

# Avian Influenza Report



*Avian Influenza Report* is a weekly report produced by the Respiratory Disease Office, Centre for Health Protection of the Department of Health. This report highlights global avian influenza activity in humans and birds.

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## Summary

1. Since the previous issue of Avian Influenza Report (AIR), one imported human case of avian influenza A(H7N9) was confirmed by the Centre for Health Protection (CHP) of the Department of Health. This imported case is the first case in Hong Kong this winter and the fourteenth case in Hong Kong. Since March 2013 (as of February 27, 2016), there were a total of 728 human cases of avian influenza A(H7N9) reported globally. Since October 2015 (as of February 27, 2016), 50 cases have been recorded in Mainland China.
2. Since the previous issue of AIR, there were no new human cases of avian influenza A(H5N6). Since 2013 (as of February 27, 2016), nine human cases of avian influenza A(H5N6) were reported to World Health Organization (WHO) and all occurred in Mainland China.
3. There were no new human cases of avian influenza A(H5N1) reported by WHO. From 2011 to 2015, 32 to 145 confirmed human cases of avian influenza A(H5N1) were reported to WHO annually (according to onset date).\*

\* Since November 21, 2012, WHO only publishes information on human cases with avian influenza A(H5N1) infection in “[Influenza at human - animal interface: Monthly Risk Assessment Summary](#)”. Only cases of human infection with H5N1 involved in events that are unusual or associated with potential increased risks will be reported in Disease Outbreak News. The latest [report](#) was published in January, 2016.

## **This week's highlights**

(Sources: WHO, National Health and Family Planning Commission (NHFPC), Mainland health authorities, Centre for Health Protection (CHP) and World Organisation for Animal Health (OIE))

**Table 1. Hong Kong: Confirmed human cases of avian influenza A(H5) / avian influenza A(H7N9)**

|                                 | <b>No. of H5 cases<br/>(No. of deaths)</b> | <b>No. of H7N9 cases<br/>(No. of deaths)</b> | <b>Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------|--------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>In this reporting period</b> | 0(0)                                       | 1(0)                                         | <b>Hong Kong:</b> A 60-year-old man was confirmed positive for avian influenza A(H7N9). This imported case is the first confirmed case in Hong Kong this winter. He lived and worked in Suzhou, Jiangsu Province, and returned to Hong Kong on February 5. During the stay in Suzhou, he visited a wet market with live poultry within the incubation period. He has recovered and has been discharged. (CHP, February 23, 2016) |

**Table 2. Outside Hong Kong: Confirmed cases of human infection with avian influenza A(H7N9)**

|                  | <b>Place of occurrence</b> | <b>No. of cases<br/>(No. of deaths)</b> | <b>Province / Region / Municipality</b> | <b>City / District / Area</b> | <b>Age (years)</b> | <b>Sex</b> | <b>Condition at time of reporting</b> | <b>Date of report</b> |
|------------------|----------------------------|-----------------------------------------|-----------------------------------------|-------------------------------|--------------------|------------|---------------------------------------|-----------------------|
| <b>New cases</b> | -                          | 0(0)                                    | -                                       | -                             | -                  | -          | -                                     | -                     |

**Table 3. Cumulative numbers of confirmed cases of human infection with avian influenza A(H7N9) since 2013 and since October 2015 respectively**

