YALE SCHOOL OF PUBLIC HEALTH - ESF-8 VIRTUAL MEDICAL OPERATION CENTER SPECIAL REPORT

MEASLES – THE AMERICAS 2025

MORBIDITY AND MORTALITY

COUNTRY	CONFIRMED CASES	DEATHS
NORTH AMERICA -3 ACTIVE OUTBREAKS		
US	1,478	3
CANADA	4,938*	1
* Includes the probable cases reported by Canada under the clinically confirmed column, due to alignment with PAHO's case definition.		
MEXICO	4,553	19
CENTRAL AMERICA - NO ACTIVE OUTBREAKS		
BELIZE (JULY 2025- OUTBREAK OVER)	34	0
COSTA RICA (NO NEW CASES)	1	0
SOUTH AMERICA – 2 ACTIVE OUTBREAKS		
BOLIVIA (NO UPDATE)	286	0
ARGENTINA (NO NEW CASES)	35	0
BRAZIL (NO NEW CASES)	23	0
PARAGUAY	35	0
PERU (NO NEW CASES)	4	0
THE CARRIBEAN (NO NEW CASES)	34	0
TOTAL	11,421	23

BACKGROUND

UNITED STATES

SUBACUTE SCLEROSING PANENCEPHALITIS

CANADA

MEXICO

Yale SCHOOL OF PUBLIC HEALTH

9/14/2025
2300 HRS EDT

RISK ASSESSMENT IN OUTBREAK AREAS

Risk for Localized Spread	Risk to unvaccinated populations in and around the outbreak areas	Risk to Children	Potential for sustained transmission
MODERATE	HIGH	HIGH	MODERATE

LINKS

UNITED STATES
CDC

TEXAS LINKS
- TEXAS DEPARTMENT OF STATE HEALTH SERVICES

NEW MEXICO LINKS
- NEW MEXICO DEPARTMENT OF HEALTH

OKLAHOMA LINKS
- OKLAHOMA STATE DEPARTMENT OF HEALTH

KANSAS
- KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT

CANADA
- MEASLES AND RUBELLA WEEKLY MONITORING REPORT
- ALBERTA DASHBOARD
- BRITISH COLOMBIA
- MANITOBA HEALTH
- NEW BRUNSWICK
- NOVA SCOTIA
- PUBLIC HEALTH ONTARIO
- PRINCE EDWARDS ISLAND
- QUEBEC
- SASKATCHEWAN

MEXICO
INFORME DIARIO DEL BROTE DE SARAMPIÓN EN MÉXICO, 2025
MEDICHIHUAHUA

BOLIVIA
ESTAMOS SALUD

PARAGUAY
Salus Publica

WHO
Immunization data

MEASLES TESTING LABORATORIES
- CDC MEASLES VIRUS LABORATORY

RESOURCES FOR THE PUBLIC
- CDC – MEASLES
- MEASLES CASES AND OUTBREAKS
- NYSDOH: YOU CAN PREVENT MEASLES
- CDC VIDEO: GET VACCINATED AND PREVENT MEASLES
- CDC VACCINE SHOT FOR MEASLES
- DIRECTORY FOR LOCAL HEALTH DEPARTMENTS

RESOURCES FOR EMS PROVIDERS
- GUIDANCE FOR SUSPECTED MEASLES PATIENT
- NYSDOH POLICY STATEMENT

PORTALS, BLOGS, AND RESOURCES
- CIDRAP
- CORI
- FORCE OF INFECTION
- IVAC
- KAISER HEALTH NEWS
- MEDPAGE TODAY
- NY STATE GLOBAL HEALTH UPDATE
- THE PANDEMIC CENTER TRACKING REPORT
- YOUR LOCAL EPIDEMIOLOGIST

BACKGROUND

TYPE OF PUBLIC HEALTH EMERGENCY: LARGE MULTINATIONAL MEASLES OUTBREAK (14 SEPTEMBER 2025)

OVERVIEW: The Americas have experienced a rate of measles infections **34 times higher than one year ago**. In 2025, a total of **11,421 cases and 23 deaths** have been reported across the region. Ten countries account for these cases, with **Canada having 4,938 cases (1 death), Mexico (4,553 cases, 19 deaths), and the United States (1,478** cases, **3 deaths**) representing the vast majority. Other affected countries include **Bolivia (286 cases)**, **Argentina (35)**, **Belize (34)**, **Brazil (23)**, **Paraguay (35)**, **Peru (4)**, and **Costa Rica (1)**. Additionally, **34 cases** have been reported in the **Caribbean**, although PAHO has not specified the countries involved. This sharp rise underscores the urgent need to close gaps in routine immunization, improve access to healthcare, and address vaccine hesitancy.

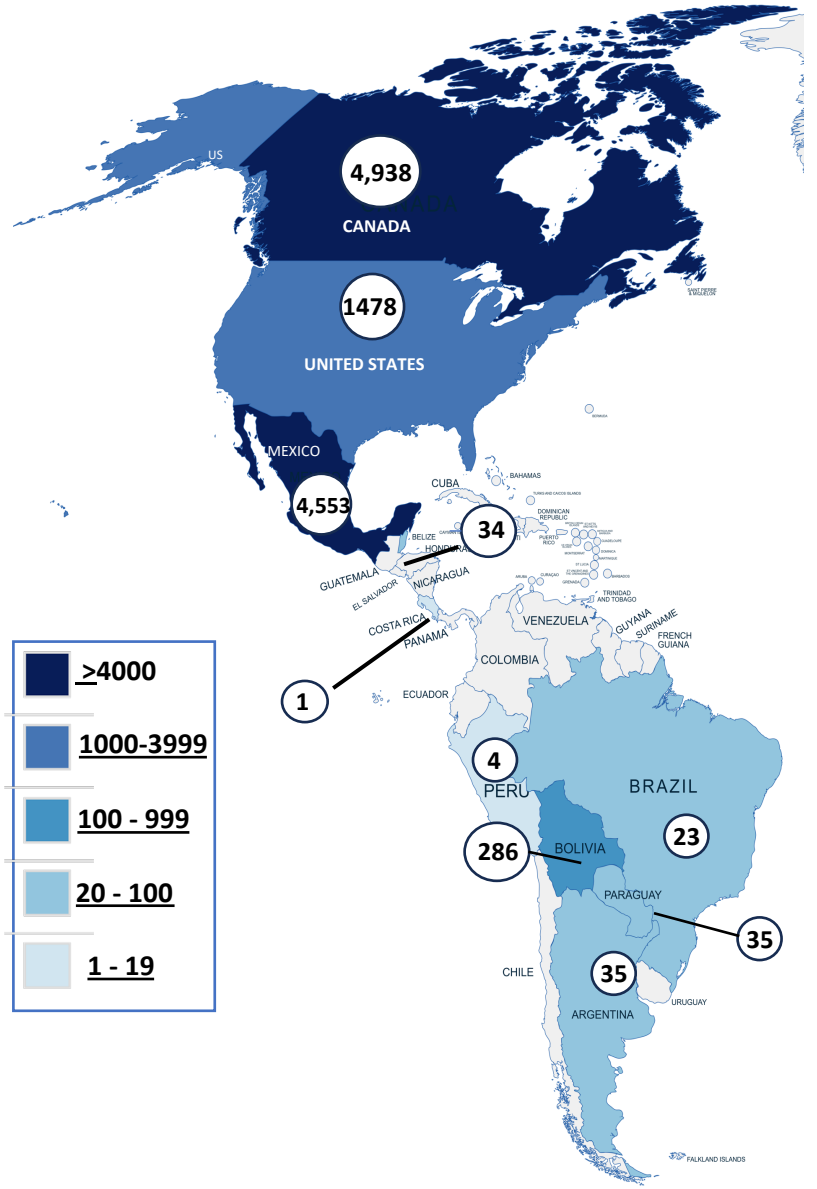
GENOTYPES: Genotype D8 is the primary driver of the current outbreaks and has been identified in cases across eight countries—particularly within Mennonite communities in **Canada, the United States, Mexico, Belize, Argentina, Bolivia, Brazil,** and **Paraguay**. In Brazil, transmission has been concentrated among members of a small **Russian Orthodox community in Tocantins state**. **Genotype B3** has also been detected, though far less frequently, and across a wider geographic area. These B3 detections are likely linked to sporadic introductions from intercontinental travel rather than the sustained local transmission seen with D8.

VACCINATION: Although entirely preventable through the MMR (measles, mumps, and rubella) vaccine, outbreaks continue to occur in under-vaccinated communities, leading to serious health outcomes and increased transmission risk (CDC). Since 2019, vaccination rates have declined globally, leading to a worldwide increase in measles cases.

- Contributing factors:
  - Socioeconomic inequities
  - Limited healthcare access
  - Under-resourced public health systems
  - Localized vaccine hesitancy
- **Coverage in The Americas**
  - **First dose:** 88%
  - **Second dose:** 77%
  - **Target threshold to prevent outbreaks:** ≥95%

REGIONAL TRENDS:

- *Canadian and Mexican outbreaks continue to grow rapidly.*
- *The outbreaks in the United States continue to occur, with the school year resuming in August/ September.*
- *Smaller outbreaks in other countries have been contained, including Belize.*
- *Countries are launching vaccination campaigns in response to the outbreak.*
- *The most affected age groups are children under 5 years and adolescents aged 10–19 years.*



UNITED STATES

BACKGROUND

Measles, declared eliminated in the U.S. in 2000, has made a troubling return**. As of September 9,** 2025, the U.S. has recorded **1,454 confirmed cases,** already exceeding the totals from both 2019 and 1992 and marking the highest number since the disease was eliminated. This represents a sharp rise from just 285 cases in all of 2024. In 2025 alone, **37 outbreaks** have been reported, with **86% of confirmed cases (1,249 of 1,454) being outbreak-associated**. For comparison, 16 outbreaks were reported during 2024 and 69% of cases (198 of 285) were outbreak-associated.

