

Summary report on the

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# Meeting on prevention and control of Crimean– Congo haemorrhagic fever in the Eastern Mediterranean Region

Muscat, Oman  
7–9 December 2015



**World Health  
Organization**

Regional Office for the Eastern Mediterranean

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## 1. Introduction

Crimean–Congo haemorrhagic fever (CCHF) is the most widespread tick-borne virus disease of humans caused by a virus in the genus *Nairovirus* of the family *Bunyaviridae*. The disease is endemic in many regions such as Africa, Asia, eastern and southern Europe and Central Asia. Ixodid ticks, especially those of the genus *Hyalomma*, are both a reservoir and a vector for the virus. CCHF virus has been isolated from 30 species of ixodid ticks. Numerous domestic and wild animals, such as cattle, goats, sheep, small mammals, rodents, birds in which the infection is mainly asymptomatic, serve as amplifying hosts for the virus.

Humans are infected by tick bites or through exposure to the blood or tissues of infected animals. The majority of cases are reported among animal herders, livestock workers, and slaughterhouse workers. Health workers and family members can contract CCHF through contact between unprotected skin or eye mucosa and body fluids of infected patients and Performance of aerosol-generating medical procedures in CCHF patients due to inadequate infection prevention and control can also lead to nosocomial distribution of an infection among medical personnel.

The onset of CCHF is sudden, with unspecific signs and symptoms such as high fever, headache and vomiting. As the illness progresses, within 2–5 days severe and uncontrolled bleeding, multi-organ failure and eventually death may occur.

CCHF is one of the rapidly emerging viral haemorrhagic fevers in occurring across many countries of the Eastern Mediterranean Region. Sporadic human cases and outbreaks of CCHF have been reported from Afghanistan, Islamic Republic of Iran, Iraq, Kuwait, Oman, Pakistan, Saudi Arabia, Sudan and the United Arab Emirates. The

situation remains particularly alarming in Pakistan where the trend of CCHF has been steadily increasing, from 62 cases in 2012 to 154 cases in 2014, with the fatality rate ranging from 20% to 30%. In 2014, Oman reported 18 cases of CCHF, including one death, nearly 15 years after the first case of CCHF was reported in the country.

The high risk of nosocomial outbreaks of CCHF was first recognized in 1976 in Pakistan when a laparotomy was performed on a patient with abdominal pain, haematemesis and melaena. Eleven secondary cases in hospital staff resulted in 3 deaths, including deaths of a surgeon and an operating-theatre attendant. Since then, similar nosocomial outbreaks were reported in Afghanistan, Islamic Republic of Iran, Iraq, Sudan and the United Arab Emirates with high mortality among hospital staff. Anecdotal evidence indicates that such transmission occurred in health care workers as a result of contact with infected blood or body secretions from patients while providing medical care in hospitals.

Review of published literature and unpublished data sources shows that many of these nosocomial infections in health care workers were the result of poor application of basic infection control measures, as well as paucity of knowledge and lack of proper understanding among health care workers of the mode of transmission and nosocomial risks of viral haemorrhagic fevers. These reported incidents underline the need for educating the health care workers on strict implementation of infection control measures within health care facilities while providing care to suspected and confirmed patients with viral haemorrhagic fevers.

Available evidence also indicates that the CCHF may spread further in the Region in the future. Climate factors may contribute further spread of the vector and to a consequent expansion of the geographic range of CCHF from its current transmission focus in Afghanistan, Islamic

Republic of Iran and Pakistan to other countries, with the highest risk to be expected in the neighbouring countries with already established endemicity. International travel, increasing human population densities, wider dispersal of competent vectors and increased trans-boundary movement of animals, goods and agricultural products may also further escalate the spread of CCHF in the Region.

In view of increasing burden of the disease in the Region and in the absence of a comprehensive preventive and control strategy for CCHF, the WHO Regional Office for the Eastern Mediterranean organized a meeting on prevention and control of CCHF on 7–9 December 2015 in Muscat, Oman. The objectives of the meeting were to improve understanding of the epidemiology and risk factors for transmission of CCHF in the Region, identify gaps in current knowledge for effective response and develop a set of strategic actions for prevention and control of CCHF.

The meeting was hosted by the Ministry of Health of Oman. The participants included representatives of the ministries of health and ministries of agriculture from the Islamic Republic of Iran, Oman, Russia and Turkey, staff from WHO and the Centers for Disease Control and Prevention (CDC, Atlanta) as well as infectious disease experts, laboratory scientists and vector/tick control experts attending the meeting in an individual capacity as WHO Temporary Advisers. The WHO Temporary Advisers attending the meeting completed the required WHO declaration of interests and no conflicts of interest with the subject matter of this meeting or with WHO were identified. Before and during the meeting, the participants had access to documents and published literature related to the issues discussed from WHO and other sources. The goal of the meeting was to develop a set of strategic actions for prevention and control of CCHF in the Region through a consultative process by identifying the main gaps in

preventive measures such surveillance, laboratory detection, vector/tick control, infection control, risk communication as well as by identifying current knowledge and information gaps for prevention and early detection and control of human infections.

The meeting covered six thematic areas: 1) surveillance for CCHF at the animal–human interface; 2) laboratory diagnosis of CCHF in human health sector; 3) clinical case management and infection control; 4) vector/tick control in animal health sector; 5) social mobilization and risk communication; and 6) intersectoral collaboration and coordination. A separate session was held on current knowledge gaps for effective control of CCHF. Each session was facilitated by an expert in the relevant field who presented the current best practices drawn on evidence accumulated so far as well as current challenges in enhancing public health efforts in each of the areas either due to existing information/knowledge gaps or owing to poor understanding or inappropriate practices.

## 2. Summary of discussions

### *Epidemiological situation, risk factors and key challenges*

Sporadic human cases and outbreaks of CCHF have been reported from Afghanistan, Islamic Republic of Iran, Iraq, Kuwait, Oman, Pakistan, Saudi Arabia, Sudan and the United Arab Emirates.

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