



**World Health
Organization**

REGIONAL OFFICE FOR **Europe**

**WHO Regional Office for Europe summary of
Middle East respiratory syndrome coronavirus (MERS-CoV)**

Situation update and overview of available guidance

9 July 2013

Address requests about publications of the WHO Regional Office for Europe to:

Publications

WHO Regional Office for Europe

UN City, Marmorvej 51

DK-2100 Copenhagen Ø, Denmark

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office web site (<http://www.euro.who.int/pubrequest>).

© World Health Organization 2013

All rights reserved. The Regional Office for Europe of the World Health Organization welcomes requests for permission to reproduce or translate its publications, in part or in full.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either express or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use. The views expressed by authors, editors, or expert groups do not necessarily represent the decisions or the stated policy of the World Health Organization.

CONTENTS

	<i>Page</i>
1. Background.....	2
2. Situation update and assessment.....	3
3. WHO recommendations	5
4. Key WHO guidance and information resources	6

This update summarizes the available information and recommendations made by the World Health Organization (WHO) about human infections with Middle East respiratory syndrome coronavirus (MERS-CoV) for Member States of the WHO European Region. This update will be posted once a fortnight on the WHO/Europe web site in English and Russian. WHO/Europe is working to make key documents available in Russian (listed in section 5). International Health Regulations (IHR) national focal points will continue to receive information through the Event Information Site (EIS).

WHO/Europe is coordinating its activities related to this outbreak with the European Commission, the European Centre for Disease Prevention and Control (ECDC), the EuroFlu network (www.euroflu.org) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL).

WHO/Europe emphasizes the need for Member States to maintain the capacity to detect any unusual health event, including those that may be associated with Middle East respiratory syndrome coronavirus (MERS-CoV). Probable and confirmed cases of MERS-CoV should be notified to WHO in accordance with the International Health Regulations (2005).

What is new in this update?

- The total number of laboratory confirmed cases as of 5 July is 79 cases with 42 reported deaths (page 3)
- Convening of an Emergency Committee under the International Health Regulations (IHR) (page 3)
- The WHO interim MERS-CoV surveillance guidance has been updated and the latest version was posted on 27 June (page 4)
- Publication of WHO guidelines for investigation of cases of human infection with Middle East Respiratory Syndrome Coronavirus (MERS-CoV) (page 5)
- Recommendations on preparedness measures to be taken (page 6).
- The laboratory testing for novel coronavirus – interim recommendations is now available in Russian (page 7)

1. Background

Coronaviruses are a large family of viruses that can cause illnesses ranging from common cold to Severe Acute Respiratory Syndrome (SARS). Usually, symptoms are mild to moderate and located in the upper-respiratory tract. The name coronavirus is associated with the crown-like spikes on the surface of the virus. Coronaviruses can be divided into three categories: alpha, beta and gamma, and a fourth provisionally assigned new group called delta coronaviruses. There are five coronaviruses that can infect humans and, in addition, coronaviruses may infect animals.

MERS-CoV was first reported to WHO in September 2012 but retrospective testing of previously undefined illness in cases of severe pneumonia in Jordan confirmed two cases of MERS-CoV in April 2012. Currently little is known about the natural reservoir and source of infection as well as the mode of transmission and pattern of disease.

All cases have had some link to the Middle East, although local transmission from recent travellers has

been observed in some countries. Human-to-human transmission undoubtedly occurs among close contacts evidenced by the occurrence of several clusters of MERS-CoV cases in health care settings or among close family contacts. Transmission does not appear to have extended beyond these clusters into the wider community.

2. Situation update and assessment

As of 5 July 2013, and since April 2012, 79 laboratory-confirmed cases of human infection with MERS-CoV have been reported to WHO, of which 42 have died. Countries that have reported cases are Jordan, Qatar, Saudi Arabia, Tunisia and the United Arab Emirates (UAE). Cases have also been reported by four countries in the WHO European Region (France, Germany, Italy and the United Kingdom). All European and North African cases have had a direct or indirect connection to the Middle East. In France, Italy, the United Kingdom and Tunisia there has been limited local transmission among close contacts who had not been to the Middle East but had been in contact with a sick traveller recently returned from the Middle East.

The newest cases reported indicate that the source of infection remains active in the Middle East and is present throughout a large area. The first case in Tunisia was likely infected in Qatar; however, this cannot be definitively shown without further investigation. Both the Tunisian and Qatari public health authorities are pursuing further investigations.

