Measles Scenario-Based Human Health Risk Assessment

Updated as of April 25, 2025

Currently, the Center for Outbreak Response Innovation (CORI) judges the measles outbreak in the United States to be in Scenario 4: *We are evaluating the potential risks to human health based on the scenarios outlined. In cases where multiple scenarios are occurring simultaneously nationally, we will highlight the highest-level scenario in the risk assessment (RA). Readers should refer to the scenario that applies to their specific region. Scenarios are detailed in the methodology and listed on page 10.*

	Risk to unvaccinated people	Risk to children	Risk to healthcare workers	Risk to the US general public
Scenario 4 – Development of 3+ large outbreaks (50+ cases) or at least one extra-large outbreak (300+ cases)	High	High	Low-Moderate	Moderate

Our confidence in these risk scores is **moderate** given the currently available information.

Notable Highlights

As of April 25, 2025, approximately 918 measles cases (including probable cases) and 11 outbreaks have been reported this year across 30 jurisdictions in the United States.

- **Texas Outbreak Updates:**
  - New spread to Bailey County, Texas and Los Angeles County, California.
  - A previously reported death associated with measles in New Mexico, which was under investigation, has now been confirmed as caused by measles.
  - A new tool, the epiENGAGE Measles Outbreak Simulator, is now available on our website. The tool allows users to model measles spread in schools based on factors like student numbers, vaccination rates, and case counts.
  - The U.S. could lose its measles elimination status in late January if spread from this outbreak continues into next year.
- **Other Notable Reports**
  - First measles case reported in Illinois.
  - Detailed updates are available in the State Updates Table on page 3.

Transmission Risk: Increased domestic and international travel during spring break and holidays heightens the risk of measles spreading. Travelers to and from U.S. outbreak areas raise concerns for interstate transmission, while mass gatherings in under-vaccinated, high-density settings or close-knit communities increase the risk of sustained transmission and large outbreaks (≥50 cases) if measles is introduced.

The CORI measles dashboard provides real-time data on reported cases, public exposures, and immunization coverage for counties with available information.

National Outbreak Summary

The majority (over 90%) of cases occurring nationally are related to outbreaks but sporadic cases, mostly related to international travel, have also been reported.

Age: Most confirmed cases are among children: 30% aged 5 and younger, 38% aged 5-19 years.

Hospitalizations: At least 85 individuals were hospitalized, with children under 5 years most affected. The majority (73%) of hospitalizations are linked to Texas.

Vaccination Status: Approximately 97% of reported cases are among individuals unvaccinated or with unknown vaccination status, underscoring the critical importance of measles-mumps-rubella (MMR) vaccination in preventing spread.

Fatalities: Three measles-associated deaths were reported, marking the first U.S. measles-related fatalities since 2015 and the first pediatric measles fatality since 2003. Two pediatric deaths were confirmed in Lubbock County, Texas and one adult death was confirmed in Lea County, New Mexico. None of the individuals had known underlying conditions.

Note: The typical measles case fatality rate is about 1 in 1,000, making the three reported deaths in this outbreak unusually high. Health officials suspect there may be more cases than reported, as some individuals may not seek testing or medical care.

Outbreaks: Eleven outbreaks have been reported: Texas (2), Ohio (2), Indiana, Pennsylvania, Tennessee, Michigan, Montana, New Jersey, and Georgia:

- **Texas Outbreak (Extra-Large Size, 731 cases):** This outbreak, which originated in Texas, has since spread to additional states, and is the largest outbreak this year.
    - **Texas**: The outbreak remains centered in Gaines County, where transmission began within a close-knit, undervaccinated Mennonite community. It has spread across at least 26 counties in total, primarily in the western region of Texas.
    - **New Mexico:** Originated in Lea County, which borders Gaines County. All but four cases remain in Lea; the others are spread across three counties which border other outbreak areas.
    - **Oklahoma:** The initial case was linked to Texas/ New Mexico. Many of the subsequent cases occurred through household or extended family exposures.
    - **Kansas:** The source of exposure remains unknown, but genetic sequencing of the first Kansas case suggests a link to the Texas outbreak. The initial case was identified in Stevens County, with the outbreak spreading to seven additional counties in southwestern Kansas near Oklahoma's border.
    - **Pennsylvania:** One case is linked by travel to Texas in Bucks County.
    - **Chihuahua, Mexico:** At least 39 cases have been reported with links to the Texas outbreak. *These cases are not included in outbreak numbers reported by CORI.*
    - **Colorado:** Two linked measles cases in Denver County, with the initial case connected to the outbreak in Chihuahua, Mexico
    - **California:** One case linked by travel to Texas in Los Angeles County.

