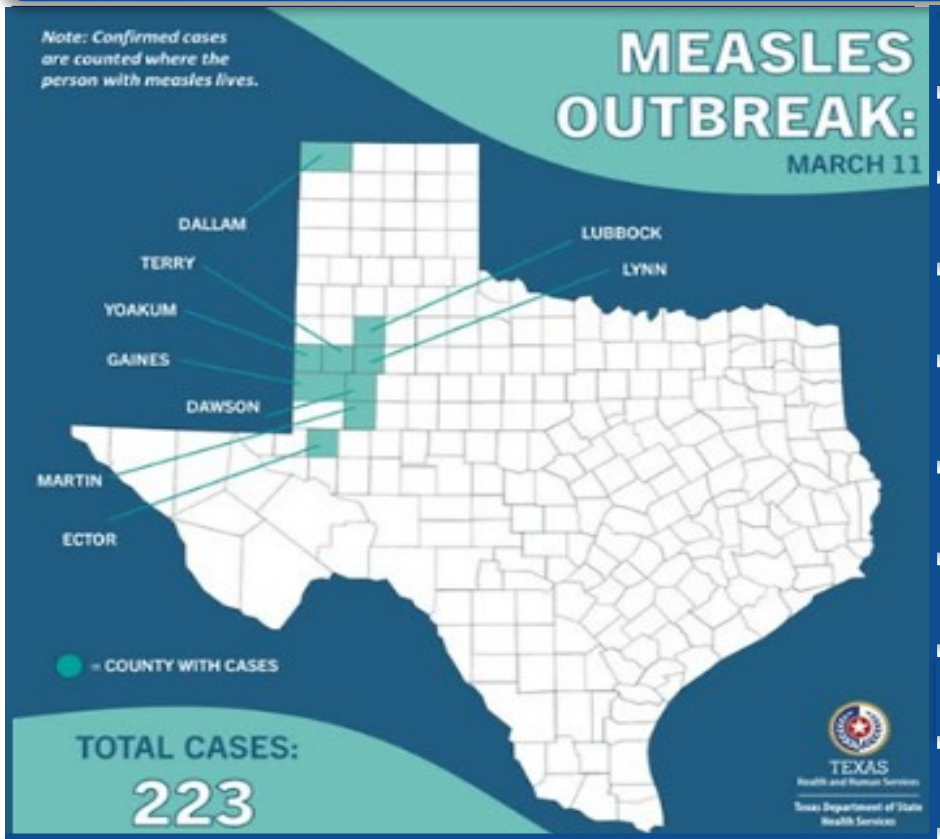
YALE ESF-8 VIRTUAL MEDICAL OPERATION CENTER (VMOC) SPECIAL REPORT

MEASLES OUTBREAK WEST TEXAS - 2025



MORBIDITY AND MORTALITY

AS OF 3/11/2025	TX	NM	OK
CASES	223	33	2
HOSPITALIZATIONS	29	1	0
DEATHS	1	1	0

*Situation is still developing. Numbers are expected to increase

Yale SCHOOL OF PUBLIC HEALTH

AS OF: 2300 HRS EST 3/11/2025

LINKS

TEXAS LINKS

- TEXAS DEPARTMENT OF HEALTH AND HUMAN SERVICES
- FACEBOOK | X
- HEALTH ALERTS
- THE SOUTH PLAINS PUBLIC HEALTH DISTRICT

NEW MEXICO LINKS

- NEW MEXICO DEPARTMENT OF HEALTH
- NMDOH NEWS RELEASE
- NMDOH GUIDANCE

NEWS SOURCES

- AP
- CBS NEWS
- CNN
- DALLAS MORNING NEWS
- FOX NEWS
- KCBD NEWS
- KERA NEWS
- NEW YORK TIMES
- NEWSWEEK
- NBC NEWS
- NPR
- OUTBREAK NEWS TODAY
- PBS NEWS
- REUTERS
- TX PUBLIC RADIO
- USA TODAY
- WASHINGTON POST

PORTALS, BLOGS, AND RESOURCES

- CIDRAP
- FORCE OF INFECTION
- KHN
- MEDPAGE TODAY
- THE PANDEMIC CENTER TRACKING REPORT
- YLE

RESOURCES FOR HEALTHCARE PROVIDERS

- CDC – MEASLES FOR THE HEALTHCARE PROFESSIONALS
- CDC VIDEO: MEASLES CLINICAL FEATURES AND DIAGNOSIS
- CDC CLINICAL IMAGES OF MEASLES
- CDC LABORATORY TESTING FOR MEASLES
- CDC ROUTINE VACCINATION RECOMMENDATIONS
- CDC ISOLATION RECOMMENDATIONS
- CDC: MEASLES CONTROL IN HEALTHCARE SETTINGS
- CDC ALERT SIGN INFOGRAPHIC
- CDC POSTER FOR OFFICE DISPLAY
- NY HEALTH; RECOGNIZING MEASLES FACT SHEET
- NY HEALTH: DEALING WITH VACCINE HESITANCY
- MEASLES POST-EXPOSURE PROPHYLAXIS
- MEASLES REVIEW FOR PROVIDERS

