and management

- 151 other contacts
  - HCW of the relevant ambulance
  - Other HCW in the hospital who had contacted the patient but with adequate PPE
  - In-patients of the same ward but not the same cubicle with the patient
  - Visitors who had been to the same cubicle with the patient
  - Relevant staff of Port Health Office
  - Relevant staff of the Custom & Excise Department and Immigration Department
- During medical surveillance, a total of 9 other contacts had developed respiratory symptoms and their NPA were tested negative for influenza RNA



## Press Releases

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Latest recommendations from SCEZD on management of close contacts of cases of human infection with avian influenza

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The Centre for Health Protection (CHP) of the Department of Health announced today (March 20) the latest recommendations by the Scientific Committee on Emerging and Zoonotic Diseases (SCEZD) on management of close contacts of cases of human infection with avian influenza.

Based on review of the recommendations on contact tracing for human infection with avian influenza cases by the World Health Organization, and experiences and practices of other health authorities, the SCEZD recommends the CHP to continue to conduct contact tracing of contacts of confirmed human cases of avian influenza. Antiviral prophylaxis with oseltamivir (tamiflu) should be given to the close contacts at an appropriate treatment dose for five days. Medical surveillance is to be undertaken for 10 days after the last exposure, where the close contacts should report to CHP promptly if fever or any respiratory symptom develops.

Moreover, close contacts should wear a face mask for 10 days since last exposure to a confirmed case while the case was infectious. There are no restrictions for work or other daily activities during the surveillance period. If the close contacts are contraindicated / intolerant to or refuse antiviral prophylaxis with oseltamivir, they should be put under quarantine for 10 days since last exposure.

"The above recommendations are based on the most current scientific understanding of the risk of human-to-human transmission of avian influenza A (H7N9) virus, which also apply to human infections with other types of avian influenza viruses with low risk of human-to-human transmission, like avian influenza A (H5N1)," a spokesman for CHP explained.

The SCEZD notes that avian influenza viruses may change unpredictably, including its transmissibility and pathogenicity. It advises CHP to closely monitor the latest scientific development on avian influenza viruses and review the above recommendations if in future new scientific evidence suggests changes in the potential of human-to-human transmission and antiviral susceptibility.



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CHP investigates imported human case of avian inf

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CHP investigates imported human case of avian influenza A(H7N9)

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The Centre for Health Protection (CHP) of the Department of Health is tonight (December 19) investigating the first imported human case of avian influenza A(H7N9) in Hong Kong this winter, and again urged the public to maintain strict personal, food and environmental hygiene both locally and during travel.

The male patient, aged 75 with underlying illnesses, travelled to Changping, Dongguan alone on November 28 and attended a hospital there for chest discomfort on December 8. He returned to Hong Kong via Lo Wu on December 9 and was directly admitted to North District Hospital by ambulance for cough with sputum, shortness of breath, runny nose and chest discomfort. His nasopharyngeal swab tested positive for enterovirus/rhinovirus and negative for influenza virus upon testing by the CHP's Public Health Laboratory Services Branch (PHLSB).

The patient subsequently developed fever on December 17 and the clinical diagnosis was pneumonia. His nasopharyngeal aspirate collected today was confirmed to be positive for influenza A(H7N9) virus by the PHLSB tonight. He is now in serious condition and is under isolation and further management.

The patient denied recent exposure to poultry or wet market.

His home contacts have remained asymptomatic so far and have been put under medical surveillance. Tracing of his other contacts in Hong Kong, if any, is underway.



Update on imported human case of avian influenza ▾

GO



Update on imported human case of avian influenza A(H7N9)  
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The Centre for Health Protection of the Department of Health today (December 20) reported an update on the first imported human case of avian influenza A(H7N9) in Hong Kong this winter.

Upon further enquiries, the male patient aged 75 revealed that he had visited a wet market in Sukeng, Changping, Dongguan, where he had bought dressed chicken.

Contact tracing has so far identified 51 close contacts and the CHP is counting the number of other contacts.

Close contacts include the patient's home contacts as well as relevant in-patients and healthcare workers (HCWs) of North District Hospital. Among them, an HCW with mild upper respiratory symptoms in stable condition has been admitted for observation, pending laboratory testing. The others have remained asymptomatic. They will be given antiviral prophylaxis with oseltamivir (Tamiflu) for five days, advised to wear a mask and put under medical surveillance for 10 days since their last exposure to the patient.

Other contacts are personnel involved upon the patient's arrival in Hong Kong and ambulance personnel in patient transfer. All have remained asymptomatic. They will be advised to wear a mask and will be put under medical surveillance for 10 days since their last exposure to the patient. For those in-patients with underlying illnesses or higher risk of complications, as a precautionary measure, they will also be given Tamiflu for five days, advised to wear a mask and put under medical surveillance for 10 days since their last exposure, even if they have been identified as other contacts.

Epidemiological investigations and contact tracing are ongoing.

Ends/Tuesday, December 20, 2016

Issued at HKT 18:30

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Update on imported human case of avian influenza ▾

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Update on imported human case of avian influenza A(H7N9)

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The Centre for Health Protection of the Department of Health today (December 21) reported an update on the first imported human case of avian influenza A(H7N9) in Hong Kong this winter.

Contact tracing has so far identified 74 close contacts and 78 other contacts.

