COMMUNICABLE DISEASE THREATS REPORT

CDTR
Week 1, 31 December 2017-6 January 2018

All users

This weekly bulletin provides updates on threats monitored by ECDC.

I. Executive summary

EU Threats

Salmonella Agona associated with infant formula milk - France - 2017

Opening date: 12 December 2017 Latest update: 5 January 2018

In December 2017, the French authorities reported 35 *Salmonella* Agona cases among infants, linked to the consumption of infant milk formula. In addition, Spain has reported one case in an infant linked to this outbreak, and Greece has reported one case in an infant that is very likely related to this outbreak based on epidemiological and microbiological findings. The information available on RASFF, as of 5 January 2018, indicates that the potentially contaminated products have been distributed in 67 countries worldwide, including 12 Member States. No deaths have been reported.

➔Update of the week

Since the previous CDTR report, published on 21 December 2017, the case of *Salmonella* Agona from Spain has been confirmed to be linked to the current outbreak by whole genome sequencing (WGS).

Hepatitis A outbreaks in the EU/EEA mostly affecting MSM – 2016–2017

Opening date: 12 December 2016 Latest update: 5 January 2018

EU/EEA Member States are reporting a large increase in hepatitis A virus infections in 2017 when compared with previous years. These infections predominantly affect men who have sex with men (MSM).

➔Update of the week

Since the previous epidemiological update on 29 September 2017, 22 EU/EEA countries (Austria, Belgium, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Luxembourg, Malta, the Netherlands, Norway, Portugal, Slovenia, Spain, Sweden and the United Kingdom) have reported 950 additional cases associated to this outbreak through sequencing analysis. Since June 2016, and as of 22 December 2017, 3 813 cases have been linked to these specific outbreaks.

According to an ECDC epidemiological update published on 22 December 2017, between January and November 2017, 15 040 hepatitis A cases were reported in 24 EU/EEA countries, representing an almost a 3.6-fold increase compared with the same period between 2012 and 2015.

Since the publication of ECDC rapid risk assessment entitled Hepatitis A outbreak in the EU/EEA mostly affecting men who have sex with men, 3rd update, 28 June 2017, Austria, Denmark, France, Italy, Norway, Spain and the United Kingdom have issued new vaccination recommendations.

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

Opening date: 11 October 2017 Latest update: 5 January 2018

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

➔Update of the week
Influenza activity in week 52/2017 (25 to 31 December 2017) was increasing in countries in northern, southern and western Europe.

ECDC updated the Rapid Risk Assessment of seasonal influenza, EU/EEA, 2017–2018 on 20 December 2017.

Non EU Threats

Influenza A(H7N9) – China – Monitoring human cases

Opening date: 31 March 2013 Latest update: 5 January 2018

In March 2013, a novel avian influenza A(H7N9) virus was detected in patients in China. Since then, additional cases from China have been reported. 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
No new cases were reported in December 2017.

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

Opening date: 24 September 2012 Latest update: 5 January 2018

Since the disease was first identified in Saudi Arabia in September 2012, approximately 2 000 MERS-CoV cases have been detected in over 20 countries. In Europe, eight countries have reported confirmed cases, all with direct or indirect connection with the Middle East. The majority of MERS-CoV cases continue to be reported from the Middle East. The source of the virus remains unknown, but the pattern of transmission and virological studies point towards dromedary camels in the Middle East as being a reservoir from which humans sporadically become infected through zoonotic transmission. Human-to-human transmission is amplified among household contacts and in healthcare settings.

➔Update of the week
Saudi Arabia reported seven primary MERS-CoV cases between 5 December 2017 and 3 January 2018.

United Arab Emirates detected an asymptomatic case on 11 December 2017. The case is a 39-year-old male residing in the Hemma Region, Oman. On 2 December 2017, the case transported camels through the Al Ain-Mezyed entry point. Ten dromedary camels were screened for MERS-CoV, five of which tested PCR positive. The case and his contacts were given information about further management and evaluation. Contacts were identified and all tested negative for MERS-CoV.

Malaysian news media quoting health officials, reported that a 55-year-old man was confirmed positive for MERS-CoV after returning from the Umrah pilgrimage. He had onset of symptoms on 23 December and was admitted to a hospital on 28 December. Taking into account that the man was just back from the Umrah, a MERS-CoV screening was conducted on 30 December; positive test results for MERS-CoV were obtained on 31 December. Prevention and control measures were taken including tracking and monitoring those who had been in contact with the patient, including his family members, pilgrims who were in the same group, as well as health and airline staff who had come into direct contact with him. This is the second case since 2014 that was detected in a returning pilgrim from Saudi Arabia to Malaysia.

