Public Health
HEALTH AND HUMAN SERVICES

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TO: All North Carolina Health Care Providers

FROM: Megan Davies, MD, State Epidemiologist and Chief, Epidemiology Section
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SUBJECT: Measles in Wake County

SUMMARY:
On 8/1/2016, Wake County Human Services and the North Carolina Communicable Disease Branch were notified of an unvaccinated young adult male who returned from travel to Europe on 7/24/2016 and had a rash onset on 7/28/2016 or 7/29/2016, with positive measles IgM and PCR. During his infectious period, he potentially exposed persons at multiple locations in Wake County including RDU International Airport, Hunter Street Park, Cary YMCA, NCSU Lee Residence Hall, UPS Store-Kildaire Farm Road, Coastal Credit Union-Kildaire Farm Road, SportsHQ-Cary, NextCare Urgent Care-Kildaire Farm Road, and WakeMed Cary Emergency Department.

Measles (Rubeola) is a highly infectious viral disease that can be spread through coughing, sneezing, and contact with secretions from the nose, mouth, and throat of an infected person. Rapid detection is necessary so that appropriate control measures can be quickly implemented. The average incubation period for measles is 14 days, with a range of 7–21 days. Typically, illness begins with a fever ≥ 101 °F, cough, coryza, and conjunctivitis. Koplik spots may be visible on the buccal mucosa. After 3–7 days of illness, this stage progresses to a maculopapular rash that begins on the face and generalizes to the rest of the body. When a patient with suspected measles has recently been vaccinated, they may develop a transient rash usually appearing 7–10 days after MMR vaccine. Persons with measles are contagious from four days prior to rash onset through four days after rash onset.

While every effort is being made to identify contacts, it is possible that additional cases could occur among unrecognized contacts.

RECOMMENDATIONS:
The following recommendations are provided for North Carolina clinicians in order to rapidly identify any additional cases and control the spread of infection:

- Clinicians are urged to consider the diagnosis of measles in anyone presenting with a febrile (fever ≥ 101 °F) rash illness and clinically compatible symptoms (cough, coryza, and/or conjunctivitis; Koplik spots).

- Clinicians who suspect measles should immediately contact their local health department or the state Communicable Disease Branch (919-733-3419; available 24/7) to discuss laboratory testing and initiate control measures.

- Laboratory Testing:
    - For symptomatic patients, the optimal specimen for PCR and viral culture testing is an oropharyngeal or nasopharyngeal swab collected within 3 days of rash onset (however, specimens collected within 10 days of rash onset may be acceptable). Serum for measles IgM testing should ideally be collected greater than 3 days after rash onset; IgM testing should only be conducted for unvaccinated individuals. Please note that specimens may only be submitted to the State Laboratory of Public Health with prior approval from the Communicable Disease Branch. Many commercial labs can also perform measles IgM testing.
    - For persons with measles-like illness who received measles vaccine 6–45 days before onset of rash, specimens for viral isolation should be obtained in addition to serologic testing. A positive IgM test cannot be used to confirm the diagnosis of measles in this situation.

- Any patient with suspected or confirmed measles should be immediately isolated, using airborne isolation precautions. Rooms occupied by a suspect or confirmed measles patient should not be used for two hours after the patient leaves.

- Notify EMS and/or the receiving facility prior to transporting or referring patients with suspected or confirmed measles to avoid additional exposures.

- Only health care workers with documented immunity (written documentation of two doses of measles containing vaccine, or laboratory evidence of immunity) to measles should attend to patients with suspected or confirmed measles.

- Health care personnel without evidence of immunity who are exposed to measles should be relieved from patient contact and excluded from the workplace/facility from the 5th day after the first exposure until the 21st day after the last exposure, regardless of whether they received vaccine or immune globulin (IG) after the exposure.

As a reminder, vaccination with MMR vaccine is the best way to protect against measles. Clinicians should provide MMR vaccine to all unvaccinated patients who are eligible for this vaccine. CDC recommends routine childhood immunization for MMR vaccine starting with the first dose at 12 through 15 months of age, and the second dose at 4 through 6 years of age or at least 28 days following the first dose. People who are born during or after 1957 who do not have evidence of immunity against measles should get at least one dose of MMR vaccine. Health care workers should be immunized with two doses of MMR. This recent case is an opportunity to vaccinate your patients and to verify compliance.

State-supplied MMR vaccine can be used at any local health department to vaccinate contacts of the current measles case regardless of the contact's insurance type. Please contact Wake County Human Services with any specific venue exposure questions at (919) 728-5233.

Additional clinical information for providers about measles is available at: http://www.cdc.gov/measles/index.html. Please contact the North Carolina Communicable Disease Branch (919-733-3419) with any questions.