**FLU EXPRESS**

**Flu Express** is a weekly report produced by the Respiratory Disease Office of the Centre for Health Protection. It monitors and summarizes the latest local and global influenza activities.

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**Local Situation of Influenza Activity (as of Sep 6, 2017)**

- **Reporting period:** Aug 27 – Sep 2, 2017 (Week 35)

- The latest surveillance data showed that the local influenza activity has continued to decrease and was at a low level.

- The Centre for Health Protection (CHP) has collaborated with the Hospital Authority (HA) and private hospitals to reactivate the enhanced surveillance for severe seasonal influenza cases (i.e. influenza-associated admissions to intensive care unit or deaths) among patients aged 18 or above between May 5 and Sep 1, 2017. During this period, 582 severe cases (including 430 deaths) were recorded. Separately, 19 cases of severe paediatric influenza-associated complication/death (including three deaths) (aged below 18 years) were recorded in the same period.

- Influenza can cause serious illnesses in high-risk individuals and even healthy persons. Given that seasonal influenza vaccines are safe and effective, all persons aged 6 months or above except those with known contraindications are recommended to receive influenza vaccine for personal protection.

- In the coming 2017/18 season, the Vaccination Subsidy Scheme will continue to provide subsidised vaccination to children aged 6 months to under 12 years, elderly aged 65 years or above except those with known contraindications are recommended to receive influenza vaccine for personal protection.

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**Influenza-like-illness surveillance among sentinel general outpatient clinics and sentinel private doctors, 2013-17**

In week 35, the average consultation rate for influenza-like illness (ILI) among sentinel general outpatient clinics (GOPCs) was 2.9 ILI cases per 1,000 consultations, which was lower than 3.8 recorded in the previous week (Figure 1, left). The average consultation rate for ILI among sentinel private doctors was 38.1 ILI cases per 1,000 consultations, which was lower than 52.3 recorded in the previous week (Figure 1, right).

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*Figure 1 ILI consultation rate at sentinel GOPCs (left) and private doctors (right), 2013-17*
Laboratory surveillance, 2013-17

Among the respiratory specimens received in week 35, 185 (4.82%) were tested positive for seasonal influenza viruses, including 17 (0.44%) influenza A(H1), 120 (3.13%) influenza A(H3), 43 (1.12%) influenza B and five (0.13%) influenza C. The percentage of respiratory specimens tested positive for seasonal influenza viruses last week was 4.82%, which was lower than 8.92% recorded in the previous week (Figure 2). Among the influenza viruses detected in the last week, the proportions of A(H3), B, A(H1) and C were 64.9%, 23.2%, 6.2% and 0.9% respectively.

Influenza-like illness outbreak surveillance, 2013-17

In week 35, three ILI outbreaks occurring in schools/institutions were recorded (affecting 16 persons), as compared to two outbreaks recorded in the previous week (affecting ten persons) (Figure 3). In the first 4 days of week 36 (Sep 3 to 6, 2017), two institutional ILI outbreaks were recorded (affecting eight persons).

Figure 2 Percentage of respiratory specimens tested positive for influenza viruses, 2013-17 (upper: overall positive percentage, lower: positive percentage by subtypes)

Figure 3 ILI outbreaks in schools/institutions, 2013-17
Rate of influenza-like illness syndrome group in accident and emergency departments, 2013-17#

In week 35, the rate of the influenza-like illness syndrome group in the accident and emergency departments (AED) was 124.1 (per 1,000 coded cases), which was lower than 137.6 in the previous week (Figure 4).

#Note: The influenza-like illness syndrome group includes codes such as influenza, upper respiratory tract infection, fever, cough, throat pain, and pneumonia.

Influenza associated hospital admission rates and deaths in public hospitals based on discharge coding, 2013-17

In week 35, the admission rates in public hospitals with principal diagnosis of influenza for persons aged 0-4 years, 5-9 years, 10-64 years and 65 years or above were 0.64, 0.14, 0.05 and 0.39 cases (per 10,000 people in the age group) respectively, as compared to 1.14, 0.24, 0.07 and 0.61 cases in the previous week (Figure 5). Weekly number of deaths with any diagnosis of influenza is also shown in Figure 5.
Fever surveillance at sentinel child care centres/ kindergartens, 2013-17

In week 35, 0.52% of children in the sentinel child care centres/ kindergartens (CCC/ KG) had fever (38°C or above). The surveillance for the previous week was suspended due to holiday. In week 33, 0.47% of children in the sentinel child care centres/ kindergartens (CCC/ KG) had fever (38°C or above) (Figure 6).