- **Ashtabula County, Ohio (Medium Size, 16 cases):** The outbreak is linked to an unvaccinated adult who had contact with a recent international traveler. It is unknown if this outbreak is related to other cases or ongoing outbreaks. CORI may reclassify as additional information becomes available.
- **Knox County, Ohio (Medium Size, 14 cases):** Initial case linked to an individual with international travel history.
- **Allen County, Indiana (Small Size, 8 cases):** Source of initial exposure is unknown. All cases are linked to the first reported case in the state and unconnected to other outbreaks.
- **Montcalm, Michigan (Small Size, 4 cases):** Initial case linked to large outbreak in Ontario, Canada.
- **Erie County, Pennsylvania (Small Size, 4 cases):** Cases linked to a case in a child reported in late March. The source of exposure for the initial case has not been reported.
- **Tennessee (Small Size, 4 cases):** Initial exposure is unknown, but occurred domestically. Two of the cases were known contacts quarantining, so there were no additional exposures.
- **Upshur County, Texas (Medium Size, 18 cases):** All cases are linked to two out-of-state residents and located in an undisclosed location. It is unknown if this outbreak is related to the Extra-Large Texas Outbreak.
- **Montana (Small Size, 5 cases):** Initial exposure is related to out-of-state travel.
- **New Jersey (Small Size, 3 cases):** Initial case linked to international travel. Since it has been at least 42 days (two incubation cycles) since the last reported case, this outbreak is considered complete.
- **Georgia (Small Size, 3 cases):** The initial exposure occurred in the US, though the specific source has not been disclosed. Since it has been at least 42 days (two incubation cycles) since the last reported case, this outbreak is considered complete.

State Updates Table. *Jurisdictions with measles dashboards or tables linked under jurisdiction.*

<table>
<tr><th>Jurisdiction</th><th>Cases
(# since last RA)</th><th>Updates</th></tr>
<tr><td colspan="3">Texas Outbreak (Extra-Large Size)</td></tr>
<tr><td>Texas</td><td>646
(+49)</td><td>New spread to Bailey County, located in West Texas, near affected areas and the New Mexico border.

According to the state, approximately 1% of confirmed cases (fewer than 10 individuals) in the outbreak are currently considered actively infectious.

<table><tr><th>Overview</th><th>Value</th></tr><tr><td>% of cases unvaccinated/unknown status</td><td>96%</td></tr><tr><td>Hospitalizations</td><td>64 (+2)</td></tr><tr><td>Measles-associated deaths</td><td>2 (confirmed)</td></tr></table></td></tr>
</table>

		Most affected age group — Children 5-17 yrs
New Mexico	66 (+3)	Two new cases, a child (0–4 years) and an adult, were reported in Lea County, and one new adult case was reported in Eddy County. A previously reported death associated with measles, which was under investigation, has now been confirmed as caused by measles. New Mexico updated its 2025 Measles Outbreak Guidance page to include a county-level case map and a graph showing cases by week of rash onset. **Overview** — **Value** % of cases unvaccinated/unknown status — 89% Hospitalizations — 6 (+1) Measles-associated deaths — 1 (confirmed) Most affected age group — Adults 18+ yrs
Oklahoma	15 (+3)	Three additional cases were reported, counties unknown. Oklahoma updated their Measles Situation Update page to include a map with Public Setting Exposures. **Overview** — **Value** % of cases unvaccinated/unknown status — 93% Hospitalizations — 0 Measles-associated deaths — 0 Most affected age group — Unspecified
Colorado **(outbreak related)**	2 (+1)	A new adult case has been reported in Denver County in a close contact of the previously identified case in the county linked to Chihuahua, Mexico. The individual was quarantining during their infectious period, so no additional exposures occurred.
California (outbreak related)	1 (+1)	One new case reported in an individual with recent travel to Texas in Los Angeles County.
Jurisdictions with cases related to TX Outbreak	1 (+0)	Pennsylvania (at least 1 outbreak related)
Small-to-Medium Outbreaks		
Allen County, Indiana	8 (+2)	Two additional cases reported. **Overview** — **Value** % of cases unvaccinated/unknown status — 100% Hospitalizations — Unknown Measles-associated deaths — 0

