COMMUNICABLE DISEASE THREATS REPORT

CDTR
Week 1, 1-7 January 2017

All users

This weekly bulletin provides updates on threats monitored by ECDC.

I. Executive summary

EU Threats

Influenza - Multistate (Europe) - Monitoring 2016-2017 season

Opening date: 13 October 2016 Latest update: 6 January 2017

Influenza transmission in Europe shows a seasonal pattern, with peak activity during winter months. ECDC monitors influenza activity in Europe during the winter season and publishes its weekly report on the Flu News Europe website.

➔Update of the week

Influenza activity continues to increase across the region, with widespread activity in 22 of 43 reporting countries.

Non EU Threats

Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005 Latest update: 6 January 2017

Global public health efforts are ongoing to eradicate polio, a crippling and potentially fatal disease, by immunising every child until transmission of the virus has completely stopped and the world becomes polio-free. Polio was declared a public health emergency of international concern (PHEIC) by the World Health Organization (WHO) on 5 May 2014 due to concerns regarding the increased circulation and international spread of wild poliovirus during 2014. On 11 November 2016, at the eleventh meeting of the Emergency Committee, the temporary recommendations in relation to the PHEIC were extended for another three months. WHO recently declared wild poliovirus type 2 (WPV2) eradicated worldwide.

➔Update of the week

No new cases were detected in the past week.

Pakistan reported three positive environmental samples of wild poliovirus type 1.

Influenza A(H7N9) - China - Monitoring human cases

Opening date: 31 March 2013 Latest update: 6 January 2017

In March 2013, a novel avian influenza A(H7N9) virus was detected in patients in China. Since then, and up to 5 January 2017, 809 cases have been reported to WHO, including at least 320 deaths. No autochthonous cases have been reported outside China. Most cases are isolated, and sporadic zoonotic transmission from poultry to humans is the most likely explanation for the outbreak.

➔Update of the week

Between 29 December 2016 and 5 January 2017, China reported one human case of influenza A(H7N9).

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Zika - Multistate (world) - Monitoring global outbreaks

Opening date: 16 November 2015 Latest update: 6 January 2017

From 1 February to 18 November 2016, Zika virus infection and the related clusters of microcephaly cases and other neurological disorders constituted a public health emergency of international concern (PHEIC). Since 2015, and as of 28 December 2016, 71 countries and territories have reported evidence of mosquito-borne transmission of the virus. According to the World Health Organization (as of 28 December 2016), 29 countries or territories reported microcephaly and other central nervous system malformations in newborns which are potentially associated with Zika virus infection.

➔Update of the week

USA

In Texas, no new locally-acquired cases have been reported since the last CDTR and as of 3 January 2017.

ECDC maps

The updated ECDC maps of countries and territories with autochthonous vector-borne transmission of Zika virus infection show no changes during the past week.

Influenza A(H5N1) and other strains of avian flu - Non EU/EEA countries

Opening date: 15 June 2005 Latest update: 6 January 2017

Highly pathogenic avian influenza viruses A(H5) of Asian origin are highly infectious for several bird species, including poultry. The human infections with influenza A(H5) viruses have been caused by influenza A(H5N1) virus in several non-EU/EEA countries and by influenza A(H5N6) virus in China. Other avian influenza subtypes, including H7N7 and H9N2, have infected people sporadically. Many of these infections have been mild or even subclinical in humans, but some have been severe and have resulted in deaths. ECDC is following the development of these viruses and is monitoring infections in humans.

➔Update of the week

Between 15 December 2016 and 5 January 2017, no new human infections with A(H5N1) viruses were reported by WHO.

On 22 December 2016, the US CDC confirmed one associated human infection of A(H7N2) in a person who had close, prolonged unprotected exposure to the respiratory secretions of infected, sick cats at an affected New York City animal shelter. The person had relatively mild illness and is recovering. No person-to-person spread of this virus has been identified at this time.

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II. Detailed reports

Influenza - Multistate (Europe) - Monitoring 2016-2017 season

Opening date: 13 October 2016 Latest update: 6 January 2017

Epidemiological summary

Week 52/2016 (26 December 2016 to 1 January 2017)
Influenza activity continues to increase across the region, with widespread activity in 22 of 43 reporting countries. Last week, the proportion of virus detections among sentinel surveillance specimens slightly increased, from 47% to 50%. The great majority of influenza viruses detected this week were type A, and of those subtyped, the majority were A(H3N2). Influenza cases from hospital settings are also increasing, with most severe cases reported in adults aged over 65 years who were predominantly diagnosed with an influenza A virus infection.

