



Measles Tip Sheet

Background

In 2000, measles was declared eliminated from the US. Measles cases and outbreaks still occur every year in the US, however, because measles is commonly transmitted in many parts of the world, including countries in Europe, the Middle East, Asia, the Pacific, and Africa. Prompt recognition, reporting, and investigation of measles is important. The spread of the disease can be limited with early case identification and public health response including vaccination and quarantine of susceptible contacts without presumptive evidence of immunity. Laboratory confirmation is essential for all measles outbreaks.

In 2019, the Southeast Michigan area experienced a large measles outbreak resulting in 42 cases. In addition, there were 4 cases who developed measles symptoms after traveling internationally. The Michigan outbreak in 2019 was reflective of the increased national measles activity. In 2019 there were 1,274 individual cases of measles confirmed in 31 states. This was the largest number of measles cases reported nationally since 1992. Most of the US cases in 2019 were among people who were not vaccinated against measles. Measles is more likely to spread and cause outbreaks in US communities where groups of people are unvaccinated.

Measles' elimination status has been maintained for over 20 years. The risk for measles in much of the population is relatively low but pockets of unvaccinated individuals along with an increase in the number of unvaccinated or under-vaccinated individuals traveling abroad and bringing measles to the US have the potential to cause outbreaks.

Clinical Description

Measles symptoms appear 7 to 14 days after contact with the virus and typically include high fever (may spike to over 104°F), cough, runny nose, and watery eyes. Koplik spots (tiny white spots) may appear inside the mouth 2-3 days after symptoms begin. Measles rash appears 3 to 5 days after the first symptoms.

Transmission

An individual is infectious from the 4 days prior to their rash development to the 4 days after. Measles is transmitted person to person via airborne transmission or droplets from respiratory secretions of infected persons. Droplets from the infected person can be aerosolized and remain suspended in the air for an extended period of time (documented up to 2 hours). Due to the highly contagious nature of measles, determining close contacts and where the case was during their infectious period is crucial to understanding who may have been exposed in public locations (doctor's office, hospital, grocery store, mall, school, etc.).

Investigating a Case

Measles is required to be reported within 24 hours of clinical or laboratory diagnosis. The Michigan Department of Health and Human Services (MDHHS) Immunization Division has developed the [Measles Investigation Guidelines](#) for local public health to follow during the investigation of a case and/or outbreak of measles in their jurisdiction. Below are some initial steps to take when you receive a report of a measles case:

- Determine the exact clinical description and vaccination history.
- Ensure the proper collection and shipment of specimens to the MDHHS Bureau of Laboratories (BOL).

- Contact your [Regional Epidemiologist](#) and the MDHHS Bureau of Immunizations by phone, 517-335-8159. Be sure to speak with the Division of Immunization Vaccine Preventable Disease Epidemiologist or a member of the Epidemiology Unit.
- Ascertain travel history.
- Collect a list of possible contacts and public venues that the case was at during their infectious period (doctor's office, hospital, grocery store, mall, school, etc.).
- Assess immunity of contacts (immunization history, physician-certified disease history, or serologic of immunity).

Additional support and specimen testing approval for measles case investigations can be provided by your [Regional Epidemiologist](#) and the Vaccine Preventable Disease Epidemiologist. To contact the Vaccine Preventable Disease Epidemiologist please call the MDHHS Bureau of Immunizations 517-335-8159 or via their cell phone 517-331-4964.

Sample Collection

The MDHHS BOL performs PCR testing on throat and nasopharyngeal specimens and measles IgM antibodies on serum. The BOL has developed [measles specimen collection instructions](#) and a [specimen collection checklist](#) that can be shared with healthcare providers wanting to test a suspected case of measles.

Additional Resources

- [CDC Measles Fact Sheet](#)
- [Measles Case Definition](#)