| <b>Confirmed H7N9 human cases have been reported in the following countries / areas</b> |                                  | <b>Cumulative no. of cases since 2013<br/>(728 cases in total)<br/>(as of February 27, 2016)</b> | <b>Cumulative no. of cases since October 2015<br/>(51 cases in total)<br/>(as of February 27, 2016)</b> |
|-----------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Mainland China                                                                          | Zhejiang Province                | 208                                                                                              | 24                                                                                                      |
|                                                                                         | Guangdong Province               | 191                                                                                              | 10 <sup>#</sup>                                                                                         |
|                                                                                         | Jiangsu Province                 | 85                                                                                               | 7                                                                                                       |
|                                                                                         | Fujian Province                  | 66                                                                                               | 3                                                                                                       |
|                                                                                         | Shanghai Municipality            | 51                                                                                               | 3                                                                                                       |
|                                                                                         | Anhui Province                   | 30                                                                                               | -                                                                                                       |
|                                                                                         | Hunan Province                   | 28                                                                                               | 2                                                                                                       |
|                                                                                         | Jiangxi Province                 | 12                                                                                               | 1                                                                                                       |
|                                                                                         | Xinjiang Uygur Autonomous Region | 10                                                                                               | -                                                                                                       |
|                                                                                         | Shandong Province                | 7                                                                                                | -                                                                                                       |
|                                                                                         | Beijing Municipality             | 6                                                                                                | -                                                                                                       |
|                                                                                         | Henan Province                   | 4                                                                                                | -                                                                                                       |
|                                                                                         | Guangxi Province                 | 3                                                                                                | -                                                                                                       |
|                                                                                         | Jilin Province                   | 2                                                                                                | -                                                                                                       |
|                                                                                         | Guizhou Province                 | 2                                                                                                | -                                                                                                       |
|                                                                                         | Hebei Province                   | 1                                                                                                | -                                                                                                       |
|                                                                                         | Hubei Province                   | 1                                                                                                | -                                                                                                       |
| Canada                                                                                  |                                  | 2*                                                                                               | -                                                                                                       |
| Hong Kong                                                                               |                                  | 14*                                                                                              | 1*                                                                                                      |
| Malaysia                                                                                |                                  | 1*                                                                                               | -                                                                                                       |
| Taiwan                                                                                  |                                  | 4*                                                                                               | -                                                                                                       |

# Refer to Figure 1 for geographical distribution

\* All cases imported from Mainland China

**Table 4. Outside Hong Kong: Confirmed cases of human infection with avian influenza A(H5N6)**

|                  | <b>Place of occurrence</b> | <b>No. of cases<br/>(No. of deaths)</b> | <b>Province /<br/>Region /<br/>Municipality</b> | <b>City /<br/>District /<br/>Area</b> | <b>Age<br/>(years)</b> | <b>Sex</b> | <b>Condition<br/>at time of<br/>reporting</b> | <b>Date of<br/>report</b> |
|------------------|----------------------------|-----------------------------------------|-------------------------------------------------|---------------------------------------|------------------------|------------|-----------------------------------------------|---------------------------|
| <b>New cases</b> | -                          | 0(0)                                    | -                                               | -                                     | -                      | -          | -                                             | -                         |

