

<b>DATE:</b>	3/20/2024
<b>TO:</b>	Health Alert Network
<b>FROM:</b>	Debra L. Bogen, MD, FAAP, Acting Secretary of Health
<b>SUBJECT:</b>	Increasing Global and Domestic Measles Cases
<b>DISTRIBUTION:</b>	Statewide
<b>LOCATION:</b>	Statewide
<b>STREET ADDRESS:</b>	n/a
<b>COUNTY:</b>	n/a
<b>MUNICIPALITY:</b>	n/a
<b>ZIP CODE:</b>	n/a

**This transmission is a “Health Advisory” which provides important information for a specific incident or situation and may not require immediate action.**

**HOSPITALS:** PLEASE SHARE WITH ALL MEDICAL, PEDIATRIC, NURSING AND LABORATORY STAFF IN YOUR HOSPITAL; **EMS COUNCILS:** PLEASE DISTRIBUTE AS APPROPRIATE; **FQHCs:** PLEASE DISTRIBUTE AS APPROPRIATE **LOCAL HEALTH JURISDICTIONS:** PLEASE DISTRIBUTE AS APPROPRIATE; **PROFESSIONAL ORGANIZATIONS:** PLEASE DISTRIBUTE TO YOUR MEMBERSHIP; **LONG-TERM CARE FACILITIES:** PLEASE SHARE WITH ALL MEDICAL, INFECTION CONTROL, AND NURSING STAFF IN YOUR FACILITY

**Summary**

- On March 18, 2024, the CDC released a [Health Advisory](#) informing the public of an increase in global and domestic measles cases since January 1, 2024, and to reinforce the importance for all people to be up to date on their vaccinations including the Measles, Mumps and Rubella (MMR) vaccination.
- Pennsylvania has also seen an increase in measles cases since January 1, 2024. Between January 1 and March 18, 2024, there have been three cases of measles diagnosed in Pennsylvania as compared with zero cases during the same period in 2023.
- Many international travel destinations including Austria, the Philippines, Romania, and the United Kingdom are experiencing measles outbreaks.
- Providers should have an increased suspicion for measles in patients who are not immune and present with a febrile rash illness and follow the proper recommendations for testing and infection control measures.
- DOH continues to encourage all Pennsylvanians to remain up to date with their recommended vaccines including the Measles, Mumps and Rubella (MMR) vaccine especially when traveling internationally.
- The Pennsylvania Department of Health (DOH) 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).

**Background**

On March 18, 2024, the Centers for Disease Control and Prevention (CDC) issued a [Health Alert Network \(HAN\) Health Advisory](#) to inform clinicians and public health officials of an increase in global and U.S. measles cases and to provide guidance on measles prevention for all international travelers aged ≥6 months and all children aged ≥12 months who do not plan to travel internationally.

[Measles](#) is a highly contagious, acute viral illness that is transmitted by direct contact with infectious droplets or by airborne spread when an infected person breathes, coughs, or sneezes. The virus can

remain infectious in the air and on surfaces for up to two hours after an infected person leaves the area. Measles can cause serious health complications, including hospitalization and death. One person infected with measles can infect 9 out of 10 unvaccinated individuals with whom they come in close contact.

From January 1 to March 14, 2024, CDC has been notified of 58 confirmed [U.S. cases of measles](#) across 17 jurisdictions, including seven outbreaks in seven jurisdictions compared to 58 total cases and four outbreaks reported the entire year in 2023. Among the 58 cases reported in 2024, 54 (93%) were linked to international travel. From January 1 to March 14, 2024, Pennsylvania reported 3 cases of measles as compared to zero cases of measles in the same period in 2023.

Most cases reported in the U.S. in 2024 have been among children aged 12 months and older who had not received MMR vaccine. Many countries, including travel destinations such as Austria, the Philippines, Romania, and the United Kingdom, are experiencing measles outbreaks. To prevent measles infection and reduce the risk of community transmission from importation, all U.S. residents traveling internationally, regardless of destination, should be current on their MMR vaccinations.

Healthcare providers should ensure children are current on routine immunizations, including MMR vaccine. Two doses of MMR vaccine provide better protection (97%) against measles than one dose (93%). Getting MMR vaccine is much safer than getting measles, mumps, or rubella. Given currently high population immunity against measles in most U.S. communities, the risk of wide-scale spread is low. However, pockets of low coverage leave some communities at higher risk for outbreaks.

### **When to suspect measles**

Consider measles as a diagnosis in anyone with a [febrile rash](#) illness lasting three days or more, a temperature of 101°F (38.3°C) or higher, and clinically compatible symptoms (cough, coryza and/or conjunctivitis), particularly if the patient was potentially exposed to a person with 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 after 1957 who has not received two doses of MMR vaccine, 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 declined 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 oral or nasal secretions. The incubation period of measles from exposure to prodrome averages 11 to 12 days. The time from exposure to rash onset averages 14 days, with a range of 7 to 21 days. Measles is highly communicable, with more than 90% secondary attack rates among exposed susceptible persons in close-contact settings. Measles is considered transmissible from 4 days before through 4 days after rash onset.

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 and 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**

[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 for up to two hours, providers should take precautions to minimize exposure if one of their patients is suspected of being infected.

