COMMUNICABLE DISEASE THREATS REPORT

CDTR
Week 49, 1-7 December 2013

All users

This weekly bulletin provides updates on threats monitored by ECDC.

I. Executive summary

EU Threats

Increase in cases of Salmonella Mikawasima - Multistate (EU)

Opening date: 13 November 2013 Latest update: 4 December 2013

An unusual increase in the number of *Salmonella* Mikawasima infections in humans has been observed in several EU countries since September 2013, and a gradual increase in the reported number of infections has been observed since 2009 in the EU/EEA as a whole. *Salmonella* Mikawasima is a rare serotype in Europe, and the recent increase in more than one EU/EEA Member State suggests a common source.

Influenza - Multistate (Europe) - Monitoring 2013-2014 season

Opening date: 4 October 2013 Latest update: 28 November 2013

Following the 2009 pandemic, influenza transmission in Europe has returned to its seasonal epidemic pattern, with peak activity seen during winter months. ECDC monitors influenza activity in Europe during the winter seasons and publishes the results on its website in the Weekly Influenza Surveillance Overview.

➔Update of the week

During week 48/2013, all 29 reporting countries experienced low intensity influenza activity.

Non EU Threats

Pertussis -Multistate (EU) - Monitoring European outbreaks

Opening date: 11 July 2013 Latest update: 3 October 2013

During the last three years there has been an increase in the number of reported pertussis cases, with large outbreaks being repeatedly reported in different regions of the world, even in those with sustained high vaccination coverage, including the EU. Due to the re-emergence of pertussis in several EU countries in recent years, ECDC has started to monitor the pertussis situation in EU Member States.

➔Update of the week

No indications of major ongoing outbreaks during November 2013 were detected through the media or available surveillance sources.

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Middle East respiratory syndrome- coronavirus (MERS CoV) - Multistate

Opening date: 24 September 2012 Latest update: 2 December 2013

Since April 2012, 163 laboratory-confirmed cases, including 71 deaths, of acute respiratory disease caused by Middle East respiratory syndrome coronavirus (MERS-CoV), have been reported by national health authorities. MERS-CoV is genetically distinct from the coronavirus that caused the SARS outbreak. To date, all cases have either occurred in the Middle East, have had direct links to a primary case infected in the Middle East, or have returned from the Middle East.

➔Update of the week

Between 28 November and 5 December 2013, three cases were announced in the United Arab Emirates, one them has died. WHO has confirmed the death of the two previously reported cases from Qatar.

Influenza A(H7N9) - China - Monitoring human cases

Opening date: 31 March 2013 Latest update: 4 December 2013

In March 2013, a novel avian influenza A(H7N9) virus was detected in patients in China. Since then, the outbreak has affected 13 Chinese provinces and Taiwan causing 141 cases of human infection, including 45 deaths. Since the end of May 2013, only sporadic cases have been reported. The virus reservoir and the mode of transmission to humans has not been determined. Zoonotic transmission from poultry to humans is thought to be the most likely scenario. There has been no epidemiological link between most of the cases, and sustained person-to-person transmission has not been observed.

➔Update of the week

During the past week, one new case was reported in Hong Kong in China.

Outbreak of poliomyelitis - Syria -2013

Opening date: 22 October 2013 Latest update: 21 November 2013

Since October 2013, 17 cases of infection with wild poliovirus type 1 (WPV1) have been reported from several areas of Syria. Wild poliovirus was last reported in Syria in 1999. This increases the risk for the importation of wild poliovirus to the EU/EEA and further re-establishment and transmission in Member States. WHO's International Travel and Health recommends that all travellers to and from polio-infected areas be fully vaccinated against polio.

➔Update of the week

The four Austrian enterovirus positive cases detected in a Syrian family in a refugee centre, and reported in last week's CDTR, tested negative for poliovirus.