VACCINATION GAPS - Immunization rates have fallen below the 95% herd immunity threshold in many communities. Key drivers include:

- Public mistrust and misinformation, amplified by social media.
- Pandemic-era disruptions to routine immunization programs.
- Cuts to NIH and CDC funding for vaccine-hesitancy research and the sidelining of expert voices.

These gaps have fueled localized outbreaks, enabling broader chains of transmission.

SURVEILLANCE & INTERVENTION - Public health responses are evolving:

- **Wastewater surveillance** in Maryland, California, New Mexico, Texas, and Connecticut is detecting measles circulation– sometimes before clinical symptoms emerge.
- **Community-based vaccination drives** (door-to-door outreach, rapid-response brigades, and culturally tailored education) are raising local uptake.
- **Targeted interventions** in close-knit, under-vaccinated populations (Mennonite, Amish, and select religious or rural communities) remain central to outbreak control.

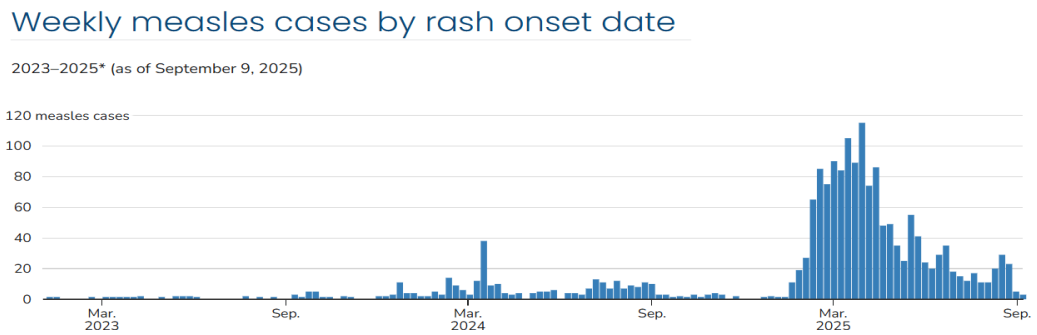
THE ROAD FORWARD

To re-secure measles elimination, the U.S. must:

- **Reinforce Vaccination Coverage** – Push childhood coverage back above 95%.
- **Invest in Public Health Infrastructure** – Restore outbreak response capacity weakened by funding cuts.
- **Rebuild Trust** – Partner with community leaders to deliver empathetic, accurate communication.
- **Scale Surveillance Innovations** – Expand wastewater monitoring and integrated early-warning systems.
- **Align Policy with Science** – Ensure state and national health policies follow evidence-based guidance.

MEASLES CASES IN 2025 - CDC

1,454 (+23) CONFIRMED MEASLES CASES (AS OF 9/9/2025)



As of September 9, 2025, there have been a total of 1,454 confirmed* measles cases reported in the United States. Among these, 1,433 measles cases were reported by 42 jurisdictions: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, Montana, Nebraska, New Jersey, New Mexico, New York City, New York State, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, Wisconsin, and Wyoming. A total of 21 measles cases were reported among international visitors to the U.S.

Age
Under 5 years: **404 (28%)**
5-19 years: **554 (38%)**
20+ years: **489 (34%)**
Age unknown: **7 (0%)**

Vaccination Status
Unvaccinated or Unknown: **92%**
One MMR dose: **4%**
Two MMR doses: **4%**

Percent Hospitalized: 12%
Under 5 years: 21% (86 of 400)
5-19 years: 7% (41 of 554)
20+ years: 11% (53 of 489)
Age unknown: 0% (0 of 7)

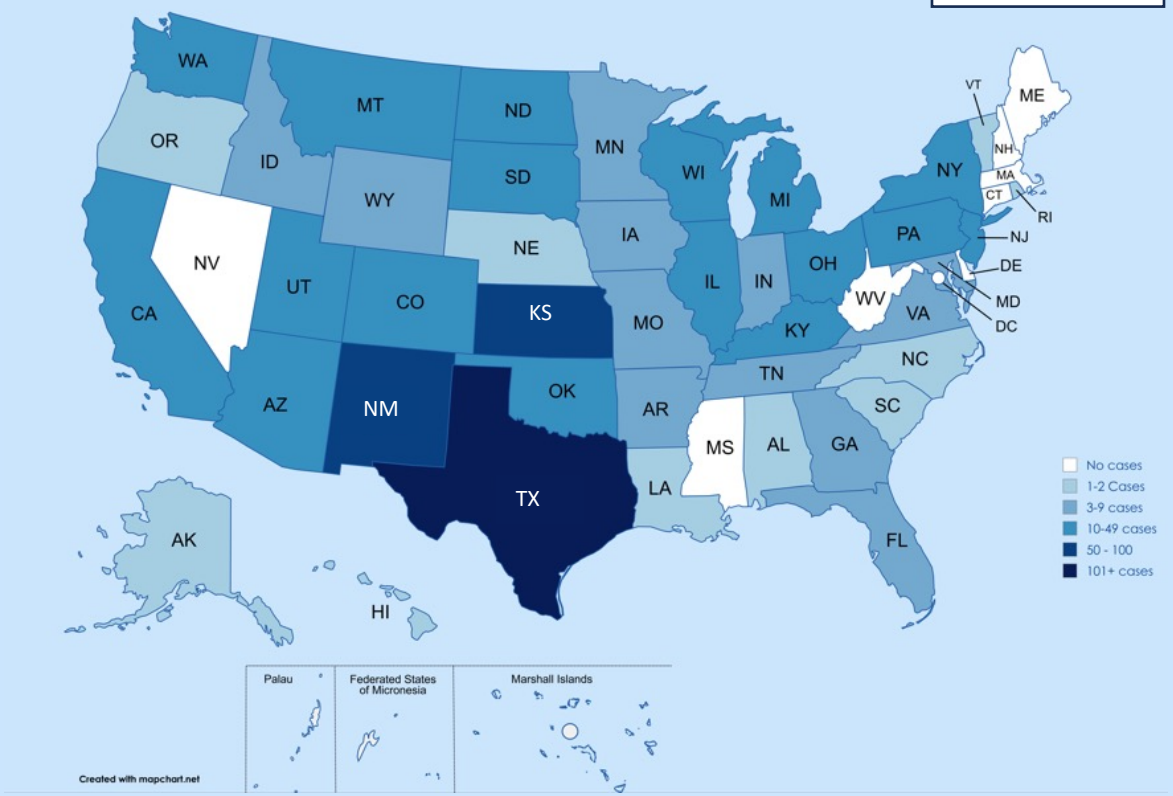
Deaths: 3

There have been 3 confirmed deaths from measles.

MEASLES CASES - AS OF 13 SEP 2025

** NOTE: The information on this page has been gathered by reviewing data from state and local health departments, news media sources, and the Center for Outbreak Response Innovation (CORI)*

1,478*



The increase in measles cases can be attributed to falling vaccination rates and increased importation of travel-related cases, which occur when unvaccinated people acquire measles abroad and bring it back to the U.S.

STATE	CASES
TEXAS **	803
NEW MEXICO	100
KANSAS	90
OHIO	38
NORTH DAKOTA	36
WISCONSIN+	36
ARIZONA+	34
MONTANA	31
UTAH+	30
COLORADO+	27
MICHIGAN	27
NEW YORK+	21
CALIFORNIA	20
OKLAHOMA	20
PENNSYLVANIA	16
KENTUCKY	14
SOUTH DAKOTA	12
WASHINGTON	11
ILLINOIS	10
NEW JERSEY	10
INDIANA	9
WYOMING	9
ARKANSAS	8
IOWA	8
GEORGIA+	7
MISSOURI	7
FLORIDA	6
TENNESSEE	6
MINNESOTA	5
IDAHO+	5
VIRGINIA+	4
MARYLAND	3
SOUTH CAROLINA+	3
ALASKA	2
HAWAII	2
LOUISIANA	2
ALABAMA+	1
NEBRASKA	1
NORTH CAROLINA	1
OREGON	1
RHODE ISLAND	1
VERMONT	1
TOTAL	1478

OUTBREAKS

- SMALL OUTBREAK (3-9)
- MEDIUM OUTBREAK (10 - 49)
- LARGE OUTBREAK (50 OR MORE)

An outbreak of measles is defined as three or more laboratory-confirmed cases that are temporally related and epidemiologically or virologically linked.