Season overview
Influenza activity has started earlier this season compared to previous seasons. Week 46/2016 is the earliest week that the overall positivity rate in sentinel specimens reached 10% in the last 7 years. During the previous 6 seasons this occurred between weeks 48 and 51. Since week 40/2016, influenza A viruses have predominated accounting for 95% of all sentinel detections. The great majority (99%) of subtyped influenza A viruses from sentinel sites have been A(H3N2). This is in contrast to the same period during the previous season in which influenza A(H1N1)pdm09 predominated. In an influenza season in which influenza A (H3N2) predominates, elderly populations can be expected to be most severely affected. More than half of the detected characterised A(H3N2) viruses belong to a new genetic subclade (3C.2a1), but all are antigenically similar to the vaccine strain (clade 3C.2a).

ECDC assessment

This season, influenza viruses, mainly A(H3N2), began circulating early in the EU/EEA. It is too early to predict the intensity in primary care and the severity in secondary care, but if A(H3N2) continues to predominate, there is a risk that people over 65 years of age will be the most severely affected, possibly increasing pressure on healthcare systems.

A risk assessment on seasonal influenza in EU/EEA countries was published by ECDC on 24 December 2016.

Actions

ECDC monitors influenza activity in Europe during the winter season and publishes its weekly report on the Flu News Europe website. Risk assessments for the season are available from the European Centre for Disease Prevention and Control (ECDC) and the WHO Regional Office for Europe websites.

Poliomyelitis - Multistate (world) - Monitoring global outbreaks

Opening date: 8 September 2005 Latest update: 6 January 2017

Epidemiological summary

As of 4 January 2017, no cases of WPV1 have been reported to WHO in 2017.

Officially reported wild poliovirus cases as of 3 Jan 2017:
Total global cases in 2016: 35 (compared with 70 for the same period in 2015)
Afghanistan: 12 cases in 2016 (compared with 19 for the same period in 2015), onset of paralysis of most recent case: 12 Oct 2016
Pakistan: 19 cases in 2016 (compared with 51 for the same period in 2015), onset of paralysis of most recent case: 3 Nov 2016
Nigeria: 4 cases in 2016 (compared with 0 for the same period in 2015), onset of paralysis of most recent case: 21 Aug 2016

Web sources: Polio eradication: weekly update | ECDC Poliomyelitis factsheet | Temporary Recommendations to Reduce International Spread of Poliovirus | WHO Statement on the Seventh Meeting of the International Health Regulations Emergency Committee on Polio

ECDC assessment

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The last locally-acquired wild polio cases within the current EU borders were reported from Bulgaria in 2001. The most recent wild polio outbreak in the WHO European Region was in Tajikistan in 2010, when importation of WPV1 from Pakistan resulted in 460 cases.

References: ECDC latest RRA | Rapid Risk Assessment on suspected polio cases in Syria and the risk to the EU/EEA | Wild-type poliovirus 1 transmission in Israel - what is the risk to the EU/EEA? |RRA Outbreak of circulating vaccine-derived poliovirus type 1 (cVDPV1) in Ukraine

Actions

ECDC monitors reports of polio cases worldwide through epidemic intelligence in order to highlight polio eradication efforts and identify events that increase the risk of wild poliovirus being reintroduced into the EU. Following the declaration of polio as a PHEIC, ECDC updated its risk assessment. ECDC has also prepared a background document with travel recommendations for the EU.

Influenza A(H7N9) - China - Monitoring human cases

Opening date: 31 March 2013 Latest update: 6 January 2017

Epidemiological summary

On 3 January 2017, WHO acknowledged one new confirmed A(H7N9) case in Hong Kong, China. The case is a 70-year-old man with underlying chronic conditions, who travelled to Shenzhen and Zhongshan, Guangdong province, between 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 on 27 December 2016 and was admitted to an isolation ward a day later. 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, 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.