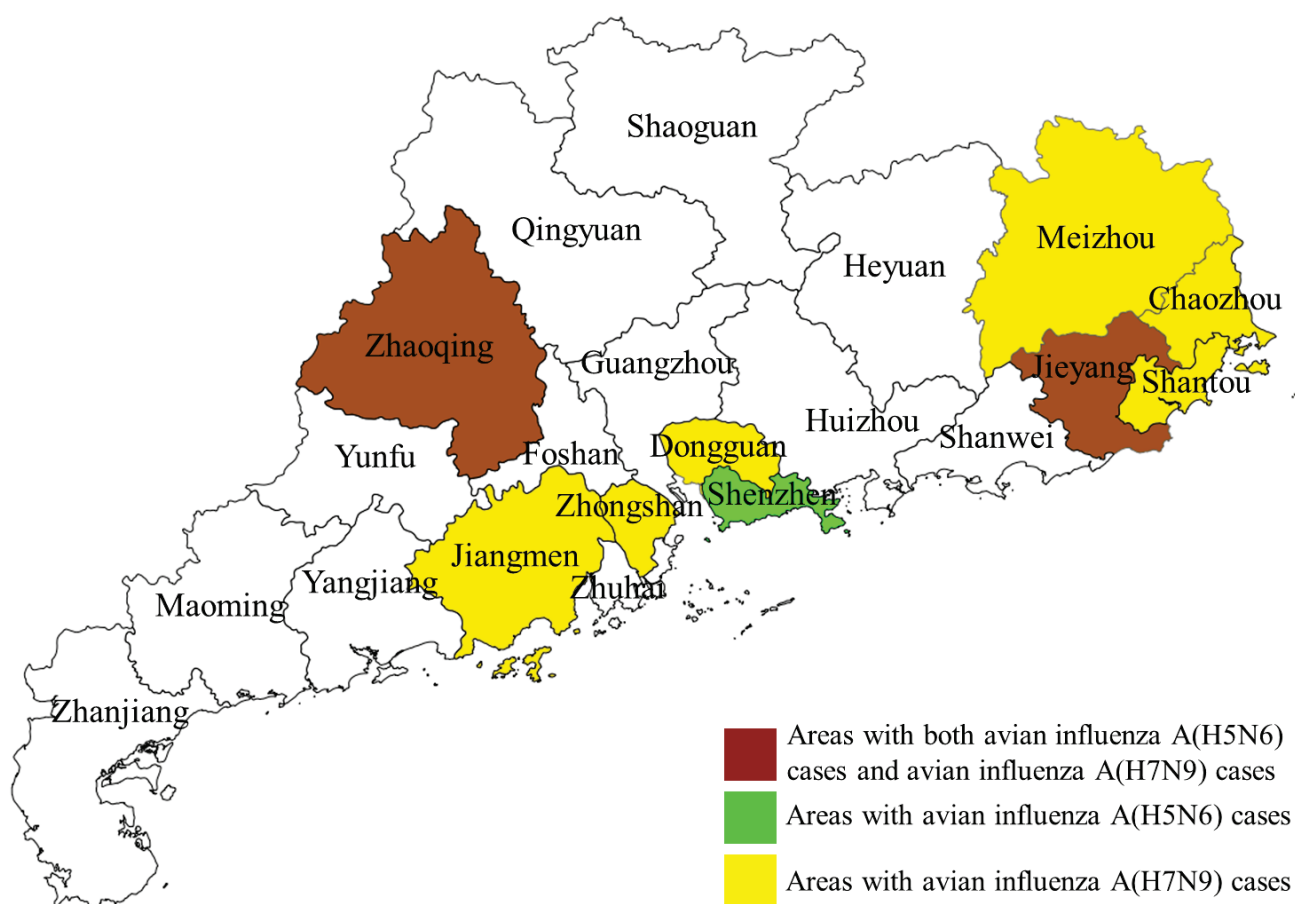
**Table 5. Cumulative number of confirmed cases of human infection with avian influenza A(H5N6) reported to WHO since 2014 and since October 2015 respectively**

| Confirmed H5N6 human cases have been reported in the following countries / areas |           | Cumulative no. of cases since 2014<br>(9 cases in total)<br>(as of February 27, 2016) | Cumulative no. of cases since October 2015<br>(5 cases in total)<br>(as of February 27, 2016) |
|----------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Mainland China                                                                   | Guangdong | 5                                                                                     | 4 <sup>#</sup>                                                                                |
|                                                                                  | Yunan     | 2                                                                                     | -                                                                                             |
|                                                                                  | Sichuan   | 1                                                                                     | -                                                                                             |
|                                                                                  | Jiangxi   | 1*                                                                                    | 1*                                                                                            |

<sup>#</sup> Refer to Figure 1 for geographical distribution

\* imported case from Guangdong

**Figure 1. Geographical distribution of human cases of avian influenza A(H5N6) and avian influenza A(H7N9) in Guangdong since October 2015 (latest case was reported on 18/2/2016)**



Note: Included a H5N6 case who was living in Jieyang during the incubation period and confirmed in Jiangxi Province

**Table 6. Outside Hong Kong: Confirmed human cases of avian influenza A(H5N1)**

|                  | <b>Place of occurrence</b> | <b>No. of cases (No. of deaths)</b> | <b>Details</b> |
|------------------|----------------------------|-------------------------------------|----------------|
| <b>New Cases</b> | -                          | 0(0)                                | -              |

For the cumulative no. of human cases by place, please refer to [WHO/WPRO](#) website.