Among the close contacts, a healthcare worker (HCW) of North District Hospital with mild symptoms reported yesterday (December 20) tested negative for influenza virus. An additional HCW with mild respiratory symptoms in stable condition has been admitted for observation, pending laboratory testing.

Regarding the other contacts, one relevant in-patient and five HCWs with mild symptoms tested negative for influenza virus.

Ends/Wednesday, December 21, 2016

Issued at HKT 18:09

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Update on human cases of avian influenza A(H7N9) ▾

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### Update on human cases of avian influenza A(H7N9)

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The Centre for Health Protection (CHP) of the Department of Health today (December 22) reported an update on the first imported human case of avian influenza A(H7N9) in Hong Kong this winter.

Among the 74 close contacts, a healthcare worker (HCW) of North District Hospital with mild symptoms reported yesterday (December 21) tested negative for influenza virus. Another HCW with mild symptoms is pending testing. Regarding the 151 other contacts, one relevant in-patient with mild symptoms tested negative for influenza virus.

The CHP is also closely monitoring a total of seven additional human cases of avian influenza A(H7N9) in Anhui (five), Shanghai (one) and Fujian (one), and again urged the public to maintain strict personal, food and environmental hygiene both locally and during travel.

According to the Health and Family Planning Commission of Anhui Province, among the five patients, three were from Hefei (including one death), one was from Lu'an and one who died was from Xuancheng.

In addition, the Shanghai Municipal Commission of Health and Family Planning reported that the male patient aged 45 was from Nantong, Jiangsu. The case was classified as an imported case from Jiangsu. In Fujian, it was reported that the male patient aged 44 was from Xiamen.

"Locally, the first imported human case of avian influenza A(H7N9) in this winter was recently detected while four faecal dropping samples of birds collected from Mai Po Nature Reserve in late November were positive for H5N6 virus. The neighbouring Guangdong and Macau also reported their first human H7N9 cases in this winter. Human H7N9 and H5N6 cases have already been reported in the Mainland in this winter. Our risk assessment shows that the avian influenza activity is expected to increase in winter based on its seasonal pattern," a spokesman for the CHP said.





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Update on imported human case of avian influenza ▾

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Update on imported human case of avian influenza A(H7N9)

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The Centre for Health Protection of the Department of Health today (December 23) reported an update on the first imported human case of avian influenza A(H7N9) in Hong Kong this winter.

Among the close contacts, a healthcare worker of North District Hospital with mild symptoms reported yesterday (December 22) tested negative for influenza virus. A relevant in-patient with mild symptoms tested negative for influenza virus. Regarding the other contacts, a relevant in-patient with mild symptoms tested negative for influenza virus.

Ends/Friday, December 23, 2016

Issued at HKT 17:57

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# The Second Case

# Patient demographics

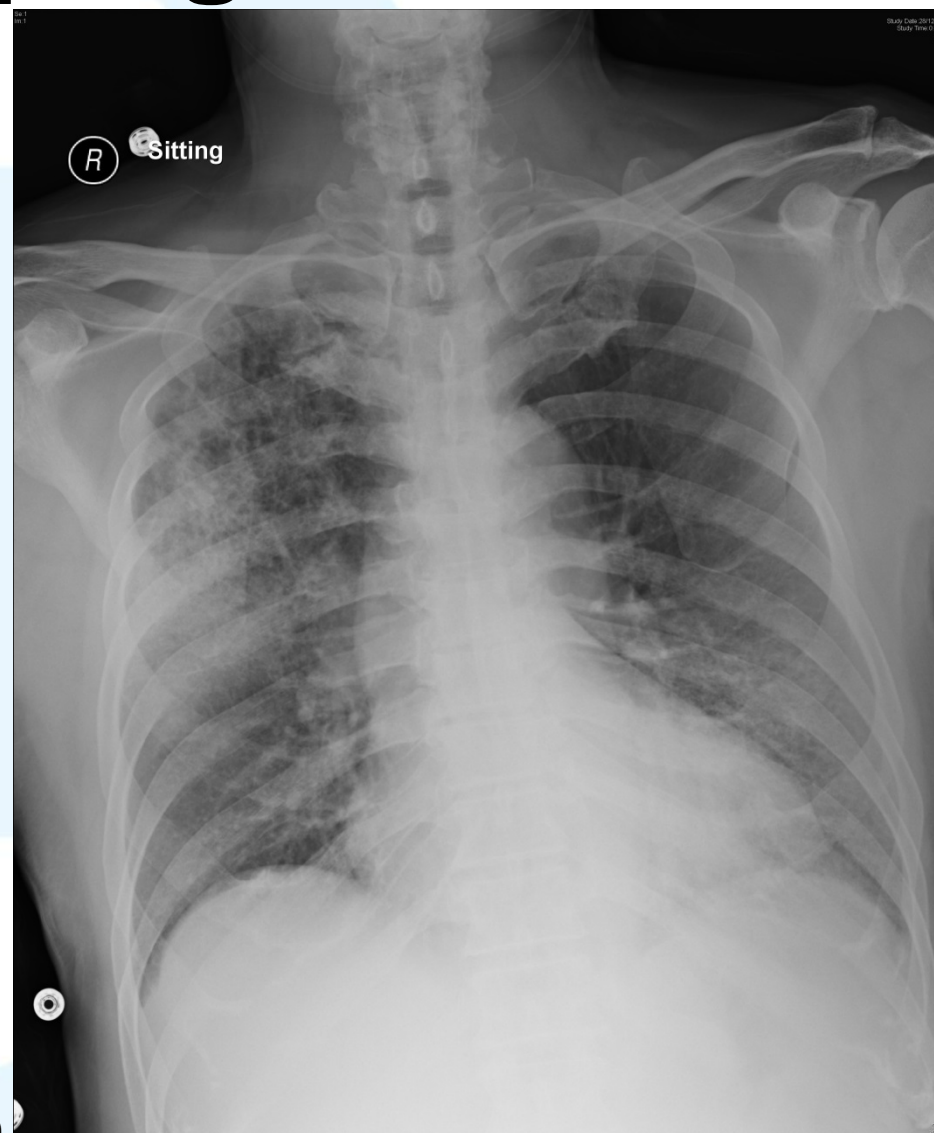
- Date of notification: 29/12/2016.
- 70 year-old retired man.
- Past health: CA bladder, CVA, hyperlipidaemia.
- Chronic smoker.