Web sources: Chinese CDC | WHO | WHO FAQ page | ECDC

ECDC assessment

This outbreak is caused by a novel reassortant avian influenza virus capable of causing severe disease in humans. This is a zoonotic outbreak, in which the virus is transmitted sporadically to humans in close contact with the animal reservoir, similar to the influenza A(H5N1) situation.

In the past 12 months, there have been continued avian influenza A(H7N9) virus detections in the animal population in several provinces of China, indicating that the virus persists in the poultry population. If the pattern of human cases follows the trends seen in previous years, the number of human cases may rise over the coming months. Further sporadic cases of human infection with avian influenza A(H7N9) virus are therefore expected in neighbouring areas and in areas that are already affected.

Imported cases of influenza A(H7N9) may be detected in Europe. However, the risk of the disease spreading among humans following an importation to Europe is considered to be very low. People in the EU presenting with severe respiratory infection and a history of potential exposure in the outbreak area will require careful investigation.

Actions

The Chinese health authorities continue to respond to this public health event with enhanced surveillance, epidemiological and laboratory investigation, and scientific research.
ECDC published an updated Rapid Risk Assessment on 3 February 2015.
ECDC published a guidance document entitled Supporting diagnostic preparedness for detection of avian influenza A(H7N9) viruses in Europe for laboratories on 24 April 2013.

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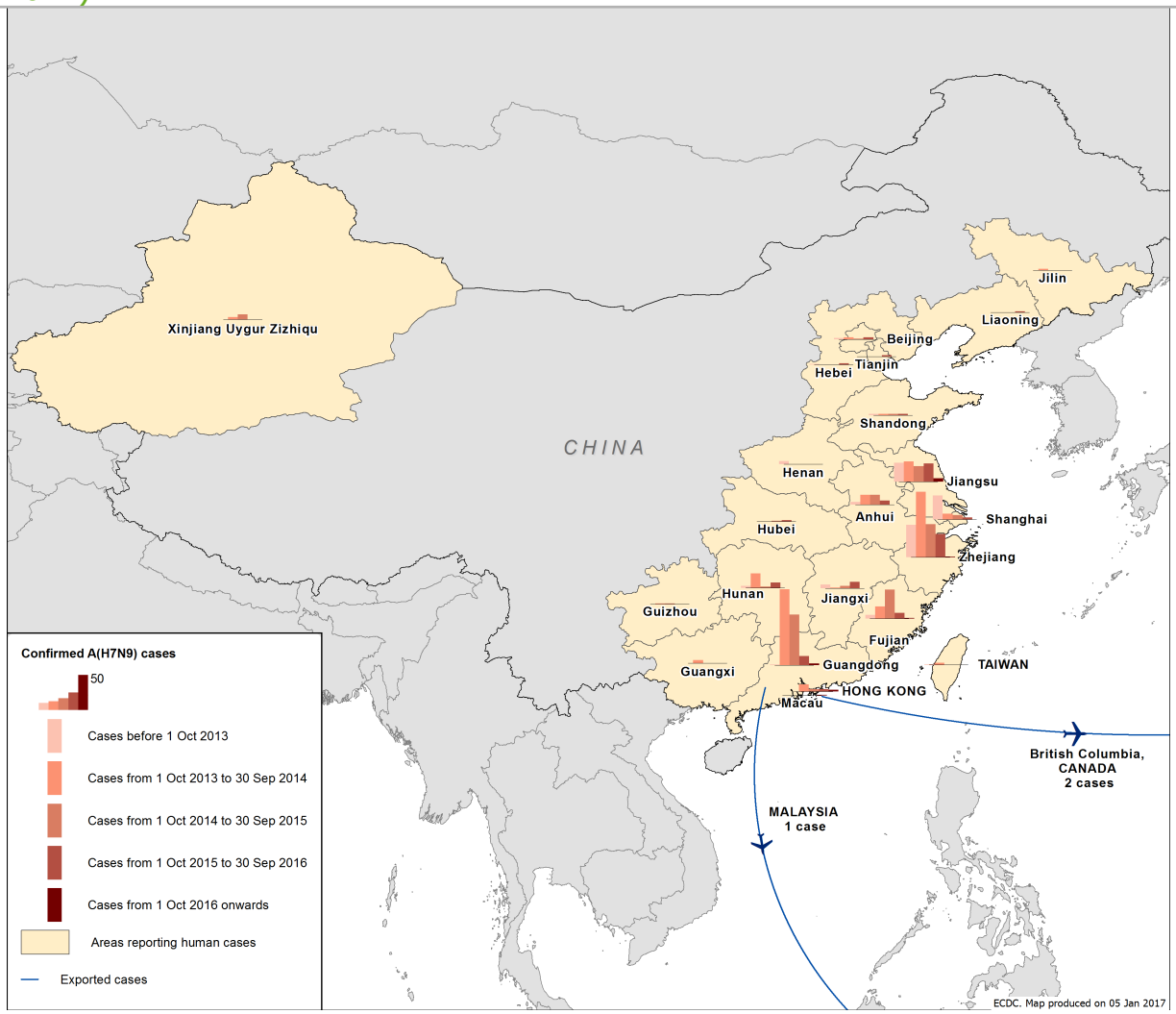
Distribution of confirmed cases of A(H7N9) by five periods of reporting (weeks 07/2013 to 1/2017)



