Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Infection

Signs and Symptoms	• Initial symptoms of fever, cough, and shortness of breath; diarrhea may occur • May progress to pneumonia, respiratory distress, and sometimes kidney failure
Incubation	Not definitively defined, up to 14 days
Case classification	**Person under investigation (PUI) – within 14 days of symptom onset:** • Fever AND pneumonia or acute respiratory distress syndrome AND: o Travel in or near the Arabian Peninsula, **or** o Close contact with a symptomatic traveler who developed fever and acute respiratory illness within 14 days of travel in or near the Arabian Peninsula, **or** o In a cluster of cases of unexplained severe acute respiratory illnesses (e.g., hospitalized with fever and pneumonia) with MERS-CoV considered • Fever AND symptoms of respiratory illness AND in a healthcare facility in or near the Arabian Peninsula with recent healthcare-associated cases of MERS, • Fever or respiratory illness AND close contact with a confirmed MERS case while ill
	Probable: PUI with absent or inconclusive test results for MERS-CoV (e.g., single PCR target positive) who is a close contact of a laboratory-confirmed MERS-CoV case.
	Confirmed: Laboratory confirmation of MERS-CoV infection
	Contact under investigation: Fever or symptoms of respiratory illness within 14 days of close contact with confirmed MERS case while the case was ill
Differential diagnosis	Other respiratory pathogens such as influenza A and B and other respiratory viruses, *Streptococcus pneumoniae*, and *Legionella pneumophila*.
Treatment	Supportive care. Case fatality rate is up to one-third.
Duration	Depends on severity of illness
Exposure	Persons considered to be potentially exposed include those who were within 6 feet, or within a patient care room, of a confirmed MERS case for a prolonged period of time.
Laboratory testing	LHJ should coordinate with Office of Communicable Disease Epidemiology (CDE) for testing of MERS PUI and their contacts • Public Health Laboratories (PHL) performs PCR on both respiratory specimens and serum as below: o Bronchoalveolar lavage, tracheal aspirate, pleural fluid, or sputum, **or** o Nasopharyngeal and oropharyngeal swabs or nasal aspirate, **plus** o Serum *Specimen shipping (Section 4):* Keep all specimens at 2-8°C for up to 72 hours and ship cold. Include Virology/Serology form: http://www.doh.wa.gov/Portals/1/Documents/5230/302-018-BioterrorismSpecimen.pdf Detailed specimen Collection and Submission Instructions: http://www.doh.wa.gov/Portals/1/Documents/5100/420-109-MERS-CoV-PHL-Testing.pdf
Public health actions **URGENT**	• Immediately report to OCDE any MERS PUI • Ensure proper infection control-- standard, contact and airborne precautions • Ill close contacts should be isolated at home if not requiring medical attention

Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Infection

1. DISEASE REPORTING

A. Purpose of Reporting and Surveillance

1. To identify infections due to Middle East Respiratory Syndrome Coronavirus (MERS-CoV).
2. To prevent the spread of MERS-CoV.

B. Legal Reporting Requirements

1. Healthcare providers: **immediately notifiable to local health jurisdiction**
2. Healthcare facilities: **immediately notifiable to local health jurisdiction**
3. Laboratories: **immediately notifiable to local health jurisdiction**; specimen submission required
4. Local health jurisdictions: **immediately notifiable to Washington State Department of Health (DOH) Office of Communicable Disease Epidemiology (CDE)**

C. Local Health Jurisdiction Investigation Responsibilities

1. Contact CDE **immediately (206-418-5500 or 877-539-4344)** regarding suspected MERS-CoV infections. Determine exposures for the case. Facilitate the transport of specimens to the Washington State Public Health Laboratories (PHL) for testing. Ensure that appropriate infection control practices are implemented while testing is pending.
2. For laboratory positive cases, complete the CDC Middle East Respiratory Syndrome (MERS) Patient Under Investigation (PUI) Report Form and the DOH MERS-CoV infection case report form, (http://www.doh.wa.gov/Portals/1/Documents/5100/420-110-ReportForm-MERS-CoV.pdf) enter the data into the Public Health Issues Management System (PHIMS) as a Rare Disease of Public Health Significance and fax the completed form to CDE.

2. THE DISEASE AND ITS EPIDEMIOLOGY

A. Etiologic Agent

Human coronaviruses were first identified in the mid-1960s. The family includes common viruses that most people get some time in their life. Human coronaviruses usually cause mild to moderate upper-respiratory tract illnesses.

