



JEFFERSON COUNTY PUBLIC HEALTH

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To: Jefferson County Health Care Providers

From: Thomas Locke, MD, MPH, Jefferson County Health Officer

Re: **Health Care Provider Advisory: Measles Outbreak in San Juan County**

Situation Report: On Sunday, March 30 an unvaccinated adult male who had recently returned from a trip to Asia was diagnosed with measles (rubeola). His onset of rash was March 25 and his period of maximum communicability was from March 21 to March 29. The measles infected individual was present at multiple restaurants and public gatherings, exposing 67 employees and hundreds of members of the general public. San Juan County has some of the lowest vaccination rates of school age children in the State and the potential for secondary measles cases is high.

Measles Basics: Measles is an acute viral disease that is among the most contagious diseases known and can have life threatening complications including pneumonia and encephalitis. Prodromal symptoms consisting of cough, rhinitis, sore throat, conjunctivitis, and fever (>101 degrees F) usually begin 10-12 days after infection and progress to a generalized rash, starting on the face. Koplick's spots (blue white spots on the bright red background of the buccal mucosa) are considered pathognomonic and usually precede the generalized rash. Measles patients are often very sick and seek medical care either during the prodromal period or shortly after rash onset. Up to 30% of measles cases have significant complications. Pregnant women, infants, the elderly, and the immunosuppressed are at highest risk for complications.

Nationally, measles was declared to be eliminated from the United States in the year 2000. Unfortunately, annual case rates have been increasing since that time due to declining vaccination rates and importation of the virus from areas of the world where it remains endemic. 2013 saw the highest number of measles cases in the U.S. in the past decade with large outbreaks in unvaccinated communities occurring in New York and Southern California. Immunity in the general population must exceed 95% in order to prevent community wide outbreaks and, in recent years, has dropped far below that threshold.

Period of Communicability: The maximum period of contagion is 4 days before and 4 days after onset of the characteristic rash. Transmission is via the airborne route and through contaminated secretions. Airborne viral particles can remain suspended for up to two hours after the infected person leaves the room they were occupying. For outbreak control purposes the period of communicability is considered to be 9 days and maximum incubation period until onset of rash is 21 days.

Diagnosis: Viral culture can be performed on nasopharyngeal swabs and urine specimens. Presence of measles IgM antibodies is considered diagnostic. Up to 20% of blood tests done in the first 72 hours following rash onset can be falsely negative. Testing for IgM levels should optimally be done 72 hours or later after rash onset and through the Washington State Public Health Lab, not commercial labs, due to the urgency of establishing the diagnosis in a timely fashion.

Control Measures: Following identification and isolation of cases, assessment of immunity and prompt vaccination of exposed susceptibles are the principle control strategies. Birth before 1957, two doses of MMR vaccine, or serological proof of immunity are considered adequate tests of immunity for the general public. **For health care workers, birth before 1957 (or a past history of clinical measles) is no longer considered sufficient evidence of immunity – a record of at least 2 doses of MMR vaccine or an adequate anti-measles IgG titer are required to confirm measles immunity.** Susceptible individuals who are exposed to measles should receive two doses of MMR, the first within 72 hours of exposure and the second after 4 or more weeks. High dose immune globulin is also used for high risk household contacts and exposed infants, pregnant women, and the immunosuppressed.

Active Surveillance and Proactive Response: Measles cases can occur up to 21 days after exposure. Patients will typically present with non-specific upper respiratory symptoms, fever, and a generalized rash. Patients with a history of travel to San Juan Island during March 21-March 29 and rash illness should be evaluated with a high index of suspicion for measles. Patients suspected of having measles should wear a mask before entering a health care facility, be quickly moved to a private room and evaluated promptly. A nasopharyngeal swab (Dacron) and urine specimen should be collected as well as serum for IgM testing. After the suspect patient leaves the health care facility, the exam room should remain unoccupied for at least 2 hours followed by disinfection of environmental surfaces. Health care providers should wear N-95 masks during exams.

Suspect and confirmed measles cases should be reported to the Jefferson County Public Health immediately. Blood tests and cultures should be sent to the Washington State Public Health Lab (unless clinical suspicion is low) to facilitate timely testing. Case reports can be made by calling 385-9400 during regular business hours. After hours cases should be reported to the Regional Duty Officer by calling 360-415-2005 and leaving a call-back number.