Zika - Multistate (world) - Monitoring global outbreaks

Opening date: 16 November 2015 Latest update: 6 January 2017

Epidemiological summary

Worldwide

Since 2015 and as of 28 December 2016, 71 countries and territories have reported evidence of mosquito-borne transmission of the virus. Since February 2016 and as of 28 December 2016, 13 countries or territories have reported evidence of person-to-person transmission of the virus, probably via sexual transmission.

USA

As of 28 December 2016, 256 locally acquired and 1 011 travel-related cases have been reported in Florida.

Since the last CDTR and as of 3 January 2017, no new locally acquired cases have been reported in Texas. As of 3 January 2017, six locally acquired and 294 travel-related cases have been reported in Texas.

EU/EEA imported cases

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Since June 2015 (week 26) and as of 29 December 2016, 21 countries (Austria, Belgium, the Czech Republic, Denmark, Finland, France, Greece, Hungary, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom) have reported 2 055 travel-associated Zika virus infections through The European Surveillance System (TESSy). Over the same time period, nine EU/EEA Member States have reported 100 Zika cases among pregnant women.

Update on microcephaly and/or central nervous system malformations potentially associated with Zika virus infection

As of 28 December 2016, 29 countries or territories have reported microcephaly and other central nervous system malformations in newborns which are potentially associated with Zika virus infection. Brazil is reporting the highest number of cases. As of 28 December 2016, 21 countries or territories have reported Guillain-Barré syndrome potentially associated with Zika virus infection.

Web sources: ECDC Zika Factsheet | PAHO | Colombian MoH | Brazilian MoH | Brazilian microcephaly case definition | SAGE MOH Brazil | Florida Health department

ECDC assessment

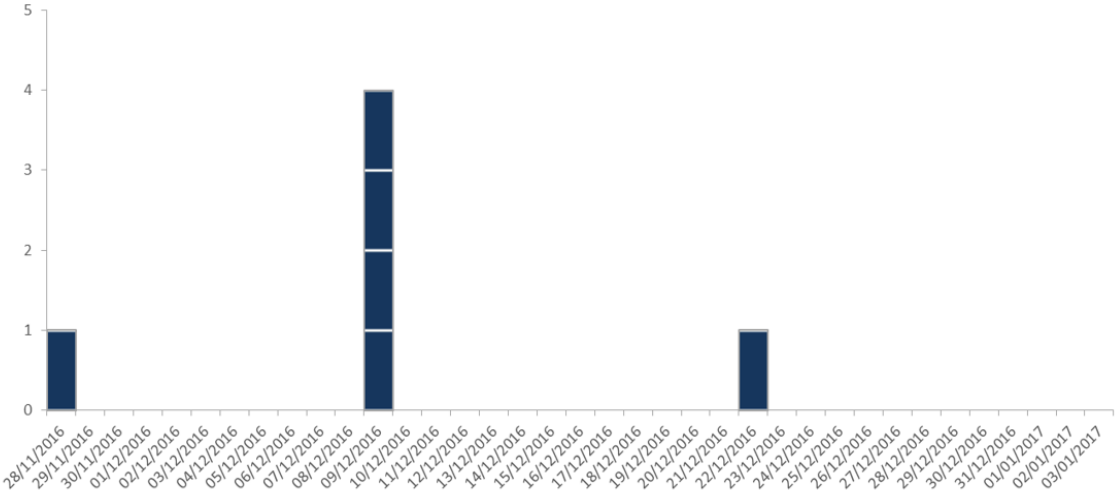
The spread of the Zika virus in the Americas and Asia is likely to continue as the vectors (*Aedes aegypti* and *Aedes albopictus* mosquitoes) are widely distributed there. The likelihood of travel-related cases in the EU is increasing. A detailed risk assessment was published on 28 October 2016. As neither treatment nor vaccines are available, prevention is based on personal protection measures. Pregnant women should consider postponing non-essential travel to Zika-affected areas.

