

Measles Surveillance and Prevention in Ohio for Healthcare Providers

06/13/2025

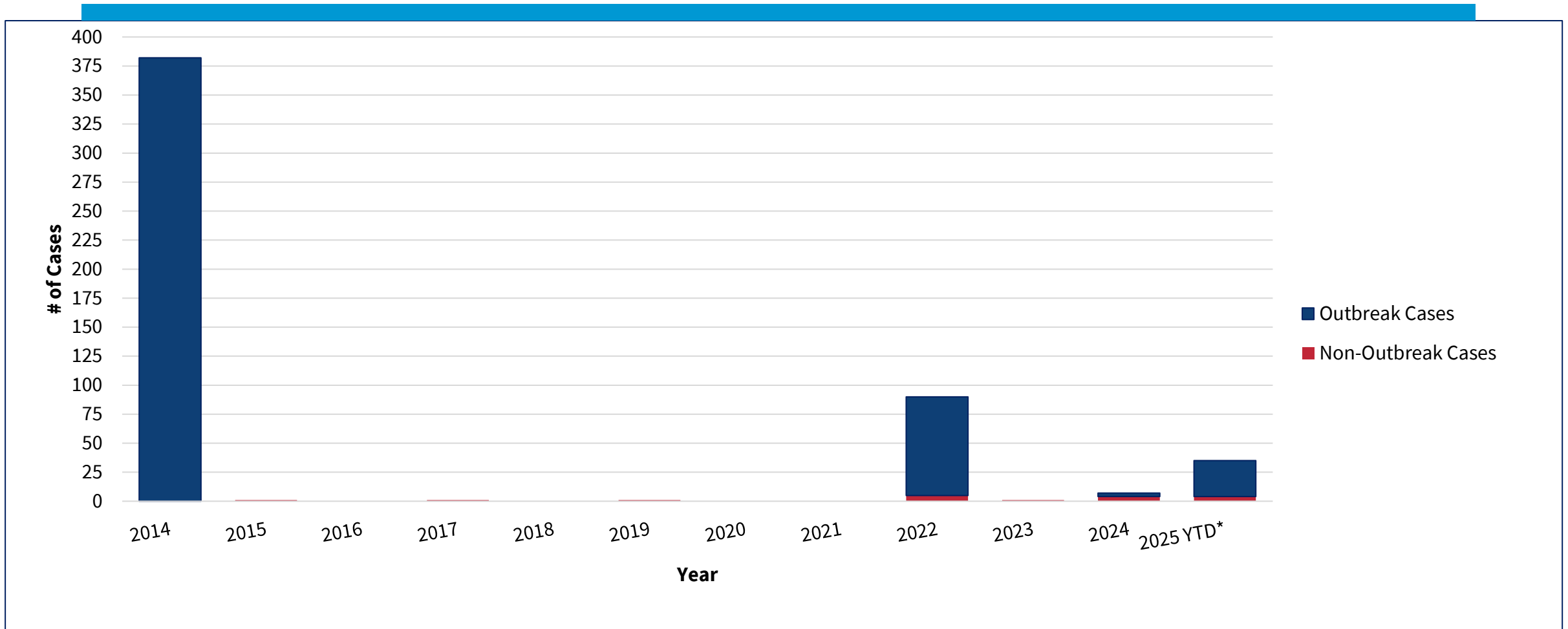
**Bureau of Infectious Diseases
Ohio Department of Health**

Objectives

- Measles activity and risk.
- Measles disease overview.
- Reporting information.
- Measles prevention.

Measles Activity and Risk

Measles Cases by Year Ohio, 2014-2025 YTD*



*Year-to-Date Data as of 06/12/2025

Source of disease data: Ohio Disease Reporting System (ODRS).

U.S. Measles Cases in 2025

Total confirmed cases (as of 6/5/2025)

- Total Confirmed Cases: 1,168.
- Hospitalized: 12% (137 of 1,168).
- Deaths: Three confirmed deaths.

Age

- Under 5 years: 339 (29%).
- 5-19 years: 439 (38%).
- 20+ years: 381 (33%).
- Age unknown: 9 (1%).

Vaccination Status

- **Unvaccinated or Unknown: 95%.**
- One MMR dose: 2%.
- Two MMR doses: 3%.

Measles Disease Overview

Measles Disease Overview

- Acute viral respiratory illness.
- Symptoms appear seven to 14 days after exposure.
 - High fever.
 - Cough.
 - Runny nose (coryza).
 - Red, watery eyes (conjunctivitis).
 - Rash (typically starts on the face or hairline and progresses downward to trunk and limbs).

Source: [CDC](#)

Measles Disease Overview

- Approximately three out of 10 people who are infected with measles will have a complication.
- Complications include:
 - Ear infections.
 - Pneumonia.
 - Encephalitis (swelling of the brain, which can lead to seizures).
 - Hemorrhagic measles.
 - Clotting disorders.
 - Death.