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

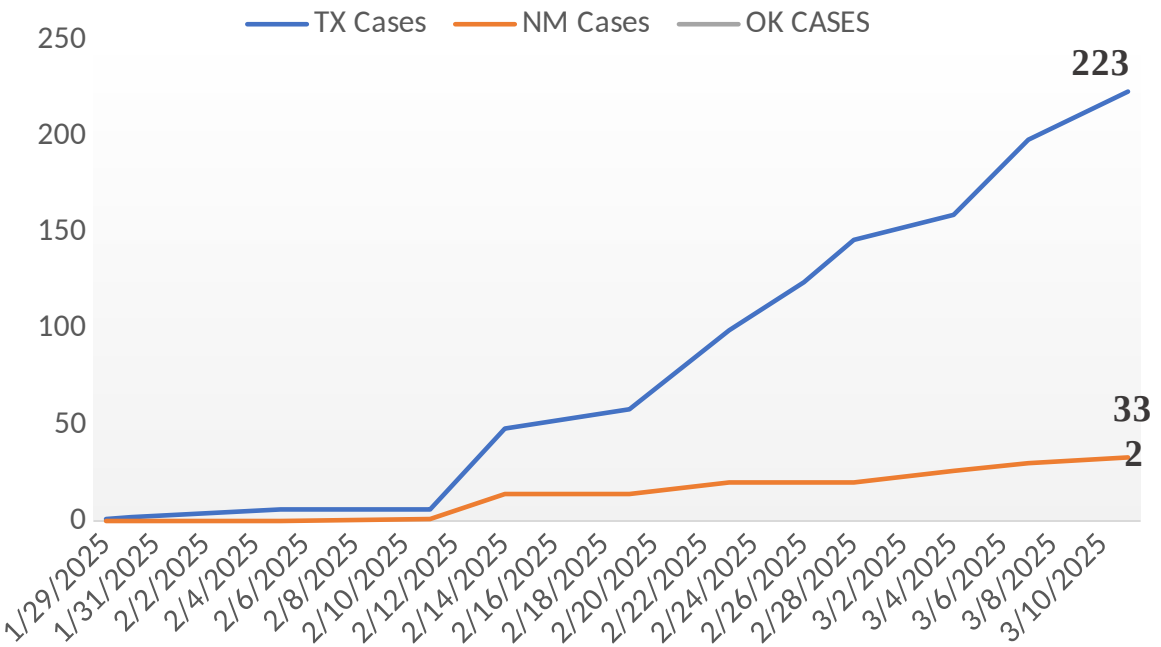
- GUIDANCE FOR SUSPECTED MEASLES PATIENT
- NYSDOH POLICY STATEMENT

BACKGROUND

- **TYPE OF PUBLIC HEALTH EMERGENCY: MEASLES OUTBREAK**
- **BACKGROUND:** The measles outbreak in West Texas (TX) is linked with cases in New Mexico (NM), as well as new cases reported in Oklahoma (OK). This brings the total number of cases to 258 across three states.
- **CURRENT SITUATION:**
  - **TX** - Reports 223 cases, the largest outbreak in the state for 30 years, with cases being reported across nine counties, primarily in the rural South Plains region. The outbreak has been largely concentrated in Gaines County, TX which accounts for **156** of the confirmed cases. The county's vaccination exemption rate is among the highest in Texas, with nearly 14% of incoming kindergartners in the 2023–2024 class not having received the MMR (Measles, Mumps, and Rubella) vaccine.
  - **NM** - The virus has spread to neighboring Lea and Eddy Counties in eastern New Mexico with **33 case**. The cases have been linked both geographically and by the strain identified through genome sequencing to the outbreak in TX.
  - **OK** – Two cases have been identified in the state and are associated with the West Texas outbreak.
- **CHALLENGES:** The outbreak has not swayed the strong antivaccine sentiment among many residents, driven by deep mistrust in government post-pandemic. Health officials continue to emphasize the importance of vaccination, noting that two doses of the MMR vaccine are highly effective at preventing measles. Despite these efforts, vaccine skepticism remains entrenched in certain communities, posing challenges to controlling the outbreak.
- **CASES: 223 Cases in TX**
  33 Cases in NM
  2 Cases in OK
- **HOSPITALIZATIONS: 29 in TX and 1 in NM.**
- **FATALITIES: 1 in TX, 1 in NM**