Fever surveillance at sentinel residential care homes for the elderly, 2013-17

In week 35, 0.10% of residents in the sentinel residential care homes for the elderly (RCHEs) had fever (38°C or above) as compared to 0.13% recorded in the previous week (Figure 7).

Influenza-like illness surveillance among sentinel Chinese medicine practitioners, 2013-17

In week 35, the average consultation rate for ILI among Chinese medicine practitioners (CMPs) was 0.83 ILI cases per 1,000 consultations as compared to 1.95 recorded in the previous week (Figure 8).
Surveillance of severe influenza cases
(Note: The data reported are provisional figures and subject to further revision)

During the activation of the enhanced surveillance for severe influenza infection from May 5 to Sep 1, 2017, a total of 601 severe cases (including 433 deaths) were recorded cumulatively (Figure 9). These included:

- 582 cases (including 430 deaths) among adult patients aged 18 years or above. Among them, 522 patients had infection with influenza A(H3N2), 26 patients with influenza A(H1N1)pdm09, 17 patients with influenza B, one patient with influenza C and 16 patients contracted influenza A without subtype information. 229 (39.3%) were known to have received the influenza vaccine for the 2016/17 season. Among the 430 fatal cases, 199 (46.3%) were known to have received the influenza vaccine. In the winter season in early 2017, 66 adult severe cases (including 41 deaths) were filed.

- 19 cases (including three deaths) of severe paediatric influenza-associated complication/death. Seventeen (89.5%) cases did not receive the influenza vaccine for the 2016/17 season. To date in 2017, 27 paediatric cases (including four deaths) were filed.

Enhanced surveillance for severe seasonal influenza (Aged 18 years or above)

- In the first 6 days of week 35 (Aug 27 to Sep 1, 2017), 15 cases of influenza associated ICU admission/death were recorded, in which ten of them were fatal. This enhanced surveillance has ended on Sep 1.

Surveillance of severe paediatric influenza-associated complication/death (Aged below 18 years)

- In week 35 and the first 4 days of week 36 (Sep 3 to 6, 2017), there were no cases of severe paediatric influenza-associated complication/death.

Figure 9 Weekly number of severe influenza cases recorded during influenza seasons, 2013-2017
Remark: The surveillance system for severe influenza cases aged 18 years or above was only activated intermittently during influenza seasons.
Surveillance of oseltamivir resistant influenza A(H1N1)pdm09 virus infection

- In week 35 and the first 4 days of week 36 (Sep 3 to 6, 2017), there were no new reports of oseltamivir (Tamiflu) resistant influenza A(H1N1)pdm09 virus infection. There are totally 48 reports of oseltamivir resistant influenza A(H1N1)pdm09 virus detected in Hong Kong since 2009.

Global Situation of Influenza Activity

Influenza activity remained at low levels in the temperate zone of the northern hemisphere. In the temperate zone of the southern hemisphere and in some countries of South and South East Asia, high levels of influenza activity continued to be reported. In Central America and the Caribbean, influenza activity continued to be reported in a few countries. Worldwide, influenza A(H3N2) viruses are predominating.

- The 2016/17 winter influenza season in the United States, Canada, the United Kingdom and Europe had ended and the influenza activity in these areas remained at low levels.

- In Southern China (week ending Aug 27, 2017), influenza activity was still at a very high level. The proportion of ILL cases in emergency and outpatient departments reported by sentinel hospitals was 3.4%, same as that reported in the previous week (3.4%), but higher than that in the corresponding period in 2014-2016 (2.7%, 3.0%, 2.7%). The proportion of influenza detections was 26.2%, little higher than 26.1% recorded in the previous week. The predominant circulating subtype was Influenza A (H3N2).

- In Macau (as of Aug 27, 2017), the influenza activity has decreased markedly. Recently the proportion of ILL cases in emergency departments of hospitals decreased significantly from the peak and approached the baseline level. However, sporadic cases might still occur.

- In New Zealand (week ending Aug 27, 2017), ILI consultation rates decreased compared to the previous week, while remaining above the seasonal threshold level. A lower influenza positivity rate of tested samples was observed. Influenza A(H3N2) are the predominant viruses in New Zealand this year.

- In Australia (two-week period ending Aug 18, 2017), influenza activity at the national level continued to increase this reporting fortnight with many surveillance systems at levels comparable to or exceeding the peak of the 2016 season. Influenza A(H3N2) is currently the predominant circulating virus nationally, however influenza B viruses also continue to circulate.

Sources:
Information have been extracted from the following sources when updates are available: Chinese National Influenza Center, Health Bureau of Macau Special Administrative Region, New Zealand Ministry of Health and Australian Department of Health.