



# Clinician Update on Measles Cases and Outbreaks in the United States

Clinician Outreach and Communication Activity (COCA) Call

Thursday, September 11, 2025

# Free Continuing Education

- Free continuing education is offered for this webinar.
- Instructions on how to earn continuing education will be provided at the end of the call.

# Continuing Education Disclosure

- In compliance with continuing education requirements, all planners and presenters/moderators must disclose all financial relationships, in any amount, with ineligible companies over the previous 24 months as well as any use of unlabeled product(s) or products under investigational use.
- CDC, our planners, and presenters/moderators wish to disclose they have no financial relationship(s) with ineligible companies whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients.
- Content will not include any discussion of the unlabeled use of a product or a product under investigational use.
- CDC did not accept financial or in-kind support from ineligible companies for this continuing education activity.
- CDC complies with applicable Federal civil rights laws and does not discriminate based on race, color, national origin, age, disability, religion, or sex. To learn more visit: <https://www.hhs.gov/civil-rights/for-individuals/nondiscrimination/index.html>.

# Objectives

At the conclusion of today's session, the participants will be able to accomplish the following:

- Determine which adults may need measles vaccination.
- Discuss how to identify and screen suspected cases of measles using appropriate measles testing.
- Explain the importance of MMR vaccination to eligible patients.

# To Ask a Question

- **Using the Zoom Webinar System**
  - Click on the “Q&A” button
  - Type your question in the “Q&A” box
  - Submit your question
- If you are a patient, please refer your question to your healthcare provider.
- If you are a member of the media, please direct your questions to CDC Media Relations at 404-639-3286 or email [media@cdc.gov](mailto:media@cdc.gov).

# Today's Presenters

## **CAPT David Sugerman, MD, MPH, FACEP, USPHS**

Senior Scientist, 2025 Measles Response

Division of Viral Diseases

National Center for Immunization and Respiratory Diseases

Centers for Disease Control and Prevention

## **Adria Mathis, MSPH**

Epidemiologist

Division of Viral Diseases

National Center for Immunization and Respiratory Diseases

Centers for Disease Control and Prevention

## **Dan Filardo, MD**

Medical Officer

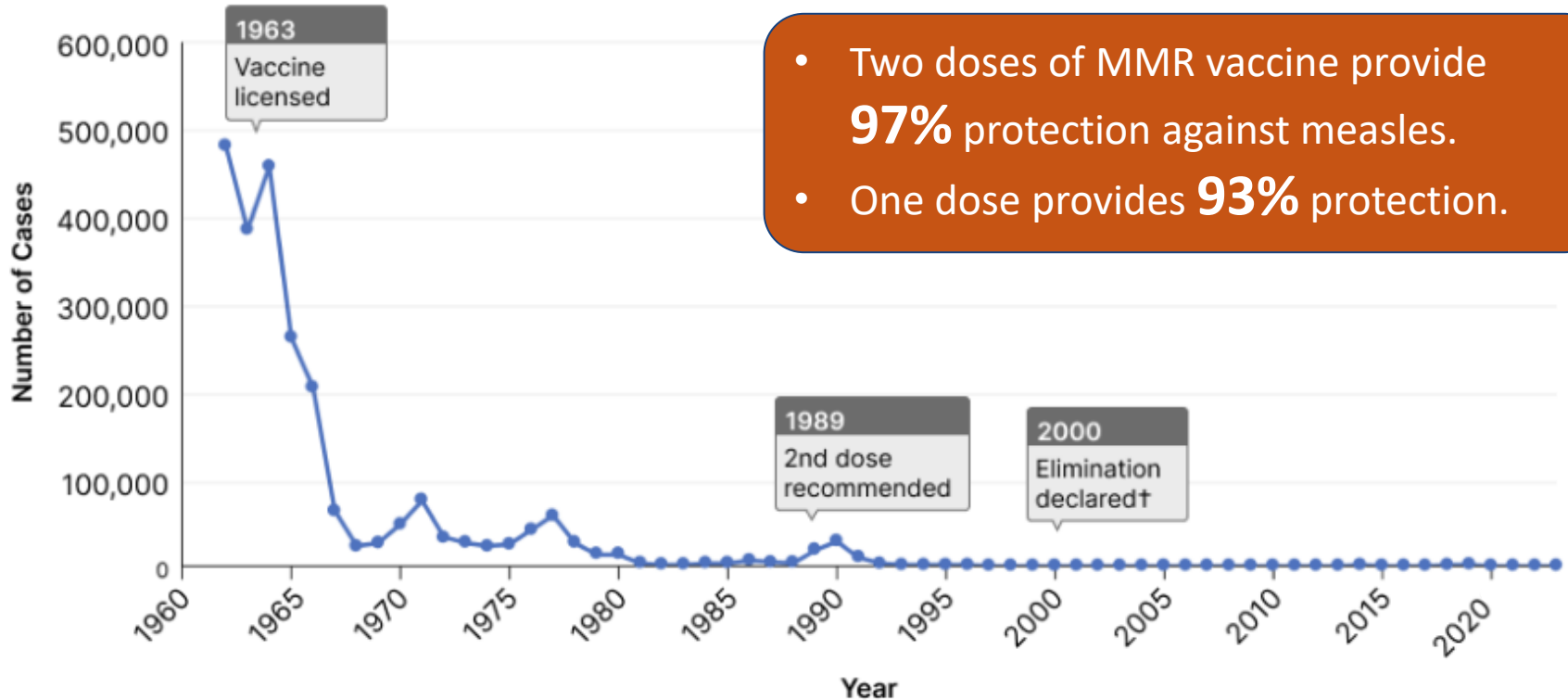
Division of Viral Diseases

National Center for Immunization and Respiratory Diseases

Centers for Disease Control and Prevention

# History of Measles and MMR Vaccination in the United States

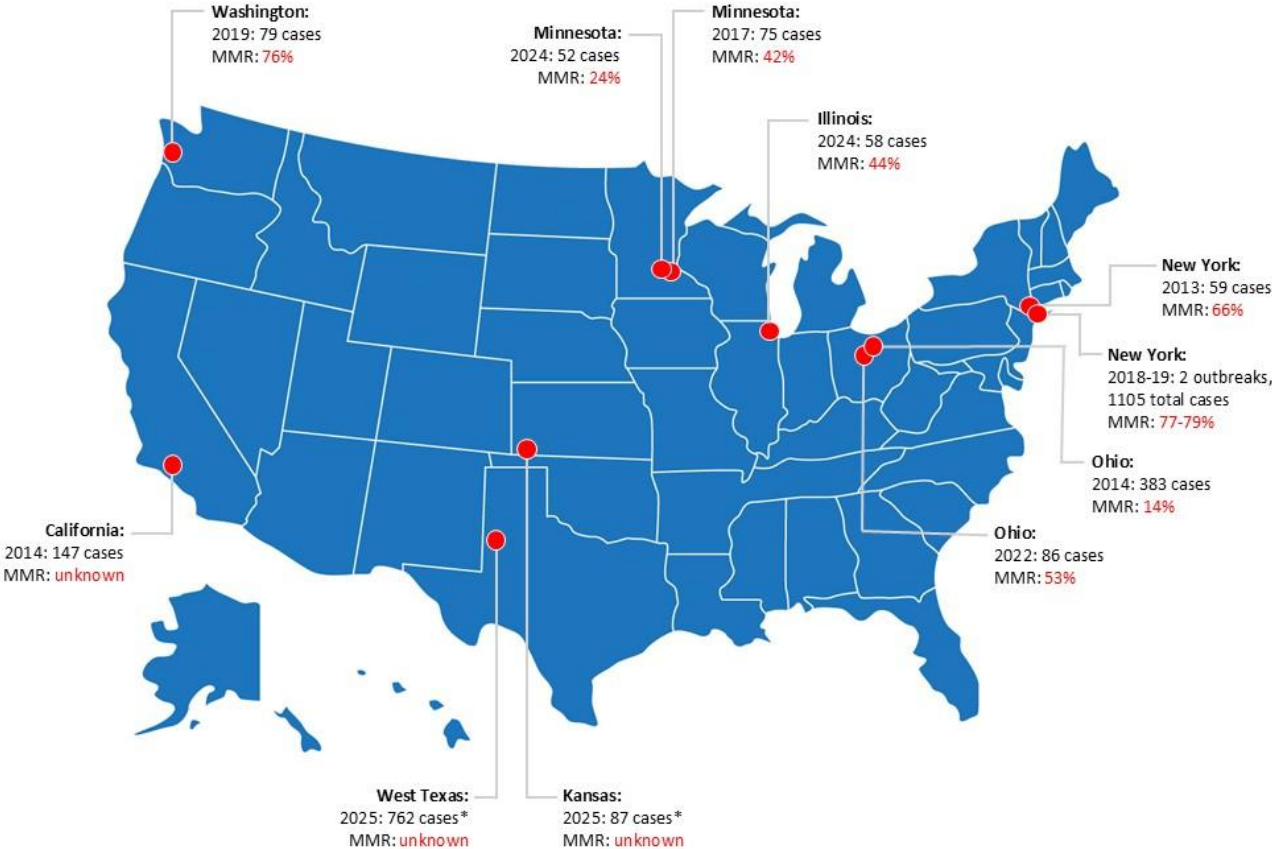
# History of measles cases in the U.S., 1962–2023



- Two doses of MMR vaccine provide **97%** protection against measles.
- One dose provides **93%** protection.

†Measles was declared eliminated in the U.S. in 2000 by WHO/PAHO. Elimination is defined as the absence of endemic measles transmission in a region for ≥12 months in the presence of a well-performing surveillance system.