As of 1800 hours on 7 September 2025, EDT, there are approximately 1,442 measles cases (including confirmed and suspected cases) across 42 states. There have been 36 Outbreaks in the US this year this includes the following:

- ***Arizona*** *- Navajo County, Mohave County*
- ***Arkansas*** *- Faulkner County*
- ***Colorado –*** *10 cases linked to an infectious traveler*
- ***Georgia*** *- Metro Atlanta*
- ***Illinois*** *- Southern Illinois (Franklin–Williamson region)*
- ***Indiana*** *- Allen County*
- ***Iowa*** *- Johnson County*
- ***Kansas*** *9 counties*
- ***Kentucky*** *- Woodford, Fayette, and Jefferson Counties*
- ***Montana,*** *Gallatin, Hill, and Yellowstone Counties.*
- ***Michigan*** *- Montcalm County (linked to Ontario Outbreak) and a 2nd outbreak in Grand Traverse County*
- ***Missouri*** *- Cedar County*
- ***Oklahoma*** *and the Cherokee Nation*
- ***Ohio*** *- Ashtabula and Knox Counties*
- **Pennsylvania** *- Erie County*
- ***New Jersey*** *- Bergen County*
- ***New Mexico*** *- 6 counties*
- ***North Dakota*** *- Williams County, Grand Rapids*
- ***Texas*** *- 37 counties*
- ***Tennessee*** *- Upper Cumberland Region*
- ***Utah*** *- Utah County*
- ***Wisconsin*** *- Oconto County*
- ***Wyoming*** *- Carbon County*

**** TEXAS CASES NOT ASSOCIATED WITH OUTBREAK: 41**

- 1 case – Bell County
- 1 case - Bexar
- 1 case – Brazoria County
- 3 cases– Collin County
- 1 case – Dallas County
- 2 cases – Denton County
- 2 cases – El Paso County
- 1 Case – Adult, Fort Bend (travel-related)
- 5 cases – Harris County
- 1 case – Harrison County.
- 1 case – Hays County
- 1 case - Midland
- 2 cases – Randall County
- 1 case – Adults, Rockwall County (travel-related)
- 1 Case – Scurry County
- 1 case – Shackelford
- 4 cases – Tarrant
- 2 cases – Travis County
- 8 cases - Williamson

TEXAS CASES ASSOCIATED WITH THE OUTBREAK: 762

UNITED STATES – OUTBREAKS AND NEW CASES

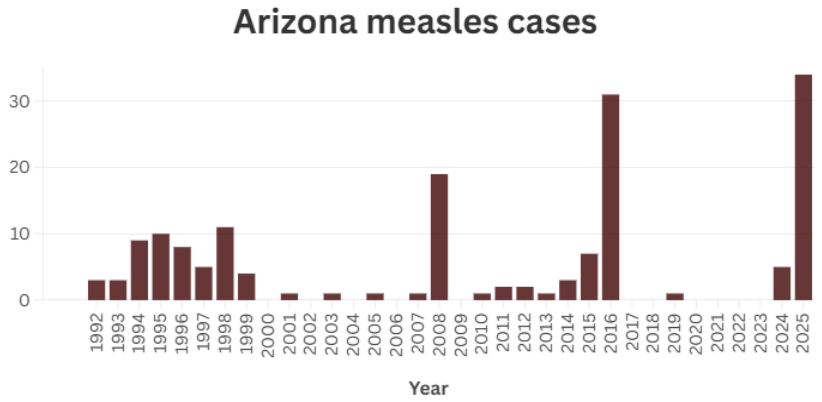
WISCONSIN: Eleven more cases of measles have been reported by Wisconsin health officials, bringing the state's total case count to 36. The cases remain confined to Oconto County, where Wisconsin's measles outbreak began this summer when nine people became infected with the disease following a single exposure during out-of-state travel, according to the state Department of Health Services. Since then, cases have steadily climbed, despite efforts by local health officials to identify close contacts who may have been exposed to confirmed cases, in order to head off further spread of the disease.

GEORGIA: An unvaccinated Fulton County resident caught the measles recently, according to health officials, who warn that the virus may have spread on the Georgia State University campus in downtown Atlanta and nearby areas. The Georgia Department of Public Health (DPH) on Friday confirmed the measles case. The department is working to notify anyone who may have come in contact with the person.

UTAH: Cases in Utah have now climber to 30 cases. Multiple people were infected with measles after being exposed at a Utah High School Cycling League race in Soldier Hollow, which had about 2,000 people in attendance.

CALIFORNIA: The Los Angeles County Department of Public Health encourages residents to make sure that all members of their families are protected against measles following the recent tragic death of a school-aged LA County resident from a complication of measles infection acquired during infancy. The child was originally infected with measles as an infant before they were eligible to receive the measles vaccine which is routinely recommended to be administered between 12 and 15 months. Although they recovered from the initial measles illness, the child developed and ultimately died from subacute sclerosing panencephalitis (SSPE)—a rare but universally fatal complication that can occur in individuals who had measles early in life.

ARIZONA: The ongoing measles outbreak in Arizona is now the largest in more than 30 years in the state. Over the last five weeks, 30 cases of measles have been reported in the Colorado City area. There were also four measles cases reported in June in Navajo County, bringing this year's total cases to 34 — the highest count in Arizona since 1991, according to Arizona Department of Health Services records.



UNITED STATES – UTAH & ARIZONA

UTAH		
CASES: 30	**HOSPITALIZATIONS: at least 2**	**DEATHS: 0**

AGES:
- <18: 17 (57%)
- 18+: 13 (43%)

VACCINATION STATUS:
- Unvaccinated: 25 (83%)
- Vaccinated: 4 (13%)
- Unknown: 1 (3%)

OUTBREAK OVERVIEW: In late May, a few sporadic cases were identified in infectious travelers visiting Utah. In late June, the first cases were reported in Utah County and southwestern Utah, near the border with Arizona. The southwestern outbreak has grown to 20 cases in Utah alone. Although no official sources have confirmed this outbreak is linked to the one across the border in Arizona, travel is common between the neighboring "twin cities" of Colorado City, AZ, and Hildale, UT, both of which are home to many members of a close-knit Mormon sect. Common exposure sites include schools and school-related events. Viral samples collected on June 1 and July 1 were all the D8 genotype.

RESPONSE: After finding wastewater samples that were positive for measles in July in Provo (where Brigham Young University is located), the Utah Department of Health and Human Services is expanding from 2 sites to 35 sites across the state.

ARIZONA		
CASES: 34	**HOSPITALIZATIONS: 1 (3%)**	**DEATHS: 0**

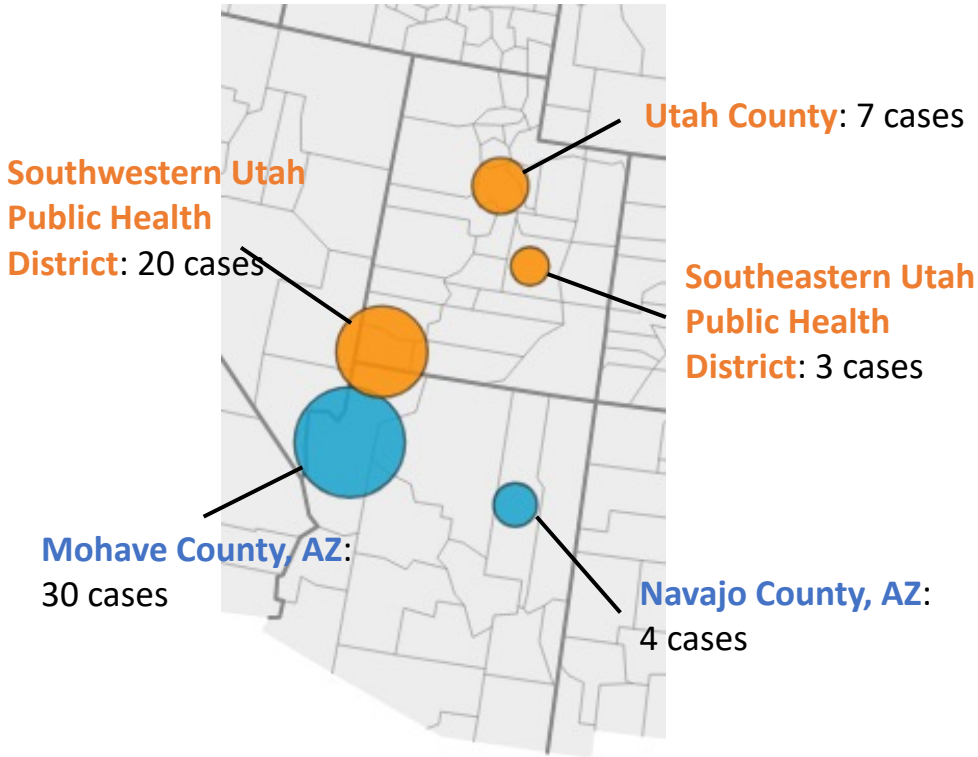
AGES: Arizona has not reported the age breakdown of cases. Affected individuals are between the ages of 1 and 45, and most cases are in school-aged children.

VACCINATION STATUS: Arizona has not reported the vaccination status of cases.

OUTBREAK TIMELINE: Arizona's first cases occurred in a cluster of four unvaccinated individuals in Navajo County, linked to international travel.

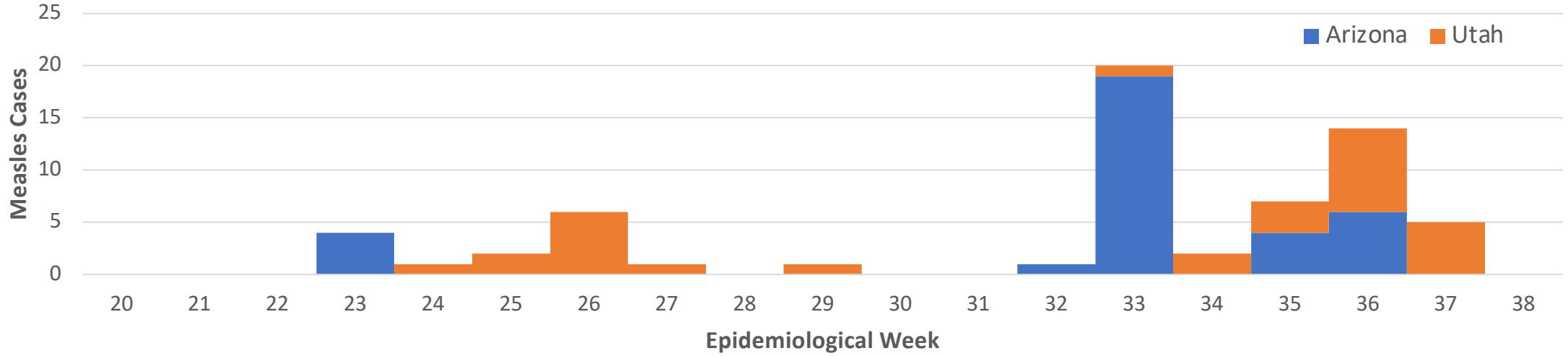
RESPONSE: Local and state departments of health are working to conduct contact tracing, isolate cases, set up vaccination clinics, and raise awareness at local schools and businesses.