# Clinical progress

- 26/12/2016:
  - Claimed to have developed fever, productive cough, **shortness of breath**, vomiting and diarrhoea.
- 27/12/2016:
  - Transferred to United Christian Hospital (UCH) by ambulance.
  - **Denied** history of visit to wet market of poultry contact on admission.

# Clinical progress

- 28/12/2016:
  - CXR taken at AED showed **RUL & RML hazziness.**
  - **CRP on admission (28/12, 08:24): 162.6 mg/L [N: <5 mg/L].**
  - Although the patient claimed to have symptoms since 26/12, **according to the clinical and chest radiological assessment, the onset of his illness was likely to be before 26/12/2016.**



# Clinical progress

- 28/12/2016:
  - Admitted to isolation room due to suspected TB.
  - **NPS negative** for influenza antigen.
  - Sputum AFB smear negative and then **transferred out of isolation room.**

# Clinical progress

- 29/12/2016:
  - Sputum taken on 28/12 **positive for influenza A(H7) RNA by UCH.**
  - Transferred to isolation room again and Tamiflu was given.
  - **Sputum confirmed positive for influenza A(H7N9) RNA by PHLSB while the NPS was negative for influenza RNA.**
  - Transferred to HA Infectious Disease Centre for further management.

# Exposure history

- 13/12/2016:
  - Travelled to Zhongshan with one friend and resided in 三角鎮.
- 14/12/2016:
  - Travelled alone to 沙崗墟 (also in Zhongshan) to meet another friend Ms Leung.
  - Upon further enquiry on 29/1/2016, **patient claimed to have come across mobile stalls selling live poultry in 沙崗墟.**
  - Resided in the residence of Ms Leung in 南朗鎮.
- 16/12/2016:
  - Returned to Hong Kong via Lo Wu.



# Exposure history

- According to information from Zhongshan health authority:
- patient's residence in 南朗鎮 is opposite to a wet market with live poultry stalls and there were also mobile stalls selling live poultry outside the market

# Exposure history

- 22/12/2016 HK:
  - Bought a chilled chicken in a shop near Shui Wo Street Market in Kwun Tong, but the shop had not sold live poultry.
  - Did not entered Shui Wo Street Market.
  - There was only one stall selling live poultry located at the 3<sup>rd</sup> floor of Shui Wo Street Market.
  - FEHD had collected environmental samples from the live poultry stall and all were negative for avian influenza virus.



# Shui Wo Street Market



## Facility and Service Locations

[Facility and Service Locations](#) > [Kwun Tong](#) > [Public Markets / Cooked Food Markets in Kwun Tong](#) > SHUI WO STREET MARKET

### SHUI WO STREET MARKET

|                |  |
|----------------|--|
| Address        | : 9 SHUI WO STREET, KWUN TONG, KLN   |
| Business Hours | : Market (6:00 a.m. to 8:30 p.m.)<br>Cooked Food Centre (6:00 a.m. to 2:00 a.m.)   |
| Tel No.        | : 2345 6786 (Market Office)<br>3102 7388 (Kwun Tong District Environment Hygiene Office)   |
| Commodities*   | : Cooked Food (20)<br>Fish (9)<br>Food Related Dry Goods (19)<br>Food Related Wet Goods (155)<br>Fresh Meat (6)<br>Fruits (40)<br>Ice Stall (1)<br>Newspaper (1)<br>Non-Food Related Dry Goods (42)<br>Non-Food Related Wet Goods (7)<br>Poultry (live) (1)<br>Poultry (other than live poultry) (1) |

- Shops selling chilled chicken near Shui Wo Street Market



# Contact tracing and management

- 18 close contacts
  - Patient's wife
  - Family member who brought the patient to UCH
  - Patient who stayed in the same consultation room with the patient at AED
  - In-patients of the same cubicle with the patient
  - Visitors who had been to the same cubicle with the patient
  - HCW who had contacted the patient but without adequate PPE
- During medical surveillance, 1 close contact had developed respiratory symptoms and his NPA & sputum were tested negative for influenza RNA