# Most large measles outbreaks since elimination were in undervaccinated, close-knit communities



\*Data as of September 9, 2025

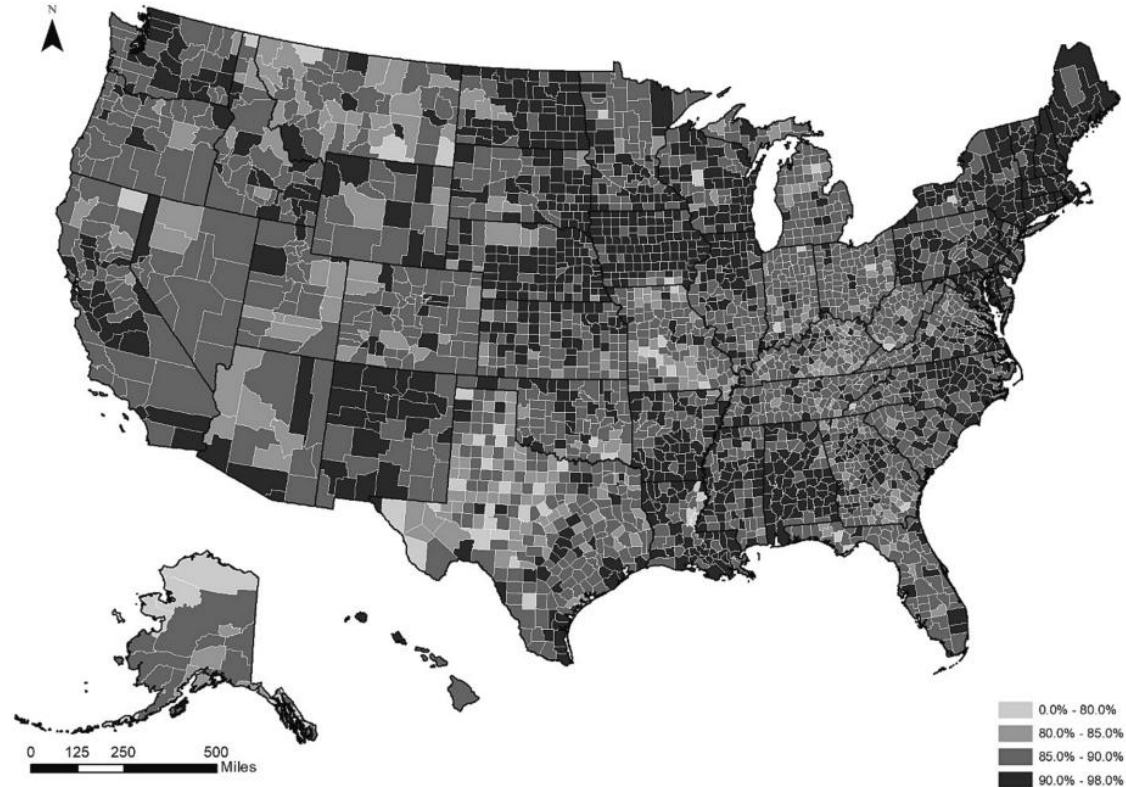


# National and State Level 2-dose MMR Coverage among Kindergarteners: 2019/20      2024/25➔

School Year	MMR (2 doses)	MMR <2 or no doses
2019-20	95.2%	194,797
2020-21	93.9%	220,992
2021-22	93.0%	267,425
2022-23	93.1%	261,282
2023-24	92.7%	280,508
2024-25	92.5%	285,755

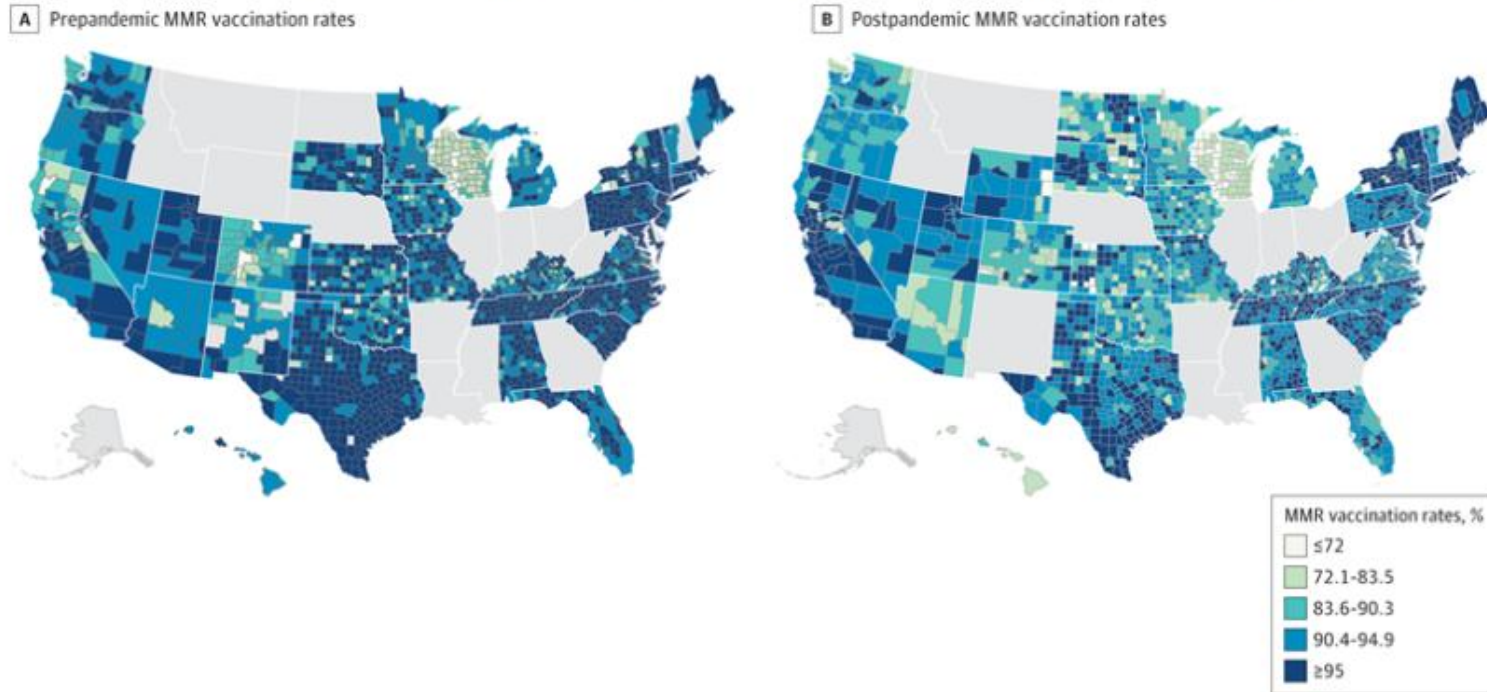
# U.S. MMR vaccine coverage rates vary considerably

County-level coverage with  $\geq 1$  dose of MMR vaccine at 24 months of age, 2012-2016 birth cohort



# MMR rates dropped after the COVID-19 pandemic

Figure 2. County-Level Measles-Mumps-Rubella (MMR) Vaccination or Complete Immunization Series Rates



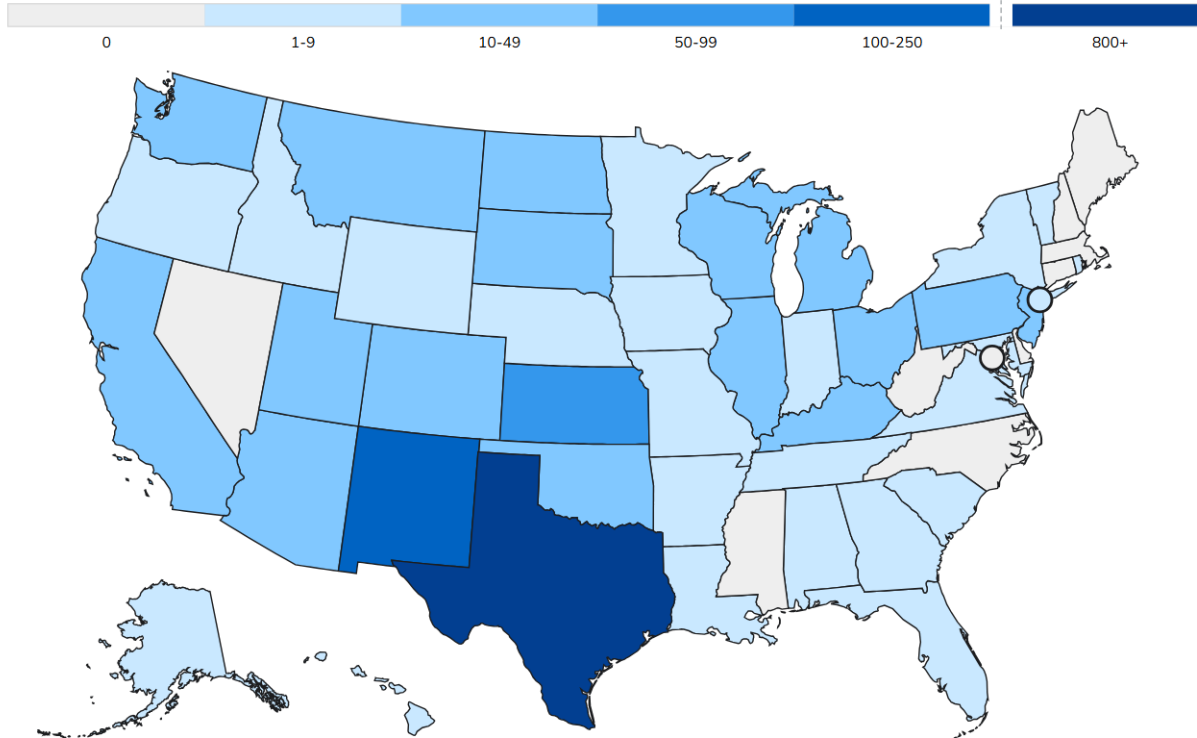
Dong E, Saiyed S, Nearchou A, Okura Y, Gardner LM. Trends in County-Level MMR Vaccination Coverage in Children in the United States. *JAMA*. Published online June 02, 2025.

