COMMUNICABLE DISEASE THREATS REPORT

CDTR
Week 7, 11-17 February 2018

All users

This weekly bulletin provides updates on threats monitored by ECDC.

I. Executive summary

EU Threats

Influenza – Multistate (Europe) – Monitoring season 2017 – 2018

Opening date: 11 October 2017 Latest update: 16 February 2018

Influenza transmission in Europe shows a seasonal pattern, with peak activity during the winter months.

➔Update of the week
Influenza activity in week 6-2018 (5–11 February 2018) was widespread in the majority of reporting countries.

Non EU Threats

New! Avian influenza A(H7N4) - China - 2017 - 2018

Opening date: 15 February 2018 Latest update: 16 February 2018

On 14 February 2018, the first human case due to avian influenza A(H7N4) was reported from China.

Mass gathering monitoring – Multistate (World) – South Korea Winter Olympics 2018

Opening date: 27 November 2017 Latest update: 16 February 2018

This year, the Winter Olympics Pyeongchang 2018 are being held in South Korea between 9 and 25 February 2018, followed by the Paralympics from 9 to 18 March 2018. Over one million tickets are planned to be sold and of these, 320 000 are reserved for foreign citizens. The Pyeongchang Olympic village will house up to 3 894 athletes and team officials during the Games, while a second village in Gangneung will accommodate more than 2 900 people. The 2018 Winter Olympics will feature 102 events in 15 sport disciplines.

➔Update of the week
Korea Centers for Disease Control and Prevention report 244 confirmed cases of norovirus infection in the Olympic villages as of 15 February. In addition, news media report that two athletes have been infected with norovirus.

European Centre for Disease Prevention and Control (ECDC)
Postal address: ECDC 171 83 Stockholm, Sweden
Visiting address: Tomtebodavägen 11a, Solna, Sweden
www.ecdc.europa.eu

Epidemic Intelligence duty email: support@ecdc.europa.eu
Link to ECDC CDTR web page – including related PowerPoint© slides

Yellow fever – Brazil – 2017 - 2018

Opening date: 16 January 2017 Latest update: 16 February 2018

Yellow fever is a mosquito-borne viral infection occurring in some tropical areas of Africa and South America. Brazil experienced a major outbreak of yellow fever in 2016-2017. An upsurge of confirmed cases has been reported since December 2017.

➔Update of the week

Since the previous CDTR on 9 February 2018, no epidemiological updates have been issued by the Brazilian Ministry of Health.

On 14 February 2018, the GeoSentinel network notified one case of yellow fever in a French traveller returning from Brazil. The case is an unvaccinated 42-year-old woman who returned to Paris during convalescence. According to GeoSentinel, the patient was hospitalised in a local clinic in Brazil where laboratory results were positive for yellow fever. The case has been likely infected when visiting the Inhotim Botanical Garden in Brumadinho, Minas Gerais.

European Centre for Disease Prevention and Control (ECDC)
Postal address: ECDC 171 83 Stockholm, Sweden
Visiting address: Tomtebodavägen 11a, Solna, Sweden
www.ecdc.europa.eu

Epidemic Intelligence duty email: support@ecdc.europa.eu
Link to ECDC CDTR web page – including related PowerPoint© slides

II. Detailed reports

Influenza – Multistate (Europe) – Monitoring season 2017 – 2018

Opening date: 11 October 2017 Latest update: 16 February 2018

Epidemiological summary

Week 6-2018 (5-11 February 2018)
Influenza activity was widespread in the majority of reporting countries.
Both influenza virus types A and B were co-circulating, with a higher proportion of type B viruses. Different proportions of circulating influenza virus types and A subtypes were observed between countries.
Of the individuals sampled, on presenting with ILI or ARI to sentinel primary healthcare sites, 51% tested positive for influenza viruses. The detection rate decreased compared with the previous week (55%).
The majority of severe cases reported this season are due to influenza B and occur in persons above the age of 15 years. In confirmed influenza cases in ICU, similar numbers of cases were infected with influenza A or influenza B. In laboratory-confirmed cases reported in wards other than ICU, influenza B was detected approximately twice as often as influenza A and mainly in the >65 age group.
WHO is convening the Vaccine Composition Meeting on 19–21 February to decide on the composition of the 2018–2019 northern hemisphere vaccine.