# Contact tracing and management

- 91 other contacts
  - HCW of the relevant ambulance
  - Other family members who had contacted the patient
  - Other HCW in the hospital who had contacted the patient but with adequate PPE
  - In-patients of the same ward but not the same cubicle with the patient
  - Travel collateral
- During medical surveillance, a total of 7 other contacts had developed respiratory symptoms and their NPA were tested negative for influenza RNA

# Source of infection

- The case is classified as an imported case:
  - According to information from Zhongshan health authority, **patient's residence in 南朗鎮 was opposite to a wet market with live poultry stalls** and there were also **mobile stalls** selling live poultry outside the market.
  - **Human avian influenza (H7N9) cases** had been reported in Zhongshan since Nov 2016.
  - **Positive H7 detection in live poultry markets** in Zhongzhan reported.
  - According to the clinical and chest radiological assessment, the **onset of his illness was likely to be before 26/12/2016.**
  - Environmental samples taken at the live poultry stall in Shui Wo Market were negative for avian influenza.

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CHP investigates confirmed human case of avian in ▼

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CHP investigates confirmed human case of avian influenza A(H7N9)  
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The Centre for Health Protection (CHP) of the Department of Health is today (December 30) investigating a confirmed human case of avian influenza A(H7N9) in Hong Kong, and again urged the public to maintain strict personal, food and environmental hygiene both locally and during travel.

The male patient, aged 70 with underlying illnesses, claimed to have developed fever, cough with sputum, shortness of breath, vomiting and diarrhoea since December 26. He attended the Accident and Emergency Department of United Christian Hospital (UCH) on December 27 and was admitted to isolation ward on December 28.

His sputum specimen collected on December 28 was received and confirmed yesterday (December 29) to be positive for influenza A(H7N9) virus by the CHP's Public Health Laboratory Services Branch (PHLSB). The patient is now in stable condition and has been transferred to Princess Margaret Hospital for further management.

The patient travelled to Shenzhen and Zhongshan since December 13 and returned to Hong Kong via Lo Wu on December 16. He claimed that he came across mobile stalls selling live poultry in Zhongshan.

In Hong Kong, the patient recalled having purchased a chilled chicken from a shop near a wet market in Kwun Tong on December 22 but no live poultry was sold in the shop. According to the patient, he did not enter the wet market.

The source of infection is still under investigation.

His close contacts have remained asymptomatic so far and have been put under medical surveillance. Tracing of his other contacts in Hong Kong is underway.





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Update on human case of avian influenza A(H7N9) ▾

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Update on human case of avian influenza A(H7N9)

\*\*\*\*\*

The Centre for Health Protection (CHP) of the Department of Health today (December 30) reported an update on the second human case of avian influenza A(H7N9) in Hong Kong this winter.

Enquiries revealed that the male patient aged 70 had claimed that he had come across mobile stalls selling live poultry in Shagang Xu, Zhongshan, on December 14.

Although the patient claimed to have symptoms on December 26, according to the clinical and chest radiological assessment, the onset of his illness was likely to be before December 26.

Contact tracing has so far identified 17 close contacts and 85 other contacts.

Close contacts include the patient's family contacts as well as relevant in-patients, visitors and healthcare workers (HCWs) of United Christian Hospital (UCH). All have remained asymptomatic. They will be given antiviral prophylaxis with oseltamivir (Tamiflu) for five days, advised to wear a mask and put under medical surveillance for 10 days following their last exposure to the patient.

Other contacts are the patient's travel collateral, other family members, relevant in-patients, visitors and HCWs of UCH. His travel collateral with cough tested negative for influenza A virus and the others have remained asymptomatic. They will be advised to wear a mask and will be put under medical surveillance for 10 days following their last exposure to the patient.



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Update on human cases of avian influenza A(H7N9)

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The Centre for Health Protection (CHP) of the Department of Health today (January 6) reported an update on the third human case of avian influenza A(H7N9) in Hong Kong this winter.

The male patient, aged 62, passed away in the small hours today in Yan Chai Hospital (YCH). Contact tracing has so far identified 33 close contacts and 90 other contacts.

Close contacts include the patient's family contacts as well as relevant in-patients and healthcare workers (HCWs) of YCH. An HCW with mild symptoms is pending testing and the others have remained asymptomatic. They will be given antiviral prophylaxis with oseltamivir (Tamiflu) for five days, advised to wear a mask and put under medical surveillance for 10 days following their last exposure to the patient.

Other contacts are the patient's other family members, other relevant in-patients, visitors and HCWs of YCH, personnel involved upon his arrival in Hong Kong and ambulance personnel involved in patient transfer. All remain asymptomatic. They will be advised to wear a mask and will be put under medical surveillance for 10 days following their last exposure to the patient. For those in-patients with underlying illnesses or higher risk of complications, they will also be given Tamiflu for five days as a precautionary measure.

Regarding the second human H7N9 case this winter reported on December 30, 2016, further epidemiological investigations revealed that the patient's residence in Zhongshan from December 14 to 16 last year was opposite a wet market with live poultry stalls and there were also mobile stalls selling live poultry outside the market. Based on information available thus far, it has been classified as an imported case. The patient was hospitalised in Princess Margaret Hospital in serious condition.

From 2013 to date, 19 imported human H7N9 cases have been confirmed in Hong Kong, with seven deaths (37 per cent).