The appearance of cases in Europe and North Africa but not in other countries with frequent travel in and out of the Middle East is likely a result of differences in surveillance and testing. All Member States are encouraged to remind travellers returning from the affected area to seek medical attention if they develop a respiratory illness, and to test those who meet the profile described in the current surveillance recommendations posted on the WHO coronavirus web site.

Human-to-human transmission has not been observed to persist beyond small clusters of individuals with close contact. However, it is likely that more sporadic cases with subsequent limited transmission will occur in the near future. The large number of cases with reported co-morbidities suggests that persons with underlying medical conditions may have increased susceptibility to infection¹.

Convening of an Emergency Committee under the International Health Regulations (IHR)

WHO is convening an Emergency Committee under the IHR for MERS-CoV, which will meet on 9 and 11 July 2013. The outcome of the Emergency Committee will be announced on the WHO web site and will also be summarized in the next WHO/Europe MERS-CoV summary.

Clinical presentation of MERS-CoV

The majority of cases have respiratory disease, from mild symptoms to severe pneumonia. The clinical presentation includes acute respiratory illness with fever, cough, shortness of breath, breathing difficulties and pneumonia. Atypical symptoms including diarrhoea and renal failure can be predominant if the patient is immunocompromised. Recently, a small number of asymptomatic cases have been detected through contact tracing among close contacts of cases.

The WHO case definition is published on the WHO coronavirus web site.²

Although there are similarities, the MERS-CoV is not identical to SARS. One important difference is that SARS transmitted easily between humans.

Treatment

There is no specific treatment for disease caused by MERS-CoV. Treatment should be based on the patient's symptoms and supportive care can be highly effective. More details on management of cases can be found in the WHO publication *Clinical management of severe acute respiratory infections when novel coronavirus is suspected: What to do and what not to do*.³

Prevention

Since the source of the virus and the route of transmission are unknown, it is not possible to provide exact measures on how to prevent getting infected. However, important measures to prevent respiratory illness are to avoid close contact with anyone who shows symptoms of illness (coughing and sneezing) and to maintain good hand hygiene. Other good preventive measures to avoid infections that can be transmitted via the gastrointestinal route include avoiding uncooked or undercooked meats, unwashed fruits or vegetables, and drinks made without sterilized water. If you develop respiratory symptoms while travelling, you should avoid close contact with other people while you are symptomatic and use good respiratory hygiene, such as coughing or sneezing into a sleeve or flexed elbow, medical mask, or tissue, and throwing used tissues into a closed bin immediately after use.

WHO recently published the guideline *Infection prevention and control during health care for probable or confirmed cases of novel coronavirus (nCoV) infection*,⁴ which includes the necessary precautions health care workers should take when handling patients with probable or confirmed MERS-CoV.

Epidemiological and laboratory surveillance

The updated WHO *Interim surveillance recommendations for human infection with novel coronavirus* was published on 27 June 2013.⁵ Based on the current situation and available information, WHO encourages all Member States to continue their surveillance for severe acute respiratory infections (SARI) and to carefully review any unusual patterns.

Member States are reminded that lower respiratory specimens should be used for diagnosis in addition to nasopharyngeal swabs when they are available. If a nasopharyngeal swab tests negative, consider retesting using lower respiratory specimens such as sputum, endotracheal aspirate, or bronchoalveolar lavage. Clinicians should take care to follow strict infection prevention and control guidelines when collecting respiratory specimens of any kind. Recommendations on laboratory testing for novel coronavirus, including specimen collection and transportation, should be followed and can be found in the document *Laboratory testing for novel coronavirus – interim recommendations*.⁶ In addition the document *Laboratory biorisk management for laboratories handling human specimens suspected or confirmed to contain novel coronavirus: Interim recommendations*⁷ was published on 19 February 2013.

Investigation

On 5 July, WHO published its *Guidelines for investigation of cases of human infection with Middle East Respiratory Syndrome Coronavirus (MERS-CoV)* which provides a standardized approach for public health authorities and investigators at all levels to plan for and conduct investigations around confirmed and probable cases of MERS-CoV⁸.

Reporting

WHO requests that probable and confirmed cases be reported within 24 hours of being classified as such, through the regional Contact Point for International Health Regulations at the appropriate WHO Regional Office.