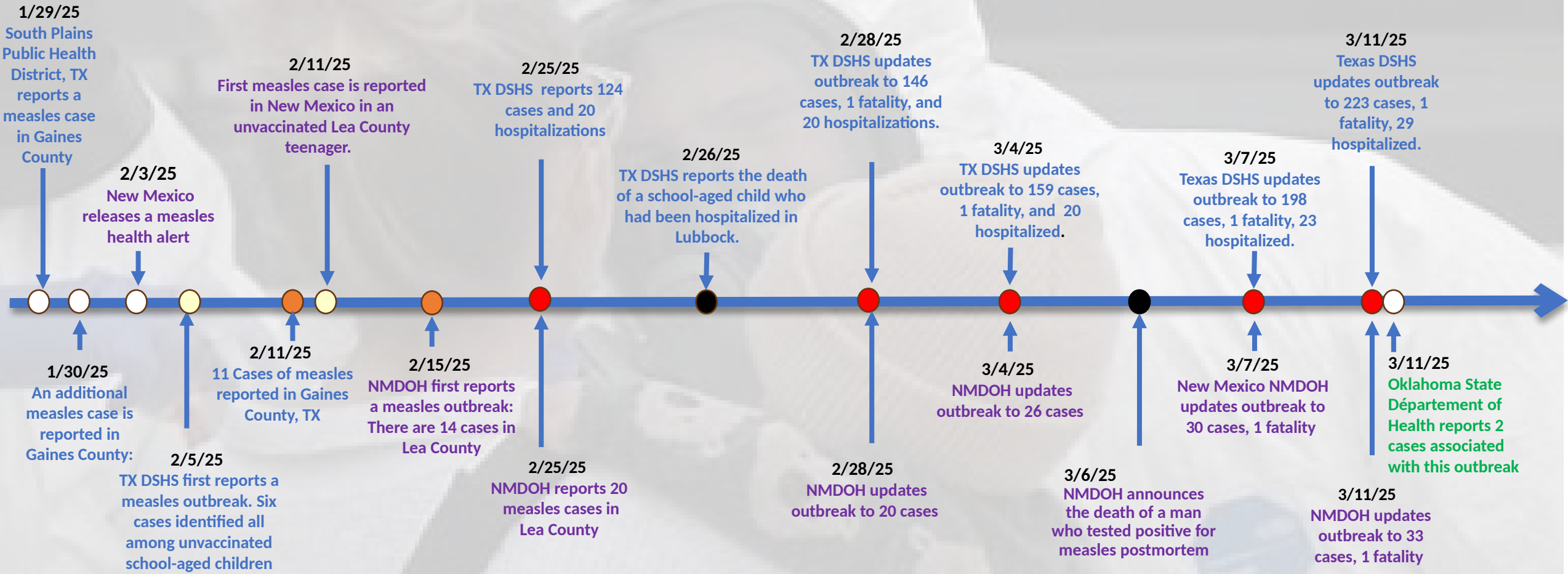
TOTAL NUMBER ASSOCIATED WITH THIS OUTBREAK: 258

WEST TEXAS MEASLES OUTBREAK - CUMULATIVE CASES OVER TIME



SOURCES:
TEXAS DEPARTMENT OF HEALTH AND HUMAN SERVICES
NEW MEXICO DEPARTMENT OF HEALTH
OKLAHOMA STATE DEPARTMENT OF HEALTH
CENTER FOR OUTBREAK RESPONSE (CORI)

2025 WEST TEXAS MEASLES OUTBREAK TIMELINE (TX & NM)



- NO OUTBREAK (1-2 CASES)
- SMALL OUTBREAK (3-9)
- MEDIUM OUTBREAK(10-49)
- LARGE OUTBREAK (50 OR MORE)
- DEATH

SOURCES: Texas DSHS, NMDOH, CBS NEWS

CURRENT SITUATION

LATEST UPDATES:

- **TX and New Mexico cases are now considered a "Regional Outbreak" that is linked geographically and by the strain identified through genome sequencing.**
- **Situation is still developing. Numbers are expected to increase.**
- **2 Cases in OK are linked to this outbreak (Contact Tracing)**
- **The total count is now up to 258 between the 3 states, but experts say these numbers are a severe undercount.**

CASES:

TEXAS				
0-4 Years	**5-17 Years**	**18+ Years**	**Pending**	**Total**
76(34%)	**98 (44%)**	**38 (14%)**	**11(17%)**	**223**
NEW MEXICO				
0-4 Years	**5-17 Years**	**18+ Years**	**Pending**	**Total**
5(15%)	**8 (24%)**	**18 (55%)**	**2 (6%)**	**33**

NOTE: Little is known about the OK cases currently.

DEATHS:

- In TX, there has been one fatality in a school-aged child who lived in the outbreak area. The child was not vaccinated and had no known underlying conditions.
- In NM, an adult was identified with measles post modem. He had not sort treatment prior to death.

These two cases represent the first measles deaths since 2015, and the 1 death of a child from measles since 2003.

HOSPITALIZATION: 30

- In TX, 29 have been hospitalized.
  - The Texas Department of State Health Services, South Plains Health District, Lubbock Public Health, local hospitals, and health care providers are working together to manage the outbreak.
  - While the outbreak has increased the patient load in healthcare facilities, all hospitals are operational. More serious cases have been evacuated to Covenant Children's Hospital in Lubbock, TX. There, a number of patients' respiratory issues have progressed to bacterial pneumonia and have required oxygen to breathe. Children in critical condition have required intubation.
- In NM, 1 has been hospitalized.

CONTACT TRACING: Texas, New Mexico, Oklahoma are conducting contact tracing to help identify and track positive cases and inform people who may have been exposed.