# Where we are today

- **Currently, maintaining measles elimination, despite record number of cases and outbreaks**
- **Risk for widespread measles to the general population remains low**
- **Global measles activity remains high**
- **Communities with low MMR vaccination coverage are at increased risk of outbreaks**

# Measles Surveillance, 2025

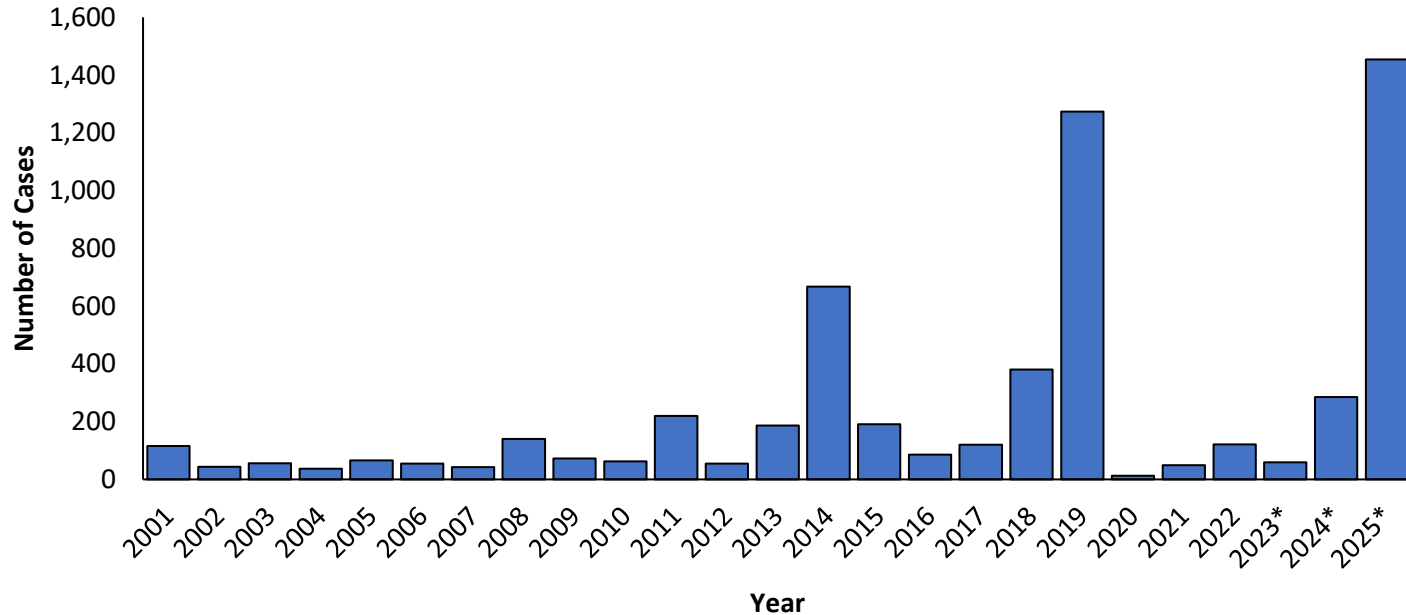
# As of September 9, 1,454 confirmed measles cases have been reported in the United States in 2025



1,433 (99%) cases were among U.S. residents, reported by 42 jurisdictions

# Annual U.S. measles cases, 2001–2025

- **2001–2024:** Median 79 cases per year (range: 13–1,274)
- **2025:** 1,454 cases



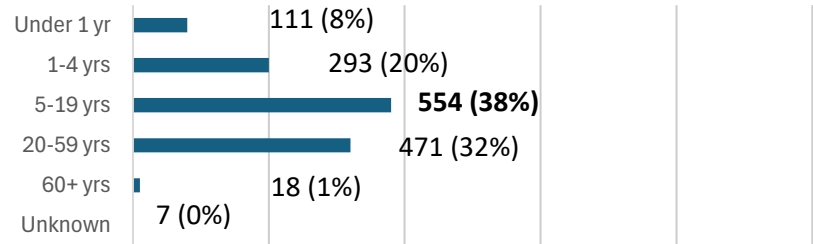
\*2025 data as of September 9, 2025. Data are preliminary and subject to change

[Measles Cases and Outbreaks](#) | [Measles \(Rubeola\)](#) | [CDC](#)

# Demographic and clinical characteristics of U.S. measles cases, 2025

- **Median age: 12 years (range: 0–75 years)**
- **12% of patients hospitalized**
  - 95% unvaccinated or unknown
  - 4% one MMR dose
  - 1% two MMR doses
- **3 deaths**

## Age of Patients



## Vaccination Status of Patients



## Hospitalizations



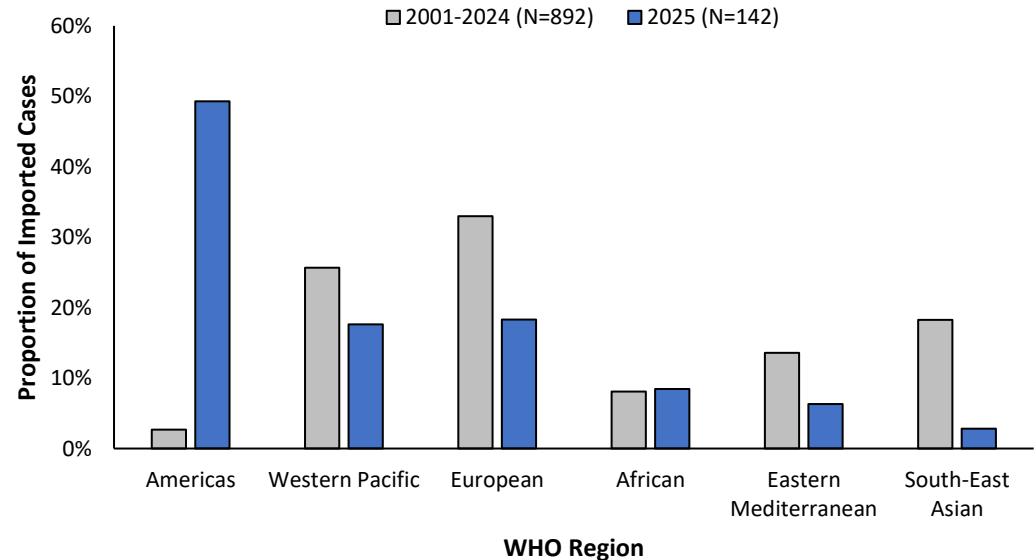
Data as of September 9, 2025. Data are preliminary and subject to change.

[Measles Cases and Outbreaks](#) | [Measles \(Rubeola\)](#) | [CDC](#)

# Internationally imported measles cases in the United States

- There have been **142 internationally imported measles cases** reported in 2025
  - More importations have been reported to date in 2025 than in any other year post-elimination
- Importations have occurred from countries in all 6 WHO regions
  - In 2025, half of importations (49%) have been reported from countries in the Region of the Americas
  - **46% of all importations came from travel to and from Canada and Mexico**

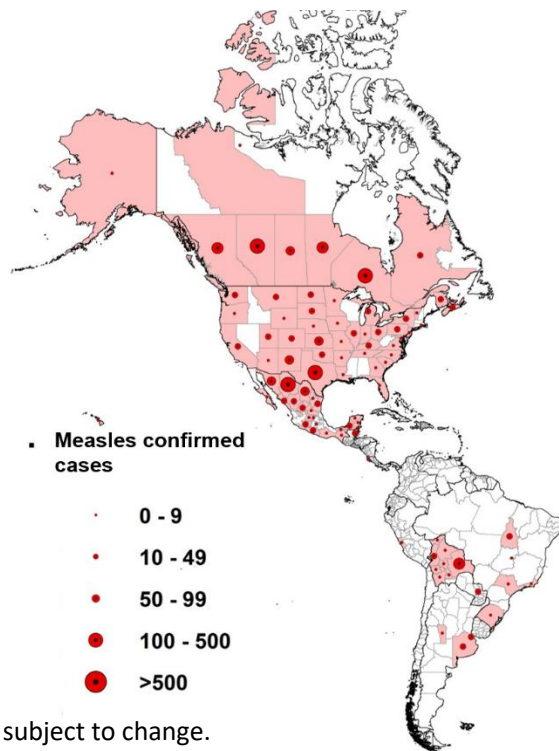
Proportion of internationally imported cases of measles in the United States by WHO region



# Measles in the Region of the Americas, 2025

Spatial distribution of confirmed measles cases in the Americas, 2025

Country	No. of cases	Week of Last Case
Canada	4,849	8/30/25
Mexico	4,452	8/30/25
Unites States	1,454	8/6/25
Bolivia	274	8/23/25
Brazil	22	8/2/25
Argentina	35	6/28/25
Belize	34	6/28/25
Paraguay	24	8/9/25
Peru	4	5/17/25
Costa Rica	1	5/17/25
<b>Total</b>	<b>11,103</b>	



- This is a **33-fold increase** in measles cases compared to the same period in 2024 (339 cases reported during January–August 2024)
- In 2025\*, there have been **22 deaths** reported among unvaccinated people in Mexico (18), the U.S. (3), and Canada (1)