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II. Detailed reports

Increase in cases of Salmonella Mikawasima - Multistate (EU)

Opening date: 13 November 2013 Latest update: 4 December 2013

Epidemiological summary

On 8 November 2013, through the Epidemic Intelligence Information System for Food- and Waterborne Disease and Zoonoses (EPIS-FWD) platform, the UK reported an unusual increase in laboratory reports of domestic cases of *S.* Mikawasima from September to November 2013. Fourteen Members States have replied to the urgent inquiry in EPIS-FWD. Five countries, Denmark, France, Germany, Spain and Sweden, reported temporally linked domestic cases. Of these, Denmark, Sweden and Germany also reported an associated increase above the national average for the period.

Molecular investigations in the UK have revealed the co-existence of two *S.* Mikawasima Pulsed Field Gel Electrophoresis (PFGE) - XbaI profiles, each with their own geographical distribution: profile A and profile B. PFGE-typing of the strains in Denmark revealed an indistinguishable profile to the profile A identified in the UK. Further PFGE-typing is currently on-going in the UK, Denmark, France and Sweden; and whole genome sequencing is being performed in Denmark and the UK for further comparison.

From 2007 to 2012, 671 human cases of *Salmonella* Mikawasima cases were reported from EU and EEA countries to the European Surveillance System (TESSy). There has been a steady increase in the number of cases since 2009. Analysis of the *Salmonella* Mikawasima cases reported for the first and second quarter of 2013 showed a significant peak in May (11 cases) as compared to the historical average of the same month (3.6 cases). This peak is largely due to cases reported by the UK (9/11 cases). The annual proportion of domestic cases has remained constant at 80% or more, suggesting that *Salmonella* Mikawasima is an endemic but rare serovar in the EU/EEA.

ECDC assessment

Epidemiological and microbiological investigations do not allow conclusions to be drawn on whether the cases are linked. Considering that *Salmonella* Mikawasima is an uncommon serovar, the concomitant increase in number of cases in several countries, although seasonally typical for this serovar, suggests a common exposure. Additional microbiological investigation through whole genome sequencing should provide additional microbiological evidence in support of a common source of infection. Epidemiological investigations are on-going and are expected to provide more information for the assessment of risk to EU citizens. The *Salmonella* Mikawasima isolates recorded in animals should be assessed in view of the recent increase in the number of human cases. This may support the generation of epidemiological hypothesises for testing with the aim of identifying a common source of transmission.

Actions

ECDC published a joint rapid outbreak assessment with the European Food Safety Authority (EFSA) on 4 December 2013.

In the joint rapid outbreak assessment prepared by ECDC and EFSA, a multi-sectorial investigation was recommended to understand and assess the risk associated with this increasing trend of *Salmonella* Mikawasima infections in the EU/EEA. Details of this investigation are being discussed with affected countries. ECDC is continuing to monitor the situation through the EPIS-FWD.

Influenza - Multistate (Europe) - Monitoring 2013-2014 season

Opening date: 4 October 2013 Latest update: 28 November 2013

Epidemiological summary

During week 48/2013, all 29 reporting countries recorded low intensity influenza activity. Of 393 sentinel specimens tested across 24 countries, 3% were positive for influenza A virus. Three hospitalised laboratory-confirmed influenza A cases were reported by the UK.

Web sources: WISO | ECDC Seasonal influenza | CDC Seasonal influenza

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ECDC assessment

Since the start of the 2013-2014 influenza surveillance period, week 40/2013, there has been no evidence of sustained influenza activity in Europe. The percentage of sentinel specimens testing positive for influenza is increasing in some countries, possibly indicating the start of the epidemic period in those countries.

Actions

ECDC will be producing the weekly influenza surveillance overview on a weekly basis.

