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Division of Public Health

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May 29, 2013

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

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

Summary

MERS CoV is a novel coronavirus that was first identified in September of 2012 in Saudi Arabia and has been associated with severe and often fatal respiratory infections among persons who live in or have traveled to the Middle East. No cases have been identified in the United States. There has been clear evidence of person-to-person transmission both in household and healthcare settings, but the efficiency of transmission is not yet clear.

MERS CoV is different from all coronaviruses previously associated with human infections, including SARS. Like SARS, MERS CoV is most similar to coronaviruses found in bats. However, the reservoir and route of transmission have not been identified.

Case Investigation and Testing

- MERS CoV infection should be considered in any patient who meets the following criteria:
 - Acute respiratory infection, which may include fever ($\geq 38^{\circ}\text{C}$, 100.4°F) and cough; AND
 - Suspicion of pulmonary parenchymal disease (e.g., pneumonia or acute respiratory distress syndrome based on clinical or radiological evidence of consolidation); AND
 - History of travel from the Arabian Peninsula or neighboring countries* within two weeks; AND
 - Not already explained by any other infection or etiology, including all clinically indicated tests for community-acquired pneumonia according to local management guidelines.
- In addition, the following persons may be considered for evaluation for MERS CoV infection:
 - Persons who develop severe acute lower respiratory illness of known etiology within two weeks after travel from the Arabian Peninsula or neighboring countries but do not respond to appropriate therapy; OR
 - Persons who develop severe acute lower respiratory illness who are close contacts of a symptomatic traveler who developed fever and acute respiratory illness within two weeks after travel from the Arabian Peninsula or neighboring countries*. Close contact is defined as providing care for the ill traveler (e.g., a healthcare worker or family member), or having similar close physical contact; or stayed at the same place (e.g. lived with, visited) as the traveler while the traveler was ill.
- 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.)

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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.**
- In addition, 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.
- Currently, testing for MERS CoV is only available at the CDC through consultation with NC DPH. Detailed information about specimen collection and transport is available at www.cdc.gov/coronavirus/mers/guidance.html.

Infection Control

- Transmission of MERS CoV has been documented in healthcare settings.
- Until the transmission characteristics are better understood, patients under investigation and probable and confirmed cases should be managed according to CDC's infection control recommendations for the coronavirus that caused SARS. These include:
 - Contact and airborne isolation precautions for all patient contact, including:
 - Use of fit-tested NIOSH-approved N95 or higher level respirators
 - Use of eye protection
 - Use of negative-pressure airborne isolation rooms if available
 - If the patient must be moved from his/her room, a standard surgical mask should be worn by the patient.
 - Continuation of isolation precautions until 10 days after resolution of fever, provided that respiratory symptoms are resolved or improving.

Treatment

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

This is a rapidly evolving situation and recommendations are likely to change as new information becomes available. Updated information and guidance are available from the CDC at www.cdc.gov/coronavirus/mers.

* Countries considered in the Arabian Peninsula and neighboring include: Bahrain, Iraq, Iran, Israel, Jordan, Kuwait, Lebanon, Oman, Palestinian territories, Qatar, Saudi Arabia, Syria, the United Arab Emirates (UAE), and Yemen.