Sources: WHO | MoH Saudi Arabia

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Poliomyelitis – Multistate (World) – Monitoring global outbreaks

Opening date: 8 September 2005 Latest update: 5 January 2018

Global public health efforts are ongoing to eradicate polio 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 14 November 2017, WHO agreed that the spread of poliovirus remains a public health event of international concern and extended the temporary recommendations for an additional three months. The last locally-acquired wild polio cases within the current EU borders were reported from Bulgaria in 2001. In June 2002, the WHO European Region was officially declared polio-free.

➔Update of the week

Since the previous CDTR on 9 December 2017 and as of 2 January 2018, Afghanistan has reported two additional cases of wild polio virus type 1 (WPV1), and Pakistan reported three cases. An advanced notification was received of one additional WPV1 case in Pakistan.

As of 2 January 2018, 21 wild poliovirus cases were reported during 2017 by two countries: 13 cases in Afghanistan and eight in Pakistan. During 2017, 86 circulating vaccine-derived polio viruses type 2 (cVDPV2) were reported by two countries, twelve from the Democratic Republic of Congo, and 74 from Syria.

A vaccination campaign in Pakistan with bivalent oral polio vaccine (bOPV) is scheduled to take place in January 2018, targeting over 36 million children.

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II. Detailed reports

Salmonella Agona associated with infant formula milk - France - 2017

Opening date: 12 December 2017 Latest update: 5 January 2018

Epidemiological summary

On 2 December 2017, France reported 20 *Salmonella* Agona cases among infants under six months of age, most of whom had consumed different brands of infant milk formula. As of 20 December 2017, Santé publique France reported 35 cases among infants below one year of age. For most of these cases, consumption of infant milk formula could be confirmed. Sixteen of the cases were hospitalised and later discharged. No fatalities were reported. The first case was retrospectively identified in April 2017.

Based on epidemiological investigations, the consumption of five different brands of infant formula from a single processing facility in France were implicated as the vehicle of infection in this outbreak. In December 2017, the producer has voluntarily recalled all infant products produced in the factory in France. As of 5 January 2018, according to RASFF, the infant products were distributed to 67 countries worldwide, including twelve EU countries: Belgium, Bulgaria, Cyprus, the Czech Republic, France, Greece, Ireland, the Netherlands, Romania, Slovenia, Spain and the United Kingdom.

According to the Institut Pasteur, the outbreak strain displays atypical biochemical characteristics and, contrary to the largest part of *Salmonella* populations, the strain did not produce hydrogen sulfide (H2S) and gas during 18 hours incubation on Kligler-Hajna media. This characteristic appears discriminatory enough to identify cases probably associated with this outbreak. This particular trait was found in all 35 cases associated with the outbreak in France, one case in Spain and one case in Greece.

A joint WGS analysis confirmed that the Spanish case is associated with the ongoing outbreak in France and may provide further confirmation as to whether the Greek case and other possible cases from other countries are also associated with this outbreak.

A previous outbreak of *Salmonella* Agona occurred in France in 2004 and 2005 and was associated with consumption of infant milk formula from the same producer.

TESSy background
Salmonella Agona is the 10th most common *Salmonella* serotype in the EU/EEA. In 2012-2016, it was reported by 26 EU/EEA countries with between 400 to 581 cases annually. The United Kingdom, Germany and France accounted for the highest proportion of confirmed cases (30%, 16% and 14%, respectively) during this period. Cases were most frequently detected among adults in the age group 25-44 years (23%) and children under five years (22%). No major differences were observed in gender distribution. Travel information was available for 76% of the cases and of these, 65% were reported as domestic cases.

Sources: Media | SANTE France | RASFF | Producer

ECDC assessment

This outbreak of *Salmonella* Agona primarily affects infants and is associated with different brands of infant milk formula produced in one factory in France. The products have been distributed to a large number of countries around the world, including countries in the EU. Biochemical tests, and ultimately whole genome sequencing analysis, will confirm whether cases of *Salmonella* Agona in infants are linked to the outbreak. The investigation is still ongoing. A broad recall of infant products, an export ban and the suspension of market distribution, implemented since the beginning of December 2017, are likely to reduce the risk for new human infections.

Actions

ECDC is monitoring the event in EPIS-FWD and is actively engaged in communication with EU/EEA countries that are possibly affected. ECDC is offering whole genome sequencing services to countries which do not have the capacity or possibility to conduct timely analysis, with the comparison of sequences being carried out by the Institut Pasteur in France. ECDC and the European Food Safety Agency (EFSA) will publish a joint assessment of this event later in January.