Pertussis -Multistate (EU) - Monitoring European outbreaks

Opening date: 11 July 2013 Latest update: 3 October 2013

Epidemiological summary

Web sources:
ECDC Annual Epidemiological Report2012 | ECDCPertussis| MedISys| WHO| Ireland |HPS Scot | PHE |THL | BMG| SMI |Hungary

ECDC assessment

Over the last 20 years, the epidemiology of pertussis has changed remarkably with a shift from mainly paediatric cases (normally children <10 years of age) towards adolescents, adults and infants too young to have been fully vaccinated. Infants are at highest risk of complications and death from pertussis, and immediate interventions should focus on protecting this group. Pertussis is generally under-reported in adults but this population group is the source of infection to young children.

Pertussis P3 serotypes emerged globally after 1988, and now predominate in many EU/EEA countries. They produce more pertussis toxin which appear to suppress immunity and reduce the duration of immunity among vaccinated or naturally infected individuals. There is evidence that duration of immunity induced by the current DTaP vaccine may be shorter than that induced by the previous DTwP vaccine. Case-based pertussis data are reported to the European Surveillance System annually.

Actions

ECDC monitors pertussis transmission in Europe on a monthly basis through its epidemic intelligence activities.

Middle East respiratory syndrome- coronavirus (MERS CoV) - Multistate

Opening date: 24 September 2012 Latest update: 2 December 2013

Epidemiological summary

As of 05 December 2013, 163 laboratory-confirmed cases of MERS-CoV have been reported by local health authorities worldwide, including 71 deaths.

Saudi Arabia has reported 130 symptomatic and asymptomatic cases including 55 deaths; Jordan two fatal cases; United Arab Emirates nine cases, including three deaths; Qatar seven cases, including five deaths; Oman one fatal case and Kuwait two cases.

Twelve cases have been reported from outside the Middle East: in the UK (4), France (2), Tunisia (3), Germany (2) and Italy (1). In France, Tunisia and the United Kingdom, there has been local transmission among patients who have not been to the Middle East but have been in close contact with laboratory-confirmed or probable cases. Person-to-person transmission has occurred both among close contacts and in healthcare facilities. However, with the exception of a possible nosocomial outbreak in Al-Ahsa, Saudi Arabia, secondary transmission has been limited. Sixteen asymptomatic cases have been reported by Saudi Arabia and two by the United Arab Emirates (UAE). Seven of these cases were healthcare workers.

The 4th meeting of the IHR Emergency Committee concerning MERS-CoV was held on 4 December 2013. The Committee concluded that it saw no reason to change its previous advice to the Director-General. Their unanimous decision was that the conditions for a Public Health Emergency of International Concern (PHEIC) have not at present been met.

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Based on events since its last meeting, the Committee emphasised the need for:

- investigative studies, including international case-control, serological, environmental, and animal-human interface studies, to better understand risk factors and the epidemiology
- further review and strengthening of such tools such as standardised case definitions and surveillance, and further emphasis on infection control and prevention.

Web sources: ECDC's latest rapid risk assessment| ECDC novel coronavirus webpage | WHO | WHO MERS updates | WHO travel health update | WHO Euro MERS updates | CDC MERS | Saudi Arabia MoH | Eurosurveillance article 26 September |Oman MoH | Spain MoH

ECDC assessment

The continued detection of MERS-CoV cases in the Middle East indicates that there is an on-going source of infection present in the region. The source of infection and the mode of transmission have not been identified. There is therefore a continued risk of cases occurring in Europe associated with travel to the area. Surveillance for cases is essential.

The risk of secondary transmission in the EU remains low and could be reduced further through screening for exposure among patients presenting with respiratory symptoms and their contacts, and strict implementation of infection prevention and control measures for patients under investigation.

Actions

ECDC's latest epidemiological update was publised on 25 November 2013.

The latest update of a rapid risk assessment was published on 7 November 2013.

The first 133 cases are described in EuroSurveillance published on 26 September 2013.

ECDC is closely monitoring the situation in collaboration with WHO and EU Member States.

