Public Health
HEALTH AND HUMAN SERVICES

RICHARD O. BRAJER
Secretary

DANIEL STALEY
Director, Division of Public Health

July 27, 2016 – *Replaces version posted March 26, 2016*

To: All North Carolina Health Care Providers
From: Zack Moore, MD, MPH Medical 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 links to updated recommendations for monitoring and movement of persons with potential exposure to MERS-CoV.

Summary
MERS-CoV is a novel coronavirus that was first identified in 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 meeting both the clinical features and epidemiological criteria listed below should be considered a patient under investigation.

Clinical Criteria		Epidemiologic Criteria
Severe illness Fever[1] *and* pneumonia or acute respiratory distress syndrome (based on clinical or radiological evidence)	and	A history of travel from countries in or near the Arabian Peninsula[2] within 14 days before symptom onset, *or* close contact[3] with a symptomatic traveler who developed fever[1] and acute respiratory illness (not necessarily pneumonia) within 14 days after traveling from countries in or near the Arabian Peninsula[2]. *– or –* A member of a cluster of patients with severe acute respiratory illness (e.g., fever[1] and pneumonia requiring hospitalization) of unknown etiology in which MERS-CoV is being evaluated, in consultation with state and local health departments in the US.
Milder illness Fever[1] *and* symptoms of respiratory illness (not necessarily pneumonia; e.g., cough, shortness of breath)	and	A history of 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[2] in which recent healthcare-associated cases of MERS have been identified.
Fever[1] *or* symptoms of respiratory illness (not necessarily pneumonia; e.g., cough, shortness of breath)	and	Close contact[3] with a confirmed MERS case while the case was ill.

- **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 criteria should also be evaluated for common causes of community-acquired pneumonia, if not already done. *(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 cluster 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 investigation 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/topics.asp.

Infection Control

- Transmission of MERS-CoV has been documented in healthcare settings. See CDC's updated Interim Guidance for Healthcare Professionals at https://www.cdc.gov/coronavirus/mers/interim-guidance.html
- Standard, contact, and airborne precautions are recommended for management of patients in healthcare settings 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.

Monitoring and Movement of Exposed persons

- Recommendations for public health monitoring and movement restrictions for healthcare personnel and others potentially exposed to MERS-CoV are based on the level of exposure (high risk, some risk and low risk). Details are available at https://www.cdc.gov/coronavirus/mers/hcp/monitoring-movement-guidance.html.

Treatment

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

Reporting

- MERS-CoV infections are reportable in North Carolina. 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.

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.

[1]Fever may not be present in some patients, such as those who are very young, elderly, immunosuppressed, or taking certain medications. Clinical judgement should be used to guide testing of patients in such situations.

[2]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.

[3]Close contact is defined as: a) being within approximately 6 feet (2 meters) or within the room or care area of a confirmed MERS case 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 of a confirmed MERS case (e.g., being coughed on) while not wearing recommended personal protective equipment.