Sources: [CDC](#), [CDC Pink Book](#)

How Measles Spreads

The virus is transmitted by:

- Direct contact with infectious droplets.
- Airborne spread when an infected person breathes, coughs, or sneezes.

Measles is very contagious.

- Measles virus can remain infectious in the air for up to two (2) hours after an infected person leaves an area.

Source: [CDC](#)

Measles: What does it look like?



- Measles is contagious four days before the rash appears and four days after.
- Early symptoms are like a common cold or flu:
 - Runny nose (coryza).
 - Cough.
 - Red, watery eyes (conjunctivitis).
 - Fever.

Source: [CDC; Clinical Overview of Measles | Measles \(Rubeola\) | CDC](#) Image: [1-measles-rash-dr-p-marazziscience-photo-library.jpg \(597x900\)](#)

Measles: What does it look like?

- Maculopapular rash will start on the head, spreads to the trunk, and then the arms and legs.
- Sometimes immunocompromised people will not develop a rash.

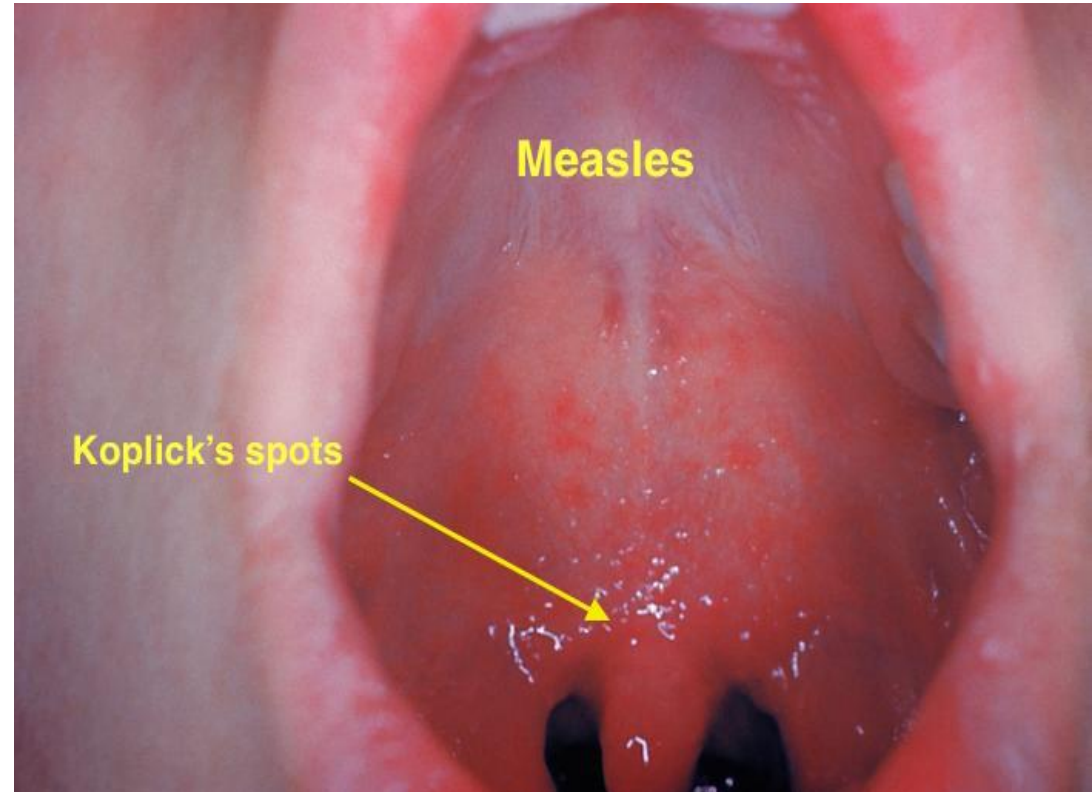


Source: [CDC; Clinical Overview of Measles | Measles \(Rubeola\) | CDC Image of measles rash.](#)

Measles: What does it look like?

- Koplik Spots can appear with measles.
- These tiny white spots may appear inside the mouth two to three days after symptoms begin.

Source: [CDC](#); [Clinical Overview of Measles](#) | [Measles \(Rubeola\)](#) | [CDC Image of Koplik spots](#).



Treatment

- There is no specific antiviral therapy for measles.
- Medical care is supportive and helps to relieve symptoms or complications, such as bacterial infections.