Coronaviruses are named for crown-like spikes on their surface. There are three main sub-groupings of coronaviruses: alpha, beta and gamma, and a fourth provisionally-assigned new group called delta coronaviruses. The five coronaviruses previously known to infect people are: alpha coronaviruses 229E and NL63 and beta coronaviruses SARS-CoV, the coronavirus that causes severe acute respiratory syndrome (SARS), OC43, and HKU1. Middle East Respiratory Syndrome coronavirus (MERS-CoV) is a newly recognized beta coronavirus that was first reported in 2012 in Saudi Arabia. It is different from other coronaviruses that have previously been found in humans. Coronaviruses may

also infect many different animals and cause them to have respiratory, gastrointestinal, liver, and neurologic diseases. Most of these coronaviruses usually infect only one animal species or, at most, a small number of closely related species. The reservoir for MERS-CoV is dromedary camels. However, the related SARS-CoV can infect people and several types of animals, including monkeys, Himalayan palm civets, raccoon dogs, cats, dogs, and rodents.

For updates on recently reported cases of infection with MERS-CoV see http://www.cdc.gov/coronavirus/mers/index.html

B. Description of Illness

Initial symptoms of fever, cough, and shortness of breath may progress to pneumonia, respiratory distress, and sometimes kidney failure. Diarrhea has also been reported. Males above the age of 60 with underlying conditions, such as diabetes, hypertension and renal failure, are at a higher risk of severe disease, including death. Approximately 20% of cases are asymptomatic or have mild disease.

C. MERS-CoV Infection in Washington

The first US cases of MERS were reported in May 2014 in Indiana and Florida, but none have been reported in Washington as of August 2017. As of July 2017, 2040 laboratory-confirmed cases including at least 710 deaths have been reported to the World Health Organization (WHO). Since December 2016, 199 laboratory-confirmed cases of MERS have been reported in Saudi Arabia (190), Qatar (3), United Arab Emirates (4), Lebanon (1) and Oman (1).

To date, 27 countries have reported cases including countries in the Middle East: Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia (KSA), United Arab Emirates (UAE) and Yemen; in Africa: Algeria, and Tunisia; in Europe: Austria, France, Germany, Greece, Italy, the Netherlands, Turkey and the United Kingdom; in Asia: China, the Republic of Korea, Malaysia, the Philippines and Thailand; and in North America: the United States of America (USA). As of August 2017, the majority of cases (82%) have been reported from KSA.

For the most recent case count, please see the WHO MERS-CoV summary updates website at: http://www.who.int/csr/disease/coronavirus_infections/archive_updates/en/

Please see the following MMWR publications about MERS-CoV:
https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6403a4.htm

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6223a6.htm?s_cid=mm6223a6_w

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6403a4.htm

D. Reservoirs

Current scientific evidence suggests that dromedary camels are a major reservoir host for MERS-CoV and an animal source of MERS infection in humans. The virus likely originated in a bat and transferred to camels. Genetic sequencing to date has determined the virus is most closely related to coronaviruses detected in bats. MERS-CoV gene sequences and serologic evidence of past infection have been found in camels in several countries in or near the Middle East.

E. Modes of Transmission

Studies have shown that humans are infected through direct or indirect contact with infected dromedary camels. MERS-CoV has been identified in dromedaries in several countries, including Egypt, Oman, Qatar, and Saudi Arabia, and MERS-CoV specific antibodies in dromedaries in the Middle East, Africa and South Asia.

The virus does not pass easily from person to person unless there is close contact, such as providing unprotected care to an infected patient. There have been clusters of cases in healthcare facilities, where human-to-human transmission appears to have occurred, especially when infection prevention and control practices are inadequate or inappropriate. Human to human transmission has been limited to date, and has been identified among family members, patients, and health care workers. While the majority of MERS cases have occurred in health care settings, thus far, no sustained human to human transmission has been documented anywhere in the world.

F. Incubation Period

The current case definition uses an onset of illness within 14 days for travelers to the Arabian Peninsula or neighboring countries including patients or visitors who were present in a healthcare facility within 14 days before illness onset. See section 3.A. below.

G. Period of Communicability

The period of communicability for MERS-CoV is unknown at this time. Until further guidance is available, follow isolation recommendations used for SARS; persons with MERS should be isolated (for example, by not going to work or to school) until 10 days after fever has resolved, provided respiratory symptoms are absent or improving. See Appendix A in 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings available at: https://www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guidelines.pdf.

H. Treatment

There is no specific treatment. Medical care is supportive.

3. CASE DEFINITIONS

A. Case Classification

Patient Under Investigation (PUI)

A person with the following characteristics should be considered a **patient under investigation (PUI)**:

- 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[1] within 14 days before symptom onset, or
  - Close contact[2] 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 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.