2017–18 season overview
For the Region overall, a higher proportion of type B compared to type A viruses has been detected in sentinel and non-sentinel sources. Of the type A detections from sentinel sources, A(H1N1)pdm09 viruses have outnumbered A(H3N2) viruses, while in non-sentinel sources more A(H3N2) viruses were reported than A(H1N1)pdm09 viruses.
The majority of severe cases reported this season are due to influenza B and occur in persons above the age of 15 years. In confirmed influenza cases in ICU, similar numbers of cases were infected with influenza A or influenza B, and approximately equal numbers of cases were reported in the 15–64 and >64 age groups. In laboratory-confirmed cases reported in wards other than ICU, influenza B was detected approximately twice as frequently as influenza A, and twice as many cases occurred among those >64 compared with patients in the 15–64 age group.
For type B viruses from both sentinel and non-sentinel sources, B/Yamagata lineage viruses have greatly outnumbered those of the B/Victoria lineage. The current trivalent seasonal influenza vaccine does not include a virus from the B/Yamagata lineage.
Different patterns of dominant type and A subtype were observed between the countries in the Region, which may be due to differences in relative weights of information being derived from sentinel, non-sentinel and severe influenza case sources of information between countries.
While low in number, 59% of the genetically characterised A(H3N2) viruses belong to clade 3C.2a, the clade of the vaccine virus described in the WHO recommendations for vaccine composition for the northern hemisphere 2017–2018, and 37% to subclade 3C.2a1, with mammalian cell-cultured viruses in both clades being antigenically similar.
A situation analysis that describes the early season evolving epidemiological pattern was published by WHO Regional Office for Europe in January. A high level of influenza B virus circulation was observed during the first half of the season, compared with previous seasons.
An early risk assessment based on data from EU/EEA countries was published by ECDC on 20 December 2017.
Interim or real-time vaccine effectiveness estimates from Canada, Finland, Germany, Spain, Stockholm County and the United States of America suggest an overall vaccine effectiveness of 15–46%, depending on the proportion of circulating (sub)types. Effectiveness against influenza B is in the range of 35–67%, despite the circulating lineage not being included in the more commonly used trivalent vaccine.
European mortality among the elderly has significantly increased over the past weeks in the western parts of Europe.
Additional information on global influenza activity is available from WHO's biweekly global updates.

Source: Flunewseurope

ECDC assessment

As expected for this time of year, influenza activity is increasing, putting pressure on healthcare systems and creating significant media attention. Vaccination programmes targeting the elderly, people with chronic diseases and healthcare workers should be continued and intensified in countries that have not reached the seasonal peak. Antiviral treatment with neuraminidase inhibitors should be advised for people at high risk of the complications of influenza, such as people with underlying chronic respiratory or cardiovascular diseases, and for people with severe or rapidly progressive symptoms. Antiviral prophylaxis should be considered during the early phases of outbreaks in closed settings such as nursing homes. Interpersonal distancing measures are also likely to provide protection for infants, the elderly and the frail.

European Centre for Disease Prevention and Control (ECDC)
Postal address: ECDC 171 83 Stockholm, Sweden
Visiting address: Tomtebodavägen 11a, Solna, Sweden
www.ecdc.europa.eu

Epidemic Intelligence duty email: support@ecdc.europa.eu
Link to ECDC CDTR web page – including related PowerPoint© slides

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 on the ECDC website and on the World Health Organization's Regional Office for Europe website.