Reporting Information

Reporting to Local Health Department

- Consider measles as a diagnosis in anyone with a febrile illness and clinically compatible symptoms (e.g., a generalized maculopapular rash with cough, coryza, or conjunctivitis).
- Clinical history should include:
 - Assessment for known **contact** to someone with measles;
 - Recent **travel** to areas with measles transmission, including international travel or travel to outbreak areas within the U.S., and,
 - MMR **vaccination** status, including recent vaccination.

Reporting to Local Health Department

- Measles is a **Class A reportable disease**. If measles is suspected, facilities should implement appropriate infection prevention and control measures and report any case, suspected case, or positive laboratory result **immediately via telephone** to the local public health department in which the patient resides.
 - If patient residence is unknown, report immediately via telephone to the local public health department in which the reporting healthcare provider or laboratory is located.

Laboratory Testing

- Most common methods for confirmatory measles testing are IgM antibody and RNA by real-time PCR (RT-PCR).
- Collect **both** respiratory (oropharyngeal or nasopharyngeal) and serum specimens for testing.

Laboratory Testing

- Measles testing can be performed by commercial laboratories.
- Testing for measles virus is also available through the ODH laboratory (ODHL) for [eligible clinical specimens](#).
 - Healthcare providers should contact the local health department in which the patient resides to coordinate testing approvals.

Public Health Management

Isolation

- Persons with suspected or confirmed measles infection should isolate, including exclusion from school or childcare center, for four days following the onset of rash.
- Airborne isolation precautions are indicated for hospitalized patients for four days after the onset of rash (with rash onset considered to be day zero) in otherwise healthy individuals and for the duration of the entire illness in immunocompromised patients.

Evidence of Immunity: Healthcare Personnel (HCP)

- Presumptive evidence of immunity to measles for HCP includes:
 - Written documentation of **vaccination with two doses** of measles virus-containing vaccine (the first dose administered at age ≥ 12 months; the second dose no earlier than 28 days after the first dose); OR,
 - Laboratory evidence of immunity (measles immunoglobulin G [IgG] in serum; equivocal results are considered negative); OR,
 - Laboratory confirmation of disease; OR,
 - Birth before 1957.
- Consider vaccinating HCP born before 1957 who do not have other evidence of immunity to measles.
- During a measles outbreak, two doses of measles virus-containing vaccine are recommended for **all** HCP, regardless of year of birth.

Evidence of Immunity: non-HCP

Presumptive evidence of immunity.

- The Advisory Committee on Immunization Practices (ACIP) recommends that people who don't have presumptive evidence of immunity to measles, mumps, and rubella should get vaccinated against these diseases.
- Presumptive evidence of immunity can be established in any of the following ways:
 - Written documentation of adequate vaccines for measles, mumps, and rubella.
 - Laboratory evidence of immunity.
 - Laboratory confirmation of disease.
 - Birth before 1957.

Source: [CDC ; Measles Vaccine Recommendations | Measles \(Rubeola\) | CDC](#)

Contacts

- All contacts should provide evidence of immunity.
- Contacts who are unable to provide evidence of immunity are considered susceptible and should quarantine for 21 days after last exposure.
 - Susceptible contacts should be immunized with measles vaccine as soon after exposure as possible. **Measles vaccine given within 72 hours** after exposure may prevent or modify the disease, and **quarantine can be discontinued for those individuals (provided they are not returning to a healthcare setting)**, but they should be monitored for 21 days after exposure for signs and symptoms consistent with measles.

Contacts

- **Immune globulin (IG)** can prevent or modify measles in a susceptible person if given **within six days of exposure**. IG may be especially indicated for susceptible household contacts less than 1 year of age, pregnant women, or immunocompromised persons, for whom the risk of complications is increased.
 - If IG is administered, the monitoring and quarantine period is **extended to 28 days after last exposure**.
- Excluding HCP, contacts that can provide documentation of one dose of MMR vaccine do not need to quarantine but should be monitored for 21 days for signs and symptoms consistent with measles.

Minimize Risk of Transmission in Healthcare Settings

- Query patients with a febrile rash illness about a history of travel (including international travel or travel to outbreak areas within the U.S.), contact with foreign visitors, or possible exposure to a person with measles in the three weeks prior to symptom onset.
- Post signs at facility entrances to encourage symptomatic patients to call a designated number prior to entering to receive instructions to limit disease transmission via alternate entrance.
- Mask patients with suspected measles immediately, if tolerated, and encourage respiratory etiquette.

Minimize Risk of Transmission in Healthcare Settings

- Do not allow patients with suspected measles to remain in the waiting room or other common areas; isolate patients with suspected measles immediately in an airborne infection isolation room if one is available.
- If possible, allow only healthcare personnel with documentation of two doses of MMR vaccine or laboratory evidence of immunity to measles (i.e., measles IgG positive) to enter the patient's room.
- Healthcare personnel should wear an N95 or higher-level respirator regardless of presumptive evidence of immunity. A user seal check should be performed each time the respirator is donned.

