Key Messages for Health Care Providers Regarding the Middle East Respiratory Syndrome Coronavirus (MERS-CoV)

Since April 2012, MERS-CoV has caused severe respiratory illnesses. As of June 2015, 1179 laboratory-confirmed cases including at least 442 deaths had been reported to the World Health Organization (WHO). All cases have occurred in or been linked to the Middle East, including the current cluster of illness in the Republic of Korea. In the US, there have been only 2 imported cases, both diagnosed in May 2014. The virus can spread from person to person and has caused outbreaks in healthcare settings. Approximately 30% of cases have been fatal, and 20% of cases have occurred in healthcare workers.

Evaluating and Reporting Suspected MERS Cases
Consider MERS in persons with fever and acute respiratory illness who have recent travel in the Arabian Peninsula or the Republic of Korea, or have had contact with an ill traveler from these areas. MERS-CoV is reportable as a “Rare Disease of Public Health Significance.” Providers and facilities should immediately report to their local health department any person suspected of having MERS-CoV for timely infection control precautions, testing and case investigation.

When evaluating patients with an infectious presentation suggestive of MERS,
- use appropriate infection control
- obtain a travel history with dates of travel
- ask about exposures in healthcare facilities
- record date of symptom onset
- obtain appropriate specimen types for testing
- notify local health department, or, if unavailable, state public health (206-418-5595 or 877-539-4344)

Patients in the U.S. Who Should Be Evaluated for MERS-CoV Infection
Healthcare professionals should evaluate patients in the U.S. for MERS-CoV infection if they meet the following criteria, defined as a Patient Under Investigation (PUI):

A. Fever AND pneumonia or acute respiratory distress syndrome (based on clinical or radiologic evidence) AND EITHER:
   - A history of travel from countries in or near the Arabian Peninsula within 14 days before symptom onset, or close contact 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, OR
   - A history of being in a healthcare facility (as a patient, worker, or visitor) in the Republic of Korea within 14 days before symptom onset, 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 in the US.

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

C. Fever OR symptoms of respiratory illness (not necessarily pneumonia; e.g., cough, shortness of breath) and
   o Close contact with a confirmed MERS case while the case was ill.

**Symptoms and Severity of MERS-CoV**
- The symptoms of MERS include fever, cough, shortness of breath, chills, body aches, sore throat, headache, diarrhea, nausea/vomiting, and runny nose. Illness ranges from mild to severe, and may cause respiratory or kidney failure.
- People with pre-existing medical conditions (also called comorbidities), may be more likely to become infected with MERS, or have a severe case.
- Approximately a 30% of confirmed cases have died.

**Infection Control in Healthcare Settings**
- Immediately implement standard, contact, and airborne precautions for MERS-CoV persons under investigation (PUI). Use gloves, gowns, eye protection and an N95 or higher respirator for all patient care activities.
- Care for PUI in an Airborne Infection Isolation Room (AIIR). If this is not available, transfer the patient as soon as possible to a facility with an AIIR. Pending transfer, place a facemask on the patient and house in a single-patient room with the door closed. The patient should not be placed in any room where room exhaust is recirculated without high-efficiency particulate air (HEPA) filtration.
- HCP should perform hand hygiene frequently, including before and after all patient contact, contact with potentially infectious material, and before putting on and upon removal of PPE, including gloves. MERS-CoV may be in respiratory secretions, stool, and urine.

**Antiviral Medication and Vaccination for MERS-CoV**
- There are no known treatments for illness caused by MERS-CoV. Medical care is supportive and intended to help relieve symptoms.
- There is currently no vaccine available or under development against MERS-CoV.
Diagnostic Testing at Washington State Public Health Laboratories (PHL)

- Washington State Public Health Laboratories (PHL) can test respiratory and serum specimens for MERS-COV using a CDC-developed PCR assay. CDC can perform serum antibody testing.
- All testing must be discussed with and approved by local health before submission. [http://www.doh.wa.gov/AboutUs/PublicHealthSystem/LocalHealthJurisdictions.aspx](http://www.doh.wa.gov/AboutUs/PublicHealthSystem/LocalHealthJurisdictions.aspx)
- Use appropriate infection control precautions when collecting respiratory tract, serum and stool specimens. Collect and submit specimens from two or more sites, such as respiratory and serum. Lower respiratory samples may include bronchoalveolar lavage, tracheal aspirate, pleural fluid, and sputum; upper respiratory samples include nasopharyngeal and oropharyngeal swabs and nasal aspirate. CDE provides testing information [http://www.doh.wa.gov/Portals/1/Documents/5100/420-109-MERS-CoV-PHL-Testing.pdf](http://www.doh.wa.gov/Portals/1/Documents/5100/420-109-MERS-CoV-PHL-Testing.pdf). CDC guidelines for testing for MERS are at: [http://www.cdc.gov/coronavirus/mers/guidelines-clinical-specimens.html](http://www.cdc.gov/coronavirus/mers/guidelines-clinical-specimens.html)
- PHL require all clinical specimens have two patient identifiers, a name and a second identifier (e.g., date of birth) on both the specimen label and a completed PHL Virology Submission form available at: [http://www.doh.wa.gov/Portals/1/Documents/5230/302-017-SerVirHIV.pdf](http://www.doh.wa.gov/Portals/1/Documents/5230/302-017-SerVirHIV.pdf). Specimens will be rejected for testing if not properly identified. Also include specimen source and collection date.
- An investigation guideline and a case investigation form are also available: [http://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/NotifiableConditions/MERSCoV.aspx](http://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/NotifiableConditions/MERSCoV.aspx)