- Fever 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[1] in which recent healthcare-associated cases of MERS have been identified, or
  - Close contact[2] with a confirmed MERS case while the case was ill.

Probable Case

A probable case is a PUI with absent or inconclusive laboratory results for MERS-CoV infection who is a close contact[2] of a laboratory-confirmed MERS-CoV case. Examples of laboratory results that may be considered inconclusive include a positive test on a single PCR target, a positive test with an assay that has limited performance data available, or a negative test on an inadequate specimen.

Confirmed Case

A confirmed case is a person with laboratory confirmation of MERS-CoV infection. Confirmatory laboratory testing requires a positive PCR on at least two specific genomic targets or a single positive target with sequencing on a second.

Contact Under Investigation of a Confirmed Case of MERS

As part of investigation of confirmed cases, in consultation with a state or local health department, a person with fever or symptoms of respiratory illness within 14 days following close contact[2] with a confirmed case of MERS while the case was ill should be evaluated for MERS-CoV infection.

Footnotes

1. 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.

2. 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 (such as caring for, living with, visiting, or sharing a healthcare waiting area or room with a confirmed MERS case) while not wearing recommended personal protective equipment (i.e., gowns, gloves, NIOSH-certified disposable N95 respirator, eye protection or, b) having direct contact with infectious secretions (e.g., being coughed on) while not wearing recommended personal protective equipment. See CDC's Infection Prevention and Control Recommendations for more detail. Data to inform the definition of close contact are limited. Transient interactions, such as walking by a person with MERS, are not thought to constitute and exposure; however, final determination should be make in consultation with public health authorities.

4. LABORATORY DIAGNOSIS AND SERVICES

A. Laboratory Diagnosis

All testing must be discussed with and approved by local health and CDE before submission to PHL. PHL use a PCR assay from Centers for Disease Control and Prevention (CDC) to detect MERS-CoV in respiratory and serum specimens; confirmatory testing is performed at CDC. Currently PHL do not perform serology on

serum; however, PHL can facilitate shipping serum specimens to CDC for MERS-CoV serology testing, if indicated.

B. Specimen Collection

To date, little is known about pathogenic potential and transmission dynamics of MERS-CoV. To increase the likelihood of detecting infection, collect and submit specimens from at least two sites, including both respiratory tract and serum. Lower respiratory samples are may include bronchoalveolar lavage, tracheal aspirate, pleural fluid, and sputum; upper respiratory samples include nasopharyngeal and oropharyngeal swabs. Lower respiratory samples from an intubated patient are preferred over upper, but upper respiratory are generally preferred over sputum. CDC provides testing guidance at: http://www.cdc.gov/coronavirus/mers/guidelines-clinical-specimens.html

Use appropriate personal protective equipment (standard, contact and airborne precautions) when collecting clinical specimens for MERS-CoV testing.

Refrigerate all specimens at 2-8ºC up to 72 hours and ship cold; if exceeding 72 hours holding time, freeze at -70ºC and ship on dry ice.

Lower Respiratory Tract:

- **Broncheoalveolar lavage, tracheal aspirate, pleural fluid**

  Collect 2-3 mL in a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container.

- **Sputum**

  Have the patient rinse the mouth with water and then expectorate deep cough sputum directly into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container.

Upper Respiratory Tract:

- **Nasopharyngeal and oropharyngeal swabs (NP/OP swabs)**

  Use only synthetic fiber swabs with plastic shafts. Calcium alginate swabs or wooden shafted swabs may inhibit PCR tests. Place swabs immediately into sterile tube containing 2-3 mL viral transport media. NP/OP specimens should be combined, placing both swabs in the same vial.

  - **Nasopharyngeal swabs** -- Insert a swab in the nostril parallel to the palate. Leave in place for a few seconds to absorb secretions. Swab both nasal areas.
  - **Oropharyngeal swab** -- Swab the posterior pharynx, avoiding the tongue.

- **Nasal Aspirates**

  Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container.

Serum:

- **PHL can perform PCR for detection of virus on serum.** Serum for PCR testing should be collected during the first week after symptom onset, preferably within 3-4 days after symptom onset.
    - **Adults and children:** Collect 1 tube (5-10 mL) whole blood in a serum separator tube. Serum separator tubes should be stored upright for at least 30 minutes, and then centrifuged at 1000–1300 relative centrifugal force (RCF) for 10 minutes before removing the serum and placing it in a separate sterile tube for shipping (such as a cryovial). The minimum amount of serum required for testing is 200 µL.
    - **Infants:** A minimum of 1 mL of whole blood is needed for testing of pediatric patients. Collect at least 1 mL in a serum separator tube and process as above.
- **Serologic testing for MERS antibodies is currently available only at CDC upon request and approval.** Please consult with DOH Office of Communicable Disease Epidemiology for ideal timing of specimen collection for serologic testing. In general, for serologic testing, collect serum during acute symptoms, preferably the first week after onset of illness, and again ≥ 3 weeks later.
    - **Adults, children and infants:** Collect and process as above. Note, if both MERS-CoV serology and rRT-PCR tests are planned, the minimum amount of serum required is 400 µL (200 µL for each test).