		Most affected age group — Children <18 yrs
Kansas Outbreak	37 (+0)	*CORI reports no major updates.* **Overview** — **Value** % of cases unvaccinated/unknown status — 89% Hospitalizations — 1 Measles-associated deaths — 0 Most affected age group — Children 5-17 yrs
Knox County, Ohio (OH) Outbreak	14 (+0)	*CORI reports no major updates.*
Ashtabula County, OH	16 (+2)	Two new domestically acquired cases reported. One hospitalization was reported associated with this outbreak.
Erie County, Pennsylvania (outbreak related)	6 (+3)	Three additional cases reported among children, presumably related to the outbreak. CORI may reclassify the cases as new information unfolds. It is unclear whether this outbreak is linked to the two previously reported travel-related adult cases in Erie County, which are not included in the outbreak case count.
Montcalm, Michigan	4 (+1)	One additional case reported.
Montana	5 (+0)	*CORI reports no major updates.*
Tennessee	4 (+0)	*CORI reports no major updates.* **Overview** — **Value** % of cases unvaccinated/unknown status — 100% Hospitalizations — 0 Measles-associated deaths — 0 Most affected age group — Children 5-17 yrs
Upshur County, Texas	18 (+3)	No links to the Texas outbreak have been reported. A local official in contact with Texas Department of State Health Services indicated that only three cases are currently active. They also clarified the discrepancy between county (19 cases) and state (15 cases) reports: at the time of the county's report, four suspect cases were still under investigation. Of those, only three were later confirmed as measles, resulting in a final total of 18 confirmed cases. Thanks to public health measures such as isolation, quarantine, and symptom monitoring, a local official expects little to no further spread outside the confined outbreak area. However, due to limited information on contact numbers and immunization coverage, CORI is unable to fully assess the potential for additional related cases.

Unknown or Unrelated to Outbreaks		
Arkansas	3 (+1)	One new case reported in an unvaccinated child from Saline County with recent out of state travel. This case may be related to other cases or ongoing outbreaks. CORI may reclassify the cases as new information becomes available.
Florida	2 (+1)	One additional case reported in the last 30 days. Details are currently unknown. CORI is investigating.
Illinois	1 (+1)	First case reported in state in an adult in Southern Illinois. Source of exposure is not specified. CORI is investigating.
Louisiana	2 (+1)	Second case reported in an adult from the greater New Orleans area. The individual was identified through contact tracing and is not currently infectious. Both this case and the previously reported case from Region 1, which includes Jefferson, Orleans, Plaquemines, and St. Bernard parishes, have been linked to international travel.
Michigan (unlinked to outbreaks)	5 (+1)	A second measles case has been reported in an unvaccinated child in Ingham County. The case was a close contact of the previously reported case in the county. The initial source of exposure for the first case is still under investigation. Additionally, a possible measles case reported last week in Eaton County was confirmed to be negative after testing. While not a confirmed case, the precautionary measures taken illustrate helpful prevention efforts to mitigate outbreaks.
Minnesota	2 (+0)	The previously reported measles case (referenced in the April 19th risk assessment) involved an unvaccinated infant, too young for vaccination, who was diagnosed while traveling internationally. No exposures have been reported as a result of this case.
Texas (Unlinked to Outbreak)	11 (+3)	New cases have been reported in Atascosa County (1), Collin County (1), and Rockwall County (1), all currently considered unlinked to the ongoing Texas outbreak.
Washington	5 (+1)	New case reported in an unvaccinated infant from King County with recent international travel.
Jurisdictions with at least one case within the last 30 days with no major updates (total # of cases)		California (9 unlinked to outbreaks), Colorado (2 unlinked to outbreaks), Hawaii (2), Missouri (1), Ohio (2 unlinked to outbreaks), Pennsylvania (6 unlinked to outbreaks), Tennessee (2 unlinked to outbreaks), Virginia (1)
Other		
Kentucky	2 (+0)	The state recently released additional information on the previously reported second measles case (referenced in the April 9th risk assessment). The case occurred in March and involved a child visiting Kentucky who is a resident of a different country. Because the child was diagnosed in Kentucky, the case is being counted toward the state's case total.

