Chinese Influenza Weekly Report

(All data are preliminary and may change as more reports are received)

Summary

- During week 46, influenza activity level in mainland China was still low, but showed a slight upward trend, with a few influenza viruses detected, majority were A(H1N1)pdm09.
- Among influenza viruses antigenically characterized by CNIC since April 2nd, 2018, 603(93.6%) influenza A(H1N1)pdm09 viruses were characterized as A/Michigan/45/2015-like; 53(81.5%) influenza A(H3N2) viruses were characterized as A/Singapore/INFIMH-16-0019/2016 (EGG)-like, 56(86.2%) influenza A(H3N2) viruses were characterized as A/Singapore/INFIMH-16-0019/2016 (CELL)-like; 37(43.0%) influenza B/Victoria viruses were characterized as B/Colorado/06/2017-like; 347(96.1%) influenza B/Yamagata viruses were characterized as B/Phuket/3073/2013-like.
- Among the influenza viruses tested by CNIC for antiviral resistance analysis since April 2nd, 2018, all influenza A(H1N1)pdm09 and A(H3N2) viruses were resistant to adamantine; All influenza A(H3N2) and B viruses were sensitive to neuraminidase inhibitors. All but 2 influenza A(H1N1)pdm09 were sensitive to neuraminidase inhibitors.
Outbreak Surveillance

During week 46 (November 12th – November 18th 2018), there were seventeen outbreaks reported nationwide. Fourteen of them were A(H1N1), two of them were B, and one of them was negative.

Surveillance of outpatient or emergency visits for Influenza-like Illness (ILI)

During week 46, the percentage of outpatient or emergency visits for ILI (ILI %) at national sentinel hospitals in southern provinces was 2.7%, same as the last week (2.7%), higher than the week of 2015 (2.5%), lower than the same week of 2016 and 2017 (3.1% and 2.9%). (Figure 1)

![Figure 1. Percentage of Visits for ILI at Sentinel Hospitals in South China (2015-2019)](image)

During week 46, ILI% at national sentinel hospitals in northern provinces was 2.6%, higher than the last week (2.4%), higher than the same week of 2015 (2.5%), lower than the same week of 2016-2017 (2.9%, 3.2%). (Figure 2)
Virologic Surveillance

During week 46, influenza network laboratories tested 7129 specimens, of which 185 (2.6%) were positive for influenza, influenza A and influenza B viruses were 180 (97.3%) and 5 (2.7%), respectively (Table 1). During week 46, the percentage of specimens that were tested positive for influenza in south China was 3.3%, which slightly higher than the previous week (2.9%) (Figure 3). During week 46, the percentage of specimens that were tested positive for influenza in north China was 1.9%, which was slightly higher than the previous week (1.6%). (Figure 4).

Table 1 Laboratory Detections of ILI Specimens (Week 46, 2018)

<table>
<thead>
<tr>
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<th>South China</th>
<th>North China</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No. of specimens tested</strong></td>
<td>3476</td>
<td>3653</td>
<td>7129</td>
</tr>
<tr>
<td><strong>No. of positive specimens (%)</strong></td>
<td>115 (3.3%)</td>
<td>70 (1.9%)</td>
<td>185 (2.6%)</td>
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<tr>
<td><strong>Influenza A</strong></td>
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<tr>
<td>A(H3N2)</td>
<td>111 (96.5%)</td>
<td>69 (98.6%)</td>
<td>180 (97.3%)</td>
</tr>
<tr>
<td>A(H1N1)pdm09</td>
<td>8 (7.2%)</td>
<td>5 (7.2%)</td>
<td>13 (7.2%)</td>
</tr>
</tbody>
</table>
Figure 3. Influenza Positive Tests Reported by Southern Network Laboratories (Week 14, 2017–Week 46, 2018)

Note: Analysis in this part was based on the test results of network laboratories. If it were not consistent with the results of CNIC confirmation, the results of CNIC confirmation were used.
Figure 4. Influenza Positive Tests Reported by Northern Network Laboratories
(Week 14, 2017–Week 46, 2018)

Note: Analysis in this part was based on the result of network laboratories. If it were not consistent with the results of CNIC confirmation, the results of CNIC confirmation were used.

Antigenic Characterization

Since April 2nd, 2018, 603(93.6%) influenza A(H1N1)pdm09 viruses were characterized as A/Michigan/45/2015-like; 53(81.5%) influenza A(H3N2) viruses were characterized as A/Singapore/INFIMH-16-0019/2016 (EGG)-like, 56(86.2%) influenza A(H3N2) viruses were characterized as A/Singapore/INFIMH-16-0019/2016 (CELL)-like; 37(43.0%) influenza B/Victoria viruses were characterized as B/Colorado/06/2017-like; 347(96.1%) influenza B/Yamagata viruses were characterized as B/Phuket/3073/2013-like.

Antiviral Resistance

Since April 2nd, 2018, among the influenza viruses tested by CNIC for antiviral resistance, all influenza A(H1N1)pdm09 and A(H3N2) viruses were resistant to adamantine; All influenza A(H3N2) and B viruses were sensitive to neuraminidase inhibitors. All but 2 influenza A(H1N1)pdm09 were sensitive to neuraminidase inhibitors.

H7N9 case report

Since the notification of human infection with novel reassortant influenza A(H7N9) virus on 31 March 2013, in total 1564 laboratory-confirmed cases have been reported to WHO. Among them, 32 cases were infected with HPAI A(H7N9) virus, which have mutations in the hemagglutinin gene indicating a change to high pathogenicity in poultry. These 32 cases are from Taiwan (the case had travel history to Guangdong), Guangxi, Guangdong, Hunan, Shaanxi, Hebei, Henan, Fujian, Yunnan provinces, with illness onset date before October 2017.

No increased transmissibility or virulence to human case was detected in the HPAI A(H7N9) virus.