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# The Third Case

# Patient demographics

- Date of notification: 5/1/2017.
- 62 year-old male.
- Past health: Hypertension, diabetes, hyperlipidaemia, chronic heart failure, COAD and peptic ulcer.

# Clinical progress

- 15/12/2016: Travelled alone to Zengcheng, Guangzhou (廣州增城), resided alone in 石灘鎮
- 1/1/2017: Developed fever, cough and shortness of breath.
- 2 - 3/1/2017: Admitted to a hospital in Dongguan for treatment; but discharged himself against medical advice on 3/1/2017.
- 3/1/2017: Returned to Hong Kong via Lo Wu.

# Clinical progress

- 4/1/2017:
  - Attended Yan Chai Hospital AED.
  - Patient **denied** history of visit to wet market or poultry contact on admission.
  - Admitted to **general medical ward** for treatment on the same day.
  - Chest X-ray **showed bilateral lung infiltrates.**
  - Initial diagnosis was chronic heart failure with chest infection on admission.
  - **NPS** was tested **negative** for influenza antigen.

# Clinical progress

- 5/1/2017:
  - Condition deteriorated.
  - Assisted ventilation (BiPAP) and intubation required.
  - Admitted to ICU for further management.
  - Endotracheal aspirate and NPA confirmed positive for influenza A(H7N9) RNA by the PHLSB.
- 6/1/2017: Died.

# Exposure history

- Patient **denied** history of visit to wet market or poultry contact on admission.
- According to the patient's relatives:
  - The patient did not rear poultry at home in Mainland;
  - No further poultry contact/consumption history could be obtained from relatives as the case was independent in daily living while he resided in Mainland;
  - No contact of close friend/ relative in Mainland could be provided.
- Further investigation by GD health authority pending.



# Contact tracing and management

- 33 close contacts
  - Patient's family members
  - In-patients staying in the same cubicle with the case
  - HCW who had contacted the patient during aerosol generating procedures (such as intubation, BIPAP, ET tube dislodgement) but without adequate PPE
- So far, 3 close contacts have developed respiratory symptoms and their respiratory specimens were tested negative for influenza RNA

# Contact tracing and management

- 101 other contacts
  - Patient's other family members
  - In-patients of the same ward but not the same cubicle with the patient
  - Other HCW in the hospital who had contacted the patient but with adequate PPE
  - HCW of the relevant ambulance
  - Visitors who had been to the same cubicle with the patient
- So far, 1 other contact had developed respiratory symptoms and his NPA was tested negative for influenza A. Medical surveillance is ongoing.

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CHP investigates imported human case of avian influenza A(H7N9)

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The Centre for Health Protection (CHP) of the Department of Health is today (January 5) investigating an imported human case of avian influenza A(H7N9) in Hong Kong, and again urged the public to maintain strict personal, food and environmental hygiene both locally and during travel.

The male patient, aged 62 with underlying illnesses, departed Hong Kong since December 15 last year and travelled to Zengcheng, Guangzhou. He has developed fever, cough and shortness of breath since January 1. He was admitted to a hospital for treatment in Dongguan during January 2 to 3. The patient discharged himself against medical advice on January 3 and returned to Hong Kong via Lo Wu on the same day. He attended the Accident and Emergency Department of Yan Chai Hospital yesterday (January 4) and was admitted for treatment on the same day. His condition deteriorated today and has been transferred to intensive care unit for further management. The patient is now in critical condition.

His endotracheal aspirate and nasopharyngeal aspirate specimen were confirmed to be positive for influenza A(H7N9) virus by the CHP's Public Health Laboratory Services Branch tonight.

The patient denied recent exposure to poultry or wet market.

His close contacts have remained asymptomatic so far and have been put under medical surveillance. Tracing of his other contacts in Hong Kong is underway.



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繁體版 简体版

Update on human cases of avian influenza A(H7N9) ▾

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Update on human cases of avian influenza A(H7N9)

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The Centre for Health Protection (CHP) of the Department of Health today (January 6) reported an update on the third human case of avian influenza A(H7N9) in Hong Kong this winter.

The male patient, aged 62, passed away in the small hours today in Yan Chai Hospital (YCH). Contact tracing has so far identified 33 close contacts and 90 other contacts.

Close contacts include the patient's family contacts as well as relevant in-patients and healthcare workers (HCWs) of YCH. An HCW with mild symptoms is pending testing and the others have remained asymptomatic. They will be given antiviral prophylaxis with oseltamivir (Tamiflu) for five days, advised to wear a mask and put under medical surveillance for 10 days following their last exposure to the patient.

Other contacts are the patient's other family members, other relevant in-patients, visitors and HCWs of YCH, personnel involved upon his arrival in Hong Kong and ambulance personnel involved in patient transfer. All remain asymptomatic. They will be advised to wear a mask and will be put under medical surveillance for 10 days following their last exposure to the patient. For those in-patients with underlying illnesses or higher risk of complications, they will also be given Tamiflu for five days as a precautionary measure.

Regarding the second human H7N9 case this winter reported on December 30, 2016, further epidemiological investigations revealed that the patient's residence in Zhongshan from December 14 to 16 last year was opposite a wet market with live poultry stalls and there were also mobile stalls selling live poultry outside the market. Based on information available thus far, it has been classified as an imported case. The patient was hospitalised in Princess Margaret Hospital in serious condition.