Jurisdictions with no measles cases in the last 30 days (total # of cases)	Alaska (2), Georgia (3 – now complete small outbreak), Maryland (3), New Jersey (3 – now complete small outbreak), New York State (1), New York City (3), Rhode Island (1), Vermont (1)

Impact of MMR Vaccination Coverage

- The MMR vaccine is highly effective, providing 93% - 97% protection from one to two doses.
- Maintaining ≥95% vaccination coverage is critical for herd immunity, yet US MMR coverage stands at 92.7% for kindergarteners in the 2023-2024 school year. Pockets of undervaccination in high-density settings or close-knit communities increase the risk of sustained transmission and large outbreaks (≥50 cases).
- Most cases this year are among children, the majority of whom are school aged. Schools can be high-risk settings for outbreaks— once MMR coverage falls below 85% in a school, the likelihood of an outbreak and outbreak size increases significantly.

Notable Limitations

- Limited information and ongoing outbreak investigations may impact reported numbers, which are subject to change as more data becomes available.
- As of February 21, 2025, CDC transitioned to weekly reporting of measles cases.
- National Notifiable Diseases Surveillance System (NNDSS) data is often delayed, leading to potential underreporting in real time.
- Data is being supplemented by other sources, such as media reports, resulting in moderate confidence in current estimates.

Mitigation Recommendations

To minimize the spread of measles and the potential for large and extra-large outbreaks, CORI recommends:

- Monitoring vaccination coverage rates within local and state jurisdictions, at the provider or clinic level, and within sub-communities that may be at increased risk of transmission due to mass gatherings (e.g., schools, shelters, etc.).
- Promoting targeted and culturally informed vaccine messaging and mobile clinics for populations with low vaccine coverage.
- Promoting community and provider awareness of measles cases early on and through diverse media (e.g., health alerts, clinician letters, and press releases).
- Building strong relationships with providers, community leaders, and schools (including school leadership and school nurses) to increase awareness of the importance and efficacy of MMR vaccination, measles symptoms, testing, and isolation protocols.
- Enhancing communication between public health and medical leaders to share outbreak response experiences and lessons learned.

- In high-risk areas experiencing outbreaks, strengthening vaccination policies is critical to prevent further transmission. Measures may include mandating vaccination for school attendance and high-risk settings and implementing exclusion policies for unvaccinated individuals in schools and childcare settings. Additional public health measures, such as masking requirements in healthcare settings and targeted immunization campaigns, can further reduce transmission and increase community protection.

To minimize the spread of measles and the potential for small to medium-sized outbreaks, CORI recommends:

- Provision of post-exposure prophylaxis (PEP) as needed to possibly provide protection or alter the progression of illness.
- Implementation of temporary, adjusted vaccination schedules at the discretion of the state and local health departments.
    - NOTE: The Texas Department of State Health Services and Kansas Department of Health are now recommending adjusted vaccination schedules for those in affected counties.
- Routine documentation of measles immunity status among healthcare professionals to facilitate appropriate PEP or quarantine of individuals in the event of an occupational exposure.
- During a measles outbreak in a healthcare facility or facilities serving outbreak areas, healthcare personnel are recommended to receive two doses of MMR vaccine, regardless of birth year, if they lack laboratory evidence of immunity or laboratory confirmation of measles disease.

To minimize the risk of measles transmission due to international travel, CORI recommends:

- Individuals DO NOT travel while sick, especially with a fever and rash.
- Individuals planning to travel outside of the US to be fully vaccinated against measles at least 2 weeks prior to departure, in accordance with CDC guidelines.
- Individuals traveling internationally with infants under 12 months old should ensure that their child receives an early dose of vaccine between 6 and 11 months, a second dose at 12 to 15 months, and a final dose at 4 to 6 years, in accordance with CDC guidelines.
- Individuals returning to the US after international travel should monitor their health for 3 weeks and contact their local health department or provider if symptoms such as high fever, cough, or rash develop.

