PENNSYLVANIA DEPARTMENT OF HEALTH
2019– PAHAN – 450- 07-01-ADV
Measles Cases Increasing in Pennsylvania and Guidance for Clinicians on Measles Diagnosis, Testing and Reporting

DATE:	July 1, 2019
TO:	Health Alert Network
FROM:	Rachel Levine, MD, Secretary of Health
SUBJECT:	**Measles Cases Increasing in Pennsylvania and Guidance for Clinicians on Measles Diagnosis, Testing and Reporting**
DISTRIBUTION:	Statewide
LOCATION:	Pennsylvania
STREET ADDRESS:	n/a
COUNTY:	n/a
MUNICIPALITY:	n/a
ZIP CODE:	n/a

This transmission is a "Health Advisory": provides important information for a specific incident or situation; may not require immediate action.

HOSPITALS: PLEASE SHARE WITH ALL MEDICAL, PEDIATRIC, INFECTION CONTROL, NURSING, AND LABORATORY STAFF IN YOUR HOSPITAL**; EMS COUNCILS:** PLEASE DISTRIBUTE AS APPROPRIATE; **FQHCs:** PLEASE DISTRIBUTE AS APPROPRIATE**; LOCAL HEALTH JURISDICTIONS:** PLEASE

Summary

- Increasing numbers of measles cases are being reported in Pennsylvania, all linked to international importations.
- Measles outbreaks are on-going in New York, New Jersey, and many other countries in Europe, Asia, Africa, South America, and Oceania.
- The Pennsylvania Department of Health (DOH) is sharing information about measles to encourage continued awareness of the potential of infection, review specimen collection and recommend infection control measures for patients who present with a febrile-rash illness.
- The DOH also reminds providers to immediately report suspected cases of measles to local public health authorities or to the DOH at 877-PA-HEALTH (877-724-3258).

Use of several laboratory testing modalities to confirm measles diagnosis is essential.
Recommended specimens:

- **Throat swab or nasopharyngeal swab** for real-time reverse transcription polymerase chain reaction (rRT-PCR) testing - send specimen in viral or universal transport media (VTM/UTM)
- **Urine** for rRT-PCR testing
- **Serum** for measles IgM & IgG testing

Submit above specimens with cold pack

When to suspect measles

Consider measles as a diagnosis in anyone with a febrile rash illness lasting three days or more, a temperature of 101ºF (38.3ºC) or higher, and clinically compatible symptoms (cough, coryza and/or conjunctivitis), particularly if the patient was potentially exposed to a case of measles or has recently traveled to an area with an on-going measles outbreak.

Immunocompromised patients may not exhibit rash or may exhibit an atypical rash. The incubation period for measles from exposure to rash onset is usually 14 days (range, seven to 21 days).

While most people are not at risk because they have been immunized or have had measles, the following groups of individuals are susceptible to becoming infected with measles:

- Anyone born since 1957 who has not received two doses of live measles-containing vaccine (MMR), which would include infants too young to have been immunized; persons who were vaccinated with an inactivated vaccine, which was used from 1963 through 1967, and have not been re-vaccinated; and those who refused vaccination.
- Persons whose immune systems are compromised due to disease or medication.

Measles clinical manifestations & transmission

Measles is an acute viral disease that is spread through airborne transmission of the virus or by contact with items contaminated by throat or nasal secretions. Measles disease is characterized by:

- Fever, cough, runny nose (coryza) and red, watery eyes (conjunctivitis);
- Koplik's spots, which may appear on the buccal mucosa within two or three days;
- A characteristic red, blotchy rash that appears on the face then spreads body-wide in days three through seven after symptoms onset;
- Other symptoms may include anorexia, lymphadenopathy and diarrhea (especially in infants);
- Possible complications of measles include otitis media, pneumonia, febrile seizures, and encephalitis.

Infection control considerations for suspected cases of measles

The DOH requests that all health care providers maintain a high index of suspicion for measles in persons with a febrile rash illness. Because measles is highly infectious and the virus can remain airborne up to two hours, providers should take precautions to minimize exposure if one of their patients is suspected of being infected:

- Advise patients who call about a febrile rash illness to minimize exposure to others;
- Should a suspected case present for care, place a mask on patient and isolate immediately;
- Arrange for exam in isolated area. The exam room should not be used for at least 2 hours after the measles suspect leaves;
- Consider review of vaccine records or titer reports for your staff now, to ensure that only those with evidence of immunity provide care to a suspected case of measles.

If measles is suspected, the illness should be immediately reported to DOH at 877-724-3258 or your local health department for consultation and to assist with diagnosis (including specimen testing through the Department of Health), tracking of contacts and initiation of control measures.

Measles testing

The DOH urges providers to obtain the following specimens from patients who are suspected of having measles and provide the onset date of patient's symptoms:

- Throat or nasopharyngeal swab for rRT-PCR testing
    - Send specimen in viral or universal transport media (VTM/UTM)
    - Ship on cold packs
- Urine for rRT-PCR testing
    - Collect minimum of 50 mL in sterile container
    - Ship on cold packs in leak-proof container
- Serum for measles IgM and IgG testing
    - Acute phase serum as soon as possible and convalescent serum 2-3 weeks later
    - Collect minimum of 5 mL of blood in a red-top or serum-separator tube (SST)

Presumptive Evidence of Immunity

People presumed to be immune to measles are those:

- Who were born in the US before 1957*
- Who have documentation of receipt of two doses of live measles-containing vaccine (MMR)
- Who have documentation of a positive measles IgG titer

*This is insufficient for health care workers.

Who Should Be Vaccinated?

- All children over one year of age who have not yet been vaccinated
    - Children over 13 months of age who received a first dose of MMR at least 4 weeks ago who are at risk of measles exposure may receive a second dose.
- Children between 6 months and 1 year of age who will be traveling internationally or visiting a community with an on-going measles outbreak (This dose will not count toward the primary series and two additional doses after one year of age will still be required.)
- Adults who have not yet been vaccinated
- Adults who will be traveling internationally or visiting a community with an on-going measles outbreak who have not previously received two doses of MMR.

Post Exposure Prophylaxis for Those with Known Exposure to a Measles Case

- MMR given to nonimmune individuals within 72 hours of exposure can prevent measles disease
    - For adults and children without contraindications who have not previously received two doses of MMR if at least one month has elapsed since the most recent dose
    - For infants between 6 and 11 months of age, a dose of MMR can be given but will not count as part of the primary series
- Immune globulin (0.50 mL/kg, max 15 mL) given within 6 days of exposure for high risk, nonimmune exposed individuals can reduce the likelihood of measles disease and complications:
    - For infants under 6 months of age, IM

- For nonimmune pregnant women and severely immunocompromised individuals, IVIG is recommended

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Categories of Health Alert messages:
Health Alert: conveys the highest level of importance; warrants immediate action or attention.
Health Advisory: provides important information for a specific incident or situation; may not require immediate action.
Health Update: provides updated information regarding an incident or situation; no immediate action necessary

This information is current as of July 1, 2019, but may be modified in the future. We will continue to post updated information regarding the most common questions about this subject.