UPDATED RAPID RISK ASSESSMENT

Severe respiratory disease associated with Middle East respiratory syndrome coronavirus (MERS-CoV)

Fifteenth update, 8 March 2015

Main conclusions and recommendations

- Since April 2012 and as of 7 March 2015, 1 082 cases (including 439 deaths) of Middle East respiratory syndrome coronavirus (MERS-CoV) have been reported by local health authorities worldwide.
- The incidence of cases has been rising in the Arabian Peninsula in the past month. A similar pattern has been observed in previous years.
- The majority of MERS-CoV cases are still being reported from the Arabian Peninsula, specifically from Saudi Arabia, and all cases have epidemiological links to the outbreak epicentre. The source of MERS-CoV infection and the mode of transmission have still not been confirmed.
- The latest importation of a case to Germany from the United Arab Emirates demonstrates the continued risk of case importation to Europe after exposure in the Middle East, especially in the context of the seasonal upsurge of cases currently observed in Saudi Arabia. However, the risk of sustained human-to-human transmission in Europe remains very low.
- Taking into account the latest development with respect to MERS-CoV, ECDC's conclusion continues to be that the MERS-CoV outbreak poses a low risk to the EU, as stated in the previous update of ECDC's Rapid Risk Assessment on MERS-CoV, dated 23 February 2015 [1].
- National healthcare providers and public health institutions should remain prepared for a possible imported case in the EU/EEA.
- WHO recommends that probable and confirmed cases should be admitted to adequately ventilated single rooms or airborne precaution rooms. Healthcare workers caring for probable or confirmed cases of MERS-CoV infection should use contact and droplet precautions (medical mask, eye protection – i.e. goggles or face shield – gown and gloves [2]) in addition to standard precautions. Airborne precautions should be applied when performing aerosol-generating procedures.
- The advice for travellers to affected areas remains the same as in previous ECDC risk assessments.

Suggested citation: European Centre for Disease Prevention and Control. Severe respiratory diseases associated with Middle East respiratory syndrome coronavirus (MERS-CoV). Fifteenth update – 8 March 2015. Stockholm: ECDC; 2015.

Source and date of request

Update requested by the European Commission, 7 March 2015

Public health issue

Risk associated with the confirmation of an imported case of MERS-CoV in Germany.

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External consulted experts: Annicka Reuss and Walter Hass, both Robert Koch Institute, Berlin.
The World Health Organization (WHO) was consulted for this document; however, the views expressed in this document do not necessarily represent the views of WHO.

Event background information

Current epidemiological situation

German health authorities report MERS-CoV case imported to Germany

On 7 March 2015, Germany reported a confirmed case of MERS-CoV through the EU Early Warning and Response System (EWRS). Confirmatory testing by PCR was performed at the Department of Virology at Bonn University Hospital.

The patient is a 65-year-old German male who came back from a holiday in Abu Dhabi, United Arab Emirates, on 8 February 2015. Onset of symptoms (with respiratory symptoms) was on 10 February. The patient was hospitalised in an intensive care unit nine days later and is now in a severe but stable condition. Contact tracing of contacts is ongoing, led by the local public health authorities. Until now, no further cases have been notified. An investigation into the case and possible exposure are underway.

Event background Germany

Germany has previously reported two imported cases of MERS-CoV, one from Qatar in 2012, and one from the United Arab Emirates in 2013.

On 23 November 2012, Robert Koch Institute reported that a 45-year-old male from Qatar had tested positive for MERS-CoV. He had disease onset in October 2012, and after receiving treatment in a hospital in Qatar was later transferred to a specialist lung hospital in Germany because of the severity of his condition. After intensive medical treatment, the patient recovered [3,4].

On 19 March 2013, a 73-year-old male from the United Arab Emirates, who was initially treated in an Abu Dhabi hospital, was transferred to a Munich hospital, where the diagnosis of MERS-CoV was confirmed. Despite intensive treatment, the patient died on 26 March 2015 [5,6].