**Table 7. Confirmed human cases of avian influenza A(H5N1) reported to WHO / NHFPC since 2003 (by onset date) <sup>§</sup>**

|                           | <b>2003</b> | <b>2004</b> | <b>2005</b> | <b>2006</b> | <b>2007</b> | <b>2008</b> | <b>2009</b> | <b>2010</b> | <b>2011</b> | <b>2012</b> | <b>2013</b> | <b>2014</b> | <b>2015</b> | <b>Overall</b> |
|---------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| <b>Cases</b>              | 4           | 46          | 98          | 115         | 88          | 44          | 73          | 48          | 62          | 32          | 39          | 52          | 145         | 846            |
| <b>Deaths</b>             | 4           | 32          | 43          | 79          | 59          | 33          | 32          | 24          | 34          | 20          | 25          | 22          | 42          | 449            |
| <b>Case Fatality Rate</b> | 100%        | 69.6%       | 43.9%       | 68.7%       | 67.0%       | 75.0%       | 43.8%       | 50.0%       | 54.8%       | 62.5%       | 64.1%       | 42.3%       | 29.0%       | 53.1%          |

<sup>§</sup> Further breakdown by countries is available at [WHO](#) website

**Table 8. Confirmed human cases of avian influenza A(H5N1) reported to WHO / NHFPC since 2003 (by date of reporting)**

| <b>Country</b> | <b>Cumulative no. of cases<br/>(December 2003 to February 2016)</b> | <b>No. of recent cases<sup>^</sup><br/>(November 2015 to February 2016)</b> |
|----------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Azerbaijan     | 8                                                                   | 0                                                                           |
| Bangladesh     | 8                                                                   | 1                                                                           |
| Cambodia       | 56                                                                  | 0                                                                           |
| Canada         | 1                                                                   | 0                                                                           |
| Mainland China | 53                                                                  | 1                                                                           |
| Djibouti       | 1                                                                   | 0                                                                           |
| Egypt          | 346                                                                 | 0                                                                           |
| Indonesia      | 199                                                                 | 0                                                                           |
| Iraq           | 3                                                                   | 0                                                                           |
| Laos           | 2                                                                   | 0                                                                           |
| Myanmar        | 1                                                                   | 0                                                                           |
| Nigeria        | 1                                                                   | 0                                                                           |
| Pakistan       | 3                                                                   | 0                                                                           |
| Thailand       | 25                                                                  | 0                                                                           |
| Turkey         | 12                                                                  | 0                                                                           |
| Vietnam        | 127                                                                 | 0                                                                           |
| Overall        | 846                                                                 | 2                                                                           |

<sup>^</sup> Details of recent cases (November 2015 to February 2016) are listed in *Table 9*.

**Table 9. Details of the recent confirmed human cases of avian influenza A(H5N1) reported to WHO / NHFPC (November 2015 to February 2016) (Sources: WHO, NHFPC)**

| <b>Date of report</b> | <b>Country</b>    | <b>Province /<br/>Region</b> | <b>District / City</b> | <b>Sex</b> | <b>Age</b> | <b>Outcome at<br/>the time of<br/>reporting</b> |
|-----------------------|-------------------|------------------------------|------------------------|------------|------------|-------------------------------------------------|
| 14/1/2016             | Mainland<br>China | Sichuan                      | Chengdu                | M          | 42         | Critical                                        |
| 20/1/2016             | Bangladesh        | -                            | Mymensing              | M          | 60         | Recovered                                       |

**Table 10. Outside Hong Kong: Confirmed human cases of avian influenza A infections other than avian influenza A(H5N1 / H5N6 / H7N9) reported in the past 6 months**

|                                                         | Place of occurrence   | No. of cases (No. of deaths) | Details                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------|-----------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>In this reporting period</b>                         | -                     | 0(0)                         | -                                                                                                                                                                                                                                                                                                                       |
| <b>Previously reported cases (in the past 6 months)</b> | <b>Mainland China</b> | 4(0)                         | <b>Avian influenza A(H9N2):</b> <ul style="list-style-type: none"> <li>▫ <b>Anhui Province:</b> A 4-year-old girl reported on December 14, 2015<sup>i</sup></li> <li>▫ <b>Hunan Province:</b> A two-year-old boy, a fifteen-year-old girl and a one-year-old girl reported on December 14, 2015<sup>ii</sup></li> </ul> |
|                                                         | <b>Bangladesh</b>     | 2(0)                         | <b>Avian influenza A(H9N2):</b> <ul style="list-style-type: none"> <li>▫ <b>Bangladesh:</b> A 3.5-year-old girl reported on September 4, 2015<sup>iii</sup></li> <li>▫ <b>Bangladesh:</b> A 46-year-old man reported on January 20, 2016<sup>iv</sup></li> </ul>                                                        |

<sup>i</sup> The WHO reported one confirmed human case of avian influenza A(H9N2) in Anhui Province of Mainland China in the Monthly Risk Assessment Summary in December 2015.