Hepatitis A outbreaks in the EU/EEA mostly affecting MSM – 2016–2017

Opening date: 12 December 2016 Latest update: 5 January 2018

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Epidemiological summary

Since the previous epidemiological update published on 29 September 2017, 22 EU/EEA countries (Austria, Belgium, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Luxembourg, Malta, the Netherlands, Norway, Portugal, Slovenia, Spain, Sweden and the United Kingdom) have reported 950 additional confirmed cases associated with this outbreak through sequencing analysis. Since June 2016 and as of 22 December 2017, 3 813 cases have been linked to these specific outbreaks. The peak of the outbreak was in March 2017, when 507 confirmed cases linked to this outbreak were detected.

According to the ECDC epidemiological update published on 22 December 2017, since January and as of 22 November 2017, 15 040 hepatitis A notifications have been reported by 24 EU/EEA countries. This represents a 3.6-fold increase compared with the average 4 226 cases reported for the same period between 2012 and 2015.

Information on gender is available for 15 022 cases: 11 790 were male and 3 232 female. Compared with the average number of hepatitis A cases reported during the same period between 2012 and 2015, the number of male cases shows a sixfold increase, and the number of female cases shows a 1.9-fold increase. The highest male-to-female ratio was 4.9:1, reported in March 2017. Since then, the number of male cases decreased progressively until November 2017, with a male-to-female ratio of 2.0:1. The highest number of notifications for a month (1 745) was received in June 2017.

In addition to the number of cases reported above, Poland is seeing an increase in the number of cases. Since the beginning of 2017 and as of 14 November 2017, Poland has reported a large increase in hepatitis A notifications, with 2 206 cases reported from January to October 2017, compared with 26 cases in the same period in 2016. Slovakia reported 503 hepatitis A cases from January to October 2017, compared with 1 157 cases in the same period in 2016, which represents a 2.3-fold decrease. However, no cases in Poland or Slovakia could be linked to the outbreak as sequencing information was not available.

Vaccination
Hepatitis A vaccine availability in the EU remains limited, with some countries having reported shortages, including Austria, Denmark, Greece, Italy, Malta, Portugal and Spain. Since the last update, vaccine shortages have also been reported in the Czech Republic, France, and Norway; Germany reported minor shortages in Germany. The Netherlands and Sweden have reported no shortages.

Since the last ECDC rapid risk assessment in June 2017, Austria, Denmark, France, Italy, Norway, Spain and the United Kingdom have issued new vaccination recommendations.

ECDC assessment

As of November 2017, the monthly number of laboratory-confirmed cases remains higher than in previous years. The male-to-female ratio has decreased in the last months but still remains high. A considerable increase in the number of hepatitis A cases caused by the outbreak strain in women has also been observed. This indicates that the outbreak has spilled over to the non-MSM population.
Although decreasing in its intensity, the outbreak is still ongoing, and more cases associated with this event are to be expected in EU/EEA countries in the coming months.
The conclusions and options for response set out in ECDC's rapid risk assessment entitled 'Hepatitis A outbreak in the EU/EEA mostly affecting men who have sex with men – Third update, 28 June 2017', remain valid.

Actions

ECDC requested EU/EEA countries to report events that could contribute to the spread of the outbreak strains in population groups at increased risk of infection or in the community. ECDC monitors the hepatitis A outbreaks in Europe through EPIS-FWD and epidemic intelligence. ECDC published an updated rapid risk assessment on 28 June 2017 and several epidemiological updates on this outbreak on 29 September 2017 and 22 December 2017.