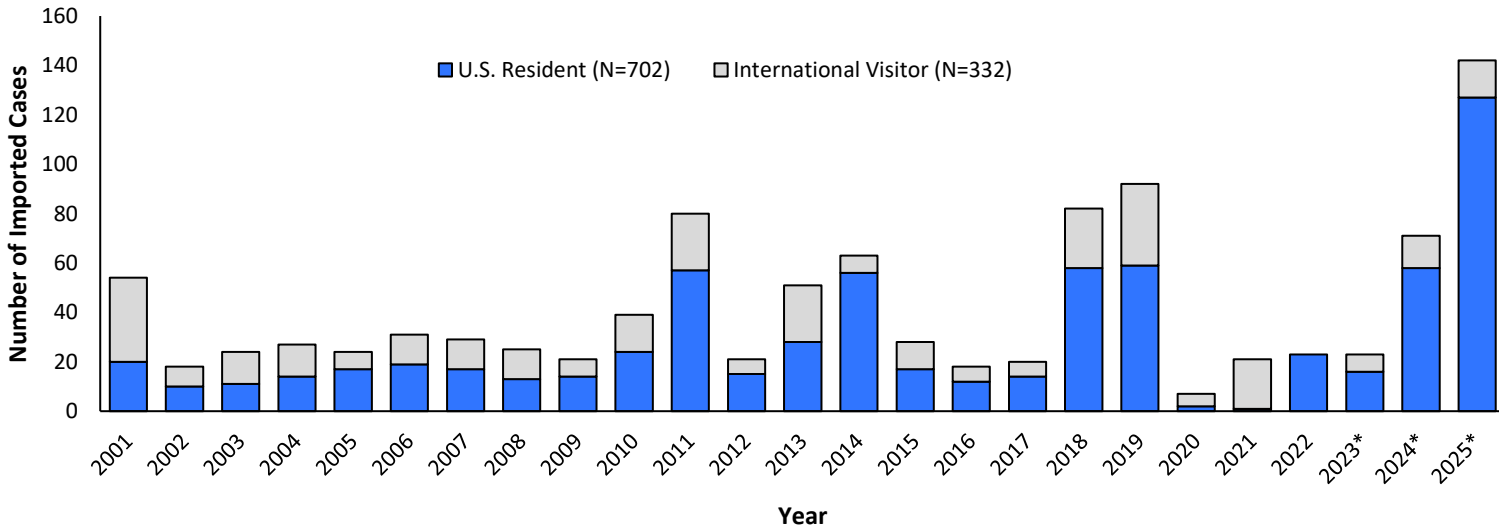
Data as of September 9, 2025. Data are preliminary and subject to change.

Data available from: [Measles and Rubella Weekly Monitoring Report — Canada.ca](#); [Presentación de PowerPoint](#); [Measles/Rubella bi-Weekly Bulletin - PAHO/WHO](#) | [Pan American Health Organization](#)

# Measles cases are imported primarily by unvaccinated U.S. residents who traveled abroad

- **2001–2025: Total of 1,034 importations**
- **2001–2024:** Median 26 importations per year (range: 7–92)
- **2025:** 142 importations

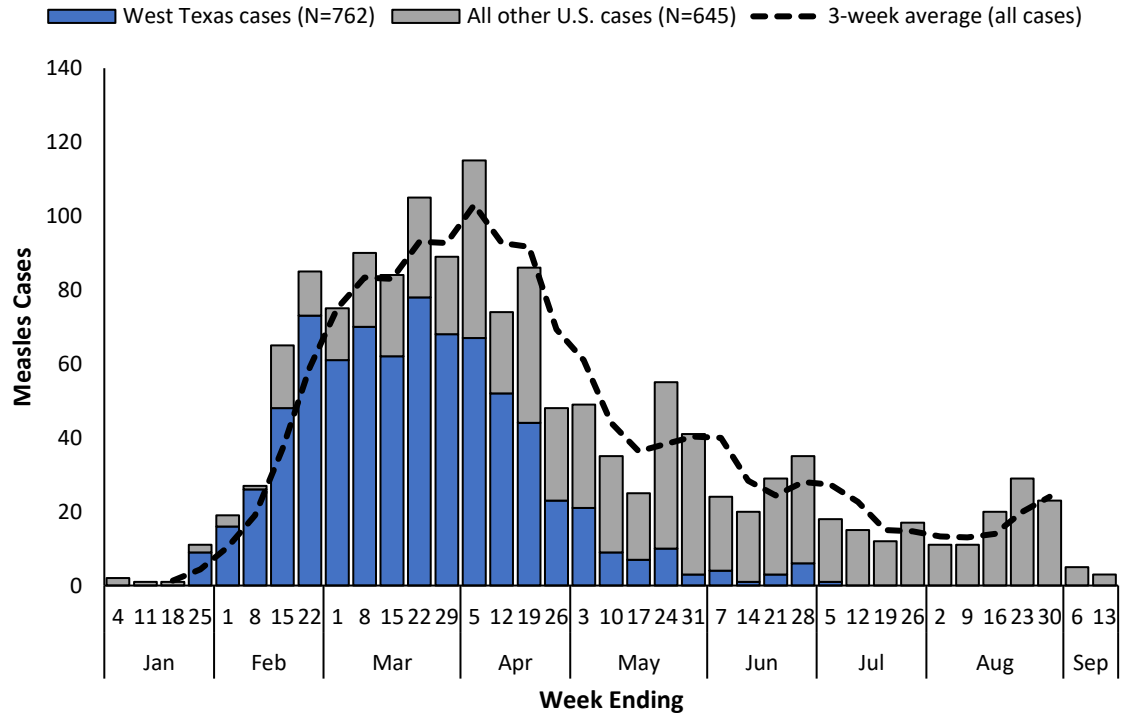
Overall, 702 (68%) of measles importations from 2001 to 2025 occurred among U.S. residents



\*2025 data as of September 9, 2025. Data are preliminary and subject to change.

# Measles outbreaks in the United States, 2025

- There have been 37 measles outbreaks reported in 2025
- Most outbreaks have been small, household outbreaks
  - 30 of all outbreaks (81%) have included  $\leq 10$  cases
- West Texas outbreak cases accounted for 52% of all reported measles cases in 2025 (762 of 1,454)



Data as of September 9, 2025. Data are preliminary and subject to change.

A measles outbreak is defined as a chain of transmission including 3 or more cases linked in time and space.

# Measles in pregnancy

- Cases of measles have been reported among pregnant women during 2025
- Measles pregnancy complications include:
  - Preterm labor
  - Miscarriage or fetal demise
- Measles can transmit vertically to the fetus, and can result in congenital measles



# Knowledge Check 1

- **Most imported measles cases have been among undervaccinated international visitors to the U.S.**
  - True
  - False

# Knowledge Check 1 (Answer)

- **Most imported measles cases have been among undervaccinated international visitors to the U.S.**
  - True
  - **False**

# Measles – Common Clinical Scenarios

# Case 1: Primary Care Clinic

- You are seeing a 62-year-old man for a routine appointment. He notes that he has been hearing about measles outbreaks in the United States and wants to know if he needs any additional measles vaccines. He received one dose of a live-attenuated measles vaccine as a child per his vaccine records. He has hypertension and pre-diabetes, but doesn't have any other medical problems.
- What other questions do you want to ask to determine whether a dose of MMR is recommended for him?



# MMR vaccination recommendations for adults

## MMR Recommendation for Adults:

- Adults born before 1957 have presumptive immunity to measles.
- One dose of MMR vaccine, or other presumptive evidence of immunity, is sufficient for most other adults.
- Some adults are recommended to have 2 doses of MMR. However, there is no broad recommendation for a catch-up program among adults for a second dose of MMR.

## What if my adult patient thinks they were vaccinated as a child, but they have no records?

- If born before 1957, no vaccination is recommended.
- If born during or after 1957, two options:
  - Provide a dose of MMR, and consider if they are recommended to get 2 doses
  - Check for evidence of immunity (IgG testing)

# Which adults should have 2 MMR doses?

Some adults are recommended to have **two doses separated by at least 28 days**, including adults at higher risk of transmission. These adults include:

- Students at post-high school educational institutions
- Healthcare personnel
- International travelers
- People who public health authorities determine are at increased risk for getting measles during a measles outbreak
- Adults who are household or close contacts with people who are immunocompromised
- Adults living with HIV who are not severely immunocompromised (i.e., who can receive MMR)

# State and local health departments may issue recommendations during an outbreak

- Public health authorities determine who is at increased risk for getting measles during a local measles outbreak
  - Local residents may be recommended to have 2 doses
  - Travelers to regions with these recommendations should follow the same guidance

The screenshot shows the CDC website for Measles (Rubeola). The page title is "Measles Cases and Outbreaks". It includes a "WHAT TO KNOW" section with two bullet points: "Updated on July 16, 2025. The data on this page reflects confirmed measles cases reported to CDC as of noon on Tuesdays." and "Starting on 6/25/25, CDC will update this page every Wednesday." There is a world map showing measles cases in 2025. Below that, there is a section for "Resources for Communities with a Measles Outbreak" with links for "Sample Community Letter About Measles", "Be Ready for Measles Toolkit", "There's a Current Outbreak of Measles", and "Do You Think Your Child Has Measles?". There is also a section for "For Providers: Caring for Patients with Measles Fact Sheet". A paragraph states: "As of July 15, 2025, a total of 1,309 confirmed\* measles cases were reported by 40 jurisdictions: Alaska, Arkansas, Arizona, California, Colorado, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, Montana, Nebraska, New Jersey, New Mexico, New York City, New York State, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, and Wyoming." Another paragraph states: "There have been 29 outbreaks\*\* reported in 2025, and 88% of confirmed cases (1,151 of 1,309) are outbreak-associated. For comparison, 16 outbreaks were reported during 2024 and 69% of cases (128 of 295) were outbreak-associated." There are footnotes for \* and \*\*. At the bottom, there is a section titled "Outbreak-time measles updates from states" and a sub-section "Outbreak recommendations issued by health departments" which is highlighted with a green box. It lists: "Texas | DSHS | Updated MMR Vaccination Recommendations", "Kansas | KDHE | Updated MMR Vaccination Recommendations", and "New Mexico | NMDOH | Updated MMR Vaccination Recommendations".