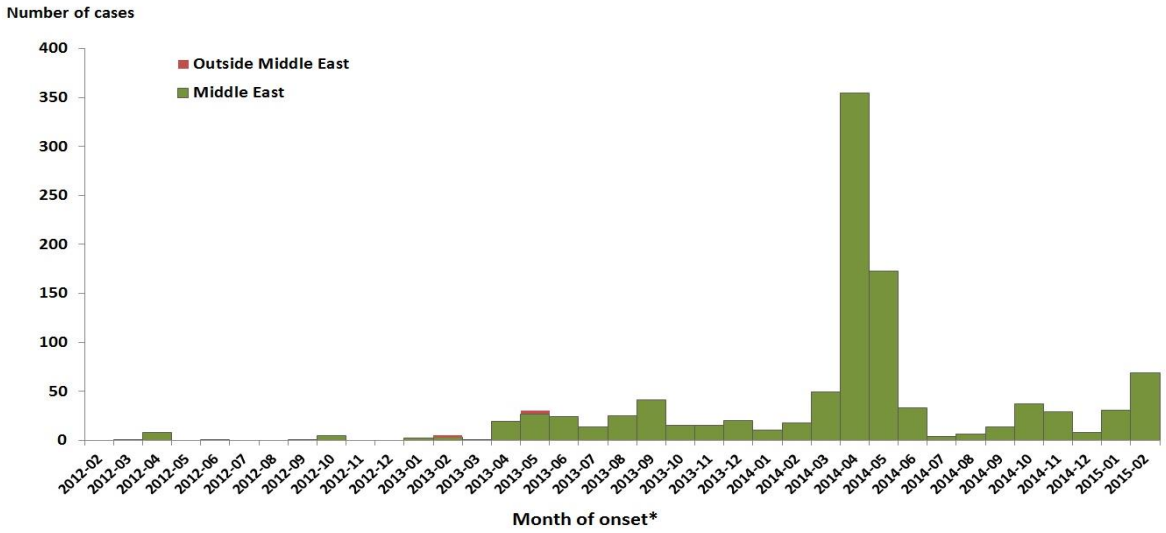
Event background United Arab Emirates

The United Arab Emirates have reported 74 cases of MERS-CoV since 13 July 2013. Twenty-nine of the 76 cases were healthcare workers. The latest case reported on 11 February 2015 was a 38-year-old non-national male, who had onset of symptoms on 29 December 2014. He was hospitalised on 29 January 2015 and died on 6 February 2015. He had no comorbidities and no history of exposure to known risk factors [7].

Worldwide situation

Since April 2012 and as of 7 March 2015, 1 082 cases (including 439 deaths) of MERS-CoV have been reported by health authorities worldwide (Figure 1).

Figure 1. Distribution of confirmed cases of MERS-CoV by month and probable place of infection, March 2012– 28 February 2015 (n=1 063)



** If month of onset is unknown, month of reporting is used.*
Nineteen cases, which occurred in early March 2015, are not included.