FACTORS DRIVING THE OUTBREAK:
- **Low vaccination rates**: Kindergarten vaccination rates are low in the affected areas. For example, MMR vaccination rates for the two elementary schools in Colorado City were 7% and 40%
- **Anti-vaccination sentiment**: Rates of vaccine exemptions for schoolchildren have risen in recent years, with the majority of exemptions in Arizona being personal (85%) and religious (12.5%).
- **Close-knit religious communities**: Colorado City, AZ and Hildale, UT are home to a religious sect with historically low vaccination rates
- **Large gatherings**: outbreak in Utah was fueled by a large high school cycling event
- Travel: smaller outbreaks began after exposure during international travel



UNITED STATES – UTAH & ARIZONA OUTBREAK TIMELINE

EPI CURVE FOR MEASLES CASES IN ARIZONA AND UTAH, 2025



late May	**Southwestern Utah:** 2 infectious travelers visit in late May; no subsequent cases recorded
June 9	**Navajo County, AZ**: Cluster of 4 cases linked to recent international travel
26	**Southwest Utah Public Health District**: First 2 cases are reported in the district
	Utah County, UT: First 5 cases are reported in the county
July	**UT**: 4 additional cases reported in Southwest Utah Public Health District (2) and Utah County (2)
August 2-7	**Mohave County, AZ**: First exposures around Colorado City, AZ, a border city next to Hildale, Utah
16	**Wasatch County, UT**: Large exposure incident at high school cycling event (~2,000 people); several infections linked to the event
21	**Mohave County, AZ**: 9 cases in Colorado City outbreak
September 12	**Mohave County, AZ**: 30 total cases in Colorado City outbreak
	UT: 30 total cases in Utah County (7), Southwest Utah (20), and Southeast Utah (3)

SOURCES: Utah DHHS, Arizona HHS, KJZZ, PNT, WastewaterSCAN

SUBACUTE SCLEROSING PANENCEPHALITIS (SSPE)

Health officials on Thursday, September 11, 2025 reported the death of a Los Angeles County child from a complication of measles infection acquired during infancy. The child, identified only as school-aged, was originally infected with measles as an infant before they were eligible to receive the measles vaccine which is routinely recommended to be administered between 12 and 15 months, the L.A. County Public Health department said in a statement.

OVERVIEW: Subacute sclerosing panencephalitis (SSPE) is a devastating late complication of measles virus infection. Although rare and preventable through vaccination, healthcare systems may face more cases as measles re-emerges in many countries. SSPE carries a very high mortality rate, and there is currently no known cure.

CAUSE AND PATHOGENESIS

- Caused by a mutated measles virus that persists in the central nervous system (CNS) years after the initial infection.
- The defective virus evades clearance by the immune system, leading to chronic inflammation, demyelination, and neuronal degeneration.

EPIDEMIOLOGY

- Typically develops **7–10 years after acute measles infection**, but latency can be as short as 1 year or as long as decades.
- More common in children infected with measles **before age 2**.
- Incidence is estimated at **4–11 cases per 100,000 measles infections**, but higher in some regions with low vaccination coverage.

CLINICAL FEATURES (PROGRESSIVE STAGES)

- **Early stage:** Subtle behavioral changes, poor school performance, irritability, personality shifts.
- **Neurological deterioration:** Myoclonus (involuntary jerks), seizures, motor dysfunction, speech impairment.
- **Advanced stage:** Progressive cognitive decline, ataxia, spasticity, visual impairment, eventual coma.
- **Terminal stage:** Unresponsiveness, vegetative state, and death (typically within 1–3 years, though slower progression can occur).

TREATMENT & PREVENTION

- **No cure:** supportive and palliative care remain essential.
- **Antivirals and immunotherapy** (e.g., interferon, isoprinosine, ribavirin) may slow disease progression in some cases, though outcomes remain poor.
- **Prevention is critical:** measles vaccination is the only effective way to prevent SSPE.

SOURCES:

Scientific American - Child's Death Shows How Measles in the Brain Can Kill Years after an Infection

NIH - Subacute Sclerosing Panencephalitis

CANADA

BACKGROUND: The 2025 measles outbreak in Canada is the product of a perfect storm: a sparking importation event, weakening population immunity, rising hesitancy and misinformation, structural vulnerabilities in public health and healthcare access, and social dynamics that allowed the virus to spread through susceptible networks.

IMPORTATION AND INITIAL SPARK: The current outbreak began in **October 2024** when an imported case attending a large gathering in New Brunswick– which included attendees from multiple provinces– introduced the measles virus into Canada.

MULTI-JURISDICTION SPREAD: From late 2024 into 2025, the outbreak continued to spread across several provinces: Ontario, Alberta, Manitoba, British Columbia, Saskatchewan, Nova Scotia, New Brunswick, Prince Edward Island, the Northwest Territories, and Quebec.

CONTRIBUTING FACTORS

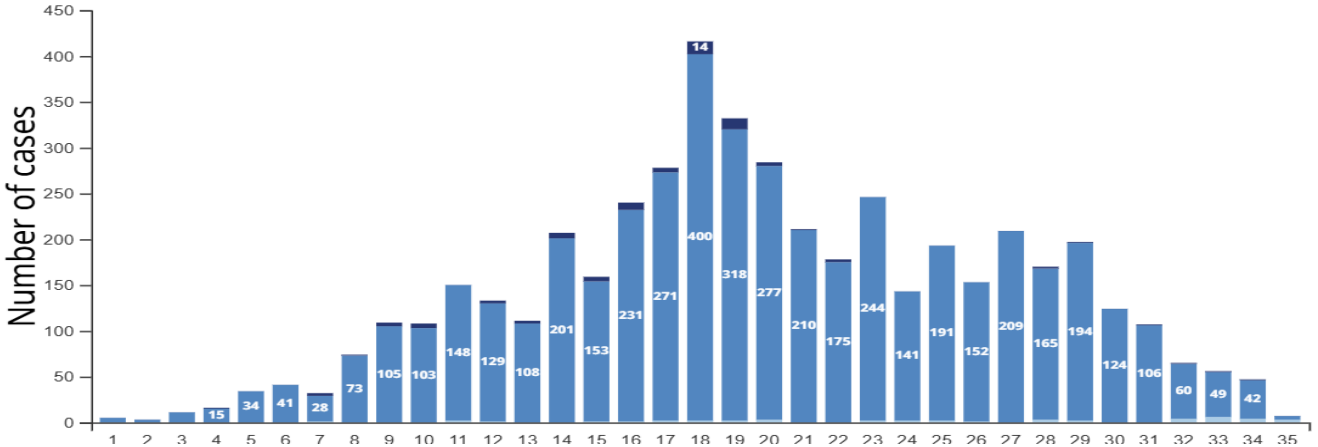
- **Low Vaccination Coverage**
  - **Erosion of herd immunity:** National first-dose measles vaccination coverage fell from 90% in 2019 to around 83% by 2023—well below the 95% threshold.
  - **Concentration in under-vaccinated communities**: The majority of cases are among unvaccinated individuals, with many arising within close-knit communities and groups with limited engagement with public health.
- **Vaccine Hesitancy & Misinformation**
  - **Lingering hesitancy and misinformation**: Distrust in public health, fueled partly by the COVID-19 pandemic and growing anti-vaccine movements, has played a role in lower vaccination rates.
  - **Attitudinal challenges**: Studies show that declining familiarity with vaccine-preventable diseases can reduce perceived threat, leading to complacency or skepticism toward vaccination.

Public Health System and Access Gaps

- **Disrupted immunization services**: COVID-19 strained public health infrastructure, leading to missed routine vaccinations.
- **Gaps in healthcare access and systems**:
  - About **20% of Canadians lack a consistent family doctor**, reducing opportunities for routine vaccine discussions.
  - There's **no comprehensive national vaccine registry**, making it hard to track immunization status.
- **Looser exemption policies**: In some regions like Alberta, religious and personal exemptions for school-entry vaccination are common and hard to challenge.

Community Dynamics: The outbreak spread swiftly among tightly interlinked religious groups—such as Mennonite communities—that span Canada, the U.S., and Mexico.