LABORATORY TESTING: In TX - Texas Tech University Bioterrorism Response Laboratory, part of a national network of CDC-funded labs, began measles testing last Monday, 3/3/2025. Prior to that the only the state lab in Austin were performing the test which resulted in delays due to the distance involved.

SOURCES:
With Crumbling Public Health Infrastructure, Rural Texas Scrambles to Respond to Measles – TX Tribune (3/10); Texas Department of State Health Services (3/11 Update); New Mexico Department of Health (11), NMHealth

CURRENT SITUATION

VACCINATION RATES:

In TX - Vaccination rates are notably low in the most affected areas. Gaines County, TX vaccination rates are significantly below the threshold required for herd immunity, contributing to the virus's rapid spread. In the county, one in five students is not vaccinated for measles, mumps, or rubella (MMR).

- Of those wo have been infected:
  - Unvaccinated: 80
  - Unknown: 138
  - Vaccinated with at least one dose: 5
- County, NM, reports that 94% of individuals aged 18 and under have received at least one dose of the measles-mumps-rubella (MMR) vaccine. This is slightly below the state's overall rate of 95% for the same age group

VACCINES:

- TX and NM Texas are actively addressing measles outbreaks by promoting MMR vaccinations, particularly targeting unvaccinated populations in affected areas.
- Health Departments are running vaccination clinics to vaccinate those who have not received the required dosages to fight this outbreak.
  - In TX, DSHS is collaborating with local health departments to conduct vaccination clinics, focusing on communities with low immunization rates. Efforts include public awareness campaigns to counteract vaccine misinformation and encourage immunization.
  - In NM, similar activities are taking place. NMDOH is holding a free vaccination clinic Since 2/1/2025, nearly 9,000 New Mexicans have received the MMR vaccine, a significant increase compared to the same period last year.

SOURCES: TX DSHS Vaccines, News Medical, X, FOX4News apnews.com texastribune.org aha.org expressnews.com Texas Department of State Health Services (3/11 Update); New Mexico Department of Health (11), NMHealth, Texas Tribune, Measles cases are still rising in Texas. Here's what you should know about the contagious virus

STATE	VACCINATED WITH AT LEAST 1 DOSE	NOT VACCINATED	UNKOWN	TOTAL CASES
TX	5	80	138	223
NM	1	27	5	33

COMMUNITY ACTIONS:

Communities in New Mexico and Texas are actively implementing various measures to combat the ongoing measles outbreak.

- **TX**
  - **Enhanced Surveillance and Response:** The Texas Department of State Health Services (DSHS) is actively monitoring the outbreak They are collaborating with local health departments to investigate cases and implement control measures
  - **CDC Collaboration:** CDC has deployed experts to Texas to assist local officials in responding to the outbreak. This partnership aims to enhance rapid response efforts to control the spread of measles.
  - **Community Engagement:** Local leaders, including religious figures, are advocating for vaccination. For instance, Pastor John Garland of the San Antonio Mennonite Church has urged his community to vaccinate their children, emphasizing that vaccine hesitancy stems from misinformation rather than religious teachings

NM:

- **Vaccination Clinics:** The New Mexico Department of Health (NMDOH) has organized community vaccination clinics, particularly in affected areas like Lea County, to increase MMR vaccination coverage.
- **Public Awareness Campaigns:** Efforts are underway to educate the public about measles symptoms, transmission, and the importance of vaccination. The NMDOH has established a helpline staffed by nurses to provide guidance in English and Spanish related to measles and vaccination questions.

BY THE NUMBERS

TEXAS			
COUNTY	**MEASLES CASES**	**% KINDERGARTENERS VACCINATED (2023-2024)**	**NUMBER OF SCHOOL DISTRICTS IN EACH COUNTY WITH MMR VACCINATION RATES BELOW HERD IMMUNITY LEVELS (95%)**
Dallam	5	90.96%	3
Dawson	10 (+1)	88.08%	4
Ector	2	91.28%	5
Gaines	156 (+19)	82.97%	3
Lubbock	3	92.25%	8
Lynn	2	92.16%	2
Martin	3	93.73	1
Terry	32 (+3)	95.52%	2
Yoakum	10 (+2)	92.50%	1
NEW MEXICO			
Eddy	1 (+1)	?	
Lea	32 (+2)	95% for those 18 years or younger	

TX Measles Outbreak – 11 March 2025, NM Measles Outbreak – 11 March 2025

2023-2024 School Vaccination Coverage Levels by District/Private School and County - Kindergarten (XLS)

SIGNS, SYMPTOMS, AND COMPLICATIONS

INCUBATION PERIOD: 10–14 days (up to 20 days) after contact with the virus, before symptoms start

A person with measles is contagious even in the absence of symptoms, which spans the latter part of the incubation period (4 days before the onset of rash, until 4 days after the rash appears).

PRODROMAL PHASE: First symptoms appear (lasts 2-4 days)

Symptoms resemble those of upper respiratory tract infection:

- High fever (may spike up to 105°F or 40.6 °C)
- **3 Cs of measles:** cough, coryza (runny nose), conjunctivitis (red, watery eyes)
- Sore throat
- Koplik spots: small bluish-white spots may appear inside the mouth 1-2 days before onset of rash and persist for 1-2 days after rash appears. Highly specific sign of measles.