C. Shipping

- Specimens should be stored and shipped at the temperatures indicated above. For details see: http://www.doh.wa.gov/Portals/1/Documents/5240/SCSI-MERSCoV-V2.pdf
- Specimens from suspected MERS cases shipped within the United States must be packaged, shipped, and transported in accordance with the shipping regulations from the US Department of Transformation (USDOT). Packaging procedures can be found in the USDOT document entitled, *Transporting Infectious Substances Safely* at: https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/Transporting_Infectious_Substances_brochure.pdf.
- Package all specimens to prevent breakage and spillage. The primary container (containing specimen) must be leak-proof and sealed securely with either tape or Parafilm® and placed in zip-sealing, leak-proof bags with enough absorbent material to capture the contents of the primary container. Each requisition form should be attached to the zip-sealing bag with the primary container. Multiple primary containers (each in a zip-sealing bag with requisition slip attaches) may be placed in a secondary leak-proof container. The secondary container is then placed in an outer certified box. The outer box must be labeled with the specimen's bioterrorism agent category level. Clinical specimens for MERS-CoV testing are category B.
- When shipping frozen specimens use a combination of dry ice and frozen gel ice-packs, not wet ice, to maintain temperatures over several days.

Avoid shipping problems:

- Do not place any dry ice in the primary container" or secondary container, foam envelopes, ziplock bags, cryovial boxes, or hermetically sealed containers.
- Do not place primary containers sideways or upside down in zip-sealing bags.
- Do not place any paperwork in the zip-sealing bags, so as not to damage the paperwork.
- Do not use biohazard autoclave bags to prepack your materials due their inadequate sealing.

Note that PHL require all clinical specimens have **two** patient identifiers, a name **and** a second identifier (e.g., date of birth) both on the specimen label and on the submission form. Due to laboratory accreditation standards, specimens will be rejected for testing if not properly identified. Also include specimen source and collection date.

Each specimen sent to PHL must be accompanied by a completed PHL bioterrorism test form: http://www.doh.wa.gov/Portals/1/Documents/5230/302-018-BioterrorismSpecimen.pdf. Along with the patient and submitter names, include the date of collection and date of illness onset on the form.

5. CONTROLLING FURTHER SPREAD

A. Infection Control Recommendations 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. These recommendations are consistent with those recommended for the coronavirus that caused severe acute respiratory syndrome (SARS).

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, if tolerated, 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. Once in an AIIR, the patient's facemask may be removed.

When outside of the AIIR, patients should wear facemasks to contain secretions. Limit transport and movement of a patient outside of the AIIR to medically-essential purposes. Implement staffing policies to minimize the number of personnel that must enter the room. Infection prevention recommendations may be updated as information about transmission and the severity of clinical illness caused by MERS-CoV becomes available.

For full details of these precautions, see Appendix A: Type and duration of precautions needed for selected infections and conditions in the 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings.

B. Contact Management

Any person who has had close contact with a patient under investigation (PUI), probable or confirmed case while the person was ill, should be carefully monitored for 14 days for the appearance of respiratory symptoms. 2. 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 (such as caring for, living with, visiting, or sharing a healthcare waiting area or room with a confirmed MERS case) while not wearing recommended personal protective equipment (i.e., gowns, gloves, NIOSH-certified disposable N95 respirator, eye protection or, b) having direct contact with infectious secretions (e.g., being coughed on) while not wearing recommended personal protective equipment. See CDC's Infection Prevention and Control Recommendations for more detail. Data to inform the definition of close contact are limited. Transient interactions, such as walking by a person with MERS, are not thought to constitute and exposure; however, final determination should be make in consultation with public health authorities.