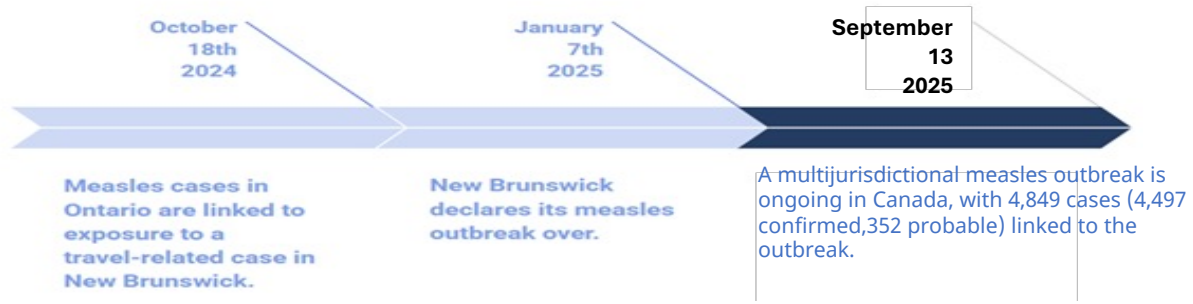
EPIDEMIOLOGICAL CURVE FOR MEASLES CASES, BY EPIDEMIOLOGICAL WEEK - 35



Measles and rubella weekly monitoring report – Week 34
Updated Public Health Risk Assessment: Measles In Canada - 26 July 2025
WHO - Measles – Region of the Americas
Measles jumps borders in North America with outbreaks in Canada, Mexico, and the US
PAHO - Measles cases rise in the Americas in 2025
PAHO - Epidemiological Update - Measles in the Americas Region - 1 July 2025
PAHO - Ten countries in the Americas report measles outbreaks in 2025- 15 August 2025

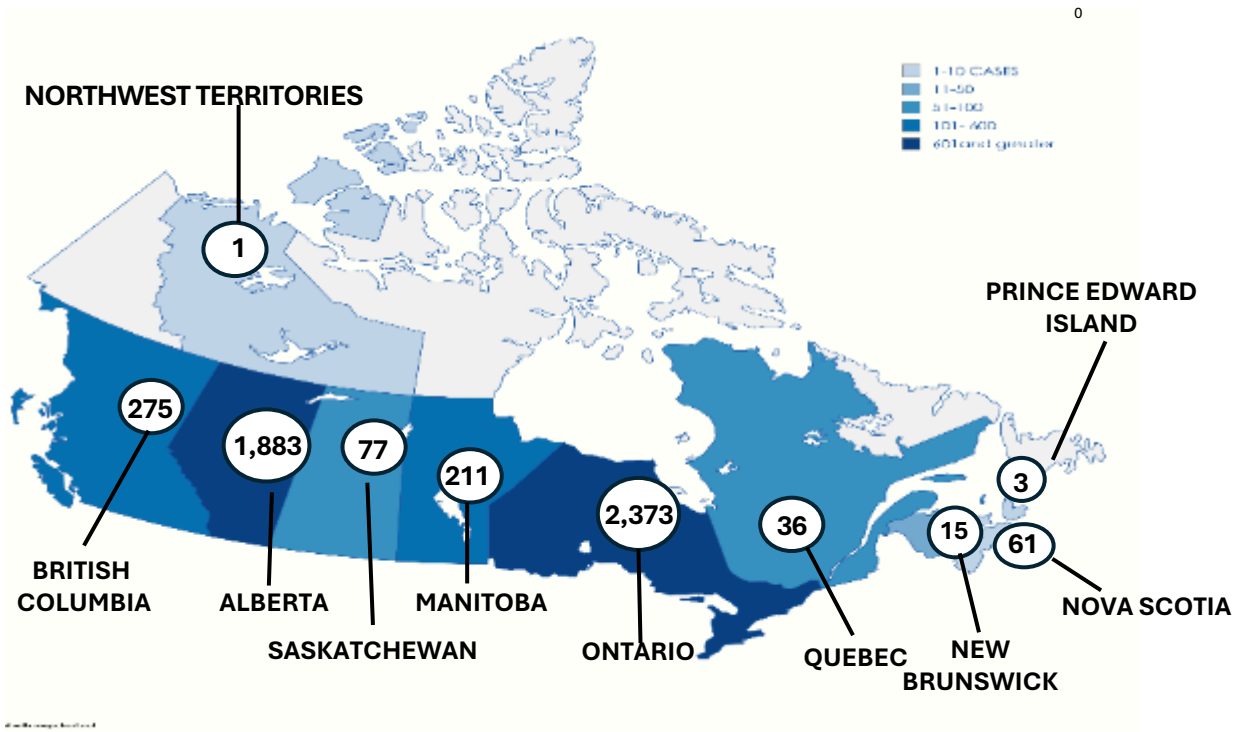
CANADA – CURRENT SITUATION

Brief Timeline of Outbreak



MEASLES 2025			
PROVINCE	CONFIRMED CASES	PROBABLE CASES	TOTALS
ONTARIO	2,056 (+2)	317	2,373
ALBERTA	1,883 (+54)	0	1,883
MANITOBA	198 (+4)	16	211
BRITISH COLUMBIA	257 (+15)	18 (+1)	275
SASKATCHEWAN	77 (+3)	0	77
QUEBEC	36	0	36
PRINCE EDWARD ISLAND	3	0	3
NOVA SCOTIA	61 (+8)	0	61
NORTHWEST TERRITORIES	1	0	1
NEW BRUNSWICK	15	0	15
TOTAL	4,587 (+86)	351	4,938

As of 9/14/2025



4,938 Cases (5,587 Confirmed, 351 Probable)
1 Death

* Count includes 43 cases not associated with the outbreak and the outbreak numbers that began on 21 October 2024

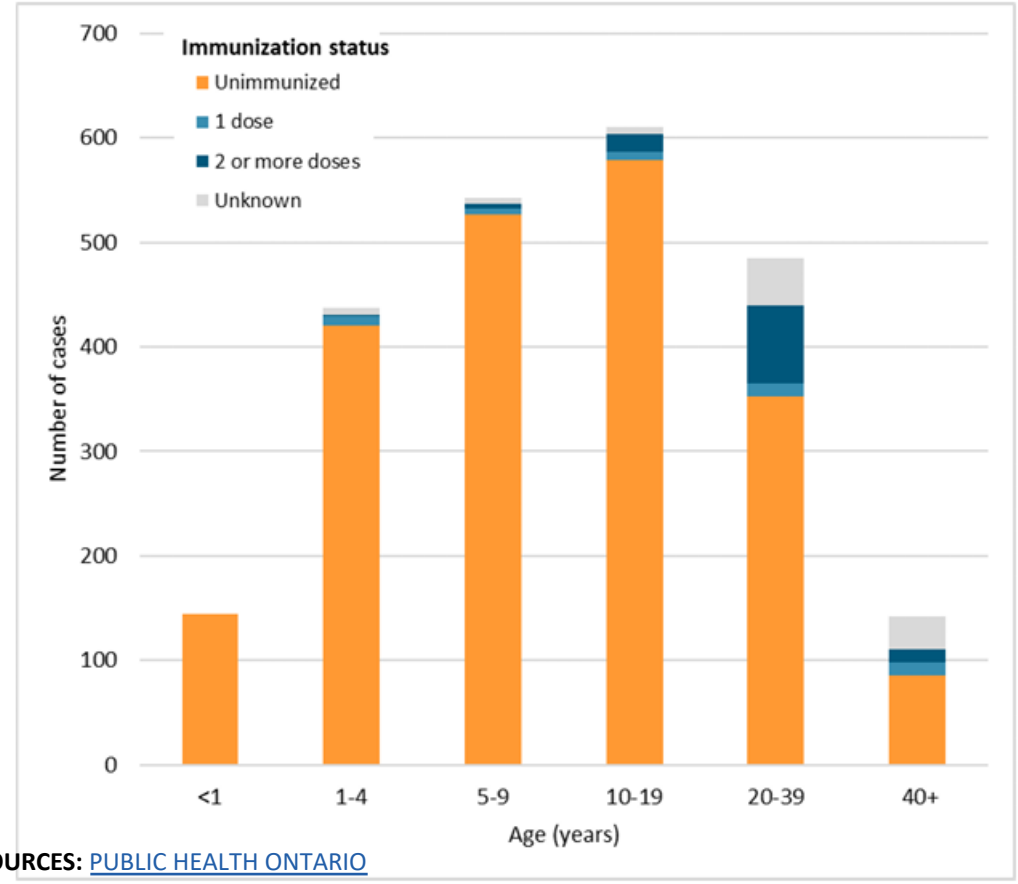
SOURCES: MANITOBA HEALTH, ALBERTA DASHBOARD, QUEBEC, PUBLIC HEALTH ONTARIO, SASKATCHEWAN, CA MEASLES AND RUBELLA WEEKLY MONITORING REPORT, BC, NEW BRUNSWICK, NOVA SCOTIA

OUTBREAK – ONTARIO
(OCTOBER 18, 2024, TO September 2, 2025)