<sup>ii</sup> The WHO reported three confirmed human cases of avian influenza A(H9N2) in Hunan Province of Mainland China in the Monthly Risk Assessment Summary in December 2015.

<sup>iii</sup> The WHO reported one confirmed human case of avian influenza A(H9N2) in Bangladesh in the Monthly Risk Assessment Summary in September 2015.

<sup>iv</sup> The WHO reported one confirmed human case of avian influenza A(H9N2) in Bangladesh in the Monthly Risk Assessment Summary in January 2016.

**Table 11. Hong Kong: Confirmed reports of avian influenza A(H5) or avian influenza A(H7N9) in poultry / wild birds since 2014**

|                                                     | <b>No. of reports<br/>of H5 in<br/>poultry /<br/>wild birds</b> | <b>No. of reports<br/>of H7N9 in<br/>poultry /<br/>wild birds</b> | <b>Details</b>                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>In this<br/>reporting<br/>period</b>             | 1                                                               | 0                                                                 | <b>Avian influenza A(H5N6):</b><br>A chicken carcass found in Tai O was confirmed to be H5N6 positive after laboratory testing. The highly decomposed chicken carcass was collected in the water off Kat Hing Back Street at Po Chue Tam, Tai O on February 18. There are no poultry farms within 3 kilometres of where the dead chicken was found. (CHP, February 23, 2016) |
| <b>Previously<br/>reported cases<br/>since 2014</b> | 5*                                                              | 2 <sup>#</sup>                                                    | -                                                                                                                                                                                                                                                                                                                                                                            |

\* The Government confirmed that the carcass of a peregrine falcon found at a construction site in Hung Shui Kiu, Yuen Long on April 9, 2015 was tested positive for H5N6 virus.

The Government confirmed that the carcass of an oriental magpie robin found in Sai Kung on April 29, 2015 was tested positive for H5N6 virus.

The Government confirmed that the carcass of an oriental magpie robin found in Kwai Chung on November 17, 2015 was tested positive for H5N6 virus.

The Government confirmed that the carcass of an great egret found in Diamond Hill, Wong Tai Sin on December 31, 2015 was tested positive for H5N6 virus.

The Government confirmed that a chicken carcass found in Lung Kwu Tan, Tuen Mun on February 14, 2016 was tested positive for H5N6 virus.

<sup>#</sup> The Government confirmed on January 27, 2014 that a number of samples from a batch of live chickens imported from a registered poultry farm in Shunde District of Foshan City in Guangdong were tested positive for H7N9 virus.

The Government found on December 30, 2014 a number of samples from a consignment of live chickens from a registered farm in Huicheng District of Huizhou in Guangdong tested positive for H7N9 virus.

**Table 12. Outside Hong Kong: Confirmed avian influenza A(H5), A(H7N9) or other highly pathogenic avian influenza in poultry / wild birds reported in this week**

| Places of occurrence                    | No. of reports of H5N1 | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Nigeria,<br/>France,<br/>Vietnam</b> | 3                      | <p><b>Nigeria:</b> Samples from poultry in Kano City were tested positive for highly pathogenic avian influenza A(H5N1). (<i>OIE</i>, February 22, 2016)</p> <p><b>France:</b> Samples from poultry in Dordogne Province were tested positive for highly pathogenic avian influenza A(H5N1). (<i>OIE</i>, February 23, 2016)</p> <p><b>Vietnam:</b> Samples from poultry in Tra Vinh Province were tested positive for highly pathogenic avian influenza A(H5N1). (<i>OIE</i>, February 26, 2016)</p> |

For cumulative reports of avian influenza A(H5N1) or A(H7N9) in poultry / wild birds, please refer to the [OIE](#) website.