# What about the inactivated measles vaccine?

- During 1963–1967, an inactivated vaccine was available in the United States. Less than a million people received this vaccine (<5% of measles vaccine recipients).
  - Later research found that this vaccine was less effective than the live-attenuated vaccine, and it was removed from the market.
  - All measles vaccines provided in the U.S. since 1968 have been live-attenuated measles vaccines that are highly effective.

## My patient received a dose of measles vaccine in 1965, does it count as a valid dose?

- If the vaccine is clearly marked as live-attenuated, it is a valid dose.
- If the vaccine is marked as the “killed” or “inactivated” vaccine, it is **not** a valid dose.
- If the type of vaccine administered is not clear, it should **not** be considered a valid dose.

# What about IgG testing for people with 2 doses?

- Most people who received 2 doses of MMR are considered presumptively immune to measles, regardless of the results of serologic testing:
  - MMR doses must be separated by at least 28 days
  - MMR doses must be received at age 12 months or older

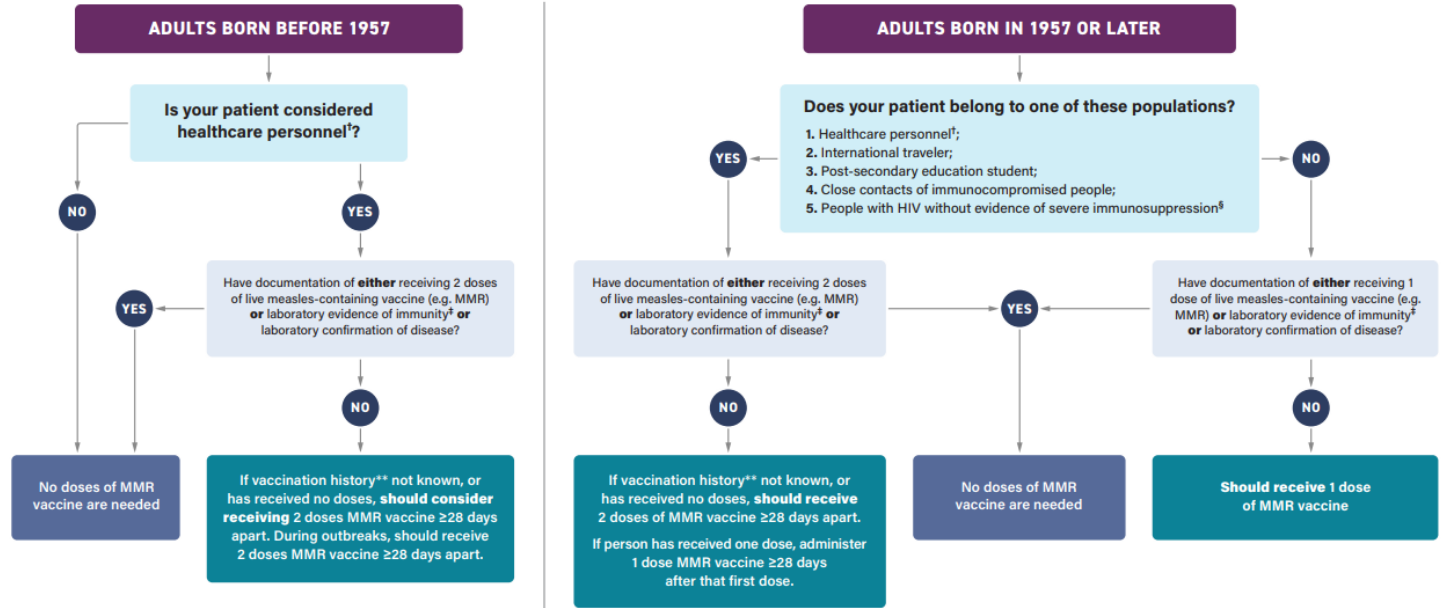
**My patient received two MMR doses, one at 12 months and one at 4 years of age. Should I check for immunity if they are traveling abroad?**

- Serologic testing is not recommended to confirm immunity.
- If the IgG test is negative or equivocal, MMR vaccination is not recommended by CDC.
- Documented age-appropriate vaccination supersedes the results of serologic testing.
  - Special circumstance: If a woman of reproductive age has 2 MMR doses but tests negative for *rubella* immunity, an additional MMR dose can be provided. No further serologic testing is recommended to confirm measles or rubella immunity.

# Adult MMR Vaccination Decision Tree

## Measles vaccine recommendations for non-pregnant adults\* aged ≥19 years by birth year—United States

This infographic for healthcare providers summarizes ACIP and CDC recommendations



\*MMR vaccine should NOT be administered during pregnancy. Refer to Adult Immunization Schedule by Age | Vaccines & Immunizations | CDC ([www.cdc.gov/vaccines/hcp/immunization-schedules/adult-age.html](http://www.cdc.gov/vaccines/hcp/immunization-schedules/adult-age.html)) for more contraindications and precautions, and other details.

†Healthcare personnel include all paid and unpaid persons working in healthcare settings who have the potential for exposure to patients and/or to infectious materials, including body substances, contaminated medical supplies and equipment, contaminated environmental surfaces, or contaminated air.

‡Acceptable laboratory evidence of immunity includes: measles IgG in serum (equivocal results should be considered negative).

§Refer to Prevention of Measles, Rubella, Congenital Rubella Syndrome, and Mumps, 2013 ([www.cdc.gov/mmwr/preview/mmwrhtml/r6204a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/r6204a1.htm)) for details about absence of severe immunosuppression. In addition to the adults belonging to one of these population groups, health departments may consider a second dose for adults (including visitors) who have received one dose who are living in or traveling to domestic areas with sustained, community-wide measles transmission affecting adults where there is ongoing risk of exposure. Refer to VPD surveillance manual ([www.cdc.gov/surv-manual/ghp/table-of-contents/chapter-7-measles.html](http://www.cdc.gov/surv-manual/ghp/table-of-contents/chapter-7-measles.html)).

\*\*A small number (<9%) of adults vaccinated between 1963–1967 received an inactivated (killed) measles vaccine. Check documentation to ensure that the adult did not receive inactivated vaccine. Adults who received killed vaccine, or do not know what type of vaccine they received between 1963–1967, should receive 1 or 2 doses of current MMR vaccine (i.e. those killed or unknown doses do not count).



## Case 2: Travel Health Clinic

- A mom brings her 10-month-old in for a travel health visit. They will be leaving for Spain next month, and she wants to know what she needs to do for herself and her baby. Mom received one dose of MMR as a child, and it is recorded in her immunization records. Her daughter is up to date with all of her recommended vaccines.
- **What do you recommend?**



# Recommendations for travelers

- Clinicians should recommend vaccination for anyone aged **6 months or older traveling internationally** who does not have written documentation of vaccination or other evidence of measles immunity.
- Acceptable evidence of immunity against measles includes at least one of the following:
  - Written documentation of adequate vaccination
  - Laboratory evidence of immunity
  - Laboratory confirmation of measles
  - Birth before 1957
- After domestic travel to an area with an ongoing outbreak or international travel, watch for signs and symptoms of measles for 3 weeks after returning to the United States.



**Traveling soon?**  
Measles can be serious.

Make sure your family has been protected by the measles, mumps, and rubella (MMR) vaccine.

[cdc.gov/measles](https://www.cdc.gov/measles) 

## Recommendations for travelers (*continued*)

- Infants 6 months of age or older should receive MMR vaccine prior to international travel or as recommended by public health officials in domestic outbreak settings.
  - MMR is not licensed for children <6 months of age.
- Infants 6 through 11 months who receive an early dose of MMR vaccine (i.e., infant dose) should get 2 more doses after their first birthday. Subsequent doses should follow CDC's recommended childhood schedule:
  - Another dose at 12 through 15 months of age.
  - A final dose at 4 through 6 years of age.
- Children 12 months of age or older, teenagers, and adults are recommended to have 2 total doses prior to international travel. If previously unvaccinated, a traveler can receive first dose of MMR immediately and can get second dose 28 days after first dose.

## Case 2: Recommendations

- The mother should receive 1 dose of MMR prior to travel; she will now have 2 documented MMR doses.
- The infant should receive a dose of MMR, followed by 2 more doses after 1<sup>st</sup> birthday, per the routine schedule.
- Vaccination ideally would take place at least 2 weeks before travel but can happen closer to travel if not possible.



# Recommendations for travelers - Scenarios

- **2-year-old patient going to Cancun with 1 dose of MMR at 15 months**
  - Give an MMR dose, ideally 2 weeks before travel
  - No further MMR doses are required, meets the 2-dose school entry requirement
- **8-month-old going to Toronto to visit family, no prior MMR doses**
  - Give an MMR dose
  - 2 more MMR doses recommended per routine schedule, starting at 12 months of age
- **14-year-old with unknown vaccination history, planning to study abroad**
  - 2 doses of MMR, separated by at least 28 days



# Vaccination after measles infection

- Patients with a previously documented laboratory-confirmed measles infection are considered to have life-long immunity for measles.
  - They don't need MMR vaccination for *measles* protection.
- It is still recommended that they be up-to-date with MMR vaccination to protect against mumps and rubella.