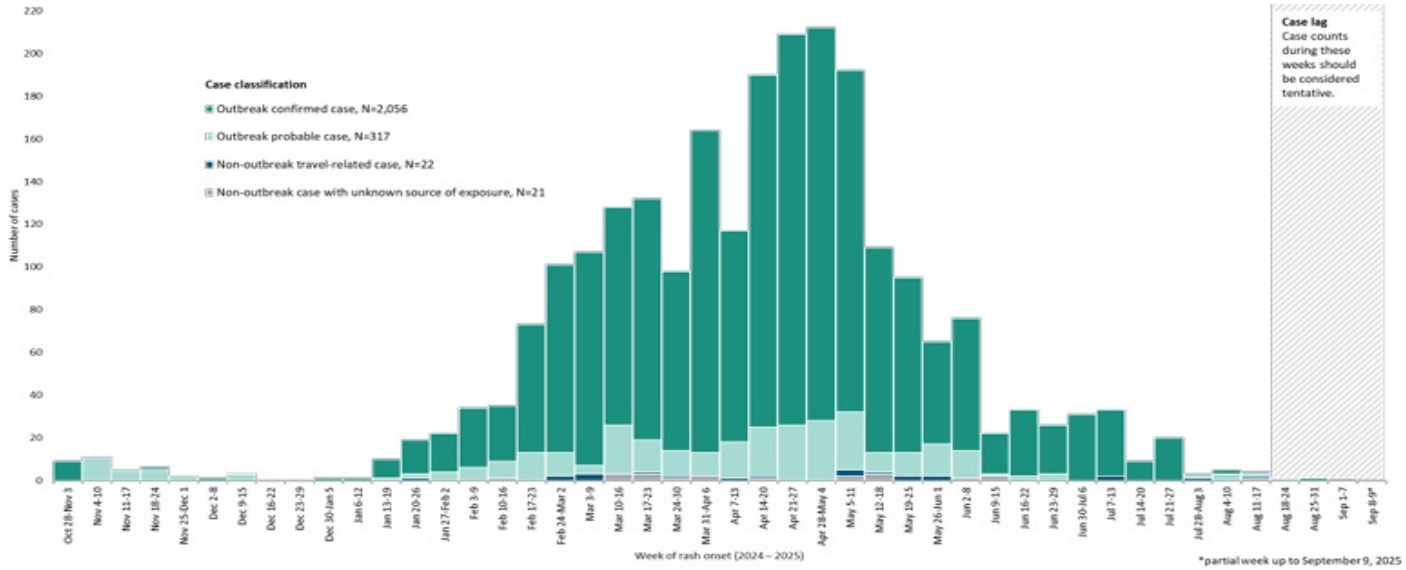
MORBIDITY AND MORTALITY			
PROVINCE	CASES	HOSPITALIZATIONS	DEATHS
ONTARIO*	2,373 (2,056 confirmed, 317 probable)	165 (12 ICU)	1

- As of September 9, Ontario has reported a total of 2,371 measles cases (2,054 confirmed, 317 probable) associated with the multi-jurisdictional outbreak occurring in 26 public health units. This represents an increase of seven new cases.
- Among all outbreak cases, the majority (73%, n=1,733) were infants, children, and adolescents (19 years old or younger), while 26.4% (n=627) were adults, and 0.5% (n=13) had unknown age.
- Almost all infant, child, and adolescent outbreak cases (96.4%, n=1,670) were unimmunized, while 69.9% (n=438) of adults were unimmunized.
- A total of 2.1% (n=51) of outbreak cases were pregnant at the time of their measles infection.
  - Of these, 84.3% (n=43) were unimmunized, 2.0% (n=1) received one dose of measles-containing vaccine, 9.8% (n=5) received two or more doses, and 3.9% (n=2) had unknown immunization status.
  - There have been nine cases of congenital measles (i.e., measles diagnosed in the first 10 days of life).
- Overall, 7.0% (n=165) of outbreak cases were hospitalized, and 0.5% (n=12) were admitted to the intensive care unit (ICU).
  - 95.2% (n=157) of hospitalized cases were unimmunized, of whom 122 were infants, children and adolescents.
- One death occurred in a congenital case of measles, who was born pre-term and had other underlying medical conditions.

IMMUNIZATION STATUS OF MEASLES OUTBREAK CASES BY AGE GROUP: OCTOBER 28, 2024 – SEPTEMBER 2, 2025



NUMBER OF MEASLES CASES BY WEEK OF RASH ONSET, 10/28/2024 – 09/9/2025



SOURCES: PUBLIC HEALTH ONTARIO

OUTBREAK – ALBERTA

MORBIDITY AND MORTALITY			
PROVINCE	CASES	HOSPITALIZATIONS	DEATHS
Alberta	1,883	148 (15 ICU) (1 Currently Hospitalized)	0

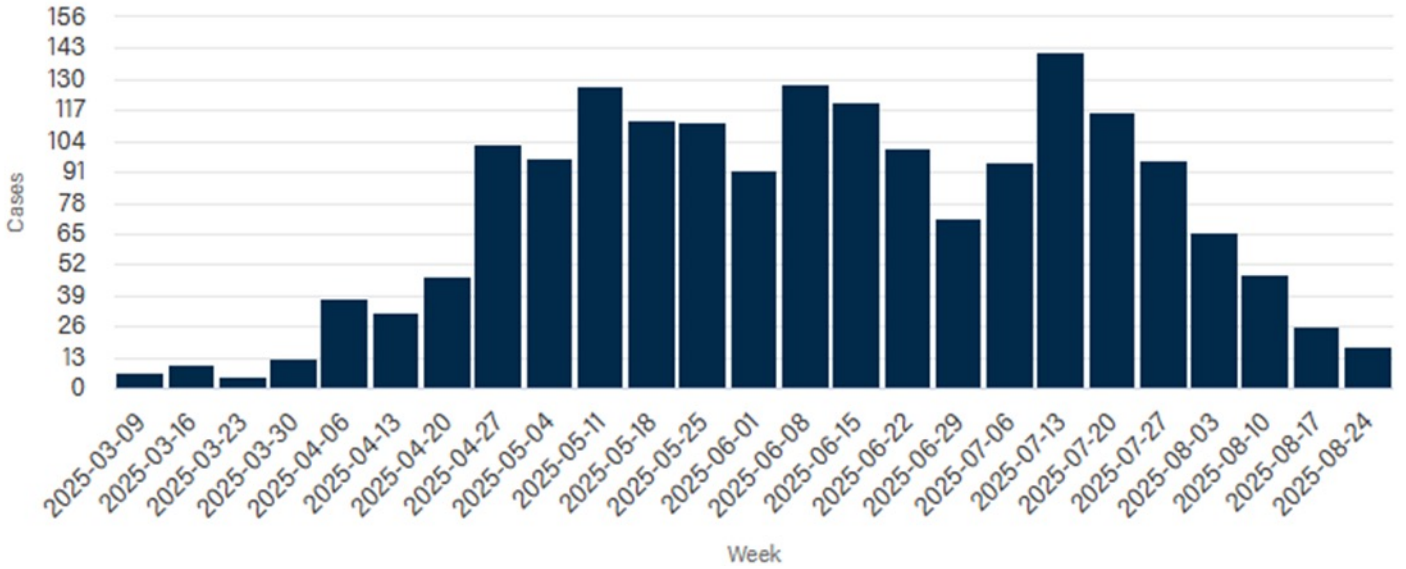
IMMUNIZATION STATUS	COUNT
Unimmunized	1,656
1 dose	55
2 or more doses	78
Unknown	67

AGE RANGE	NUMBERS
<5 years	536 (+19)
5 to 17 years	831 +28)
18 to 54 years	507 (+7)
55 years and older	9

Multi-Jurisdictional Outbreak

- Measles transmission is currently occurring in Alberta, affecting individuals of all ages – including infants, children, and adults. Most reported cases have been in children under 5 years old and those aged 5 to 17 who are not immunized.
- Cases have been reported in all zones of the province, with the highest numbers in the north, south, and central zones. Due to the number of people in these areas who may not be immune to measles, some cases are likely going undetected or unreported.
- Alberta Health Services shares known public exposure locations for the Edmonton, Calgary, Central, and parts of the North Zone. A standing exposure advisory has been issued for the South Zone and areas of the North Zone. Site-specific exposure advisories will no longer be issued in these locations.

NUMBER OF MEASLES CASES BY WEEK OF RASH ONSET, 1/1/2025 – 08/3/2025



ALBERTA DASHBOARD
CA MEASLES AND RUBELLA WEEKLY

MEXICO

BACKGROUND

- The origin of the outbreak is traced to a large Mennonite community near Cuauhtémoc, where vaccination rates are estimated at only 50–70%. It was introduced into the community when an unvaccinated 8-year-old who became infected during a visit to relatives in Texas returned to Mexico, where the virus rapidly spread through schools, churches, and neighboring communities.

- The outbreak has since expanded into Indigenous and working-class populations, including individuals with underlying health conditions that increase the risk of severe illness and death. Twenty-one states and 94 municipalities have confirmed measles cases.

CURRENT SITUATION

- There are **4,437** confirmed cases, with **4,133** of those cases in the state of Chihuahua.
- To date, Mexico has reported **19 measles-related deaths—18 in Chihuahua** and **1 in Sonora**—all among unvaccinated individuals. Indigenous communities have been hardest hit, with a case-fatality rate 20 times higher than in the general population.
- Approximately **78% of deaths have been among the Rarámuri**, an indigenous people. The combination of low vaccine coverage, geographic barriers, and pre-existing health vulnerabilities (like malnutrition) has amplified the impact.
- Chihuahua remains the epicenter, accounting for **93.56% of all confirmed measles** cases in Mexico and **94.12% of all deaths.**
- In terms of incidence rate, the 0–4 years age group reported the highest incidence (9.88 cases per 100,000 inhabitants under 4 years), followed by the 25–29 years and 30–34 years groups with incidence rates of 5.39 and 4.46, respectively.

GENOTYPES IDENTIFIED:

- **D8 (Ontario.CAN/47.24)** – dominant strain, linked to outbreaks in Texas and Canada.
- **B3 (NSW.AUS/10.24)** – limited to Oaxaca, contained importation.

KEY DRIVERS OF THE OUTBREAK:

- **Systemic Weaknesses:** Post-2018 budget cuts (69% reduction in vaccination funds) and procurement delays.
- **Coverage Gaps:** Vaccine uptake as low as 30–50% in Mennonite and some Indigenous communities.
- **Misinformation & Distrust:** Resistance to vaccination in rural and religious groups.
- **Access Inequalities:** Farmworkers and Indigenous groups face barriers to healthcare.