Actions

ECDC publishes an epidemiological update every Friday together with maps containing information on countries or territories which have reported confirmed autochthonous cases of Zika virus infection. A Zika virus infection atlas is also available on the ECDC website.

ECDC publishes information concerning vector distribution on the ECDC website, showing the distribution of the vector species at 'regional' administrative levels (NUTS3).

Distribution of locally-acquired Zika cases in the US state of Texas, by reporting date, from 28 November 2016 to 3 January 2017



ECDC (adapted from Texas health department)

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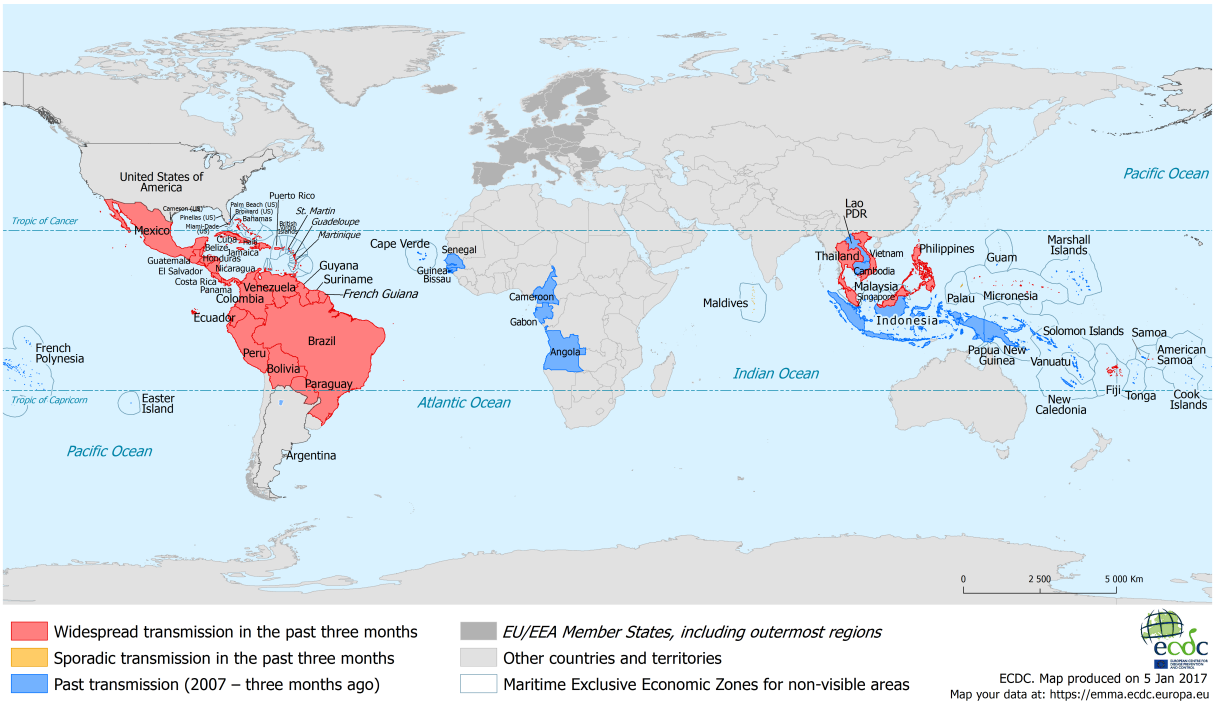
Countries or territories with reported confirmed autochthonous cases of Zika virus infection in the past three months, as of 5 January 2017

ECDC



Influenza A(H5N1) and other strains of avian flu - Non EU/EEA countries

Opening date: 15 June 2005 Latest update: 6 January 2017

Epidemiological summary

Influenza A(H5N1)
From 2003 to 5 January 2017, 856 laboratory-confirmed cases of human infection with avian influenza A(H5N1) virus, including 452 deaths, were reported from 16 countries.