## Knowledge Check 2

- **A healthy patient who is 65 years old (born 1960) reported having measles as a child and has not received an MMR vaccine previously. Should they get an MMR vaccine?**
  - Yes
  - No

## Knowledge Check 2 (Answer)

- A healthy patient who is 65 years old (born 1960) reported having measles as a child and has not received an MMR vaccine previously. Should they get an MMR vaccine?
  - Yes
  - No

## Knowledge Check 3

**A patient who is 50 years old has had two doses of MMR as a child, at ages 1 and 6. They had a titer to test for immunity to measles, and it was negative. Should they receive another dose of MMR?**

- Yes
- No

## Knowledge Check 3 (Answer)

A patient who is 50 years old has had two doses of MMR as a child, at ages 1 and 6. They had a titer to test for immunity to measles, and it was negative. Should they receive another dose of MMR?

- Yes
- **No**

# Knowledge Check 4

- A patient's immunization records show that they received a *Pfizer-Vax Measles-K*, killed measles vaccine in 1964 at 3 years of age (born 1961). They had no other immunizations for measles on their immunization record. Should they receive a dose of MMR vaccine now?
- Yes
- No

## Knowledge Check 4 (Answer)

A patient's immunization records show that they received a *Pfizer-Vax Measles-K*, killed measles vaccine in 1964 at 3 years of age (born 1961). They had no other immunizations for measles on their immunization record. Should they receive a dose of MMR vaccine now?

- Yes
- No

## Case 3: Pediatric acute care visit

- A 15-month-old otherwise healthy infant presents to their primary pediatrician
  - At an urgent care visit 2 days ago, family reported 2 days of low-grade fever, fussiness, and a faint maculopapular rash
  - A viral exanthem panel detected measles virus
  - Fever has resolved, and the rash is beginning to fade
- They received their first MMR dose 12 days ago
- **What should be your next steps?**

# MMR can cause a self-limited rash

- MMR can cause a short-lived febrile rash syndrome that is not contagious to others.
- Fever can be seen in up to 15% of vaccinees, especially after 1<sup>st</sup> dose.
- Rash can be seen in up to 5% of vaccinees.
  - Rash can mimic measles (starts on the face, full-body) but this is not as common.
- Vaccine reactions are generally mild and self-limited.
- Symptoms usually occur within 7-18 days after vaccination.



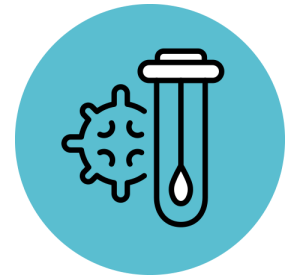
# Measles vaccine strain virus can be detected by PCR

- Measles vaccine strain virus can be detected after receipt of any live-attenuated measles vaccine (MMR, MMRV), even if a vaccine reaction does not occur
  - Usually detectable during 28 days after vaccination, but prolonged detection (28+ days) has been reported
- Measles PCR alone cannot differentiate detection of vaccine strain virus vs. wild-type measles virus
- MeVA is a specialized PCR test that can determine vaccine strain vs. wild-type measles virus detection
  - Genotyping also provides this information, but with longer turnaround time
  - MeVA and genotyping available primarily at public health reference laboratories

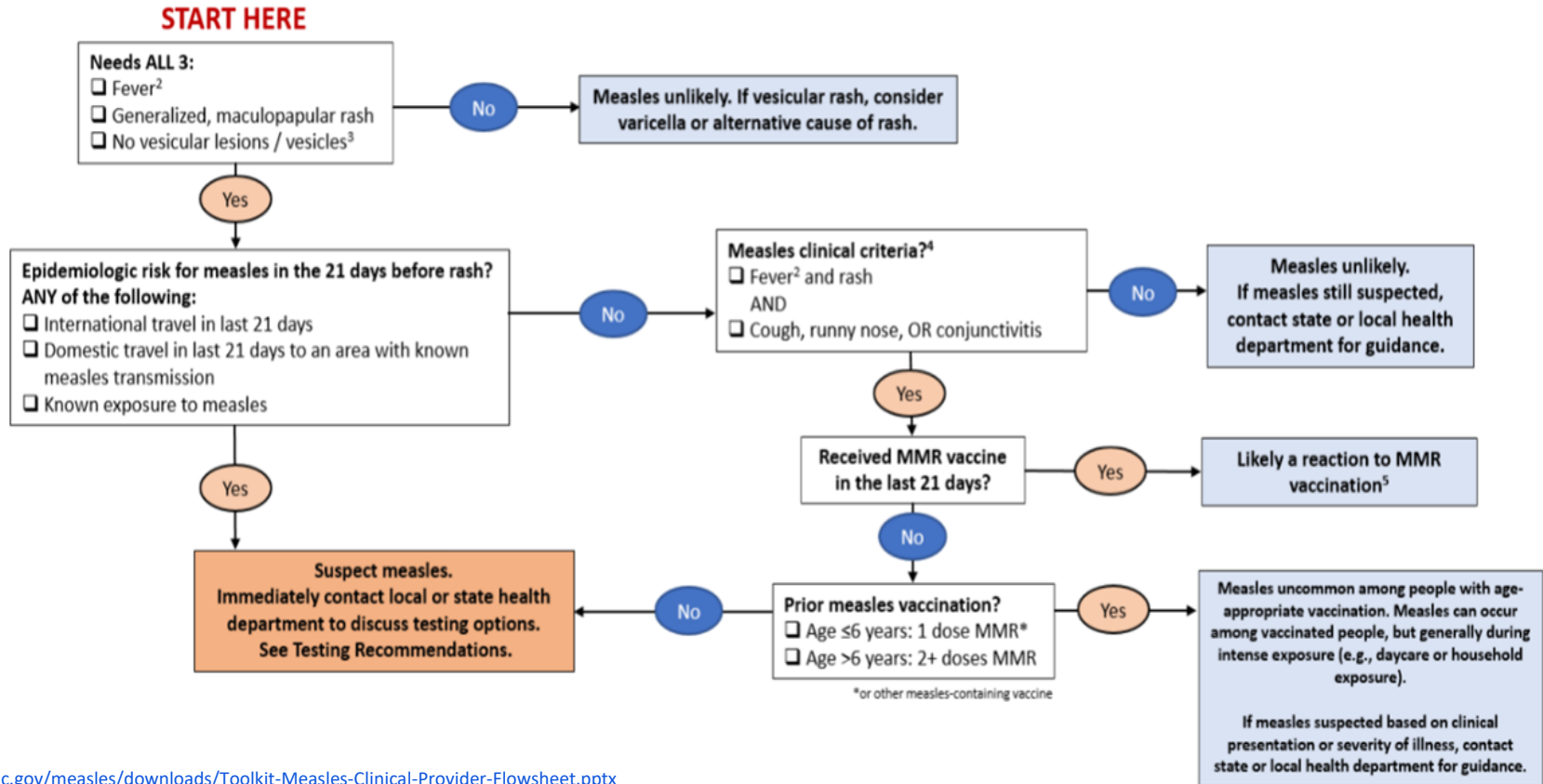


# What are the next steps?

- Main action item is to evaluate for epidemiologic risk of measles infection (known exposure, international travel, or local outbreak)
- **If epidemiologic risk:**
  - Contact public health authorities
  - Arrange for appropriate testing
- **If no epidemiologic risk for measles:**
  - Manage symptoms, provide reassurance
  - If still concerned for acute measles (e.g., severity), contact public health authorities



# Evaluating a patient presenting with rash when there is no local measles transmission



# Is MMR vaccine safe for people who live with people who are immunocompromised?

## Measles vaccine strain virus:

- Measles vaccine RNA can be detected by PCR up to 28+ days after MMR
- Vaccine-strain measles virus is weakened (attenuated)
  - After vaccination, people **cannot** spread measles vaccine strain virus to others

People who live with or have close contact with people who themselves cannot receive MMR (young infants, pregnant women, and immunocompromised people) can be vaccinated without any precautions. Vaccination of the people around those who cannot directly receive vaccination offers indirect protection.



Infants aged <6 months



Pregnant women



Immunocompromised

# Is MMR vaccine safe for women who are breastfeeding?

- It is safe for breastfeeding women to receive MMR vaccination.
- Breastfeeding does not interfere with the response to MMR vaccine and the baby will not be affected by the vaccine through breast milk.



## Knowledge Check 5

**A patient received their first dose of MMR two weeks prior and now presents with a measles-like rash. A throat swab RT-PCR is positive for measles. MeVa testing indicates that measles vaccine strain virus was detected. Does the health department need to track their contacts and provide postexposure prophylaxis?**

- Yes
- No

## Knowledge Check 5 (Answer)

**A patient received their first dose of MMR two weeks prior and now presents with a measles-like rash. A throat swab RT-PCR is positive for measles. MeVa testing indicates that measles vaccine strain virus was detected. Does the health department need to track their contacts and provide postexposure prophylaxis?**

- Yes
- **No**

## Case 4 – Modified Measles

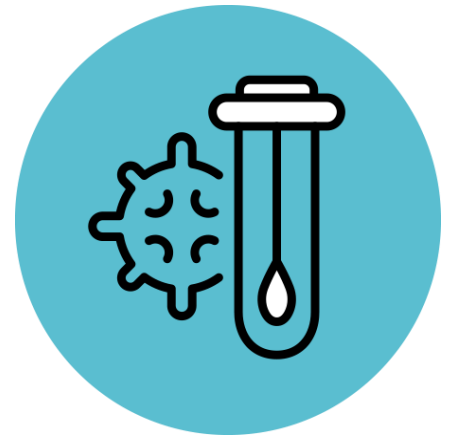
- A 25-year-old woman presents to her PCP. A week ago, she experienced 2 days of low-grade fever followed by a maculopapular rash that began on her chest and spread to her abdomen and arms. The rash started 5 days ago and has begun to fade.
- She received 2 doses of MMR at ages 1 and 6. She has no medical conditions.
- She recently traveled to Vietnam to visit family and returned 10 days ago. A family member in Vietnam she was staying with was just diagnosed with measles.
- You think this might be measles, but it doesn't match all the symptoms. How should you proceed?