Minimize Risk of Transmission in Healthcare Settings

- If possible, do not allow susceptible visitors in the patient room.
- Do not use the examination room for at least two hours after the possibly infectious patient leaves.
- If possible, schedule patients with suspected measles at the end of the day.
- Notify the local health department in whose jurisdiction the patient resides immediately by telephone about any patients with suspected measles.

Minimize Risk of Transmission in Healthcare Settings

- Notify any location where the patient is being referred for additional clinical evaluation or laboratory testing about the patient's suspected measles status, and do not refer patients with suspected measles to other locations unless appropriate infection control measures can be implemented at those locations. The patient must wear a mask, if feasible.
- Instruct patients with suspected measles and exposed persons to inform all healthcare providers of the possibility of measles prior to entering a healthcare facility so appropriate infection control precautions can be implemented.
- Make note of the staff and other patients who were in the area during the time the patient with suspected measles was in the facility and for two hours after they left. If measles is confirmed, exposed people will need to be assessed for measles immunity.

Measles Prevention

Measles, Mumps, Rubella (MMR) Vaccine

- The **best way to protect** against measles, mumps, and rubella.
- Recommended two-dose series in the United States.
 - First dose at 12 to 15 months.
 - Second dose at 4 to 6 years.
- The second dose of MMR can be given as early as 28 days after the first dose and be counted as a valid dose **if both doses were given after the child's first birthday.**

Source: [Measles Vaccination | Measles \(Rubeola\) | CDC](#)

Considerations for Early Vaccination: 6-11 Months

- For individuals not protected by prior immunization or disease, the Centers for Disease Control and Prevention (CDC) recommends that all persons older than six months receive MMR vaccine prior to travelling internationally or to an area with ongoing measles transmission.
- An MMR vaccine given at 6 –11 months is given **in addition** to the two recommended doses, not as a replacement dose.

MMR Vaccines

- **MMRII**

- This vaccine is for ages 6 months (minimum during outbreaks or travel to outbreak area) and older.
- May be given subcutaneously or intramuscularly.
- Minimum spacing of 28 days between doses.
- Routinely given at 12-15 months and 4-6 years.

Source: [MMR or MMRV Vaccine: Discussing Options with Parents | CDC.](#)

MMR Vaccines

- **Priorix**
 - This vaccine is for ages 6 months (minimum during outbreaks or travel to outbreak area) and older.
 - May only be given subcutaneously.
 - Minimum spacing of 28 days between doses.
 - Routinely given at 12-15 months and 4-6 years.

MMR Vaccines

- **MMRV (ProQuad)** (MMR + varicella)
 - For children 12 months through 12 years of age.
 - Must have a minimum of three months spacing between doses.
 - Not recommended for the first dose of MMR and varicella vaccines in ages 12 months through 47 months.
 - May **NOT** be used for children under 12 months.

Source: [MMR or MMRV Vaccine: Discussing Options with Parents | CDC](#).

MMR Vaccine and Adults (Non-Healthcare)

- For most adults, one dose of MMR vaccine, or other presumptive evidence of immunity, is sufficient.
- Providers generally do not need to actively screen adult patients for measles immunity in non-outbreak areas in the U.S.
- After vaccination, it is also not necessary to test patients for antibodies to confirm immunity. There is no recommendation for a catch-up program among adults for a second dose of MMR (e.g., people born before 1989 or otherwise).

MMR Vaccine and Pregnancy

- MMR vaccine is a live vaccine, meaning it contains a weakened version of the virus. Live vaccines should **not** be given during pregnancy.
- If a woman is not vaccinated, they should be given the MMR vaccine at least one month or more **before** pregnancy.
- If a pregnant woman is not vaccinated, they cannot receive the MMR vaccine until after the delivery, ideally before discharge from the hospital.

Resources for Clinical Audiences

- [Healthcare Providers: Stay Alert for Measles Cases, CDC, April 8, 2025.](#)
- [Clinical Overview of Measles, CDC, July 15, 2024.](#)
- [Interim Infection Prevention and Control Recommendations for Measles in Healthcare Settings, CDC, April 12, 2024.](#)
- [Manual for the Surveillance of Vaccine-Preventable Diseases, Chapter 7: Measles, CDC, May 13, 2019.](#)

Resources for Educating Parents

- [Preventing Measles Before and After Travel Fact Sheet, CDC, August 14, 2024.](#)
- [Protect Your Child from Measles Infographic, CDC May 9, 2024.](#)
- [Talking with Parents about Vaccines for Infants, CDC, rev. April 2018.](#)
- [Preparing for Questions Parents May Ask about Vaccines, CDC, rev. January 2019.](#)

QUESTIONS?

[ODH.OHIO.GOV](https://odh.ohio.gov)



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