Use the DOH MERS Contact Investigation Form to investigate each contact. (http://www.doh.wa.gov/Portals/1/Documents/5100/420-106-CaseContactForm-MERS-CoV.pdf) The local health jurisdiction should provide contacts of a case with instructions to check daily temperature and other symptoms to watch for and should assess contacts for symptoms at the end of the 14 day period, at a minimum, and more frequently as resources allow. If the contact develops fever, cough, shortness of breath, or breathing trouble, they should be told to wear a mask when around other people and to consult with their healthcare provider and report the MERS-CoV risk exposure. If the contact has an outpatient or emergency department visit they should be told to put on a mask before entering the facility and to report the potential MERS-CoV exposure. Infection control measures should continue until MERS-CoV testing is done.

If severe acute respiratory illness develops within the first 14 days following the contact, the individual should be considered a "Patient Under Investigation" and reported to CDC.

Guidance for patients and contacts who are managed in in home settings is available at:

http://www.cdc.gov/coronavirus/mers/hcp/home-care.html

If milder symptoms develop during this period, call the Office of Communicable Disease Epidemiology at (206) 418-5500 to discuss management of the contact.

C. Environmental Measures

The approach to environmental cleaning and disinfection for MERS-CoV will follow the same principles used for controlling the spread of other infections in healthcare settings.

Personal Protective Equipment

Personnel involved in cleaning and disinfection activities should wear appropriate personal protective equipment. Wear full protective attire as required for contact and airborne precautions (disposable gown, utility gloves, and N95 or higher respirator) plus eye protection (goggles or face shield).

Type of Cleaning and Disinfectant Agents

Any EPA-registered hospital detergent-disinfectant currently used by healthcare facilities for environmental sanitation may be used. Manufacturer recommendations for use-dilution (i.e., concentration), contact time and care in handling should be followed.

Cleaning Methods

In-patient rooms housing MERS patients should be cleaned and disinfected daily and at the time of patient transfer or discharge.

- Daily cleaning and disinfection should include horizontal surfaces (e.g., over-bed table, nightstand), surfaces that are frequently touched by patients and healthcare personnel (e.g., bed rails, phone), and lavatory facilities. To facilitate daily cleaning, the area around the patient should be kept free of unnecessary equipment and supplies.
- Terminal cleaning and disinfection following transfer or discharge should include the type of surfaces described above plus obviously soiled vertical surfaces, frequently touched surfaces (e.g. light cords and switches, door knobs), and durable patient equipment (e.g., bed, night stand, over bed table, wheelchair, commode). Curtain dividers also should be changed and laundered as appropriate for the curtain fabric. There is no need to routinely clean and disinfect walls, window drapes, and other vertical surfaces unless visibly soiled; disinfectant fogging for purposes of air disinfection is not recommended.
- Patient care equipment such as mechanical ventilators, pulse oximeters, and blood pressure cuff, should be cleaned and disinfected in accordance with current CDC recommendations, manufacturer's instructions and facility procedures for critical, semi-critical and non-critical surfaces.

Cubicles or rooms in outpatient areas where patients with suspected MERS are evaluated should be cleaned and disinfected before another patient is seen or cared for in that environment. Areas that should be specifically targeted for cleaning include the examination table and horizontal surfaces that may have been touched by the patient or healthcare provider.

D. Travel Measures

As of June, 2017, Centers for Disease Control and Prevention (CDC) does not recommend that travelers to countries in or near the Arabian Peninsula change travel plans. Travelers to affected areas should follow respiratory and hygiene prevention measures, and should seek medical care if they develop a fever and cough or shortness of breath within 14 days after returning from their trip. See CDC Travelers' Health MERS in the Arabian Peninsula for more detailed information.

CDC is recommending airline contact investigations if a case is known to have been symptomatic during or shortly after an air flight. Investigations will involve interviewing passengers and crew, referring symptomatic contacts for medical evaluation, and advising monitoring of asymptomatic contacts for 14 days. Any contacts developing symptoms should be isolated and undergo medical evaluation. After 14 days, contacts should have a final interview to assure that no symptoms occurred.

ACKNOWLEDGEMENTS

This document was created from information from the Centers for Disease Control and Prevention. http://www.cdc.gov/coronavirus/mers/index.html and adapted from Public Health - Seattle and King County.

UPDATES

May 2014: Section 2 was updated with case counts and epidemiologic information; section 3 with newer recommendations on evaluation for MERS-CoV in PUIs; and section 4 with newer testing recommendations from CDC.
July 2014: Section 2 was updated with case counts and affected countries; section 3 with updated case classification descriptions.
June 2015: Section 1 was updated with the CDC MERS PUI Report Form; section 2 with new countries affected.
August 2015: Section 2 was updated with new countries affected.
August 2017: Quick reference sheet added to Guideline. Section 2 was updated with case counts and countries affected.
September 2017: Corrected links to laboratory test requisition form and updated requirements for reporting PUI to CDC.