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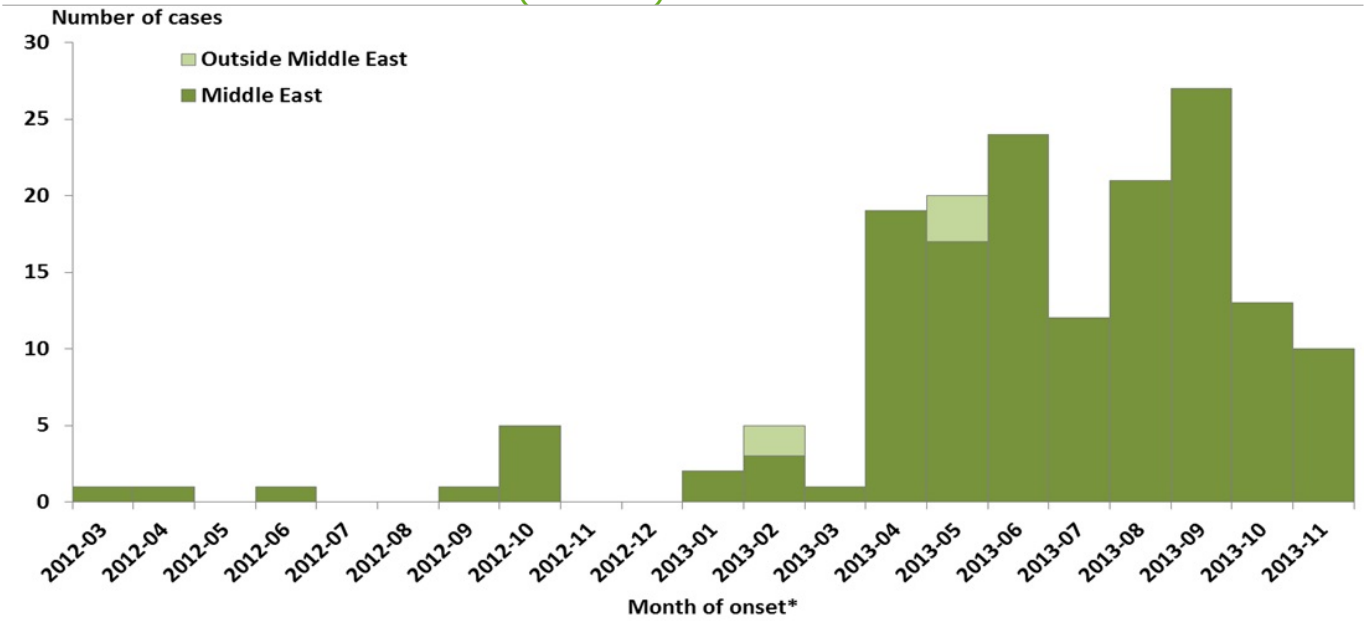
Distribution of confirmed cases of MERS-CoV by month* and place of probable infection, March 2012 - 05 December 2013 (N=160*)



* Where the month of onset is unknown the month of reporting has been used.

Distribution of confirmed cases of MERS-CoV by age and gender, March 2012 - 05 December 2013 (n=158*)