RASH PHASE: 2-4 days after symptoms begin

Measles rash (flat to raised red spots) appears 2-4 days after fever onset. Begins on the face and head, then spreads to the trunk and extremities, and may become confluent. Fades in the order it appeared over 3-5 days.

- Fever may continue or worsen
- 3 Cs persist
- Other symptoms: headache, muscle aches, sensitivity to light, diarrhea

RECOVERY PHASE (if uncomplicated): Full recovery within 7 days after onset of rash

Rash fades, and patient gradually returns to normal health.

WHO IS AT RISK: Measles can be serious in any age group; however, the following are at increased risk of complications from measles:

- Infants and children younger than 5 years of age
- Undernourished children (particularly those with Vitamin A deficiency)
- Pregnant women
- People with weakened immune systems (HIV/AIDS, cancer, or undergoing chemotherapy)

COMMON SERIOUS COMPLICATIONS OF MEASLES:

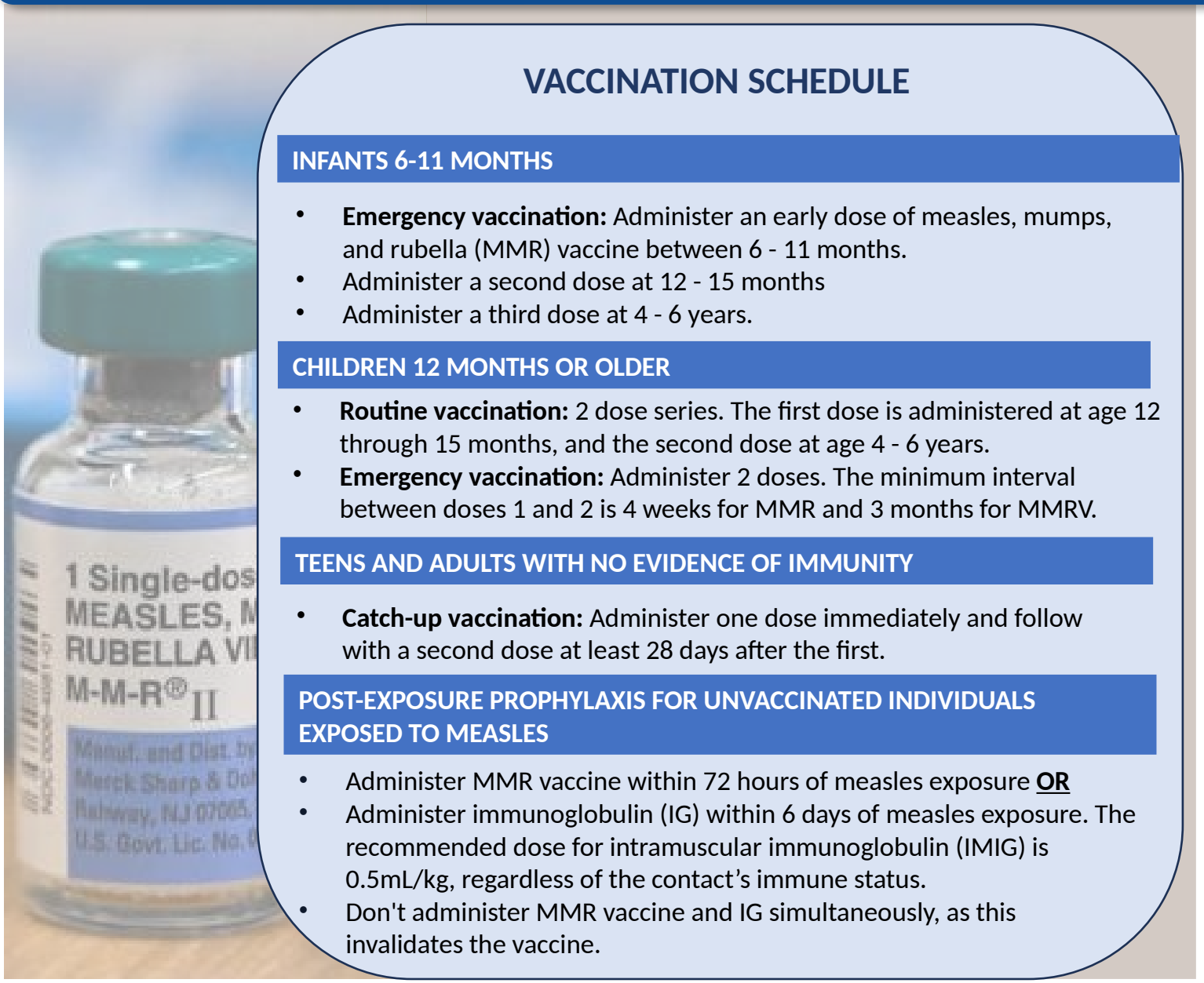
- **Pneumonia** (lung infection): most common cause of measles-related death in children and can occur in 1-6% of cases.
- **Otitis media** (ear infection): occurs in 7-9% of patients and can lead to hearing loss.
- **Diarrhea**: affects 8% of patients and can lead to severe dehydration.
- **Encephalitis** (inflammation of the brain): occurs in 1 per 1,000 cases and can result in permanent brain damage (intellectual disability, seizures, blindness, deafness).
- **Pregnancy complications**: increased risk of miscarriage, preterm birth, low birth weight, and maternal death.
- **Acute respiratory distress syndrome** (ARDS): life-threatening breathing problem requiring mechanical ventilation (breathing machine) and high risk of death.
- **Sepsis** (overwhelming infection): measles weakens the immune system, leading to secondary bacterial infection, which is a significant cause of death in measles patients