New! Avian influenza A(H7N4) - China - 2017 - 2018

Opening date: 15 February 2018 Latest update: 16 February 2018

Epidemiological summary

On 14 February 2018, the first human case due to avian influenza A(H7N4) was reported from China. The case is a 68-year-old female patient living in Liyang in Changzhou, Jiangsu Province, who developed symptoms on 25 December 2017. She was admitted to hospital for medical treatment on 1 January 2018 and discharged on 22 January 2018. She had contact with live poultry before the onset of symptoms. None of her close contacts had any symptoms during the medical surveillance period. The Chinese Center for Disease Control and Prevention reported that a genetic analysis of the virus indicated that it was avian in origin.

ECDC assessment

This is the first reported human case of avian influenza A(H7N4). In China, several ongoing poultry outbreaks have been reported since December 2017, however none have been typed as H7N4. Further genetic analyses are required to characterise the relationship and origin of the new virus with regard to avian influenza A(H7N9) viruses which have caused human infections since 2013.
Unrelated to the human case, previously documented outbreaks of avian influenza A(H7N4) have occurred in New South Wales, Australia, in 1997. The virus was isolated from chickens on two commercial chicken farms and from asymptomatic emus kept on a third property. In 2010, the virus was isolated in the Netherlands in poultry holdings.

Actions

ECDC monitors this event through epidemic intelligence.

Mass gathering monitoring – Multistate (World) – South Korea Winter Olympics 2018

Opening date: 27 November 2017 Latest update: 16 February 2018

Epidemiological summary

The Korea Centers for Disease Control and Prevention (KCDC) reported 244 confirmed norovirus cases, which occurred between 1 and 15 February 2018 in the Winter Olympics athletes villages in Pyeongchang, South Korea. Most of the cases are security staff and Games personnel. These people were quarantined and are being monitored in order to prevent a further spread of the infection. The cases are from Horeb Youth Centre (108), Pyeongchang (59) and Gangneung (77). The overall number of cases related to this outbreak is decreasing, but a slight increase was observed in Gangneung.
According to news media (15 February), two Swiss freestyle skiers were the first at the Winter Olympics confirmed to have contracted norovirus. The athletes are now recovering. Norovirus outbreaks are not unexpected during mass gathering events.

Currently, KCDC is reporting an increase in seasonal influenza with predominance of influenza type B and A(H3N2), mostly affecting children 7-18 years of age. Since 2017, several outbreaks of highly pathogenic avian influenza A(H5N6) have been detected in birds and poultry. Even though no human cases of A(H5N6) were detected during these outbreaks and the risk of human infection is considered very low, it is recommended that contact with birds should be avoided and poultry farms should not be visited. According to WHO, an increase in seasonal influenza has also been observed in the Western Pacific Region.

South Korea has reported seven cases of measles in 2018 as of 10 February. In 2017, South Korea reported eight cases, in 2016 there were 18 cases, in 2015 seven cases, and in 2014, 442 cases.

Sources: Korean Centres for Disease Control and Prevention | KCDC mobile app | ECDC CDTR | WHO travel advice| media | WHO |

European Centre for Disease Prevention and Control (ECDC)
Postal address: ECDC 171 83 Stockholm, Sweden
Visiting address: Tomtebodavägen 11a, Solna, Sweden
www.ecdc.europa.eu

Epidemic Intelligence duty email: support@ecdc.europa.eu
Link to ECDC CDTR web page – including related PowerPoint© slides

ECDC assessment

One week before and one week after the event, the ECDC epidemic intelligence team will enhance their monitoring activities related to the Winter Olympics, with a focus on infectious diseases that might pose a risk to public health.
The winter season in South Korea poses an increased risk of respiratory and gastrointestinal infections. Additionally, mass gatherings indoors during the Winter Olympics could increase the risk of spread of infections via aerosols and direct human contact. This could have an impact on tuberculosis, meningococcal infection, measles, diphtheria, mumps and other vaccine-preventable diseases. As mosquito and tick activity is very low or non-existent at the time, the risk of vector-borne diseases is considered low during the Winter Olympics and Paralympics.

People who plan to travel to South Korea are advised to consult their healthcare providers regarding vaccinations as there are currently multiple ongoing outbreaks of measles, diphtheria, and mumps, both in Europe and worldwide. The importation of these infections to South Korea should be avoided, as should the importation of infections to the travellers' countries of residence on return. If travellers need medical help upon their return, they should inform their consulting healthcare provider about their trip to South Korea.