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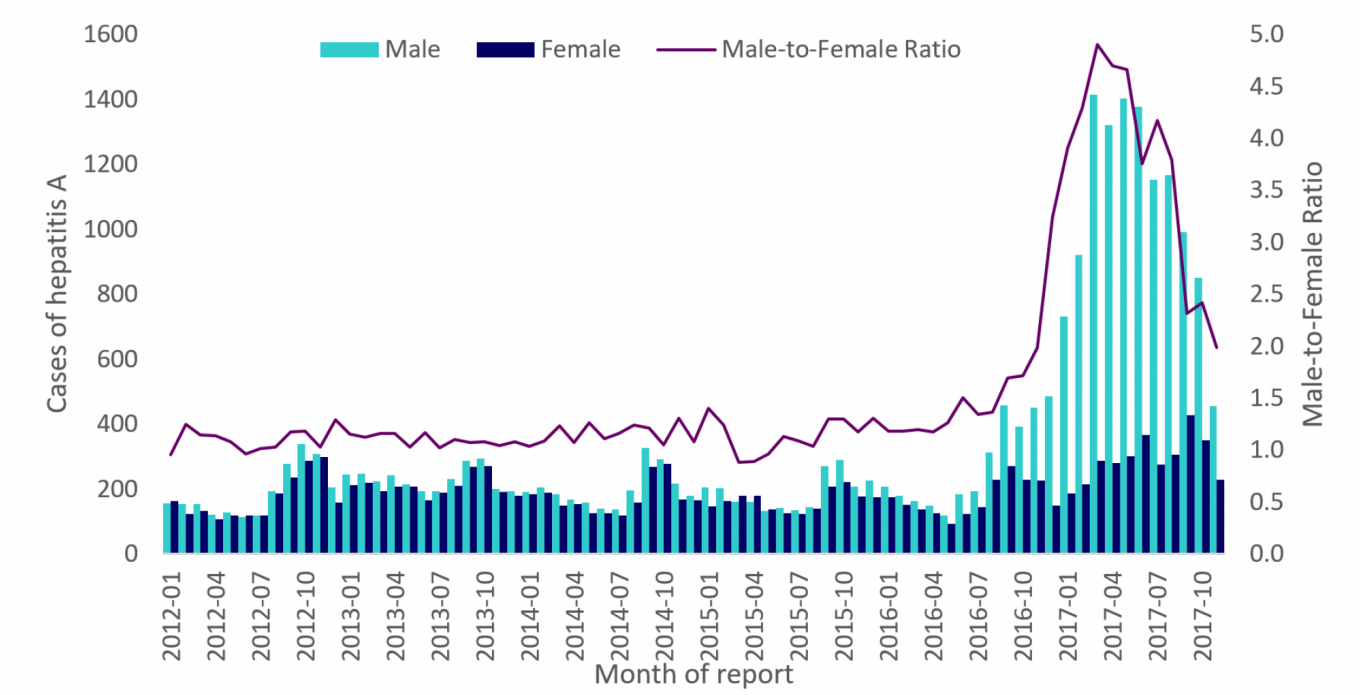
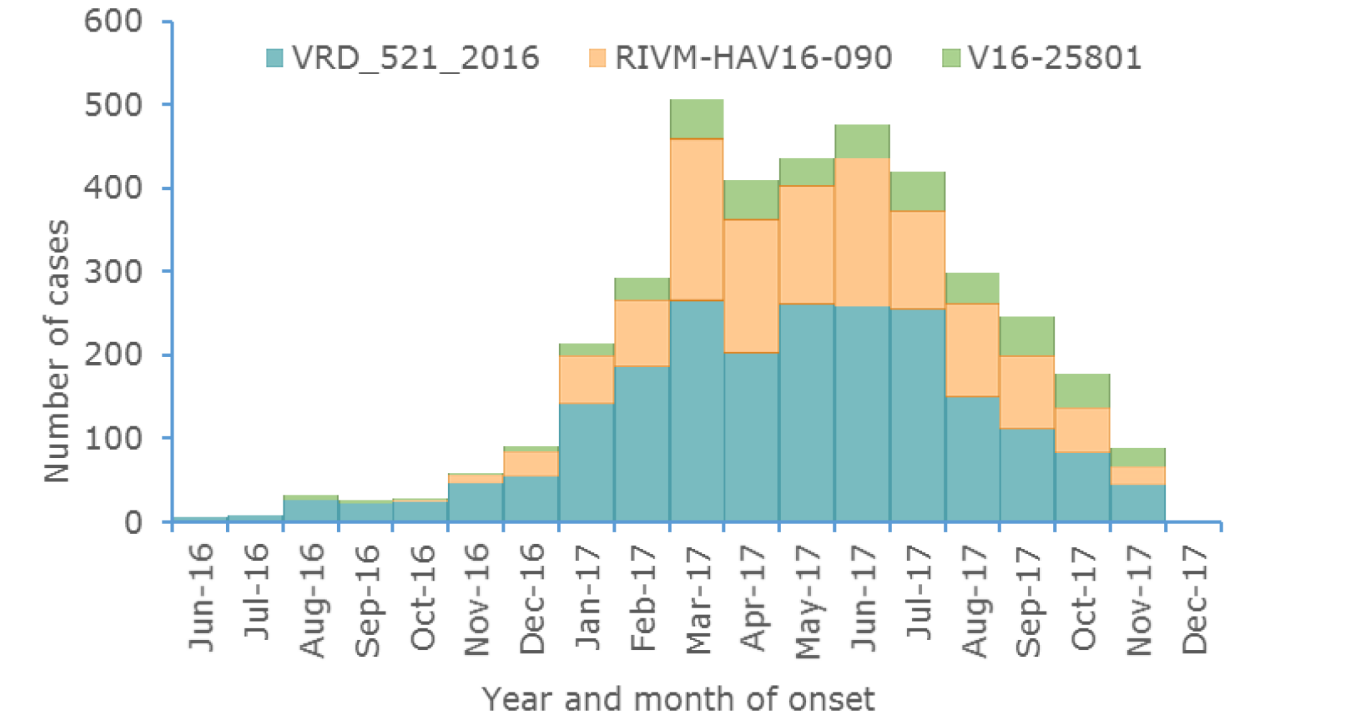
Distribution of hepatitis A cases by gender and male-to-female ratio, January 2012 to November 2017, as of 16 December 2017, EU/EEA