LONG-TERM COMPLICATION:

Subacute sclerosing panencephalitis (SSPE) is a rare but progressive and fatal neurological disorder resulting from a measles virus infection earlier in life. Typically presents 5-10 years after the initial measles infection (even though the person seemed to have fully recovered from it). There is a higher risk of developing SSPE if one had measles before 2 years of age.

Source: CDC, NEJM, WHO

THE MEASLES, MUMPS, RUBELLA (MMR) VACCINE



VACCINATION SCHEDULE

INFANTS 6-11 MONTHS

- **Emergency vaccination:** Administer an early dose of measles, mumps, and rubella (MMR) vaccine between 6 - 11 months.
- Administer a second dose at 12 - 15 months
- Administer a third dose at 4 - 6 years.

CHILDREN 12 MONTHS OR OLDER

- **Routine vaccination:** 2 dose series. The first dose is administered at age 12 through 15 months, and the second dose at age 4 - 6 years.
- **Emergency vaccination:** Administer 2 doses. The minimum interval between doses 1 and 2 is 4 weeks for MMR and 3 months for MMRV.

TEENS AND ADULTS WITH NO EVIDENCE OF IMMUNITY

- **Catch-up vaccination:** Administer one dose immediately and follow with a second dose at least 28 days after the first.

POST-EXPOSURE PROPHYLAXIS FOR UNVACCINATED INDIVIDUALS EXPOSED TO MEASLES

- Administer MMR vaccine within 72 hours of measles exposure **OR**
- Administer immunoglobulin (IG) within 6 days of measles exposure. The recommended dose for intramuscular immunoglobulin (IMIG) is 0.5mL/kg, regardless of the contact's immune status.
- Don't administer MMR vaccine and IG simultaneously, as this invalidates the vaccine.

VACCINE EFFICACY: The MMR vaccine is **93% effective against measles infection after 1 dose and 97% effective against measles infection after 2 doses.** Receiving two doses of the measles vaccine protects individuals for life.

VACCINE SAFETY:

- The most common side effects include mild rash, fever, and pain at the injection site. Serious reactions to the vaccine are rare.
- MMR is contraindicated for individuals who are severely immunocompromised or allergic to any of its ingredients. HIV-positive individuals can receive MMR **but not MMRV**.

VACCINE AVAILABILITY:

- The two MMR vaccines available in the U.S. are M-M-R II® and PRIORIX® .
- Measles, mumps, rubella, and varicella (MMRV) vaccine is also available and marketed as ProQuad® .

TRANSPORTATION AND STORAGE:

- All three measles-containing **vaccines require refrigeration during transport and storage.**
- Specific temperature ranges vary by vaccine type.
- All three must be protected from light, which inactivates the vaccine.

SOURCES: CDC, CDC, CDC, WHO, UNICEF, CHOP, TIME

PRIORITY OF NEEDS

CONTAINMENT & CASE MANAGEMENT

- **Identification & Isolation:** Isolate confirmed and suspected measles cases in hospitals (airborne precaution rooms) and at home.
- **Quarantine & Contact Tracing:** Identify exposed individuals and advise quarantine for those at risk.
- **Hospital Support:** Ensure adequate beds, staff, and supplies to manage cases. Strict isolation measures to prevent nosocomial transmission.