# Measles after vaccination

- Despite high vaccine effectiveness, people with prior vaccination against measles can develop measles through two main pathways:
  - Primary vaccine failure: Failure to respond to prior MMR dose - more common if only 1 prior dose
  - Secondary vaccine failure: Measles despite pre-existing immunity – more common if 2 prior doses
    - More common when there is a high intensity of exposure, such as in a household
- Secondary vaccine failure cases are rare, and there are still benefits to vaccination
  - Less likely to be severely ill (be hospitalized, develop pneumonia)
  - Less likely to transmit measles to others
- For people with pre-existing measles vaccination, clinicians should be aware that measles infection may be modified
  - Respiratory symptoms may be absent or attenuated
  - Rash may be atypical (starting not on the face) and more limited in scope

# Testing for measles

- Diagnostic evaluation of measles should include:
  - Both molecular testing (rRT-PCR) and serology (IgM)
  - Consideration of the clinical and epidemiologic context (e.g., travel history, vaccination status)



# Testing for measles (*continued*)

- Diagnostic evaluation of measles should include:
  - Both molecular testing (rRT-PCR) and serology (IgM)
  - Consideration of the clinical and epidemiologic context (e.g., travel history, vaccination status)
- **In this case, with rash 5+ days ago:**
  - Consider getting NP/OP *and* urine for rRT-PCR, to improve sensitivity
  - Consulting public health authorities early when measles is suspected can help ensure that the right tests are done, and specimens are routed appropriately

## Knowledge Check 7

- **How does a measles infection in someone with prior immunity from vaccination differ from a measles infection in someone without prior immunity?**
  - A. The measles rash may be atypical
  - B. The person is less likely to have complications
  - C. The person is less likely to transmit measles to others
  - D. All of the above

## Knowledge Check 7 (Answer)

- **How does a measles infection in someone with prior immunity from vaccination differ from a measles infection in someone without prior immunity?**
  - A. The measles rash may be atypical
  - B. The person is less likely to have complications
  - C. The person is less likely to transmit measles to others
  - **D. All of the above**

# Be Ready for Measles

Resources for healthcare providers and healthcare settings

# Updated Interim Infection Prevention and Control Recommendations for Measles in Healthcare Settings

- Updated in July 2025 with additional considerations, including:
  - Working with facilities engineers to identify appropriate isolation space
  - Clarifying isolation recommendations

The screenshot shows the CDC Infection Control website page for "Interim Infection Prevention and Control Recommendations for Measles in Healthcare Settings". The page is dated July 10, 2025, and is intended for Health Care Providers. It features a "WHAT TO KNOW" section stating that these recommendations provide guidance on preventing and controlling measles in healthcare settings. Below this is a "TABLE OF CONTENTS" with links to Appendix A and Appendix B. The main heading is "Fundamental Elements to Prevent Measles Transmission". The text explains that measles is most commonly acquired from household or community spread but can also occur in healthcare settings. It emphasizes that preventing measles in all settings requires a multi-faceted approach, including:

- Ensuring HCP have presumptive evidence of immunity to measles (see [Recommendations](#) section)
- Rapidly identifying and isolating patients with known or suspected measles
- Adhering to Standard and Airborne Precautions for patients with known or suspected measles
- Routinely promoting and facilitating respiratory hygiene and cough etiquette
- Appropriately managing exposed and ill HCP

The page concludes by stating that this interim guidance should be implemented in the context of a comprehensive infection prevention program to prevent transmission of all infectious agents among patients, HCP, and visitors.

# New customizable resources to support measles infection prevention and control in healthcare settings

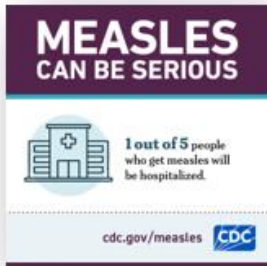
1. Measles Assessment Tool for Infection Control in Healthcare Settings
2. Step-by-Step Measles Exposure Guide for Healthcare Settings
3. Sample Measles Exposure Notification Letter
4. Sample Measles Exposure Script



Scan Me

# Overview of the *Be Ready for Measles* Toolkit

CDC's *Be Ready for Measles* toolkit delivers preparedness and outbreak response tools and communication materials to support jurisdictions communication with the public, clinicians, and partners before and during a measles outbreak.



**Measles (Rubeola)**

EXPLORE TOPICS

SEARCH

MM 1, 2025

## Be Ready for Measles Toolkit

**AT A GLANCE**

Public health professionals can use this *Be Ready for Measles* toolkit to communicate with different audiences when preparing for and responding to measles cases and outbreaks.

### About this toolkit

This *Be Ready for Measles* toolkit delivers preparedness and outbreak response tools and communication materials to make it easy for you and your jurisdiction to communicate with the public, clinicians, and partners before and during a [measles outbreak](#).

The risk for widespread measles in the United States remains low due to robust U.S. immunization and surveillance programs and outbreak response capacity supported by federal, state, tribal, local, and territorial health partners. However, every year, measles cases occur in the United States due to unvaccinated travelers who get measles while they are in other countries. Outbreaks also occur when measles spreads in under-vaccinated communities. Anyone who is not protected against measles through vaccination is at risk.

The [measles, mumps, and rubella \(MMR\)](#) vaccine remains the most important tool for preventing measles.

**Intended users**

State and local health departments

**What's included**

Fact sheets, social media graphics, and videos for the public, and outbreak-related response tools for clinicians and other public health professionals.

**How to use this toolkit**

This toolkit can help your jurisdiction prepare for measles outbreaks by helping you to:

- Understand how to report measles immediately (within 24 hours) to CDC ([measlesreport@cdc.gov](mailto:measlesreport@cdc.gov)).
- Establish measles case identification and reporting within your jurisdiction.
- Enhance education, outreach, and communication to your communities, including healthcare providers and under-vaccinated communities before and during an outbreak.

QR CODE

[cdc.gov/measles/php/toolkit/index.html](https://cdc.gov/measles/php/toolkit/index.html)

# Resources for Healthcare Providers

## Fact sheets

**Ribavirin**

- Ribavirin is a bn demonstrates it with severe me regarding its eff
- Ribavirin is not ribavirin is avail investigation!

**Measles Treatment Overview**  
Information for Healthcare Providers

**Antibiotics**

- There is no evid
- Measles may be indicated. Treat healthcare prov
- Ribavirin is avail investigation!

**Inhaled steroids**

- Inhaled steroids should be base

**Isolation**

- Infected people followed in heal
- Because of the infected patient

**Vaccination**

- Adult vaccinati
- For those who c during an outbr
- Recognizing the virus and the pre
- People exposed hours for immu

**Measles Complications**

- People at high risk for complications include infants and children aged <5 years, adults aged >20 years, pregnant women, people with weakened immune systems, such as from leukemia and HIV infection.
- Even in previously healthy people, measles can cause serious illness requiring hospitalization.
- Complications, such as pneumonia, encephalitis, and other infections, should be appropriately tested and treated.
- Measles infection may also be complicated by other infections, including viral pathogens and secondary bacterial infections.
- Common complications from measles include otitis media, bronchopneumonia, laryngotracheobronchitis, and diarrhea.

**Vitamin A**

- Vitamin A does not prevent measles and is not a substitute for vaccination.
- Vitamin A supplementation has been found to reduce both overall measles mortality and pneumonia-specific measles mortality in children living in areas with high rates of vitamin A deficiency. In the U.S., prevalence of vitamin A deficiency is very low.
- While the evidence for vitamin A is primarily in countries with a higher prevalence of vitamin A deficiency, vitamin A may be administered to infants and children in the United States with measles under the supervision of a healthcare provider as part of supportive management.
  - If vitamin A is recommended, it should be administered immediately upon diagnosis and repeated the next day for a total of 2 doses. The recommended age-specific daily doses are:
    - 50,000 IU for infants younger than 6 months of age
    - 100,000 IU for infants 6–11 months of age
    - 200,000 IU for children 12 months of age and older
- Overuse of vitamin A can lead to toxicity and cause damage to the liver, bones, central nervous system, and skin. Pregnant women should avoid taking high levels of vitamin A as it has been linked to severe birth defects.

## Outbreak response tools

**Test Types Typically Available to Clinicians and Descriptions for Measles, Mumps, Rubella, and Varicella**

Test	Test Description
RT-PCR	RT-PCR can be performed on respiratory (nasopharyngeal or throat) swabs and on urine. RT-PCR is most sensitive within 3 days of rash onset but can be sensitive up to 10 days after rash onset. Ideally, specimens should be collected at first patient contact once measles is suspected and should be paired with serology testing (IgM) for evaluation of all suspect measles cases. For many jurisdictions, RT-PCR is primarily available through the state/local health department.
IgM*	Detection of measles IgM can confirm measles. IgM is most sensitive 3 or more days after rash onset, or a negative IgM within 3 days of rash onset should be interpreted with caution. False-positive IgM can occur due to cross-reactivity with other causes of febrile rashes (e.g., Parvovirus). Ideally, RT-PCR and serology should be performed together for all suspect measles cases. IgM is <b>not</b> an appropriate test when evaluating for measles.
IgG*	The presence of measles-specific IgG indicates a recent or prior exposure to measles virus or measles vaccine and is appropriate to test for evidence of immunity.
RT-PCR*	A nasal wash specimen (after massaging the nostril [nares]) (stated for 30 seconds) collected <3 days after parotitis onset is the preferred specimen and RT-PCR testing is the preferred method for laboratory confirmation of mumps disease. Specimen should be ideally collected 0–3 days after parotitis onset but can be collected up to 10 days. For many jurisdictions, RT-PCR is available through the state/local health department.