Geographical distribution

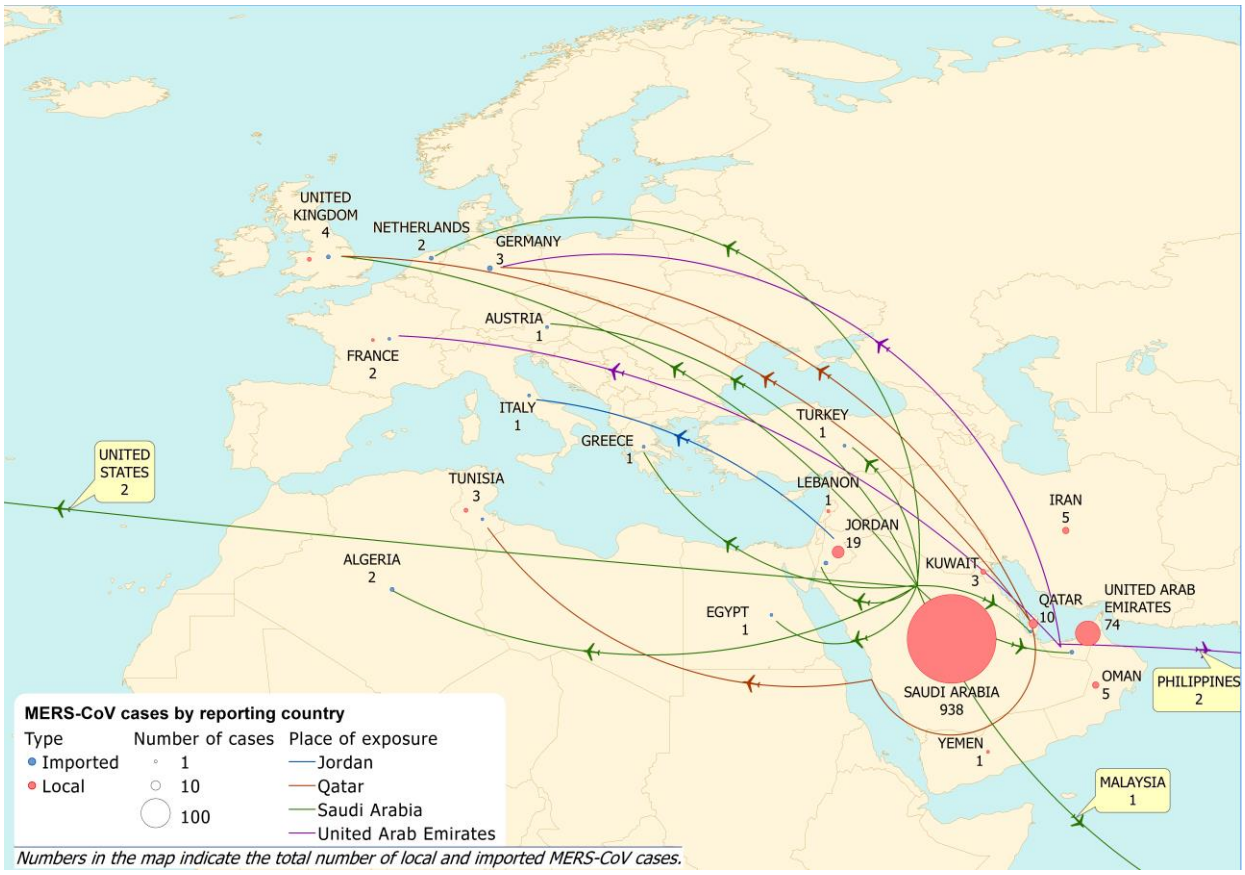
Most of the cases have occurred in the Middle East (Saudi Arabia, United Arab Emirates, Qatar, Jordan, Oman, Kuwait, Egypt, Yemen, Lebanon and Iran) (Table1).

Table 1. Confirmed cases and deaths, by country of reporting, March 2012–7 March 2015

Reporting country	Cases	Deaths	Date of onset/reporting for most recent case
Middle East			
Saudi Arabia	938	402	7 March 2015
United Arab Emirates	74	10	29 December 2014
Qatar	10	4	28 January 2015
Jordan	19	6	25 December 2014
Oman	5	3	16 January 2015
Kuwait	3	1	13 February 2014
Egypt	1	0	22 April 2014
Yemen	1	1	17 March 2014
Lebanon	1	0	22 April 2014
Iran	5	2	25 June 2014
Europe			
Turkey	1	1	25 September 2014
Austria	1	0	24 September 2014
United Kingdom	4	3	6 February 2013
Germany	3	1	7 March 2015
France	2	1	8 May 2013
Italy	1	0	27 May 2013
Greece	1	1	8 April 2014
Netherlands	2	0	5 May 2014
Rest of the world			
Tunisia	3	1	16 May 2013
Algeria	2	1	13 May 2014
Malaysia	1	1	9 April 2014
Philippines	2	0	26 January 2015
United States of America	2	0	1 May 2014
Total	**1082**	**439**	

All cases reported from outside the Middle East have a recent travel history to the Middle East or contact with a case who has a travel history to the Middle East (Figure 2).