From 2013 to date, 19 imported human H7N9 cases have been confirmed in Hong Kong, with seven deaths (37 per cent).



衛生署  
Department of Health

# The Fourth Case

# Patient's demographics

- Date of notification: 10/1/2017
- 10-year old boy
- Good past health
- Primary 5 student



# Clinical progress

- **8/1/2017:** Developed cough, fever and vomiting; attended North Lantau Hospital (NLTH) Accident & Emergency Department (AED). Given symptomatic treatment.
- **9/1/2017:** Attended NLTH AED again, referred to PMH Isolation ward and admitted.
- **10/1/2017:** fever down, clinically stable and **discharged** early afternoon. Clinical diagnosis: upper respiratory tract infection & influenza A (NPA influenza A positive by PMH).
- **10/1/2017 evening:** **H7 preliminary** positive (via enhanced surveillance), **readmitted** for isolation. Stable in condition.
- NPA specimen taken 11/1/20017 PHLSB **PCR** result - Influenza A **H7N9 positive** (H1/H3/H5 negative)
- **All along did not report exposure history to physicians.**

# Exposure history

- Traveled with family to 三水西南鎮 in Foshan (佛山), Guangdong from 31/12/2016 to 3/1/2017.
- 10/1/2017 admitted that the family visited a relative's home on 1/1/2017 in the town where **4 live chickens were kept**, denied direct contact with the chicken by patient.
- The family **visited a market** in the town on 31/12/2016 and 1/1/2017, patient stood outside to wait for mother, denied entry to live poultry section/direct contact with poultry.
- Attended wedding ceremony at rural village at relative's home; **relatives and neighbours reared chickens**.
- Consumed fully cooked poultry during stay in mainland.



# Contact tracing and management

- Contact tracing ongoing
- Family
  - Tamiflu (given today)
  - All asymptomatic
- Contacts at school
  - Went back to school for fencing class after discharge 10/1/2017 (other contacts).
- Hospital contacts
  - NLTH: 10 healthcare workers (other contacts)
  - PMH: 9 patients & 11 visitors (close contacts); 44 staff (other contacts)

## Press Releases

CHP investigates suspected imported human case of avian influenza A(H7)

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The Centre for Health Protection (CHP) of the Department of Health is today (January 10) investigating a suspected imported human case of avian influenza A(H7) in Hong Kong, and again urged the public to maintain strict personal, food and environmental hygiene both locally and during travel.

The boy, aged 10 with good past health, developed fever, cough and vomiting on January 8. He attended the Accident and Emergency Department of North Lantau Hospital in the past two days and was referred to Princess Margaret Hospital (PMH) for admission yesterday (January 9). The patient has been in stable condition all along. He was discharged this afternoon but has been re-admitted to hospital for isolation tonight.

His nasopharyngeal aspirate specimen was preliminarily tested positive for influenza A(H7) virus by PMH tonight. Further test by the CHP's Public Health Laboratory Services Branch is underway.

Enquiries revealed that the patient and his family travelled to Foshan, Guangdong between December 31, 2016 and January 3, 2017. During their brief stay in the Mainland, the patient visited a relative's home where a few live chickens were kept but he denied direct contact with these chickens. The family had also visited a market there but denied entry into its poultry section.

The patient's close contacts have remained asymptomatic so far and have been put under medical surveillance. Tracing of his other contacts in Hong Kong is underway.

"The case has been reported to Guangdong and Macau health authorities. We are communicating with the Mainland authority to follow up the patient's exposure and movements in the Mainland. Based on information available thus far, it is classified as an imported case. Epidemiological investigations are ongoing," a spokesman for the CHP said.

"Locally, three imported human cases of avian influenza A (H7N9) were recorded in the past month. The activity of avian influenza is expected to increase in winter based on its seasonal pattern. Letters to doctors, hospitals, schools and institutions will be issued to alert them to the latest situation," a spokesman for the CHP added.

"We strongly urge the public to avoid touching birds, poultry or their droppings and visiting poultry markets or farms during travel, particularly in the upcoming Lunar New Year holidays. If feeling unwell such as having fever or cough, wear a mask and seek medical advice at once. Travellers returning from affected areas should consult doctors promptly if symptoms develop and let them know their travel history for prompt



# Risk communication

Update on imported human case of avian influenza

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Update on imported human case of avian influenza A(H7N9)

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The Centre for Health Protection of the Department of Health today (December 21) reported an update on the first imported human case of avian influenza A(H7N9) in Hong Kong this winter.

Contact tracing has so far identified 74 close contacts and 78 other contacts.

Among the close contacts, a healthcare worker (HCW) of North District Hospital with mild symptoms reported yesterday (December 20) tested negative for influenza virus. An additional HCW with mild respiratory symptoms in stable condition has been admitted for observation, pending laboratory testing.

Regarding the other contacts, one relevant in-patient and five HCWs with mild symptoms tested negative for influenza virus.

Ends/Wednesday, December 21, 2016

Issued at HKT 18

The Government of the Hong Kong Special Administrative Region

Press Releases

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CHP investigates confirmed human case of avian in

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CHP investigates confirmed human case of avian influenza A(H7N9)

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The Centre for Health Protection (CHP) of the Department of Health is today (December 30) investigating a confirmed human case of avian influenza A(H7N9) in Hong Kong, and again urged the public to maintain strict personal, food and environmental hygiene both locally and during travel.