3. WHO recommendations

WHO/Europe reemphasizes the need for Member States to maintain the capacity to detect any unusual health event, including those that may be associated to MERS-CoV, to intensify surveillance and increase awareness, especially among medical workers and travellers.

WHO advice to health care practitioners

- Consider the possibility of MERS-CoV infection in patients with fever, cough, shortness of breath, or breathing difficulties, or other symptoms suggesting an infection, and with a recent history of travel in the Middle East. Clinicians should be aware that MERS-CoV infection may present atypically and initially without respiratory symptoms in immunocompromised individuals.
- If a diagnosis of MERS-CoV infection is considered possible, apply infection prevention and control measures recommended by WHO, or outlined in national guidance, and refer the patient to a special infectious disease unit for further investigation.

WHO advice to ministries of health

- Review current surveillance guidance and case definitions for case reporting available on the WHO coronavirus web site.
- Alert health care practitioners to the possibility of MERS-CoV infection in symptomatic travellers with a recent history of travel in the Middle East.
- Provide health care practitioners with clear instructions for referral of patients suspected of having infection with the MERS-CoV for appropriate management and testing.

WHO advice to travellers

Although the source of the virus and the mechanism of transmission are unknown, it is prudent to try to reduce the general risk of infection while travelling by:

- avoiding close contact with people suffering from acute respiratory infections;

- frequent hand-washing, especially after direct contact with ill people or their environment;
- adhering to food safety and hygiene rules such as avoiding undercooked meats, raw fruits and vegetables unless they have been peeled, and unsafe water;
- avoiding close contact with live farm or wild animals.

Travellers to the Middle East who develop symptoms either during travel or after their return are encouraged to seek medical attention and to share their history of travel. People with symptoms of acute respiratory infection should practice cough etiquette (maintain distance, cover coughs and sneezes with disposable tissues or clothing, and wash hands) and to delay travel until they are no longer symptomatic.

Based on the information available, WHO does not advise special screening at points of entry with regard to this event nor does it currently recommend the application of any travel or trade restrictions.

Recommendations concerning preparedness

WHO/Europe recommends its Member States to strengthen preparedness to detect, assess and investigate cases and outbreaks of severe acute respiratory infections by

- establishing laboratory capacity to confirm cases;
- developing investigation protocols and being ready to apply them;
- disseminating information and materials for appropriate sampling, including for serology;
- disseminating current clinical management guidelines to clinicians especially in ICU;
- maintaining or developing data management capacity to integrate epidemiological, clinical and virological data;
- sharing MERS-CoV data with WHO.

4. Key WHO guidance and information resources

Key WHO guidance documents and relevant web sites are listed below. As documents become available in Russian, they will be listed here.

¹ MERS-CoV summary and literature update

http://www.who.int/csr/disease/coronavirus_infections/update_20130531/en/index.html

² Revised interim case definition for reporting to WHO – Middle East respiratory syndrome coronavirus (MERS-CoV) http://www.who.int/csr/disease/coronavirus_infections/case_definition/en/index.html

³ Clinical management of severe acute respiratory infections when novel coronavirus is suspected: What to do and what not to do

http://www.who.int/csr/disease/coronavirus_infections/InterimGuidance_ClinicalManagement_NovelCoronavirus_11Feb13u.pdf

⁴ Infection prevention and control during health care for probable or confirmed cases of novel coronavirus (nCoV)infection

http://www.who.int/csr/disease/coronavirus_infections/IPCnCoVguidance_06May13.pdf

⁵ Interim surveillance recommendations for human infection with novel coronavirus as of 27 June

http://www.who.int/entity/csr/disease/coronavirus_infections/InterimRevisedSurveillanceRecommendations_nCoV_infection_27Jun13.pdf

⁶ Laboratory testing for novel coronavirus – interim recommendations (21 December 2012)

http://www.who.int/csr/disease/coronavirus_infections/LaboratoryTestingNovelCoronavirus_21Dec12.pdf

⁷ Laboratory biorisk management for laboratories handling human specimens suspected or confirmed to contain novel coronavirus: Interim recommendations (19 february 2013)

http://www.who.int/csr/disease/coronavirus_infections/Biosafety_InterimRecommendations_NovelCoronavirus_19Feb13.pdf

⁸ WHO guidelines for investigation of cases of human infection with Middle East Respiratory Syndrome Coronavirus (MERS-CoV)

http://www.who.int/csr/disease/coronavirus_infections/MERS_CoV_investigation_guideline_Jul13.pdf