




North Carolina Department of Health and Human Services  
Division of Public Health

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June 24, 2014 – Replaces version posted May 15, 2014

To: All North Carolina Health Care Providers  
From: Megan Davies, MD, State Epidemiologist   
Re: **Middle-East Respiratory Syndrome Coronavirus (MERS-CoV) (2 pages)**

This memo is intended to provide information to all North Carolina clinicians regarding the Middle-East Respiratory Syndrome Coronavirus or MERS-CoV.

*This version has been modified to include new requirement for physicians to report suspected or confirmed MERS-CoV infections and updates to the CDC patient under investigation definition.*

### Summary

MERS-CoV is a novel coronavirus that was first identified in September of 2012 and has been associated with severe respiratory infections among persons who live in or have traveled to the Middle East and persons (including health care providers) exposed to MERS cases outside of the Middle East. The first travel-associated cases in the United States were confirmed in May, 2014. There has been clear evidence of person-to-person transmission both in household and healthcare settings, but no evidence of sustained person-to-person transmission in the community.

### Case Investigation and Testing

- A person with the following characteristics should be considered a patient under investigation:
  - A. Fever AND pneumonia or acute respiratory distress syndrome (based on clinical or radiological evidence) AND EITHER:
    - a history of travel from countries in or near the Arabian Peninsula<sup>1</sup> within 14 days before symptom onset, OR
    - close contact<sup>2</sup> with a symptomatic traveler who developed fever and acute respiratory illness (not necessarily pneumonia) within 14 days after traveling from countries in or near the Arabian Peninsula<sup>1</sup> OR
    - a member of a cluster of patients with severe acute respiratory illness (e.g., fever and pneumonia requiring hospitalization) of unknown etiology in which MERS-CoV is being evaluated, in consultation with state and local health departments.

OR

  - B. Fever AND symptoms of respiratory illness (not necessarily pneumonia; e.g. cough, shortness of breath) AND being in a healthcare facility (as a patient, worker, or visitor) within 14 days before symptom onset in a country or territory in or near the Arabian Peninsula in which recent healthcare-associated cases of MERS have been identified.<sup>3</sup>

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- **Clinicians caring for patients meeting these criteria should immediately contact their local health department or the state Communicable Disease Branch (919-733-3419; available 24/7) to discuss laboratory testing and control measures.**
- Persons who meet these criteria should also be evaluated for common causes of community-acquired pneumonia, if this has not been already done. Examples of respiratory pathogens causing community-acquired pneumonia include influenza A and B, respiratory syncytial virus, *Streptococcus pneumoniae*, and *Legionella pneumophila*. (Note: Viral culture should not be attempted in cases with a high index of suspicion.) MERS-CoV infection should still be considered even if another pathogen is identified, since co-infections have been reported.
- Any clusters of severe acute respiratory illness in healthcare workers in the United States should be thoroughly investigated. Occurrence of a severe acute respiratory illness cluster of unknown etiology should prompt immediate notification of local public health for further notification and testing.
- Testing for MERS-CoV is available at the North Carolina State Laboratory of Public Health. Testing requires consultation and pre-approval from the state Communicable Disease Branch. Detailed information about specimen collection and transport is available at <http://slph.ncpublichealth.com/doc/NCSLPH-MERS-CoV-Guidelines.pdf>.

### Infection Control

- Transmission of MERS-CoV has been documented in healthcare settings.
- Standard, contact, and airborne precautions are recommended for management of hospitalized patients with known or suspected MERS-CoV infection. These include:
  - Use of fit-tested NIOSH-approved N95 or higher level respirators
  - Use of gowns, gloves and eye protection
  - Use of negative-pressure airborne infection isolation rooms if available
- A facemask should be placed on the patient if an airborne infection isolation room is not available or if the patient must be moved from his/her room.
- Additional guidance is available at <http://www.cdc.gov/coronavirus/mers/infection-prevention-control.html>.

### Treatment

- No antivirals are currently available for treatment of MERS-CoV or other novel coronavirus infections.

### Reporting

- MERS-CoV infections were made reportable in North Carolina on June 23, 2014 under a temporary order of the State Health Director. Physicians are required to contact their local health department or the state Communicable Disease Branch (919-733-3419) as soon as MERS-CoV infection is reasonably suspected to exist.

This is an evolving situation and recommendations are likely to change as new information becomes available. Updated information and guidance are available from the CDC at <http://www.cdc.gov/coronavirus/mers/index.html>.

<sup>1</sup> Countries considered in the Arabian Peninsula and neighboring include: Bahrain; Iraq; Iran; Israel, the West Bank, and Gaza; Jordan; Kuwait; Lebanon; Oman; Qatar; Saudi Arabia; Syria; the United Arab Emirates (UAE); and Yemen (map on CDC site)

<sup>2</sup> Close contact is defined as: a) being within approximately 6 feet or within the room or care area for a prolonged period of time (e.g., healthcare personnel, household members) while not wearing recommended personal protective equipment (i.e., gowns, gloves, respirator, eye protection); or b) having direct contact with infectious secretions (e.g., being coughed on) while not wearing recommended personal protective equipment (i.e., gowns, gloves, respirator, eye protection). Data to inform the definition of close contact are limited. At this time, brief interactions, such as walking by a person, are considered low risk and do not constitute close contact.

<sup>3</sup> As of June 1, 2014, Jordan, Saudi Arabia, UAE; this may change as more information becomes available.