PUBLIC HEALTH RESPONSE

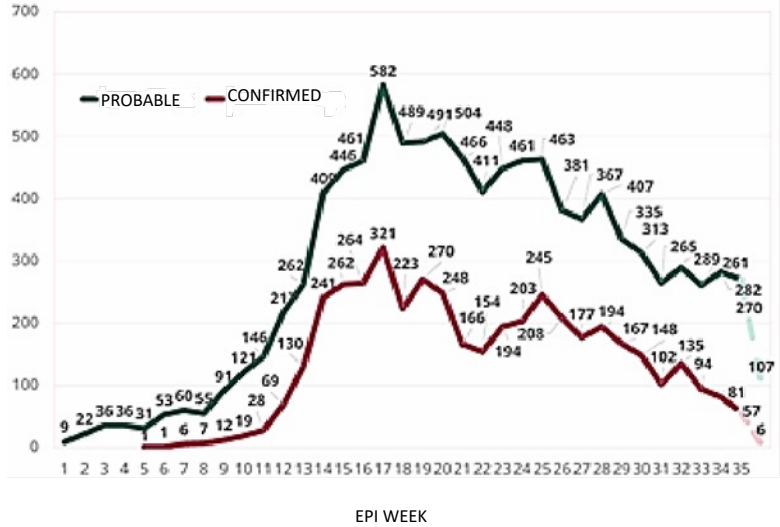
- **“Juarez Shield Strategy”** – Mass vaccination campaign; 42,000 vaccinated in Chihuahua.
- **Rapid Response Plan** – Enhanced surveillance, lab confirmation, case isolation.
- **Door-to-Door Vaccination** – Community engagement with local and religious leaders.
- **Vitamin A Supplementation** – For children under 5 with suspected or confirmed measles.

SOURCES:

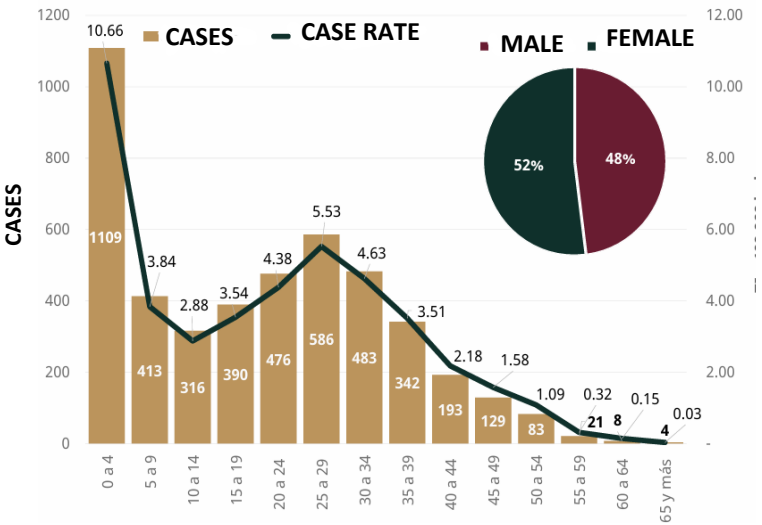
Daily Report – Mexico
Epidemiological Situation of Vaccine-Preventable Diseases in Mexico – Report 33
MediChihuahua – 5 SEP
Bi Weekly Bulletin – August (PAHO)
Think Global Health - Measles Takes Root In Mexico
A Population-based Measles Serosurvey In Mexico: Implications For Re-emergence

MEXICO

PROBABLE AND CONFIRMED MEASLES CASES BY EPIDEMIOLOGICAL WEEK AND DATE OF RASH ONSET



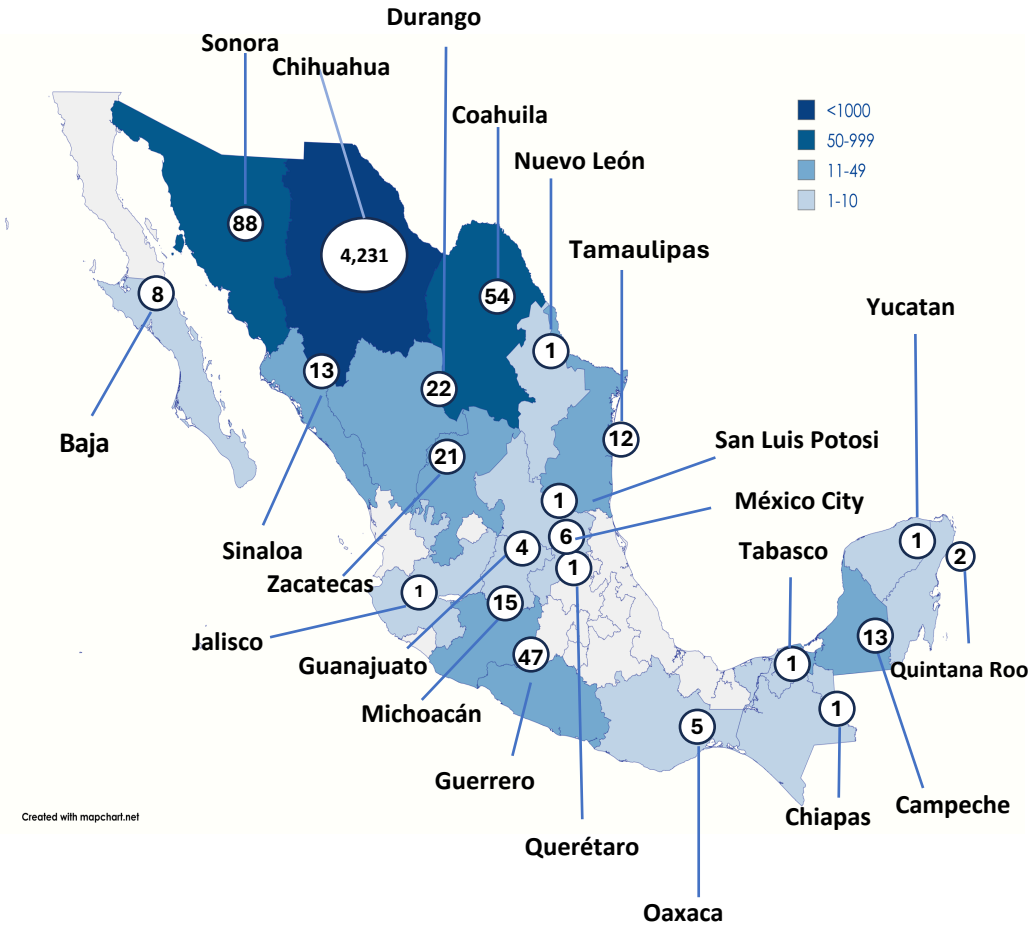
CONFIRMED CASES BY SEX, AGE, AND INCIDENCE RATE



CONFIRMED MEASLES CASES

STATE	CASES	
	CONFIRMED	PROBABLE
BAJA	8	59
CAMPECHE	14	85
CHIAPAS	1	31
CHIHUAHUA	4,231 (+98)	5,812
MÉXICO CITY	6	526
COAHUILA	54	253
DURANGO	22	209
GUANAJUATO	4	463
GUERRERO	47 (+12)	127
JALISCO	1	0
MICHOACÁN	15	158
NUEVO LEÓN	1	239
OAXACA	5	70
QUERÉTARO	1	109
QUINTANA ROO	2	64
SAN LUIS POTOSI	1	118
SINALOA	13	98
SONORA	88 (+1)	253
TABASCO	1	64
TAMAULIPAS	12	113
YUCATAN	1	45
ZACATECAS	21	135
TOTAL	4,553 (+111)	8,784

Data as of 9/12/2025



4,553 CONFIRMED CASES
19 (+1) DEATHS

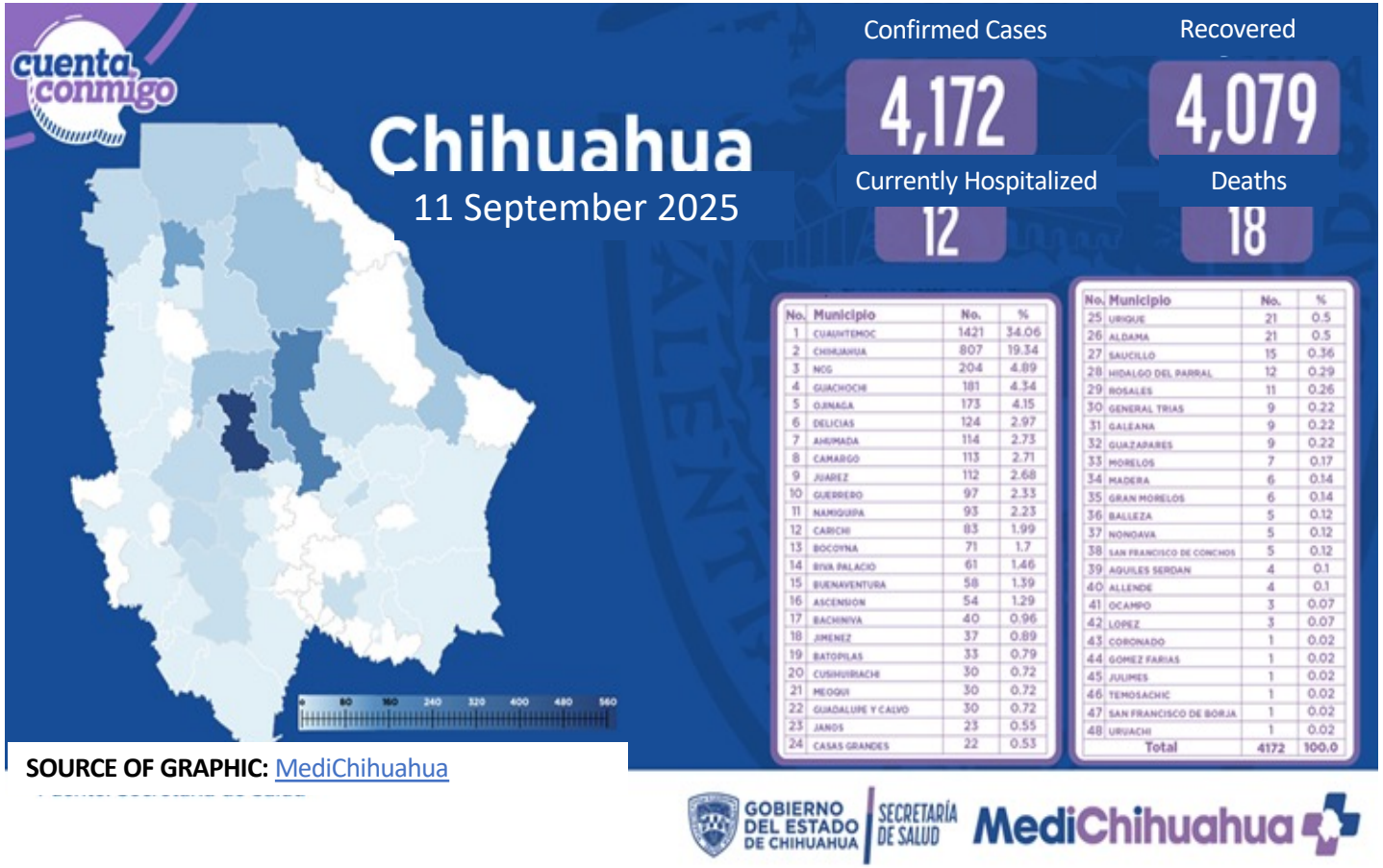
SOURCE: DAILY REPORT
CONFIRMAN EL PRIMER CASO DE SARAMPIÓN EN JALISCO; ACTIVAN CERCO EPIDEMIOLÓGICO