Figure 2. Geographical distribution of confirmed MERS-CoV cases and place of probable infection, as of 7 March 2015 (n=1 082)



Current situation in Saudi Arabia

Since the last rapid risk assessment on 24 February 2015, Saudi Arabia has reported 39 additional cases and 20 deaths. The cases were reported from Riyadh (25), Khobar (3), Buaydah (3), Jeddah (2), Al Jawf (1) Hofuf (1), Najran (1), Qweyah (1), Shakra (1) and Unazah (1). Of the 36 cases with known age and gender, 67% (n=24) were male. The mean age was 56 years, ranging from 24 to 83 years for the 36 cases. Nine of the 39 cases were classified as nosocomial transmission, while five are currently under investigation for possible nosocomial transmission. Seven of the 39 cases were healthcare workers. Three of the 39 cases reported contact with animals, one of these cases reported camel contact.

Conclusion

The latest importation to the EU is not unexpected and does not indicate a significant change in the epidemiology of the disease. Although further importation of MERS-CoV cases to the EU remains possible, the risk of sustained human-to-human transmission remains very low in Europe.

In the EU/EEA, public health authorities are prepared for the timely detection and appropriate treatment of cases in returning travellers. Increased awareness of first-line healthcare staff to the fact that MERS-CoV is still circulating in the Middle East is prudent, not only for timely detection purposes, but also in order to ensure rapid implementation of infection control measures.

The majority of MERS-CoV cases are still reported from the Middle East, mainly from Saudi Arabia. All cases have epidemiological links to the outbreak epicentre. The increase shows that MERS-CoV continues to circulate, particularly in the Middle East, and the risk for transmission is greatest for people in this area.

Taking into account the latest development with respect to MERS-CoV, ECDC's conclusion continues to be that the MERS-CoV outbreak poses a low risk to the EU. Because of the continued risk case importation to Europe after exposure in the Middle East, international surveillance for MERS-CoV cases remains essential. Although sustained

human-to-human transmission is unlikely, secondary transmission in unprotected close contacts, including healthcare settings, is possible.

An overview of MERS-CoV infection is presented in an ECDC fact sheet [8], which also provides a detailed overview of measures to be taken by health professionals for case management and treatment.

WHO's IHR emergency committee on MERS-CoV met for the eighth time on 4 February 2015. Its members and advisors emphasised that, although the pattern of transmission appeared relatively unchanged, the overall situation and the possibility of international spread remained of concern. The committee repeated its previous advice. Affected countries should:

- carefully monitor the evolution of MERS-CoV infection, reinforce epidemiological surveillance in camels, improve disease surveillance in humans, and address critical gaps in the current knowledge of human and animal transmission;
- continue to strengthen efforts to implement basic measures for infection prevention and control, and increase education on these measures, especially among healthcare workers;
- continue to enhance awareness of MERS-CoV through effective risk communication to the general public, health professionals and policymakers;
- strengthen intersectoral collaboration and joint activities between the animal- and human-health sectors; and
- share with WHO all relevant information needed to assess and manage MERS-CoV, in a timely manner, as required by the IHR [9].

In an ECDC report on preparedness planning for respiratory viruses in EU Member States [11], further steps to strengthen preparedness and collaboration were suggested.

- Sustaining public health preparedness capacity remains essential.
- Preparedness policies at the local level need to be constantly assessed in order to identify areas where support may be needed.
- It is essential to ensure the interoperability of preparedness plans across health and non-health sectors.
- Cross-border collaboration could be strengthened by multi-country simulation exercises. Given the financial constraints in some countries, EU support for such exercises could be a worthwhile investment [10].

References

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