To minimize the spread of measles in general, CORI recommends:

- All children receive a routine 2-dose measles, mumps, and rubella (MMR) vaccine: the first dose at age 12 through 15 months and the second dose at age 4 through 6 years (before school entry).

- Adults and teens should also be up to date on MMR vaccinations, with either 1 or 2 doses (depending on risk factors), unless they have other presumptive evidence of immunity to measles, mumps, and rubella.
- Healthcare personnel without presumptive evidence of immunity should get 2 doses of MMR vaccine, separated by at least 28 days.
- People with confirmed or suspected measles should isolate themselves from others without immunity to measles until after the fourth day of rash onset.
- Individuals without measles immunity who are exposed to the virus should receive post-exposure prophylaxis with the measles vaccine within 72 hours or immunoglobulin within 6 days, or they may need to quarantine to prevent further spread.

Scenarios

CORI identified 5 key scenarios that may shape the risk of measles in the US for the upcoming year. These scenarios consider the health risks of measles, taking into account the differing impacts to various population groups within the US.

Currently, the Center for Outbreak Response Innovation (CORI) judges the measles outbreak in the United States to be in Scenario 4.

Features that would characterize each scenario include:

- **Scenario 1 – Sporadic cases of measles, no outbreaks (baseline):** In this scenario, the measles virus is occasionally introduced, usually by international travelers, into a community, but transmission lasts for less than 12 months. While sporadic cases can occur in any community with varying vaccination coverage, they often occur in well-vaccinated communities (over 90% coverage). There is no or limited transmission from these cases, with a total of 1–2 related cases, and they do not lead to an outbreak.
- **Scenario 2 – Development of small-to-medium outbreaks:** In this scenario, small-to-medium outbreaks occur, with or without reports of sporadic cases, and do not result in sustained transmission beyond 12 months. These outbreaks usually occur when the measles virus is introduced to an undervaccinated community (90% coverage or less), which leads to a small (3-9 related cases) to medium (10-49 related cases) outbreak.
- **Scenario 3 – Development of 1–2 large outbreaks:** In this scenario, large outbreaks occur, with or without reports of small-to-medium outbreaks and/or sporadic cases, and do not result in sustained transmission beyond 12 months. Large outbreaks typically occur in close-knit, undervaccinated settings with high population density, especially when there are pockets of unvaccinated individuals, such as migrant shelters or mass gatherings. This results in a large outbreak, ranging from 50 or more cases.

- ***UPDATED:*** **Scenario 4 – Development of 3+ large outbreaks or at least one extra-large outbreak:** In this situation, three or more large outbreaks (50+ cases) occur across different communities or there is report of an extra-large outbreak (300+ cases). These outbreaks may or may not be accompanied by reports of small-to-medium outbreaks and/or sporadic cases and do not result in sustained transmission beyond 12 months. Large outbreaks may emerge independently, driven by localized drops in vaccination coverage, mass gatherings, or travel-related introductions, while an extra-large outbreak results from continued

  transmission within a single expanding outbreak. Additionally, there may be an increase of sporadic cases in highly vaccinated communities due to widespread prevalence of the virus.
- **Scenario 5 – Sustained transmission beyond 12 months leading to loss of measles elimination status:** In the fifth scenario, the virus maintains sustained transmission, regardless of vaccination coverage levels, for at least 1 year. The sustained transmission of the virus results in measles once again becoming endemic in the US. CDC defines endemic transmission as a chain of measles virus transmission that is continuous for 12 months or more within the US. Under this scenario, the US would lose its measles elimination status, which was achieved in 2000.

Scenario-Based Human Health Risk Assessment for the US

Please note: *We are evaluating the risks to human health should each scenario occur,* ***not*** *the relative risk of any one scenario occurring. We are evaluating the potential risks to human health based on the scenarios outlined. In cases where multiple scenarios are occurring simultaneously nationally, we will highlight the highest-level scenario. Readers should refer to the scenario that applies to their specific region and neighboring areas. This risk assessment will be updated regularly.*

	Risk to unvaccinated people	Risk to children	Risk to healthcare workers	Risk to the US general public
Scenario 1 – Sporadic cases of measles, no outbreaks (baseline)	Low-Moderate	Low-Moderate	Low	Low
Scenario 2 – Development of small-to-medium outbreaks	Moderate	Moderate	Low	Low
Scenario 3 – Development of 1-2 large outbreaks	Moderate-High	Moderate-High	Low	Low

Scenario 4 – Development of 3+ large outbreaks or at least one extra-large outbreak	High	High	Low-Moderate	Moderate
Scenario 5 – Sustained transmission beyond 12 months leading to loss of measles elimination status	High	High	Low-Moderate	Moderate

Our overall **confidence** in these risk scores is moderate given the current level and availability of information for each of these factors, historical knowledge from past outbreaks on transmission dynamics, and the availability of vaccination and treatment resources.