Influenza A(H7N2)
On 22 December 2016, the US CDC has confirmed one associated human infection of A(H7N2) in a person who had close, prolonged unprotected exposure to the respiratory secretions of infected, sick cats at an affected New York City animal shelter. The person had relatively mild illness and is recovering. No person-to-person spread of this virus has been identified at this time.

Web sources: ECDC Rapid Risk Assessment | Avian influenza on ECDC website |EMPRES | OIE | WHO

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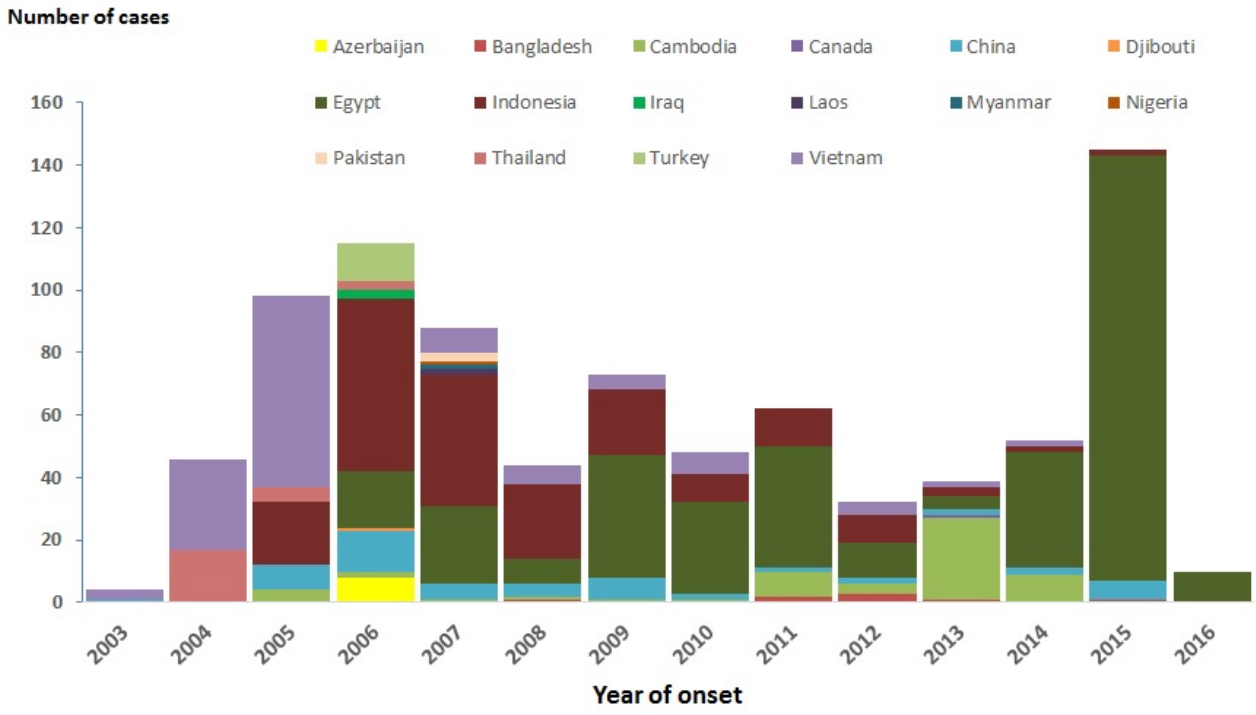
ECDC assessment

When avian influenza viruses circulate in poultry, sporadic infections or small clusters of human cases are possible in people exposed to infected poultry or contaminated environments, especially in households and at live bird markets. The viruses remain poorly adapted to humans, and transmission from birds to humans is infrequent. Only limited clusters of human cases have been reported since the first human epidemic of A(H5N1). No sustained human-to-human transmission has been observed. The risk of foodborne transmission, e.g. through the consumption of eggs or meat, is considered to be extremely low.

Actions

ECDC monitors avian influenza strains through epidemic intelligence activities in order to identify significant changes in the epidemiology of the virus. ECDC re-assesses the potential of the A(H5N1) risk to humans on a regular basis.

Distribution of confirmed cases of A(H5N1) by country of reporting 2003 to 2016



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