ECDC



Distribution of hepatitis A outbreak-confirmed cases, by month of onset and genetic sequence, June 2016 to December 2017, as of 12 December 2017, EU/EEA (n=3 813)

ECDC



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

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Opening date: 11 October 2017 Latest update: 5 January 2018

Epidemiological summary

Influenza activity in week 52/2017 (25 to 31 December 2017) was increasing in countries in northern, southern and western Europe. Of the individuals sampled on presenting with ILI or ARI to sentinel primary healthcare sites, 44% tested positive for influenza viruses, an increase from 38% in the previous week.

2017-2018 season overview: from sentinel sources, a higher proportion of type B viruses, mainly B/Yamagata, compared to type A viruses has been detected. During week 52, of the type A detections, A(H1N1)pdm09 viruses have outnumbered A(H3N2) viruses.

ECDC assessment

As expected for this time of year, influenza activity is increasing.

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.

Influenza A(H7N9) – China – Monitoring human cases

Opening date: 31 March 2013 Latest update: 5 January 2018

Epidemiological summary

In March 2013, a novel avian influenza A(H7N9) virus was detected in humans in China. Since then and up to 5 December 2017, 1 565 cases were reported, including 568 deaths. The outbreak shows a seasonal pattern. The first wave in spring 2013 (weeks 7-2013 to 40-2013) resulted in 135 cases, the second wave (weeks 41-2013 to 40-2014) led to 320 cases, the third wave (weeks 41-2014 to 40-2015) caused 223 cases, the fourth wave (weeks 41-2015 to 40-2016) caused 120 cases, the fifth wave (weeks 41-2016 to 40-2017) resulted in 766 cases, and the sixth wave which started on week 40-2017 has resulted in one case as of 5 January 2018. During the fifth wave, 28 human cases with highly pathogenic avian influenza (HPAI) A(H7N9) virus were reported in China.

The 1 565 cases were reported from Zhejiang (310), Guangdong (258), Jiangsu (253), Fujian (108), Anhui (101), Hunan (95), Shanghai (56), Jiangxi (50), Sichuan (38), Beijing (35), Guangxi (32), Hubei (31), Hebei (29), Henan (28), Shandong (27), Hong Kong (21), Guizhou (20), Xinjiang (13), Chongqing (9), Gansu (5), Shaanxi (7), Yunnan (8), Taiwan (5), Tianjin (5), Liaoning (5), Jilin (3), Tibet (3), Shanxi (3), Inner Mongolia (2), and Macau (2). Three imported cases were reported in Canada (2) and Malaysia (1).

ECDC links: Zoonotic influenza web page | ECDC rapid risk assessment Influenza A(H7N9) virus in China - implications for public health - 7th update, 3 July 2017 | ECDC/EFSA joint report: Avian influenza overview October 2016–August 2017
Sources: Chinese CDC | Hong Kong CHP | WHO | WHO FAQ page | ECDC

ECDC assessment

Based on the seasonal pattern of avian influenza (H7N9) viruses, more human cases are expected as the influenza activity increases during the winter months. The possibility of humans infected with influenza A(H7N9) returning to the EU/EEA cannot be excluded. However, the risk of the disease spreading in Europe through humans is still considered low, as there is no evidence of sustained human-to-human transmission.

Sources: WHO

Actions

ECDC published the seventh update of its rapid risk assessment on 3 July 2017, addressing the genetic evolution of influenza A (H7N9) virus in China and the implications for public health. ECDC monitors this event through epidemic intelligence and will report monthly.