*5 cases for which age or sex data is missing have been excluded

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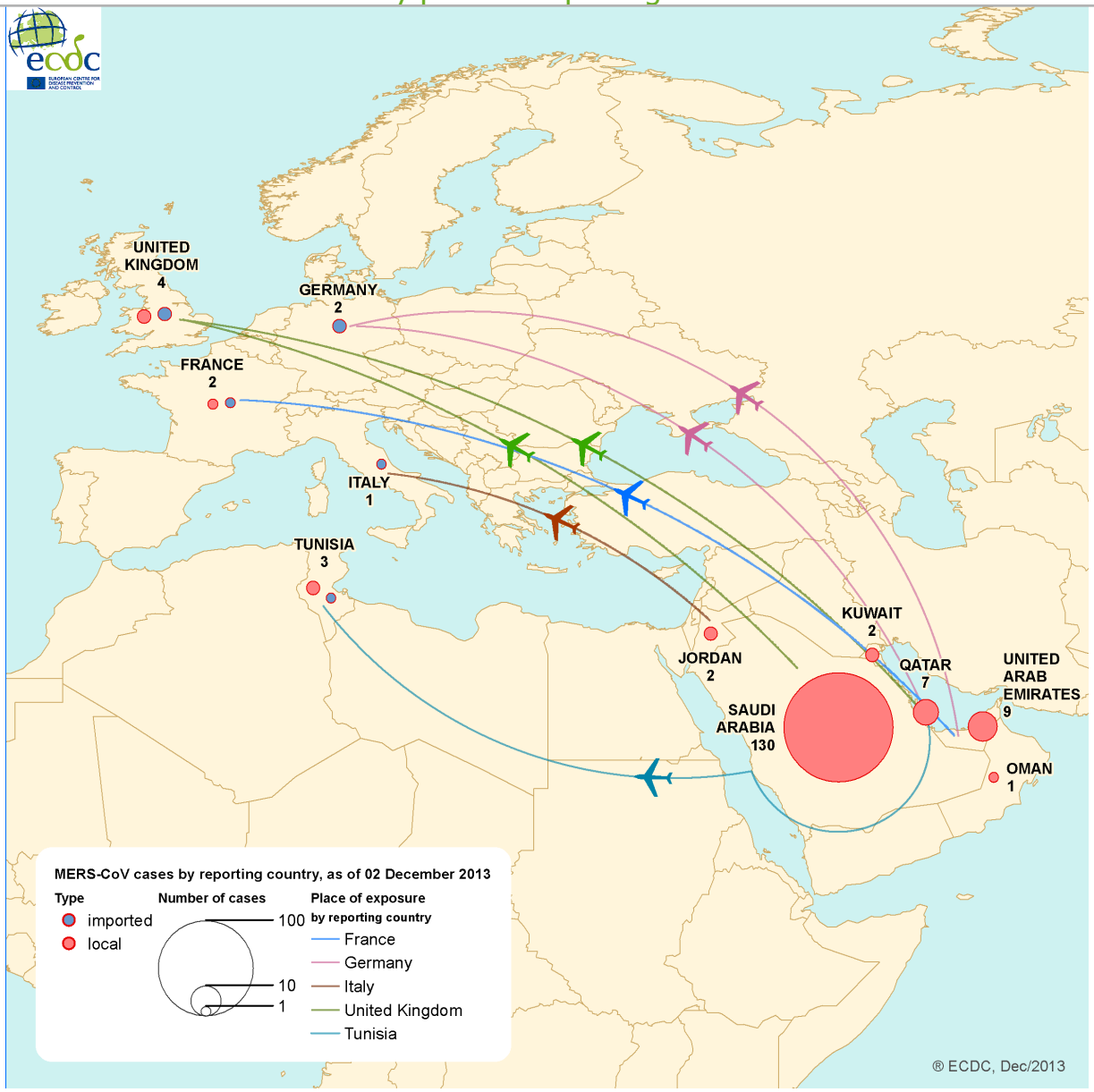
Distribution of MERS-CoV cases by place of reporting as of 05 December 2013



Influenza A(H7N9) - China - Monitoring human cases

Opening date: 31 March 2013 Latest update: 4 December 2013

Epidemiological summary

In March 2013, Chinese authorities announced the identification of a novel reassortant A(H7N9) influenza virus in patients in eastern China. Since then, 141 cases of human infection with influenza A(H7N9) have been reported from: Zhejiang (50 cases), Shanghai (34), Jiangsu (27), Henan (4), Anhui (4), Beijing (2), Shandong (2), Fujian (5), Hunan (3), Jiangxi (5), Hebei (1), Guangdong (2), Hong Kong (1) and Taiwan (1). In addition, the virus has been detected in one asymptomatic case in Beijing. Most cases have developed severe respiratory disease. Forty-five patients have died (case-fatality ratio=32%). The median age is 58 years, ranging from four to 91 years; 41 of 141 patients are female, with gender being unknown in five cases.