Providers should consider measles as a diagnosis in anyone with fever ( $\geq 101^{\circ}\text{F}$  or  $38.3^{\circ}\text{C}$ ) and a generalized maculopapular rash with cough, coryza, or conjunctivitis who has recently been abroad, especially in countries with ongoing [outbreaks](#). When considering measles, then:

- **Isolate:** Do not allow patients with suspected measles to remain in the waiting room or other common areas of a healthcare facility; isolate patients with suspected measles immediately, ideally in a single-patient airborne infection isolation room (AIIR) if available, or in a private room with a closed door until an AIIR is available. Healthcare providers should be adequately protected against measles and should adhere to standard and airborne precautions when evaluating suspect cases, regardless of their vaccination status. Healthcare providers without evidence of immunity should be excluded from work from day 5 after the first exposure until day 21 following their last exposure. Offer testing outside of facilities to avoid transmission in healthcare settings. Call ahead to ensure immediate isolation for patients referred to hospitals for a higher level of care.
- **Notify:** Immediately notify local public health authorities or the DOH at 877-PA-HEALTH (877-724-3258) about any suspected case of measles to ensure rapid testing and investigation. States will report measles cases to CDC.
- **Test:** Follow CDC's testing recommendations and collect either a nasopharyngeal swab, throat swab, and/or urine for reverse transcription polymerase chain reaction (RT-PCR) and a blood specimen for serology from all patients with clinical features compatible with measles. Additional details in the measles testing section below.
- **Manage:** In coordination with local or state health departments, provide appropriate measles post-exposure prophylaxis (PEP) as soon as possible after exposure to close contacts without evidence of immunity, either with MMR (within 72 hours) or immunoglobulin (within 6 days). The [choice of PEP](#) is based on elapsed time from exposure or medical contraindications to vaccination.

### **Measles testing**

[CDC recommends](#) that either a nasopharyngeal swab, throat swab, or urine specimen as well as a blood specimen be collected from all patients with clinical features compatible with measles.

- Guidance on collection of these specimens is provided below. 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)

For expedited testing through the [DOH labs](#), providers should contact the DOH at 877-724-3258 or their local health department.

If testing is being ordered to determine measles immunity, commercial IgG testing is recommended. Do NOT order measles IgM if the patient is asymptomatic or recently vaccinated with MMR.

### Presumptive Evidence of Immunity

People presumed to be immune to measles are those with:

- Written documentation of adequate vaccination:
  - One or more doses of a measles-containing vaccine administered on or after the first birthday for preschool-age children and adults not at high risk
  - Two doses of measles-containing vaccine for school-age children and adults at high risk, including college students, healthcare personnel, and international travelers
- Laboratory evidence of immunity
- Laboratory confirmation of measles
- A birthdate before 1957\*

\*Healthcare workers need to meet one of the first three bullets to be considered immune.

### Who Should Be Vaccinated?

- All children over one year of age who have not yet been vaccinated.
  - Schools, early childhood education providers, and healthcare providers should work to ensure students are current with [MMR vaccine](#).
  - Children over 13 months of age who received a first dose of the MMR vaccine at least 4 weeks ago who are at risk of measles exposure may receive a second dose.
- All people without evidence of immunity aged four years of age and older who have not yet been vaccinated with two doses of MMR vaccine.
- The CDC recommends that international travelers older than 6 months without evidence of immunity/prior vaccination should receive the MMR vaccine at least 2 weeks prior to departure:
  - Infants aged 6 through 11 months should receive one dose of MMR vaccine before departure. (This dose will not count toward the primary series and two additional doses after one year of age will still be required.)
  - Children aged 12 months or older should receive two doses of MMR vaccine, separated by at least 28 days.
  - Teenagers and adults without evidence of measles immunity should receive two doses of MMR vaccine separated by at least 28 days.

## Post Exposure Prophylaxis for People with Known Exposure to a Measles Case

- MMR vaccine 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 vaccine 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](#) and /or nonimmune exposed individuals can reduce the likelihood of measles disease and complications.

## Recommendations for Parents and International Travelers

- Even if not traveling, ensure that children receive all recommended doses of MMR vaccine. Two doses of MMR vaccine provide better protection (97%) against measles than one dose (93%). Getting MMR vaccine is much safer than getting measles, mumps, or rubella.
- Anyone who is not protected against measles is at risk of getting infected when they travel internationally. Before international travel, check your [destination](#) and [CDC's Global Measles Travel Health Notice](#) for more travel health advice, including where measles outbreaks have been reported.
- Parents traveling internationally with children should consult with their child's healthcare provider to ensure that they are current with their MMR vaccinations at least 2 weeks before travel. Infants aged 6 to 11 months should have one documented dose and children aged 12 months and older should have two documented doses of MMR vaccine before international travel. Depending on where you are going and what activities you plan, other vaccines may be recommended too.
- After international travel, watch for signs and symptoms of measles for 3 weeks after returning to the United States. If you or your child gets sick with a rash and a high fever, call your healthcare provider. Tell them you traveled to another country and whether you or your child have received MMR vaccine.

**For questions, please call your local health department or DOH at 1-877-PA-HEALTH (877-724-3258).**

**DOH reminds providers to immediately report suspected cases of measles to local public health authorities or to DOH at 877-PA-HEALTH (877-724-3258).**

Individuals interested in receiving future PA-HANs can register [here](#).

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; unlikely to require immediate action.

This information is current as of March 20, 2024, but may be modified in the future.