**Table 13. Countries / areas with documented avian influenza A H5, H7N9 or other highly pathogenic avian influenza cases in the recent 6 months (including infections in humans/birds and relevant environmental samples) (as of February 29, 2016)**

| Country/ Area                      | Human cases      |                         | Poultry cases / environmental samples |                                                 | Wild bird cases / others |                                                 |
|------------------------------------|------------------|-------------------------|---------------------------------------|-------------------------------------------------|--------------------------|-------------------------------------------------|
|                                    | Subtype of virus | Date of last report     | Subtype of virus                      | Date of last report<br>(Subtype in this report) | Subtype of virus         | Date of last report<br>(Subtype in this report) |
| Bangladesh                         | H5N1             | 20/01/2016              | -                                     | -                                               | H5                       | 15/02/2016 (H5N1)                               |
| Cambodia                           | -                | -                       | H5                                    | 16/11/2015 (H5N1)                               | -                        | -                                               |
| Cote D'Ivoire                      | -                | -                       | H5                                    | 02/02/2016 (H5N1)                               | -                        | -                                               |
| Egypt                              | -                | -                       | Endemic                               | Endemic                                         | -                        | -                                               |
| France                             | -                | -                       | H5                                    | 23/02/2016 (H5N1)                               | -                        | -                                               |
| Ghana                              | -                | -                       | H5                                    | 02/02/2016 (H5N1)                               | -                        | -                                               |
| Hong Kong                          | H7N9             | 23/02/2016 <sup>#</sup> | -                                     | -                                               | H5                       | 23/02/2016 (H5N6)                               |
| India                              | -                | -                       | H5                                    | 19/01/2016 (H5N1)                               | -                        | -                                               |
| Indonesia                          | -                | -                       | Endemic                               | Endemic                                         | -                        | -                                               |
| Laos                               | -                | -                       | H5                                    | 08/10/2015 (H5N6)                               | -                        | -                                               |
| Macau                              | -                | -                       | H7                                    | 03/02/2016 (H7)                                 | -                        | -                                               |
| Mainland China                     |                  |                         |                                       |                                                 |                          |                                                 |
| Fujian                             | H7N9             | 05/02/2016              | -                                     | -                                               | -                        | -                                               |
| Guangdong                          | H7N9             | 18/02/2016              | H5                                    | 14/08/2015 (H5N6)                               | -                        | -                                               |
|                                    | H5N6             | 18/01/2016              |                                       |                                                 |                          |                                                 |
| Guizhou                            | -                | -                       | H5                                    | 22/01/2016 (H5N1)<br>29/02/2016 (H5N6)          | -                        | -                                               |
| Hunan                              | H7N9             | 03/02/2016              | H5                                    | 18/01/2016 (H5N6)                               | -                        | -                                               |
| Jiangsu                            | H7N9             | 05/02/2016              | H5                                    | 14/08/2015 (H5N2)                               | -                        | -                                               |
| Jiangxi                            | H7N9             | 05/01/2016              | -                                     | -                                               | -                        | -                                               |
|                                    | H5N6             | 11/01/2016 <sup>^</sup> |                                       |                                                 |                          |                                                 |
| Shanghai                           | H7N9             | 08/02/2016              | -                                     | -                                               | -                        | -                                               |
| Sichuan                            | H5N1             | 14/01/2016              | -                                     | -                                               | -                        | -                                               |
| Zhejiang                           | H7N9             | 05/02/2016              | -                                     | -                                               | -                        | -                                               |
| Nigeria                            | -                | -                       | H5                                    | 22/02/2016 (H5N1)                               | -                        | -                                               |
| Palestinian Autonomous Territories | -                | -                       | -                                     | -                                               | H5                       | 15/10/2015*                                     |
| Republic of Korea                  | -                | -                       | H5                                    | 04/12/2015 (H5N8)                               | -                        | -                                               |
| Russia                             | -                | -                       | -                                     | -                                               | H5                       | 21/08/2015 (H5N1)                               |
| Taiwan                             | -                | -                       | H5                                    | 22/02/2016 (H5N2)<br>22/02/2016 (H5N8)          | -                        | -                                               |
| United States                      | -                | -                       | H7N8                                  | 15/01/2016 (H7N8)                               | -                        | -                                               |
| Vietnam                            | -                | -                       | H5                                    | 16/02/2016 (H5N6)<br>26/02/2016 (H5N1)          | -                        | -                                               |

Sources: WHO, OIE, NHFPC and other official websites

<sup>^</sup> imported case from Guangdong

\*without further subtype information