HEALTHCARE SYSTEM SUPPORT

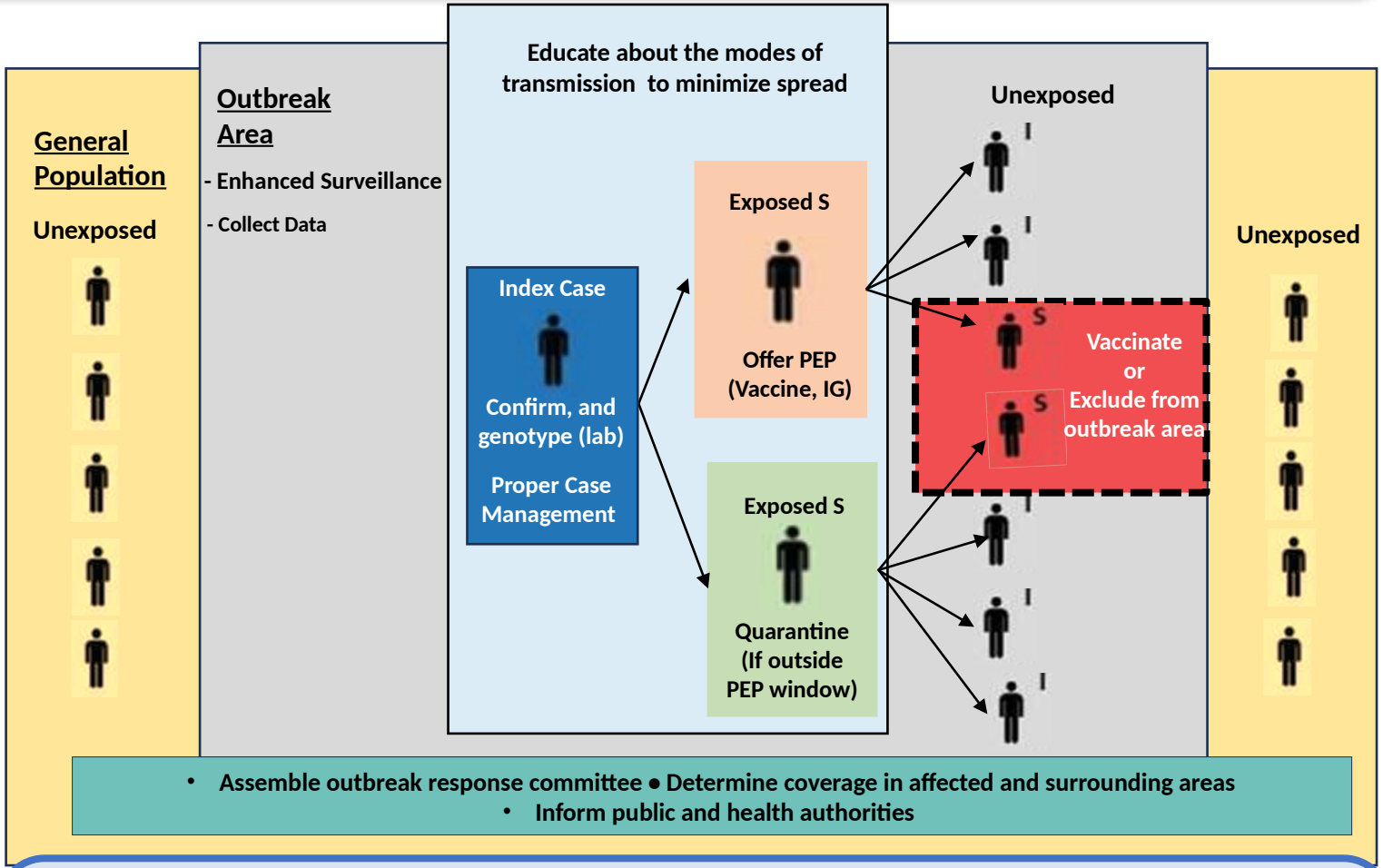
- **PPE:** Ensure that PPE is available for doctors and hospital staff who may be examining and caring for infected individuals.
- **Medical Supplies:** Ensure hospitals and clinics have adequate stock of measles-related treatments, IV fluids, and ventilators.
- **Healthcare Worker Support:** Deploy additional staff where hospitals are overwhelmed.
- **Surge Capacity Planning:** Prepare for an increase in hospital admissions and outpatient cases.

SURVEILLANCE & DATA MONITORING

- **Real-Time Case Tracking:** Strengthen surveillance systems to monitor new cases.
- **Testing & Lab Support:** Expand laboratory capacity to quickly confirm cases and identify outbreak trends.

VACCINATION CAMPAIGN & PUBLIC HEALTH MESSAGING

- **Emergency Vaccination Drives:** Immediate measles-mumps-rubella vaccinations, targeting unvaccinated children and high-risk groups.
- **Community Outreach:** Public education on vaccination to combat misinformation and vaccine hesitancy.
- **Mobile Vaccination Clinics:** Deploy clinics in low-coverage areas, schools, and workplaces.
- **Additional Vaccine Doses:** Either MMR II or PRIORIX for prophylactic use.
- **Post-exposure Prophylaxis: Human immunoglobulin (IG)** given within 6 days of exposure to measles in susceptible individuals.
- **Vitamin A Supplementation:** The American Academy of Pediatrics recommends high doses of Vitamin A to all children with severe measles to reduce risk of death and complications.



ABBREVIATIONS: I = Immune; S = Susceptible; IG = Immunoglobulin; PEP = Post-exposure prophylaxis

Measles virus transmission and measles disease burden can be mitigated through **vaccination of susceptible persons**, administration of **post-exposure prophylaxis** (vaccine and immunoglobulin), and **social distancing** techniques (isolation, quarantine, and exclusion). In elimination settings, where general population immunity is high, outbreak response is prioritized in areas with a high risk of transmission or among persons at risk of severe disease.