Human Health Risk Scale				
Low	Low-Moderate	Moderate	Moderate-High	High

References

Boyum J. 3 active cases of measles remain in Upshur County. https://www.kltv.com. April 23, 2025. Accessed April 25, 2025. https://www.kltv.com/2025/04/23/4-active-cases-measles-remain-upshur-county/

Additional measles cases confirmed. Allen County Department of Health. April 14, 2025. Accessed April 25, 2025. https://allencountyhealth.com/department/news/additional-measles-cases-confirmed

Erie County Department of Health. ADDITIONAL MEASLES CASES IDENTIFIED. April 14, 2025. https://eriecountypa.gov/wp-content/uploads/2025/04/ECDH-Media-Release-4-14-25.pdf

Erie County Department of Health. Additional measles cases identified. April 14, 2025. https://eriecountypa.gov/wp-content/uploads/2025/04/ECDH-Media-Release-4-14-25.pdf

Additional Measles Cases in Atlanta | Georgia Department of Public Health. Accessed April 25, 2025. https://dph.georgia.gov/press-releases/2025-02-07/additional-measles-cases-atlanta

ArcGIS Dashboards. Accessed April 25, 2025. https://gisanddata.maps.arcgis.com/apps/dashboards/dd314001921f4d2eac160f89ded0b49a

Arkansas Measles Exposure Locations. Arkansas Department of Health. Accessed April 25, 2025. https://healthy.arkansas.gov/programs-services/diseases-conditions/communicable-diseases/measles-rubeola/arkansas-measles-exposure-locations/

Hardy B. Arkansas reports third measles case. Arkansas Times. April 21, 2025. Accessed April 25, 2025. http://arktimes.com/arkansas-blog/2025/04/21/arkansas-reports-third-measles-case

California Department of Public Health. Accessed April 25, 2025. https://www.cdph.ca.gov/Programs/CID/DCDC

Department of Health | Communicable Disease Service | Measles. Accessed April 25, 2025. https://www.nj.gov/health/cd/topics/measles.shtml

DPH Confirms Measles Case in Metro Atlan | Georgia Department of Public Health. Accessed April 25, 2025. https://dph.georgia.gov/press-releases/2025-01-28/dph-confirms-measles-case-metro-atlan

Foster W. Eaton County says 'possible' measles case a false alarm. https://www.wilx.com. April 25, 2025. Accessed April 25, 2025. https://www.wilx.com/2025/04/25/eaton-county-says-possible-measles-case-false-alarm/

epiENGAGE Measles Outbreak Simulator v-2.1.0. Accessed April 25, 2025. https://epiengage-measles.tacc.utexas.edu/

Erie County Department of Health Confirms 3 Additional Measles Cases. Accessed April 25, 2025. https://www.erienewsnow.com/story/52714459/erie-county-department-of-health-confirms-3-additional-measles-cases

King County Health Department. Fifth case of measles in Washington state identified in a King County infant. April 22, 2025. https://kingcounty.gov/en/dept/dph/about-king-county/about-public-health/news/news-archive-2025/04-22-measles-infant

First measles death reported in Texas as Kennedy downplays the outbreak. NBC News. February 26, 2025. Accessed April 25, 2025. https://www.nbcnews.com/health/health-news/person-dies-measles-west-texas-outbreak-rcna193812

Health Department Reports Measles Case in Bucks County. Bucks County, PA. Accessed April 25, 2025. https://www.buckscounty.gov/CivicAlerts.aspx?AID=1251

Health Director Urges Parents to Ensure Children Are Vaccinated Against Measles as ODH Confirms Outbreak in Ohio. Accessed April 25, 2025. https://odh.ohio.gov/media-center/odh-news-releases/odh-confirms-measles-outbreak-032625