Six cases have been reported in China since 15 October 2013. Five of these cases occurred in previously affected provinces. The most recent case is the first human case of influenza A (H7N9) reported in Hong Kong in a patient with recent travel history to Shenzhen, Guangdong province, where cases have occurred previously.

Web sources: Chinese CDC | WHO | WHO FAQ page | OIE | Chinese MOA | Hong Kong NHFPC | Hong Kong government news release |

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ECDC assessment

Influenza A(H7N9) is a zoonotic disease that has spread in poultry in parts of eastern China, causing severe disease in humans. There is no evidence of sustained person-to-person transmission. Close to 3 000 contacts have been followed-up, and only a few are reported to have developed symptoms, as part of three small family clusters. Many unanswered questions remain regarding this disease, e.g. the reservoir, the route of transmission, the spectrum of disease and the reason for an unusual age–gender imbalance.

Authorities have employed strict control measures including closing live poultry markets and culling poultry in affected areas. Following these measures, the number of reported cases has dropped. It is not possible to determine at this point whether these new cases, reported since October, mark the resurgence of the outbreak. ECDC's earlier risk assessment remains valid.

EU citizens travelling and living in China are strongly advised to avoid live bird markets. The risk of the disease spreading to Europe via humans is considered low. However, it is not unlikely that people presenting with severe respiratory infection in the EU and a history of potential exposure in the outbreak area will require investigation in Europe.

Actions

The Chinese health authorities continue to respond to this public health event with enhanced surveillance, epidemiological and laboratory investigation including scientific research.

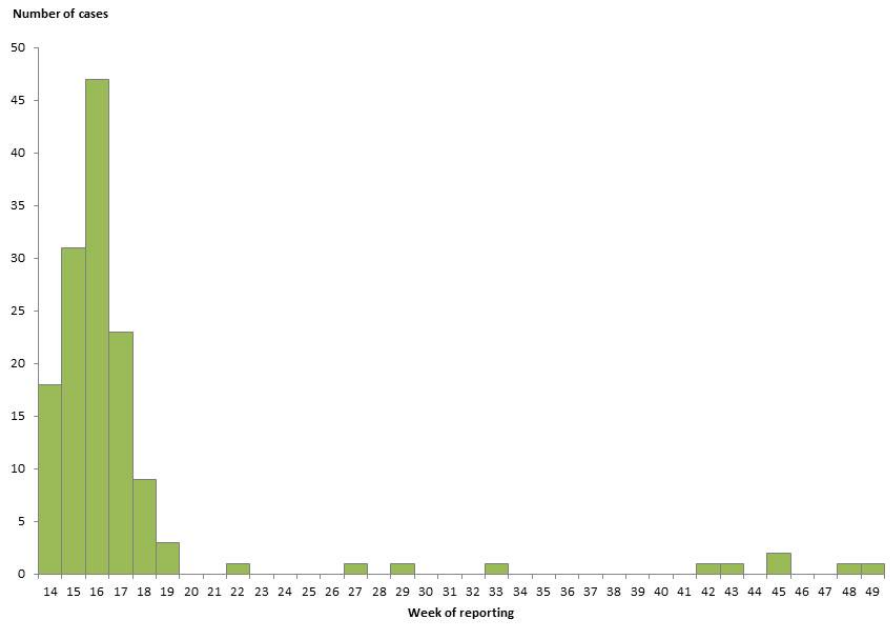
ECDC is closely monitoring developments.

ECDC published an updated Rapid Risk Assessment on 8 May 2013.

ECDC guidance for Supporting diagnostic preparedness for detection of avian influenza A(H7N9) viruses in Europe for laboratories was published on 24 April 2013.