The risk of food- and waterborne outbreaks is, in general, increased during mass gatherings when large numbers of people eat from commercial outlets, many of which may have been setup temporarily and may not always meet food safety standards. Additionally, travellers should follow good hygiene practices and recommendations regarding food- and waterborne diseases.

Actions

To monitor the public health threat, ECDC is in contact with the Korean CDC and will report through the CDTR if any events are detected.
On 20 January 2018, ECDC published a news item related to the event in the weekly communicable disease threat report. There are also dedicated filters for the Winter Olympics on MedISys, one for the Olympic Games in general and one with a list of diseases.

Distribution of norovirus cases in Winter Olympics, PyeongChang, the Republic of Korea, February 2018 (n=244)

Data source: KCDC

European Centre for Disease Prevention and Control (ECDC)
Postal address: ECDC 171 83 Stockholm, Sweden
Visiting address: Tomtebodavägen 11a, Solna, Sweden
www.ecdc.europa.eu

Epidemic Intelligence duty email: support@ecdc.europa.eu
Link to ECDC CDTR web page – including related PowerPoint© slides

Yellow fever – Brazil – 2017 - 2018

Opening date: 16 January 2017 Latest update: 16 February 2018

Epidemiological summary

Between July 2017 and week 5-2018, the Ministry of Health in Brazil reported 353 confirmed human cases of yellow fever, including 98 deaths. The cases occurred in São Paolo (161), Minas Gerais (157), Rio de Janeiro (34) and Distrito Federal (1).

Between July 2017 and week 5-2018, the Ministry of Health reported 499 confirmed epizootics in non-human primates. Of those, 433 were reported in São Paulo State, 50 in Minas Gerais, 12 in Rio de Janeiro State and one each in Mato Grosso and Espirito Santo. The majority (87%) of the confirmed epizootics were registered in the state of São Paulo.

On 14 February 2018, the GeoSentinel network notified one case of yellow fever in a French traveller returning from Brazil. The case is an unvaccinated 42-year-old woman who returned to Paris during convalescence. According to GeoSentinel, the patient was hospitalised in a local clinic in Brazil and laboratory results were positive for yellow fever. The case has been likely infected when visiting the Inhotim Botanical Garden in Brumadinho, Minas Gerais.

On 15 January 2018, the Netherlands reported (through EWRS) one confirmed yellow fever case in an unvaccinated 46-year-old male returning from Brazil. The person had visited Brazil between 19 December 2017 and 8 January 2018 and stayed in an area about 50 kilometres north of São Paulo, in the villages of Mairiporã and Atibaia.

WHO has determined that, in addition to the areas listed in previous updates, the entire state of São Paulo should now be considered at risk of yellow fever transmission. Consequently, vaccination against yellow fever is recommended for international travellers visiting any area in the state of São Paulo.

Sources: MoH | ProMED | WHO

ECDC assessment

The detection of confirmed cases of yellow fever in São Paulo State and the identification of epizootics in the urban area of São Paulo City (12 million inhabitants) is of concern. Public Health authorities are conducting a vaccination campaign in the urban area of São Paulo City, an area previously considered not at risk for yellow fever transmission. In this context, European citizens travelling to the city of São Paulo should be vaccinated.

Travellers planning to visit areas at risk for yellow fever in Brazil should receive yellow fever vaccine at least 10 days prior to travelling, follow measures to avoid mosquito bites, and be aware of yellow fever symptoms and signs.

In Europe, *Aedes aegypti*, the primary vector of yellow fever in urban settings, has been established in Madeira, Portugal, since 2005. Presence of *Aedes aegypti* was first reported in 2017 in Fuerteventura, Canary Islands and Spain. The risk of the virus being introduced into local competent (or potentially competent) vector populations in the continental EU and the EU outermost region of Madeira and the Canary Islands through viraemic travellers from Brazil is considered to be very low.