IDOH NEWS RELEASE: INDIANA DEPARTMENT OF HEALTH CONFIRMS 5 NEW MEASLES CASES. State of Indiana. Accessed April 25, 2025. https://events.in.gov/event/idoh-news-release-indiana-department-of-health-confirms-5-new-measles-cases

Kansas Measles Outbreak Resource Hub and Investigation Updates. KDHE, KS. Accessed April 25, 2025. https://www.kdhe.ks.gov/CivicAlerts.aspx?AID=1496

KENTUCKY CABINET FOR HEALTH AND FAMILY SERVICES. Kentucky Health Officials Report Measles Case in Non-Kentucky Resident, Urge Immunizations To Prevent Infectious Disease. April 24, 2025. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https:/www.chfs.ky.gov/News/Documents/Kentucky Health Officials Report Measles Case in Non-Kentucky Resident, Urge Immunizations To Prevent Infectious Disease.pdf

LISTING OF DEPARTMENT OF PUBLIC HEALTH PRESS RELEASES. Accessed April 25, 2025. https://admin.publichealth.lacounty.gov/phcommon/public/media/mediapubhpdetail.cfm?prid=5018

Division IDE& P. Measles. Infectious Disease Epidemiology & Prevention Division. February 5, 2024. Accessed April 25, 2025. https://www.in.gov/health/idepd/diseases-and-conditions-resource-page/measles/

Measles. Accessed April 25, 2025. https://www.nmhealth.org/about/erd/ideb/mog/

Measles. Health Department. Accessed April 25, 2025. https://oklahoma.gov/health/health-education/acute-disease-service/rash-illness/measles.html

Tennessee Department of Health. Measles (Rubeola). April 27, 2025. https://www.tn.gov/health/cedep/reportable-diseases/measles-rubeola.html

Measles | Colorado Department of Public Health and Environment. Accessed April 25, 2025. https://cdphe.colorado.gov/measles

Measles | Colorado Department of Public Health and Environment. Accessed April 25, 2025. https://cdphe.colorado.gov/measles

Measles | Disease Outbreak Control Division. Accessed April 25, 2025. https://health.hawaii.gov/docd/disease_listing/measles/

CDC. Measles Cases and Outbreaks. Measles (Rubeola). April 24, 2025. Accessed April 25, 2025. https://www.cdc.gov/measles/data-research/index.html

Measles Cases Confirmed in Montana. Accessed April 25, 2025. https://dphhs.mt.gov/News/2025/April/MeaslesCasesConfirmedinMontana

Measles Data | KDHE, KS. Accessed April 25, 2025. https://www.kdhe.ks.gov/2314/Measles-Data

Measles Disease Statistics - MN Dept. of Health. Accessed April 25, 2025. https://www.health.state.mn.us/diseases/measles/stats.html

Measles Outbreak – April 25, 2025 | Texas DSHS. Accessed April 25, 2025. https://www.dshs.texas.gov/news-alerts/measles-outbreak-2025

Measles Outbreak in Knox County, 14 Confirmed Cases. Accessed April 25, 2025. https://www.knoxhealth.com/index.php/public-health-news-articles/507-measles-outbreak-in-knox-county-14-confirmed-cases

CDC. Measles Symptoms and Complications. Measles (Rubeola). March 12, 2025. Accessed April 25, 2025. https://www.cdc.gov/measles/signs-symptoms/index.html

Measles Update. Accessed April 25, 2025. https://www.health.ny.gov/diseases/communicable/measles/

Mathis AD. Measles Update — United States, January 1–April 17, 2025. *MMWR Morb Mortal Wkly Rep*. 2025;74. doi:10.15585/mmwr.mm7414a1

Mathis AD. Measles Update — United States, January 1–April 17, 2025. *MMWR Morb Mortal Wkly Rep*. 2025;74. doi:10.15585/mmwr.mm7414a1

Measles Updates. Accessed April 25, 2025. https://www.michigan.gov/mdhhs/adult-child-serv/childrenfamilies/immunizations/measlesupdates