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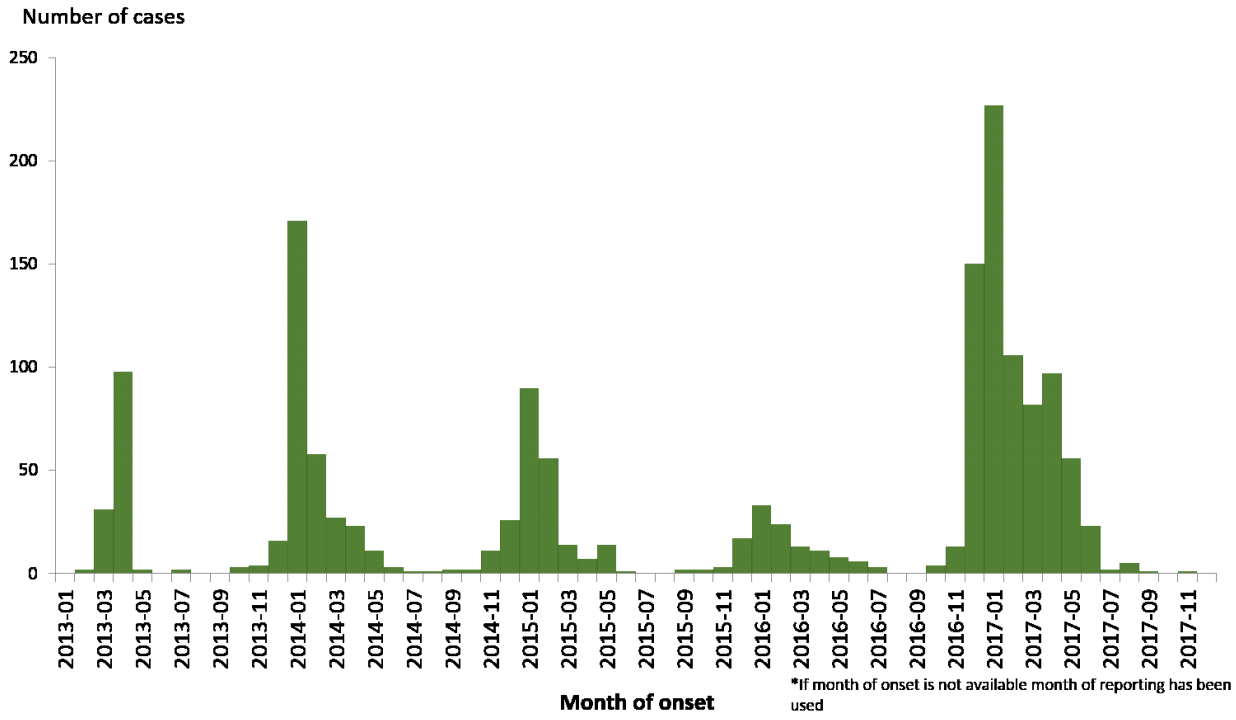
Distribution of confirmed cases of A(H7N9) by first available month February 2013 – 31 December 2017 (n= 1 565)

ECDC, WHO, Hong Kong



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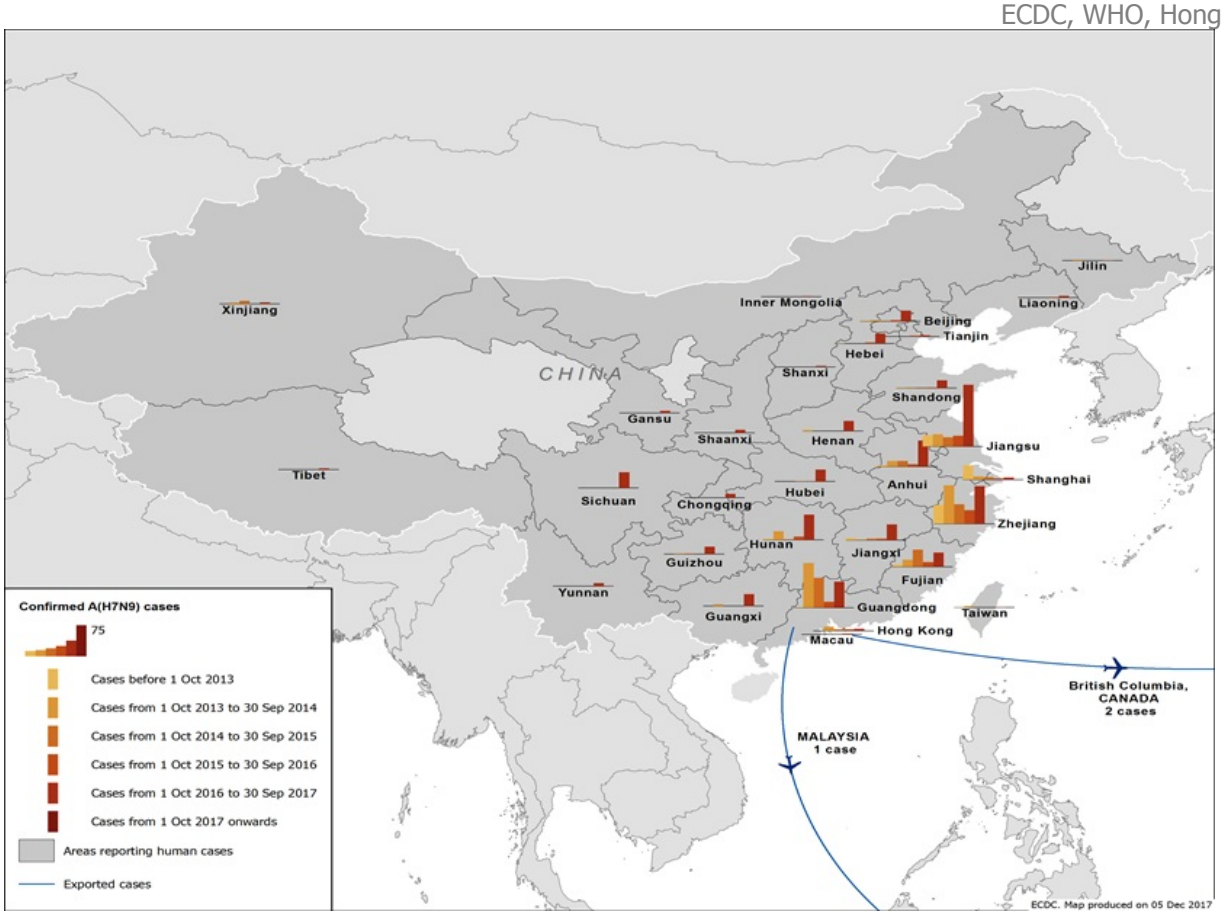
Distribution of confirmed cases of A(H7N9) by season, February 2013 to 5 January 2018