The male patient, aged 70 with underlying illnesses, claimed to have developed fever, cough with sputum, shortness of breath, vomiting and diarrhoea since December 26. He attended the Accident and Emergency Department of United Christian Hospital (UCH) on December 27 and was admitted to isolation ward on December 28.

His sputum specimen collected on December 28 was received and confirmed yesterday (December 29) to be positive for influenza A(H7N9) virus by the CHP's Public Health Laboratory Services Branch (PHLSB). The patient is now in stable condition and has been transferred to Princess Margaret Hospital for further management.

The patient travelled to Shenzhen and Zhongshan since December 13 and returned to Hong Kong via Lo Wu on December 16. He claimed that he came across mobile stalls selling live poultry in Zhongshan.

In Hong Kong, the patient recalled having purchased a chilled chicken from a shop near a wet market in Kwun Tong on December 22 but no live poultry was sold in the shop. According to the patient, he did not enter the wet market.

The source of infection is still under investigation.

His close contacts have remained asymptomatic so far and have been put under medical surveillance. Tracing of his other contacts in Hong Kong is underway.



# Press release

CHP investigates imported human case of avian inf

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CHP investigates imported human case of avian influenza A(H7N9)

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The Centre for Health Protection (CHP) of the Department of Health is today (January 5) investigating an imported human case of avian influenza A(H7N9) in Hong Kong, and again urged the public to maintain strict personal, food and environmental hygiene both locally and during travel.

The male patient, aged 62 with underlying illnesses, departed Hong Kong since December 15 last year and travelled to Zengcheng, Guangzhou. He has developed fever, cough and shortness of breath since January 1. He was admitted to a hospital for treatment in Dongguan during January 2 to 3. The patient discharged himself against medical advice on January 3 and returned to Hong Kong via Lo Wu on the same day. He attended the Accident and Emergency Department of Yan Chai Hospital yesterday (January 4) and was admitted for treatment on the same day. His condition deteriorated today and has been transferred to intensive care unit for further management. The patient is now in critical condition.

His endotracheal aspirate and nasopharyngeal aspirate specimen were confirmed to be positive for influenza A(H7N9) virus by the CHP's Public Health Laboratory Services Branch tonight.

The patient denied recent exposure to poultry or wet market.

His close contacts have remained asymptomatic so far and have been put under medical surveillance. Tracing of his other contacts in Hong Kong is underway.



# Letter to doctors

- Encourage doctors to report suspected cases

監測及流行病學處 HP 衛生防護中心  
Centre for Health Protection  
Surveillance And Epidemiology Branch  
保障市民健康  
Protecting Hong Kong's health

本署編號 Our Ref. : (165) in DH SEB CD/8/6/1 Pt.33

December 30, 2016

Dear Doctors,

**A Confirmed Case of Human Infection with Avian Influenza A(H7N9) Virus**

We would like to draw your attention to the second confirmed case of human infection with avian influenza A(H7N9) virus in Hong Kong this winter and solicit your support to remain vigilant against avian influenza.

The case involved a 70-year-old man who had history of carcinoma of bladder, stroke and hyperlipidaemia. According to information provided by the patient and his wife, he developed fever, cough with sputum, shortness of breath, vomiting and diarrhoea on December 26, 2016. He attended the Accident and Emergency Department of United Christian Hospital on December 27 and was admitted to an isolation ward on December 28 for management of pneumonia. His sputum specimen was tested positive for influenza A(H7N9) virus by the Public Health Laboratory Services Branch of the Centre for Health Protection (CHP). The patient has been transferred to Princess Margaret Hospital for further management and is now in serious condition. According to the assessment by the attending physicians, the onset date of the patient was likely before December 26 based on pneumonic changes detected in the chest X-ray taken upon admission and clinical findings.

監測及流行病學處 HP 衛生防護中心  
Centre for Health Protection  
Surveillance And Epidemiology Branch  
保障市民健康  
Protecting Hong Kong's health

本署編號 Our Ref. : (141) in DH SEB CD/8/6/1 Pt.34

January 6, 2017

Dear Doctors,

**An Imported Case of Human Infection with Avian Influenza A(H7N9) Virus**

We would like to draw your attention to the third confirmed case of human infection with avian influenza A(H7N9) virus in Hong Kong this winter and solicit your support to remain vigilant against avian influenza.

The 62-year-old male patient had history of hypertension, diabetes, hyperlipidemia, chronic heart failure, peptic ulcer disease and chronic obstructive airway disease. He had travel history to Zengcheng of Guangzhou from December 15, 2016 to January 3, 2017. He has developed fever, cough and shortness of breath since January 1 and was admitted to a hospital in Guangdong for treatment on January 2. The patient discharged himself against medical advice on January 3 and returned to Hong Kong via Lo Wu on the same day. He attended the Accident and Emergency Department of Yan Chai Hospital (YCH) on January 4 and was admitted for treatment of pneumonia and heart failure. His condition deteriorated on January 5 and was transferred to intensive care unit for further management. His endotracheal aspirate and nasopharyngeal aspirate specimen were confirmed to be positive for influenza A(H7N9) virus by the Public Health Laboratory Services Branch of the Centre for Health Protection (CHP) on January 5. The patient passed away on January 6.