SOURCES: Public Health Response During Measles Outbreaks

US Measles: Current Situation Summary

As of 3/11/2025

** NOTE: The information on this page has been gathered by reviewing data from state health departments, news media sources, and CORI*

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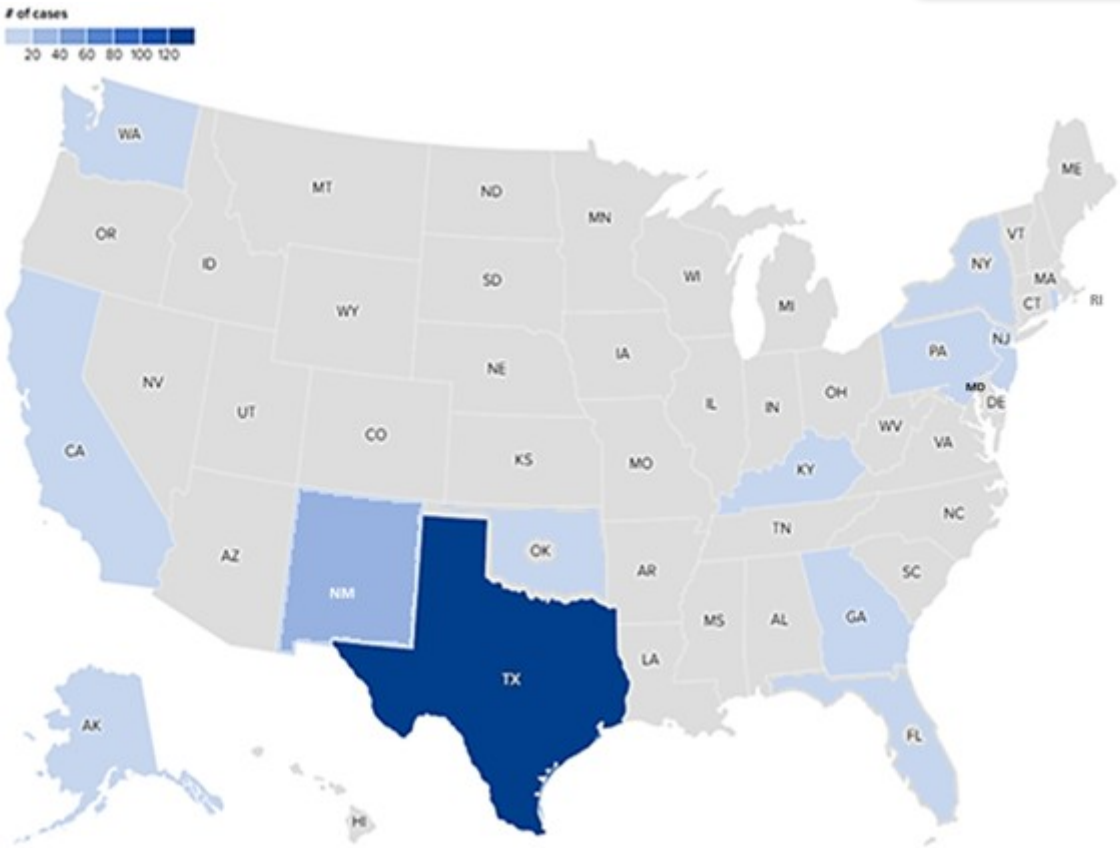

STATE	CASES
ALASKA	2
CALIFORNIA	5
FLORIDA	1
GEORGIA	3
KENTUCKY	1
MARYLAND	1
NEW MEXICO	33
NEW YORK CITY	2
NEW JERSEY	3
PENNSYLVANIA	1
OKLAHOMA	2 **
RHODE ISLAND	1
TEXAS	223 +4 ***
WASHINGTON	1
TOTAL	283

*As of 3/11/2025, 2300 hrs, EST, there are approximate **283** measles case across 13 States and **NYC.***

*CDC has reported **four measles outbreaks**: West Texas involving 9 counties; New Mexico involving 2 counties; Bergen County, New Jersey; and metro Atlanta, Georgia.*

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

** **THE OK CASES ARE ASSOCIATED WITH THE TX/NM OUTBREAKS**

*** **TEXAS CASES NOT ASSOCIATED WITH OUTBREAK**
- 2 cases - Adults, Harris County (travel-related)
- 1 case - Infant, Travis County (travel-related)
- 1 case - Adult, Rockwell County (travel-related)

TEXAS CASES ASSOCIATED WITH THE OUTBREAK: 223

- Measles poses a moderate to high risk for universities after Spring Break due to its extreme contagiousness and travel-related cases. Students returning from outbreak areas (e.g., New Mexico and West Texas) could introduce the virus, especially if exposed during travel and still in the 7-21day incubation period.
- While Yale requires the MMR vaccination, gaps exist due to exemptions, waning immunity, or unvaccinated international students.
- With rapid campus spread possible, vaccination checks, symptom monitoring, early detection, and isolation are crucial to prevention.

CONTACTS AND CONTRIBUTORS

The Virtual Medical Operations Center Briefs (VMOC) were created as a service-learning project by faculty and graduate students at the Yale School of Public Health in response to the 2010 Haiti Earthquake. Each year, the VMOC Briefs are produced by students enrolled in EHS 581 - Public Health Emergencies: Disaster Planning and Response. These briefs compile diverse information sources - including status reports, maps, 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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