**Evaluating a patient presenting with rash when there is no local measles transmission<sup>1</sup>**

Placeholder for state/local department contact info


```

    graph TD
        Start[START HERE] --> Q1{Needs ALL 3:  
- Fever  
- Generalized, maculopapular rash  
- No vesicular lesions / vesicles?}
        Q1 -- No --> U1[Measles unlikely. If vesicular rash, consider varicella or alternative cause of rash.]
        Q1 -- Yes --> Q2{Epidemiologic risk for measles in the 21 days before rash?}
        Q2 --> Q2a{ANY of the following:  
- International travel in last 21 days  
- Domestic travel in last 21 days to an area with known measles transmission  
- Known exposure to measles}
        Q2a -- No --> Q3{Measles clinical criteria*  
- Fever* and rash AND  
- Cough, runny nose, OR conjunctivitis}
        Q3 -- No --> U2[Measles still unlikely. If measles still suspected, contact state or local health department for guidance.]
        Q3 -- Yes --> Q4{Received MMR vaccine in the last 21 days?}
        Q4 -- No --> Q5{Prior measles vaccination?  
- Age 60 years: 1 dose MMR*  
- Age 16 years: 2+ doses MMR}
        Q5 -- No --> U3[Measles uncommon among people with appropriate vaccination. Measles can occur among vaccinated people, but generally during intense exposure (e.g., daycare or household exposure).  
If measles suspected based on clinical presentation or severity of illness, contact state or local health department for guidance.]
        Q5 -- Yes --> U4[Probably a reaction to MMR vaccination!]
        Q4 -- Yes --> U4
    
```

## Social media graphic

**BE READY FOR MEASLES**

Consider measles in patients presenting with febrile rash illness and clinically compatible symptoms (cough, coryza, and conjunctivitis).



Ask patients about recent travel internationally or to areas with an ongoing measles outbreak, as well as their recent contacts.

**CDC**  
cdc.gov/measles

# Measles Checklist for Healthcare Workers

## RESPONDING TO MEASLES IN CLINICAL SETTINGS

### IMMEDIATE ACTIONS: WHAT TO DO IN THE FIRST 10 MINUTES AFTER MEASLES IS SUSPECTED



When a healthcare worker, patient, or visitor has measles symptoms, take these actions **IMMEDIATELY**:

- ❑ **Identify** persons with known or suspected measles and isolate them in an AIIR (if available) or private room with the door shut to protect others from exposure.
- ❑ **Limit spread** by giving the person a mask (if 2 years and older) to wear until isolated in AIIR or until they have left the facility. To limit the spread of respiratory secretions, masks should be well-fitting and cover the person's mouth and nose.
- ❑ **Protect yourself** by wearing a fit-tested, N95 or higher-level respirator, even if you are vaccinated, when entering the isolation room. Rarely, a person with measles immunity can still get measles, so all healthcare workers should follow [Standard and Airborne Precautions](#) when caring for the patient.

- ❑ **Inform** your facility's IP or health department as soon as possible. They will have further guidance for isolation, testing, care, and transport, if needed, for the person with measles symptoms and for preventing measles among exposed individuals.

- ❑ **Seek emergency care for any patient experiencing signs of severe disease.** If transferring to another health facility, be sure to alert the facility in advance of your concern for measles so they can put in place appropriate precautions.



### PREPARING AND RESPONDING TO MEASLES: Checklist for Healthcare Workers



#### WHY SHOULD HEALTHCARE WORKERS PREPARE FOR MEASLES?

Measles is caused by a highly contagious virus that spreads through the air when an infected person coughs or sneezes. If one person has measles, up to 9 in 10 people nearby will become infected if they are not protected.

The risk for widespread measles in the US remains low. However, measles cases occur in the US every year when unvaccinated travelers get measles while they are in other countries. Outbreaks also occur when measles spreads in under-vaccinated communities. Anyone without immunity to measles is at risk.

A person with measles can present for care to any type of healthcare facility. Having a plan in place to respond when measles is suspected can protect healthcare workers, patients, and visitors. This checklist highlights several key action items for healthcare workers seeking to prepare for measles.

#### PREPARE FOR MEASLES BEFORE SEEING PATIENTS

- Be familiar with CDC's guidance on measles vaccination and interim infection prevention and control recommendations for measles.
- Know how to inform your facility's infection preventionist (IP) and health department for assistance when measles is suspected in healthcare workers, patients, and/or visitors.
  - Develop a plan and discuss any questions you may have with your facility's IP or with your health department.
- Identify which of your patients do not have presumptive evidence of measles immunity and be prepared to talk with them about MMR vaccination if they are eligible.
- Check that you are immune to measles with two doses of MMR or other presumptive evidence of measles immunity.
  - If you do not have presumptive evidence of measles immunity, talk with your occupational health program or similar entity about vaccination, if eligible.
  - CDC recommends that healthcare workers without presumptive evidence of measles immunity be excluded from work if they are exposed to measles.
- If you have not been fit tested for a NIOSH-approved N95 or higher-level respirator within the last 12 months, confirm whether fit-testing is needed with your occupational health program.
  - The respirator you need should be available in the areas you work.
- Know how to identify measles.
  - Stay alert for patients with fever and other early signs and symptoms of measles:
    - **First symptoms:** Fever with cough, runny nose, and/or red, watery eyes
    - **3-5 days after symptoms start:** Rash (flat, red spots that appear on the face at the hairline and spread downward to the neck, torso, arms, legs, and feet)
  - Assume a patient has measles if they have measles symptoms and at least one of the following:
    - Spent time in an area in the US with a known measles outbreak
    - Was recently around someone else with measles

BE READY FOR MEASLES  
[cdc.gov/measles](https://www.cdc.gov/measles)



# Need additional materials?



Communication materials for the public are available in additional languages and as editable or printer-friendly versions upon request.

To request these, please email: [measlesresources@cdc.gov](mailto:measlesresources@cdc.gov)

# Additional Resources for Clinicians

- **Clinical Overview of Measles | CDC**
  - [www.cdc.gov/measles/hcp/clinical-overview/index.html](http://www.cdc.gov/measles/hcp/clinical-overview/index.html)
- **Interim Infection Prevention and Control Recommendations for Measles in Healthcare Settings | CDC**
  - [www.cdc.gov/infection-control/hcp/measles/index.html](http://www.cdc.gov/infection-control/hcp/measles/index.html)
- **Measles Resources for Healthcare Providers | CDC**
  - [https://www.cdc.gov/measles/php/toolkit/index.html#cdc\\_toolkit\\_main\\_toolkit\\_cat\\_2-for-providers](https://www.cdc.gov/measles/php/toolkit/index.html#cdc_toolkit_main_toolkit_cat_2-for-providers)

# To Ask a Question

- Using the Zoom Webinar System
  - Click on the “Q&A” button
  - Type your question in the “Q&A” box
  - Submit your question
- If you are a patient, please refer your question to your healthcare provider.
- If you are a member of the media, please direct your questions to CDC Media Relations at 404-639-3286 or email [media@cdc.gov](mailto:media@cdc.gov).

# TRAIN

- CDC has fully transitioned from Training and Continuing Education Online (TCEO) to **CDC TRAIN** (<https://www.train.org/cdctrain>).
- **Transcripts & Certificates:** You can access and download CE transcripts and certificates in TCEO through the end of 2025.
- Instructions will be available on both platforms and a learner support team will be available to answer questions.

# Continuing Education

- All continuing education for COCA Calls is issued online through CDC TRAIN at CDC TRAIN (<https://www.train.org/cdctrain>).
- To receive continuing education (CE) for **WC4520R-091125**—Clinician Update on Measles Cases and Outbreaks in the United States, please visit CDC TRAIN and search for the course in the Course Catalog using **WC4520R-091125**. Follow the steps below by **October 13, 2025**. The registration code is **COCA091125**.
- To receive continuing education (CE) for **WD4520R-091125**—Clinician Update on Measles Cases and Outbreaks in the United States, please visit CDC TRAIN and search for the course in the Course Catalog using **WD4520R-091125**. Follow the steps below between **October 14, 2025**, and **October 14, 2027**.

# Today's COCA Call will be Available to View On-Demand

- **When:** Next week
- **What:** Closed caption recording and transcript
- **Where:** On the COCA Call webpage:  
[https://www.cdc.gov/coca/hcp/trainings/clinician\\_update\\_measles\\_cases\\_in\\_us.html](https://www.cdc.gov/coca/hcp/trainings/clinician_update_measles_cases_in_us.html)

# Join Us for the Next COCA Call

- **Date:** Thursday, September 18, 2025
- **Time:** 2:00–3:00 P.M. ET
- **Topic:** The Path of Yeast Resistance: Drug-resistant *Candida* on the Rise
- **Website:** <https://www.cdc.gov/coca/hcp/trainings/drug-resisitant-candida.html>

## Additional Resources

- Continue to visit <https://www.cdc.gov/coca/hcp/trainings/index.html> to get more details about upcoming COCA Calls.
- Subscribe to receive notifications about upcoming COCA calls and other COCA products and services at <https://www.cdc.gov/coca/hcp/trainings/index.html>.

# Thank you for joining us today!

<http://cdc.gov/coca>

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