監測及流行病學處 HP 衛生防護中心  
Centre for Health Protection  
Surveillance And Epidemiology Branch  
保障市民健康  
Protecting Hong Kong's health

本署編號 Our Ref. : (132) in DH SEB CD/8/6/1 Pt.33

December 20, 2016

Dear Doctors,

**A Confirmed Imported Case of Human Infection with Avian Influenza A(H7N9) Virus**

We would like to draw your attention to the first confirmed imported case of human infection with avian influenza A(H7N9) virus in Hong Kong this winter and solicit your support to remain vigilant against avian influenza.

The case involved a 75-year-old man who had history of chronic obstructive pulmonary disease and secondary polycythemia. He travelled alone to Changping in Dongguan, Guangdong from November 28 to December 9, 2016. He attended a hospital in Dongguan for chest discomfort on December 8. He also had on and off cough with sputum, shortness of breath and runny nose. He returned to Hong Kong via Lo Wu on December 9 to seek medical treatment. He was sent to North District Hospital directly by ambulance and was admitted for management. His nasopharyngeal swab collected on December 9 was tested positive for enterovirus/rhinovirus but negative for influenza virus by the Public Health Laboratory Services Branch (PHLSB) of the Centre for Health Protection (CHP).

# Inform relevant health authorities

- Inform National & Guangdong Health and Family Planning Commission, Macao Health Bureau and World Health Organization

## Human infection with avian influenza A(H7N9) virus – China

Disease outbreak news  
23 December 2016

On 20 December 2016, the Department of Health (DOH), Hong Kong Special Administrative Region (SAR) notified WHO of a case of laboratory-confirmed human infection with avian influenza A(H7N9) virus.

### Details of the case

The case is a 75-year-old man who travelled to Dongguan, Guangdong province from 28 November to 9 December 2016. He developed chest discomfort on 8 December and he visited a hospital there. He returned to Hong Kong SAR on 9 December and was directly admitted to hospital from point of entry by ambulance for cough with sputum, shortness of breath, runny nose and chest discomfort.

His nasopharyngeal swab taken on 9 December tested positive for enterovirus/ rhinovirus and negative for influenza virus. His nasopharyngeal aspirate (NPA) taken on 19 December was positive for avian influenza A(H7N9) virus RNA. He was reported to be in severe condition at the time of report. His condition further deteriorated to critical on 21 December. He had visited a wet market in Dongguan and bought a dressed chicken. DOH's investigation is ongoing, and DOH is communicating with the Guangdong health authority.

## Human infection with avian influenza A(H7N9) virus – China

Disease outbreak news  
3 January 2017

On 30 December 2016, the Department of Health, Hong Kong Special Administrative Region (SAR) notified WHO of a case of laboratory-confirmed human infection with avian influenza A(H7N9) virus.

### Details of the case

The case is a 70-year-old man with underlying chronic conditions, who travelled to Shenzhen and Zhongshan, Guangdong province from 13 to 16 December 2016. The patient reported having fever, productive cough, shortness of breath, vomiting and diarrhoea since 26 December. He visited a public hospital in Hong Kong SAR, China on 27 December and was admitted to an isolation ward on 28 December. A sputum sample taken on 28 December tested positive for avian influenza A(H7N9) virus RNA. The patient was in serious condition at the time of report.

In Zhongshan, he passed by mobile stalls selling live poultry on 14 December but reported no direct contact with the poultry. In Hong Kong SAR, he purchased a chilled chicken from a shop near a wet market on 22 December but no live poultry was sold in the shop, and he did not enter the wet market.

A total of 17 close contacts and 85 other contacts were identified as of 30 December, and put under medical surveillance. The patient's co-traveller had a cough since 29 December and was admitted to a public hospital on the same day. His respiratory specimen tested negative for avian influenza A(H7N9) virus RNA by the hospital.

# Situation of human avian influenza infection in Hong Kong (1997 to Now)

|                              | H7N9                              | H5N1  | H9N2  |
|------------------------------|-----------------------------------|---|---|
| <b>Total no of cases</b>     | 20                                | 22  | 8   |
| <b>M/F</b>                   | 12M7F                             | 11M11F  | 2M6F  |
| <b>Age (Median)</b>          | 5 month to 85 years<br>(68 years) | 1 to 60 years<br>(11 years)                             | 3 month to 86 years<br>(3.5 years)          |
| <b>Imported / Local</b>      | Local: 0<br>Imported: 20          | Local: 18<br>Imported: 4                                | Local: 4<br>Imported: 3<br>Unclassified : 1 |
| <b>Source of Importation</b> | Guangdong: 19<br>Jiangsu: 1       | Fujian: 2<br>Guangdong: 1<br>Mainland (Unclassified): 1 | Guangdong: 3                                |
| <b>Death</b>                 | 7                                 | 7   | 0   |

# Take home messages

- All active season, expect more notifications
- Mainland China
  - Human cases **earlier** than before
  - **More** human cases than before
- Travel history
  - **esp towns / villages Guangdong province**
- Exposure history
  - Been to **vicinity of markets**
  - **Markets present near** place of stay
  - **Mobile chicken sellers**
  - **Backyard poultry** family / relatives
  - Slaughtered chickens **光雞**
- Patients with chronic illnesses
- **Enhance surveillance measures very effective**



**Thank You**