ECDC, WHO, Hong Kong



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

Opening date: 24 September 2012 Latest update: 5 January 2018

Epidemiological summary

Since April 2012 and as of 5 January 2018, 2 141 cases of MERS, including 800 deaths, have been reported by health authorities worldwide.

Web sources: ECDC's latest rapid risk assessment | ECDC novel coronavirus webpage | WHO | WHO MERS updates |Saudi Arabia MoH | ECDC factsheet for professionals

ECDC assessment

The risk of sustained human-to-human transmission in Europe remains very low. ECDC's conclusion continues to be that the MERS-CoV outbreak poses a low risk to the EU, as stated in a rapid risk assessment published on 21 October 2015, which also provides details on the last case reported in Europe.

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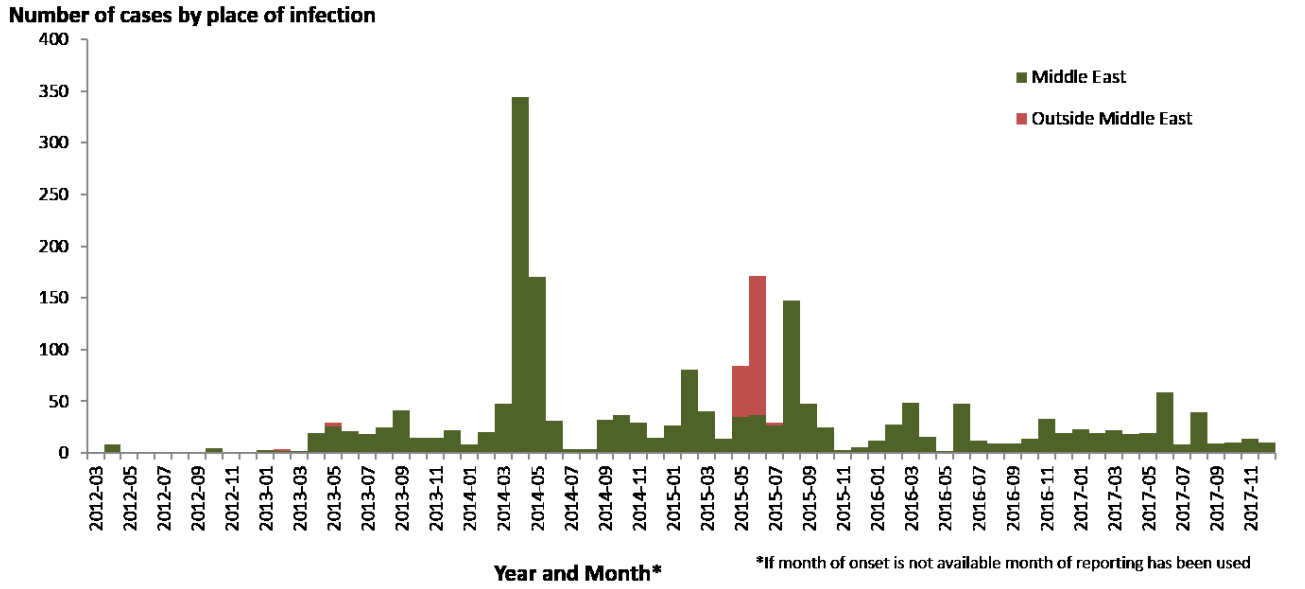
Actions

ECDC published the 21st update of its MERS-CoV rapid risk assessment on 21 October 2015.