STATE OF MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES. Michigan currently experiencing a measles outbreak in Montcalm County. April 17, 2025. https://content.govdelivery.com/attachments/MIDHHS/2025/04/17/file_attachments/3233787/Measles outbreak PR.pdf

Swanson S. More measles cases reported in Colorado, officials warn of possible community transmission. Fort Collins Coloradoan. Accessed April 25, 2025. https://www.coloradoan.com/story/news/2025/04/10/local-transmission-of-measles-possible-in-colorado-with-new-cases/82995553007/

News Releases | Health & Senior Services. Accessed April 25, 2025. https://health.mo.gov/news/newsitem/uuid/58f781a5-e996-4c78-918c-07b00af263cf/case-of-measles-confirmed-in-traveler-to-missouri

Oklahoma Measles Situation Update. Health Department. Accessed April 25, 2025. https://oklahoma.gov/health/news---events/newsroom/2025/ok-measles-update.html

Pages - Measles. Maryland.gov Enterprise Agency Template. Accessed April 25, 2025. https://health.maryland.gov/phpa/OIDEOR/IMMUN/Pages/default.aspx

press-release. Accessed April 25, 2025. https://www.illinois.gov/news/press-release.html

Sammampion and cough: Mexico will reinforce vaccination after imported cases - Ruetir. March 19, 2025. Accessed April 25, 2025. https://www.ruetir.com/2025/03/19/sammampion-and-cough-mexico-will-reinforce-vaccination-after-imported-cases/

Second 2025 Measles Case Confirmed in Denver. Accessed April 25, 2025. https://denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Public-Health-Environment/News/2025/Second-2025-Measles-Case

Ingham County Health Department. Second Case of Measles Confirmed in Ingham County Child. April 24, 2025. Accessed April 25, 2025. https://docs.ingham.org/ICHD_PR_Second Confimed Measles Case.pdf

McLister FMRF, Middletown originally from, Maryland, Bachelor's H, McLister master's degrees from ASUWCS of JRFBF. Second measles case of 2025 reported in Minnesota as cases surge nationwide - CBS Minnesota. April 22, 2025. Accessed April 25, 2025. https://www.cbsnews.com/minnesota/news/minnesota-measles-case-april-2025/

Summary of Infectious Diseases in Ohio. Accessed April 25, 2025. https://data.ohio.gov/wps/portal/gov/data/view/summary-of-infectious-diseases-in-ohio

Summary of Infectious Diseases in Ohio. Accessed April 25, 2025. https://data.ohio.gov/wps/portal/gov/data/view/summary-of-infectious-diseases-in-ohio

Tennessee Department of Health Confirms Two Additional Measles Cases. Accessed April 25, 2025. https://www.tn.gov/health/news/2025/4/17/tennessee-department-of-health-confirms-two-additional-measles-cases-.html

McKay R. Texas child is first reported US measles death in a decade as outbreak hits more than 130. *Reuters*. https://www.reuters.com/business/healthcare-pharmaceuticals/first-us-measles-death-reported-west-texas-outbreak-affects-more-than-130-people-2025-02-26/. February 27, 2025. Accessed April 25, 2025.

Louisiana AH. Two Measles Cases Confirmed in New Orleans Area. Access Health Louisiana. April 25, 2025. Accessed April 25, 2025. https://accesshealthla.org/two-measles-cases-confirmed-in-new-orleans-area/

Upshur County Texas. Upshur County Texas's Post. April 17, 2025. https://www.facebook.com/UpshurCountyTexas/posts/for-immediate-release-the-texas-department-of-state-health-services-dshs-has-not/962662926026305/

McCarthy M. US sees first measles death in 12 years. *BMJ*. 2015;351:h3653. doi:10.1136/bmj.h3653

Virginia Health Officials Confirm First 2025 Measles Case in the State – Newsroom. Accessed April 25, 2025. https://www.vdh.virginia.gov/news/2025-news-releases/virginia-health-officials-confirm-first-2025-measles-case-in-the-state/, https://www.vdh.virginia.gov/news/2025-news-releases/virginia-health-officials-confirm-first-2025-measles-case-in-the-state/

The Center for Outbreak Response Innovation is supported through Cooperative Agreement NU38FT000004 between CDC's Center for Forecasting and Outbreak Analytics and Johns Hopkins University's Bloomberg School of Public Health.