Number of A(H7N9) cases by the date of reporting as of 4 December 2013 (n=141)

ECDC



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Number of A(H7N9) cases by gender and age distribution as of 4 December 2013 (n=136)

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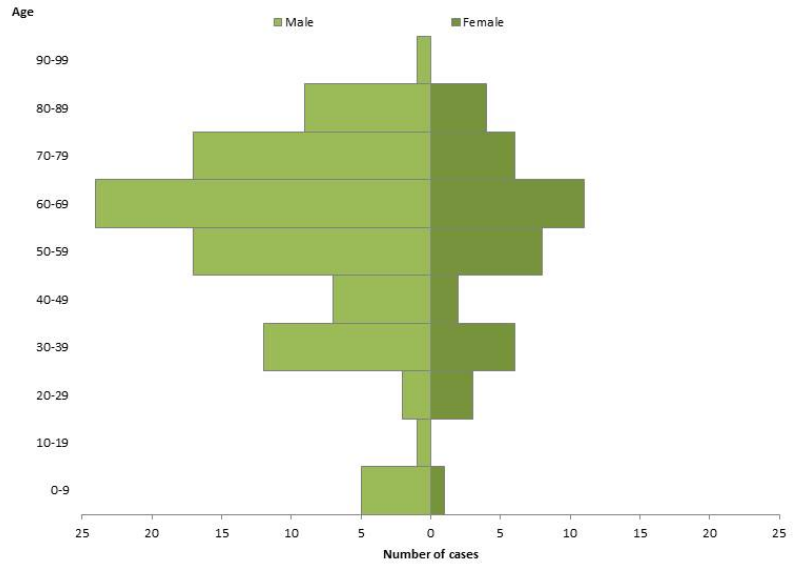

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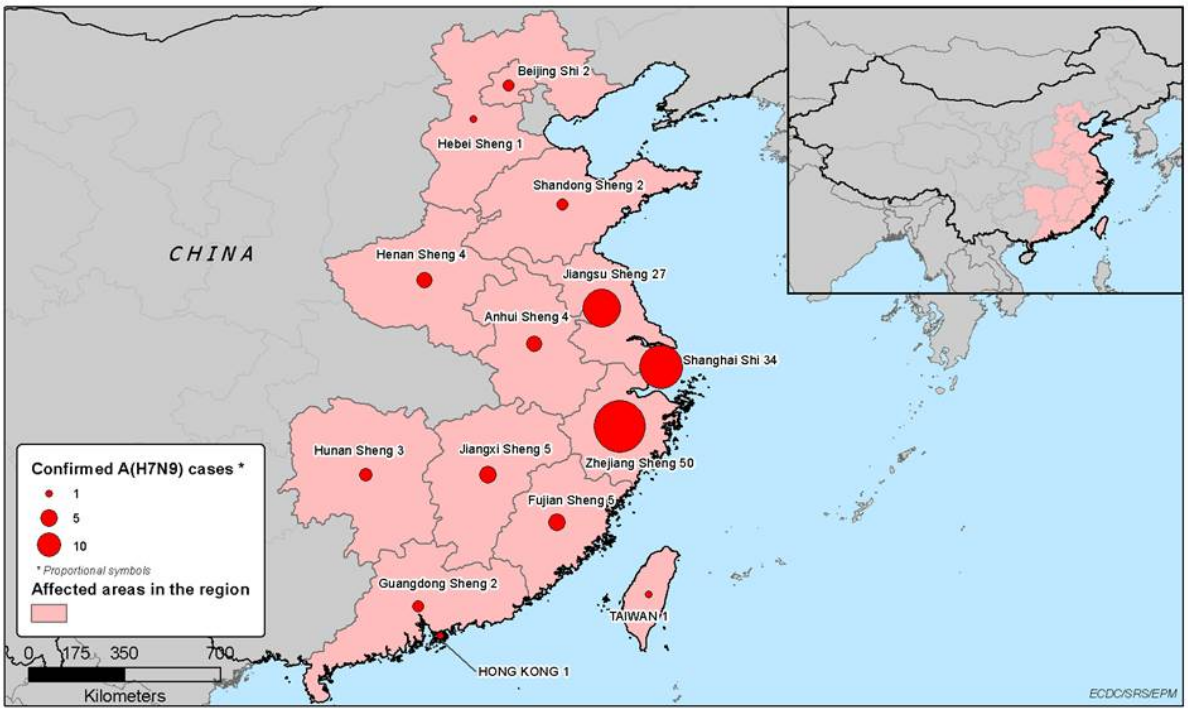
Reported cumulative number of confirmed cases of novel influenza A(H7N9) by province in China, as of 03 December 2013, 15.00 CEST