MEXICO – DEATHS FROM MEASLES 2025

1	Adult male, Mennonite community	31years old	Ascensión, Chihuahua	No	4/3/2025	Diabetes	DW
2	Boy, Mennonite community	7 years old	Ojinaga, Chihuahua	No	5/2/2025	Underlying health problem (leukemia)	Chihuahua Secretaría de Salud; TV Azteca
3	Boy, Mennonite community	11 months old	Namiquipa, Chihuahua	No	5/6/2025	mother unvaccinated, no passive immunity, underlying renal condition)	Chihuahua Secretaría de Salud; TV Azteca
4	Girl, agricultural laborers	1 year old	(Originally from Chihuahua) Died in Sonaro	No	5/8/2025	Severe malnutrition	Informador.mx La Secretaría de Salud de Sonora
5	Girl, Rarámuri community	2 years, 11 months	Ojinaga, Chihuahua	No	5/17/2025	Dehydration, diarrhea, pneumonia	Chihuahua Secretaría de Salud
6	Adult male, Rarámuri	45 years old	Carichí, Chihuahua	No	5/29/2025	—	N+ Noticias
7	Girl, Rarámuri community	4 years old	Guachochi, Chihuahua	No	6/5/2025	Moderate malnutrition, pneumonia	N+ Noticias
8	Boy, Mixtec community	5 years old	(Originally from Sinaloa) Died in Chihuahua.	No	6/15/2025	Severe malnutrition, anemia, respiratory issues, pneumonia	N+ Noticias
9	Woman, Rarámuri	27 years old	Meoqui, Chihuahua	No	6/16/2025	Pneumonia, no comorbidities	N+ Noticias
10	Boy, agricultural laborer family	2 years 11 months	Campo Nueva Holanda, Ojinaga, Chihuahua	No	6/27/2025	Dehydration and diarrhea	Chihuahua Secretaría de Salud
11	Woman, Rarámur community	48 years old	San José Baqueachi, Carichí, Chihuahua	No	7/7/2025	Complications from pneumonia, no comorbidities	Chihuahua Secretaría de Salud
12	Man, Rarámur community	46 years old	Cuauhtémoc, Chihuahua	No	7/21/2025	Respiratory failure and pneumonia	Chihuahua Secretaría de Salud
13	Girl, Rarámur community	6 years old	Carichí, Chihuahua	No	7/21/2025	Respiratory failure and pneumonia	N+ Noticias Secretaría de Salud del Estado de Chihuahua
14	Man, Rarámur community	54 years old	Bocoyna, Chihuahua	No	7/30/2025	Respiratory failure and pneumonia	N+ Noticias Secretaría de Salud del Estado de Chihuahua
15	Girl, Rarámuri community	15 years old	From Guadalupe y Calvo, died in Camargo	No	8/13/2025	Pneumonia, no comorbidities	El Diario de Chihuahua Secretaría de Salud del Estado de Chihuahua
16	Woman, Rarámuri, farm labored	19 years old	From Guadalupe y Calvo, working in Camargo, died in Chihuahua City	No	8/25/2025	No info at this time	Secretaría de Salud del Estado de Chihuahua
17	Rarámuri baby	1 year old	From Guadalupe y Calvo, working in Camargo, died in Chihuahua City	No	8/27/2025	Pneumonia	Secretaría de Salud del Estado de Chihuahua
18	Rarámuri baby	8 months	From Urique, died in Cuauhtémoc	No	8/29/2025	Complications related to measles	Secretaría de Salud del Estado de Chihuahua
19	Rarámuri baby girl	11 months	Camargo, Chihuahua	No	9/6/2025	Complications related to measles	Secretaría de Salud del Estado de Chihuahua

OUTBREAK – CHIHUAHUA, MEXICO

- **Current Trend:** While the outbreak is no longer growing at an exponential rate, sustained transmission persists, creating an ongoing risk. Densely populated areas and communities with low vaccination coverage remain vulnerable to new clusters.
- **Herd Immunity Challenge:** Reaching and maintaining **95% vaccination coverage** is essential to halt measles transmission. Until coverage is uniformly achieved, including among vaccine-hesitant and hard-to-reach groups, measles will continue to be a threat.
- **Border & Regional Spillover:** Chihuahua's **geographic proximity and cultural ties to U.S. border states** heighten the risk of cross-border spread, especially given recent travel-related introductions (e.g., the initial case linked to Texas). Without containment, additional regional seeding is possible.



No.	Municipio	No.	%
1	CUAUHTEMOC	1421	34.06
2	CHIHUAHUA	807	19.34
3	NCG	204	4.89
4	GUACHOCHI	181	4.34
5	OJINAGA	173	4.15
6	DELICIAS	124	2.97
7	AHUMADA	114	2.73
8	CAMARGO	113	2.71
9	JUAREZ	112	2.68
10	GUERRERO	97	2.33
11	NAMIQUIPA	93	2.23
12	CARICHI	83	1.99
13	BOCOYNA	71	1.7
14	RIVA PALACIO	61	1.46
15	BUENAVENTURA	58	1.39
16	ASCENSION	54	1.29
17	BACHINIVA	40	0.96
18	JIMENEZ	37	0.89
19	BATOPILAS	33	0.79
20	CUSIHUIRIACHI	30	0.72
21	MEOQUI	30	0.72
22	GUADALUPE Y CALVO	30	0.72
23	JANOS	23	0.55
24	CASAS GRANDES	22	0.53

No.	Municipio	No.	%
25	URIQUE	21	0.5
26	ALDAMA	21	0.5
27	SAUCILLO	15	0.36
28	HIDALGO DEL PARRAL	12	0.29
29	ROSALES	11	0.26
30	GENERAL TRIAS	9	0.22
31	GALEANA	9	0.22
32	GUAZAPARES	9	0.22
33	MORELOS	7	0.17
34	MADERA	6	0.14
35	GRAN MORELOS	6	0.14
36	BALLEZA	5	0.12
37	NONOAVA	5	0.12
38	SAN FRANCISCO DE CONCHOS	5	0.12
39	AQUILES SERDAN	4	0.1
40	ALLENDE	4	0.1
41	OCAMPO	3	0.07
42	LOPEZ	3	0.07
43	CORONADO	1	0.02
44	GOMEZ FARIAS	1	0.02
45	JULIMES	1	0.02
46	TEMOSACHIC	1	0.02
47	SAN FRANCISCO DE BORJA	1	0.02
48	URUACHI	1	0.02
	Total	4172	100.0

SOURCE OF GRAPHIC: MediChihuahua

The situation in Chihuahua is **stabilizing but remains unresolved**. Effective control will depend on:

- Rapidly scaling vaccination coverage,
- Strengthening surveillance and rapid response capacity, and
- Sustaining public trust in immunization efforts.

The **implementation of Mexico's response plans is encouraging**, but **long-term vigilance and outreach** are critical to preventing the outbreak from undermining measles elimination in the region.

CONTRIBUTORS

The Virtual Medical Operations Center Briefs (VMOC) were created as a service-learning project by the Yale School of Public Health faculty and graduate students in response to the 2010 Haiti Earthquake. Each year, students enrolled in Environmental Health Science Course 581—Public Health Emergencies: Disaster Planning and Response produce the VMOC Briefs. These briefs compile diverse information sources—including status reports, maps, curated news articles, and web content— into a single, easily digestible document that can be widely shared and used interactively.

Key features of this report include:

- **Comprehensive Overview:** Provides situation updates, maps, relevant news, and web resources.
- **Accessibility:** Designed for easy reading, wide distribution, and interactive use.
- **Collaboration:** The “unlocked" format enables seamless sharing, copying, and adaptation by other responders.

The students learn by doing, quickly discovering how and where to find critical information and presenting it in an easily understood manner.

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