Actions

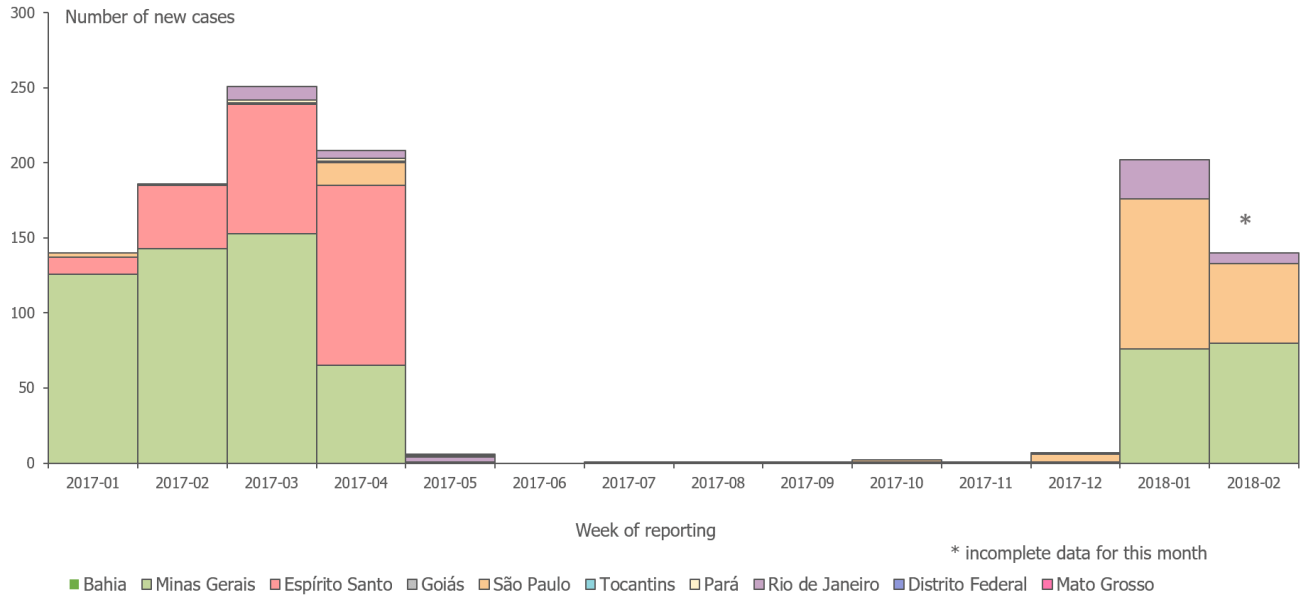
ECDC published updates of its rapid risk assessment 'Outbreak of yellow fever in Brazil' on 13 April 2017 and 18 January 2018.

European Centre for Disease Prevention and Control (ECDC)
Postal address: ECDC 171 83 Stockholm, Sweden
Visiting address: Tomtebodavägen 11a, Solna, Sweden
www.ecdc.europa.eu

Epidemic Intelligence duty email: support@ecdc.europa.eu
Link to ECDC CDTR web page – including related PowerPoint© slides

Distribution of confirmed human cases of yellow fever by month, Brazil, January 2017 - February 2018

ECDC



European Centre for Disease Prevention and Control (ECDC)
Postal address: ECDC 171 83 Stockholm, Sweden
Visiting address: Tomtebodavägen 11a, Solna, Sweden
www.ecdc.europa.eu

Epidemic Intelligence duty email: support@ecdc.europa.eu
Link to ECDC CDTR web page – including related PowerPoint© slides

The Communicable Disease Threat Report may include unconfirmed information which may later prove to be unsubstantiated.

European Centre for Disease Prevention and Control (ECDC)
Postal address: ECDC 171 83 Stockholm, Sweden
Visiting address: Tomtebodavägen 11a, Solna, Sweden
www.ecdc.europa.eu

Epidemic Intelligence duty email: support@ecdc.europa.eu
Link to ECDC CDTR web page – including related PowerPoint© slides