Outbreak of poliomyelitis - Syria -2013

Opening date: 22 October 2013 Latest update: 21 November 2013

Epidemiological summary

In October 2013, WHO reported a cluster of 22 AFP cases in Deir Al Zour province in Syria, located 250 km from Damascus in the east of the country along the Iraqi border. Subsequently, WHO confirmed that wild poliovirus type 1 (WPV1) had been isolated from 17 children in Syria. Genetic sequencing indicated that the isolated viruses are most closely linked to the virus detected in environmental samples in Egypt in December 2012 (which in turn has been linked to wild poliovirus circulating in Pakistan). Closely related wild poliovirus strains have also been detected in environmental samples in the occupied Palestinian territory since February 2013.

WHO Regional Office for the Eastern Mediterranean (EMRO) posted an update on 13 November regarding the outbreak response across the Middle East following confirmation of the polio outbreak in Syria. Seven countries and territories are holding mass polio vaccination campaigns with further extensive campaigns planned for December, targeting 22 million children. WHO and UNICEF are committed to working with all organisations and agencies providing humanitarian assistance to Syrians affected by the conflict. This includes vaccinating all Syrian children no matter where they are, whether in government or contested areas, or indeed outside Syria. WHO anticipates that a larger-scale outbreak response across Syria and neighbouring countries will continue for at least six to eight months depending on the area, and based on the evolving situation. In the meantime a surveillance alert

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has been issued for the region to actively search for additional potential cases.

Web sources: WHO DON on 29 October | ECDC RRA | WHO DON on 11 November |WHO DON on 26 November

ECDC assessment

As a result of the ongoing conflict in Syria, public health services are failing, vaccination coverage has dropped dramatically, sanitary conditions have deteriorated, displaced people are living in crowded conditions and there are large movements of people. These are all conditions that favour the spread of infectious and vaccine-preventable diseases.

Seventeen confirmed cases of WPV1 have been reported from Syria, from Deir Al Zour province, rural Damascus and Aleppo. This is an indication of widespread transmission of poliovirus in Syria and possibly in the areas bordering Syria. This cluster of cases increases the risk that wild poliovirus might be imported to the EU/EEA and become further re-established with transmission in Member States. The number of asylum seekers, refugees and illegal migrants entering the EU is expected to continue to be high and possibly increase as the conflict evolves.

In the ECDC rapid risk assessment it is recommended that:

- Countries hosting Syrian citizens in designated areas (camps) should assess the level of transmission of wild poliovirus among them. Such assessments can be carried out through enhanced clinical surveillance, environmental surveillance, and systematic collection of stool samples from symptomatic and asymptomatic persons;

- EU Member States receiving refugees and asylum seekers from Syria should assess their vaccination status on arrival and provide polio vaccination and other vaccinations as needed;

- Regional and international efforts to assess the risk and provide vaccination and other public health services in Syria and to Syrian refugees hosted by neighbouring countries should be supported;

- Member States should consider implementing the recommendations made in the ECDC risk assessment of wild-type poliovirus transmission in Israel;

- Countries should review their national preparedness plans, and ensure that items such as a framework and responsibilities for outbreak response, enhanced activities and reporting timelines, and vaccine of choice for outbreak response are in place.

Actions

ECDC published an epidemiological update on 30 October.

ECDC published a rapid risk assessment on 24 October which is being revised.

ECDC will continue to follow this event through the global polio outbreak monitoring activities.

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