MERS-CoV Guidance for Healthcare and Public Health Providers

Michigan Department of Health and Human Services

This interim guidance outlines the Michigan Department of Health and Human Services (MDHHS) recommendations for healthcare providers on surveillance, reporting, testing, and infection control for patients under investigation for Middle East Respiratory Syndrome (MERS). MERS is caused by a coronavirus called MERS-CoV and was first reported in Saudi Arabia in 2012. Most MERS patients have developed severe acute respiratory illness; approximately 30-40% have died. Commonly reported symptoms include fever, cough, and shortness of breath. Most patients had abnormal findings on chest x-ray.

At this time, all cases have been linked to countries in/near the Arabian Peninsula, including outbreaks in other countries. The virus has spread from ill people to others usually through close and prolonged contact, including transmission in certain healthcare settings. For more information please call the MDHHS Communicable Disease Division at 517-335-8165 or go to http://www.cdc.gov/coronavirus/mers/.

The CDC continues to recommend that healthcare providers and health departments throughout the US be prepared to detect and manage cases of MERS.

General Guidance on Case Identification, Reporting, Testing, and Infection Control

Clinical presentation – Common signs and symptoms at hospital admission include fever, chills/rigors, headache, non-productive cough, dyspnea, and myalgia. Other symptoms can include sore throat, coryza, sputum production, dizziness, nausea and vomiting, diarrhea, and abdominal pain. Atypical presentations including mild respiratory illness without fever and diarrheal illness preceding development of pneumonia have been reported. Patients who progress to requiring admission to an intensive care unit (ICU) often have a history of a febrile upper respiratory tract illness with rapid progression to pneumonia within a week of illness onset.

Travel history - Patients who develop fever with respiratory symptoms, pneumonia, or acute respiratory distress syndrome should be asked about travel within 14 days from the Arabian Peninsula, neighboring countries, countries with a known outbreak, or any close contact with an ill traveler from the region.

Evaluation - Healthcare professionals should evaluate suspected cases of MERS-CoV infection according to the CDC **patient under investigation (PUI)** definition given below. A person who has both clinical features and an epidemiologic risk should be considered a PUI. Persons who meet the criteria for PUI should also be evaluated for common causes of community-acquired pneumonia.* Positive results for another respiratory pathogen should not preclude testing for MERS-CoV.

Reporting - Clinicians and healthcare professionals should immediately report PUIs for MERS-CoV infection to MDHHS (office hours at 517-335-8165; after hours at 517-335-9030) and/or to the local health department.** To collect data on PUIs, fill out the Michigan MERS PUI short form found at http://www.michigan.gov/documents/mdch/MERS_Investigation_ShortForm_438699_7.pdf. Healthcare providers should notify MDHHS by phone (517-335-8165) prior to submitting PUI short forms (FAX: 517-335-8263). MDHHS and local health departments (via MDHHS) will report PUIs for MERS-CoV infection to CDC.

*Examples of respiratory pathogens causing community-acquired pneumonia include influenza A and B, respiratory syncytial virus (RSV), *Streptococcus pneumoniae*, and *Legionella pneumophila*.

**For local health department contact information, see http://www.michigan.gov/mdch/0,4612,7-132-2939-96747--,00.html

A patient under investigation (PUI) is a person with the following characteristics:

A. For persons with **severe illness**:

- Fever[1] (≥38°C, 100.4°F) *and* pneumonia or acute respiratory distress syndrome (based on clinical or radiological evidence);

AND EITHER

- 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

- is a member of a cluster of patients[4] 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 department in the US.

B. For persons with **milder illness**:

- Fever[1] *and* symptoms of respiratory illness (not necessarily pneumonia; e.g., cough, shortness of breath);

AND

- 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.

OR

- 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.

[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 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– see Infection Prevention and Control Recommendations); 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 – see Infection Prevention and Control Recommendations). 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.

[4]A cluster is defined as two or more persons with onset of symptoms within the same 14-day period, and who are associated with a specific setting

***Clinical Specimens* - Clinical specimens from PUIs should be submitted to MDHHS for testing.** To arrange testing approval (required) for specimens, contact MDHHS at 517-335-8165 prior to submitting specimens. See CDC Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from PUIs for more information (http://www.cdc.gov/coronavirus/mers/guidelines-clinical-specimens.html).

***Infection Control Measures* - Appropriate infection control measures include immediately initiating standard, contact, and airborne precautions while managing a patient with known or suspected MERS-CoV infection.** For additional guidance, see CDC Interim Infection Prevention and Control Recommendations (http://www.cdc.gov/coronavirus/mers/infection-prevention-control.html).

***Close Contacts of a PUI* -** Evaluation and management of close contacts of a PUI should be discussed with the local health department. Close contacts of a PUI should monitor themselves for fever and respiratory illness and seek medical attention if they become ill within 14 days after contact; healthcare providers should consider the possibility of MERS in these contacts.

*Examples of respiratory pathogens causing community-acquired pneumonia include influenza A and B, respiratory syncytial virus (RSV), *Streptococcus pneumoniae*, and *Legionella pneumophila*.

**For local health department contact information, see http://www.michigan.gov/mdch/0,4612,7-132-2939-96747--,00.html