Distribution of confirmed cases of MERS-CoV by first available month and region, from March 2012 and as of 31 December 2018

ECDC, Saudi Arabia, WHO



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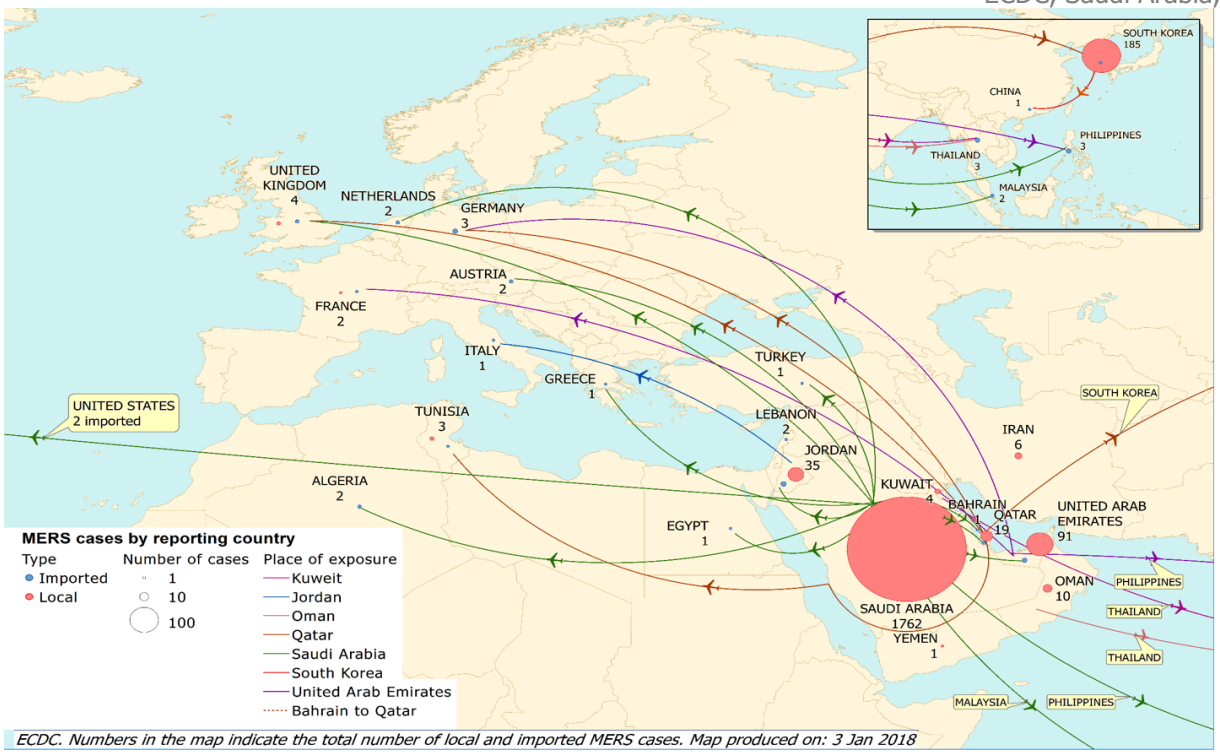
Distribution of confirmed cases of MERS-CoV by country of probable infection and country of report from March 2012 and as of 3 January 2018

ECDC, Saudi Arabia, WHO



ECDC. Numbers in the map indicate the total number of local and imported MERS cases. Map produced on: 3 Jan 2018

Poliomyelitis – Multistate (World) – Monitoring global outbreaks

Opening date: 8 September 2005 Latest update: 5 January 2018

Epidemiological summary

In 2017, as of 2 January 2018, 21 wild poliovirus cases were reported, 13 cases from Afghanistan and eight cases from Pakistan. In 2016, 34 cases were reported during the same period. In addition, 86 cVDPV2 cases were reported in 2017, 12 from the Democratic Republic of Congo and 74 from Syria. The onset of paralysis in the Syrian cases was between 3 March and 21 September 2017. In 2016, only three cVDPV2 cases were reported during the same period worldwide.

ECDC links: ECDC poliomyelitis web page | Information to travellers to polio-infected countries
Sources: WHO IHR Emergency Committee| Polio eradication: weekly update

ECDC assessment

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

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cases. Importation of the infection as well as of polio cases in to the EU remains possible.

ECDC links: Rapid Risk Assessment on suspected polio cases in Syria and the risk to the EU/EEA | ECDC poliomyelitis web page

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.

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