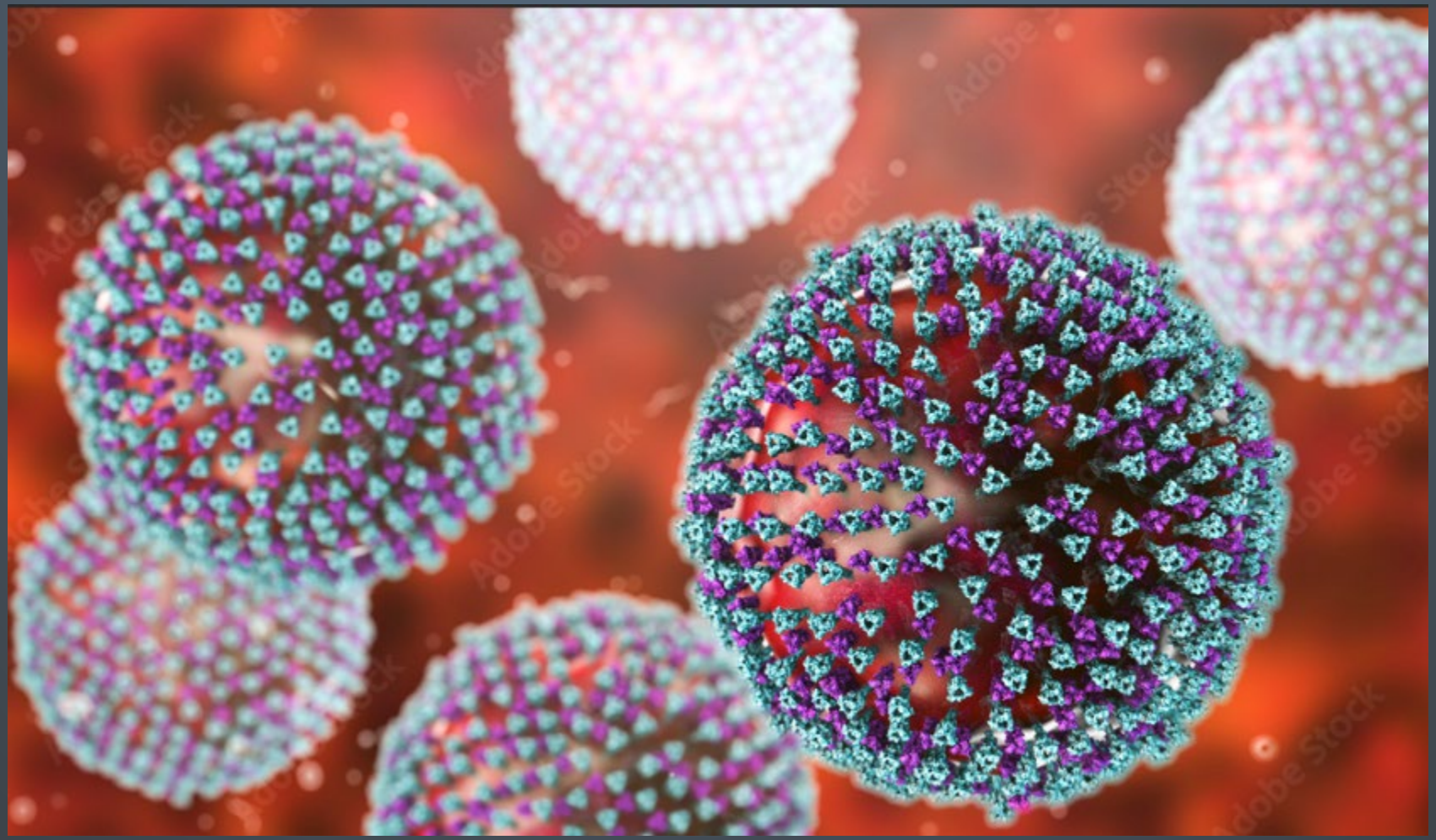


Texas 2025 Measles Outbreak

February 24, 2025

Welcome and Opening Remarks

Imelda Garcia, MPH

Chief Deputy Commissioner

Texas Department of State Health Services

Discussion Topics

- Welcome and Opening Remarks
- Measles Situational Update
- Measles Lab Testing
- Infection Control Precautions
- MMR Vaccine Recommendations
- Communications
- Resources
- Q&A
- Closing Remarks

Measles Situational Update

Varun Shetty, MD, MBA, MS
Chief State Epidemiologist
Texas Department of State Health Services

DISCLAIMER

The information presented today is based current preliminary data and on CDC's recent guidance. Information is subject to change.

February 24, 2025

Measles

- Measles is highly contagious.
- If one person has it, up to 9 out of 10 people will become infected if they are not protected.
- Anyone who is not protected against measles is at risk
- The best protection against measles is measles, mumps, and rubella (MMR) vaccine.
  - MMR vaccine provides long-lasting protection against all strains of measles.
- Measles can cause serious health complications, especially in children younger than 5 years of age, pregnant women, and people who are immunocompromised.

Available: About Measles | Measles (Rubeola) | CDC, accessed 2/19/2025

Measles Complications

- Common complications from measles include otitis media, bronchopneumonia, laryngotracheobronchitis, and diarrhea.
- Even in previously healthy children, measles can cause serious illness requiring hospitalization.
- 1 out of every 1,000 measles cases will develop acute encephalitis, which often results in permanent brain damage.
- 1 to 3 out of every 1,000 children who become infected with measles will die from respiratory and neurologic complications.
- Subacute sclerosing panencephalitis (SSPE) is a rare, but fatal degenerative disease of the central nervous system characterized by:
  - Behavioral and intellectual deterioration.
  - Seizures that generally develop 7 to 10 years after measles infection.

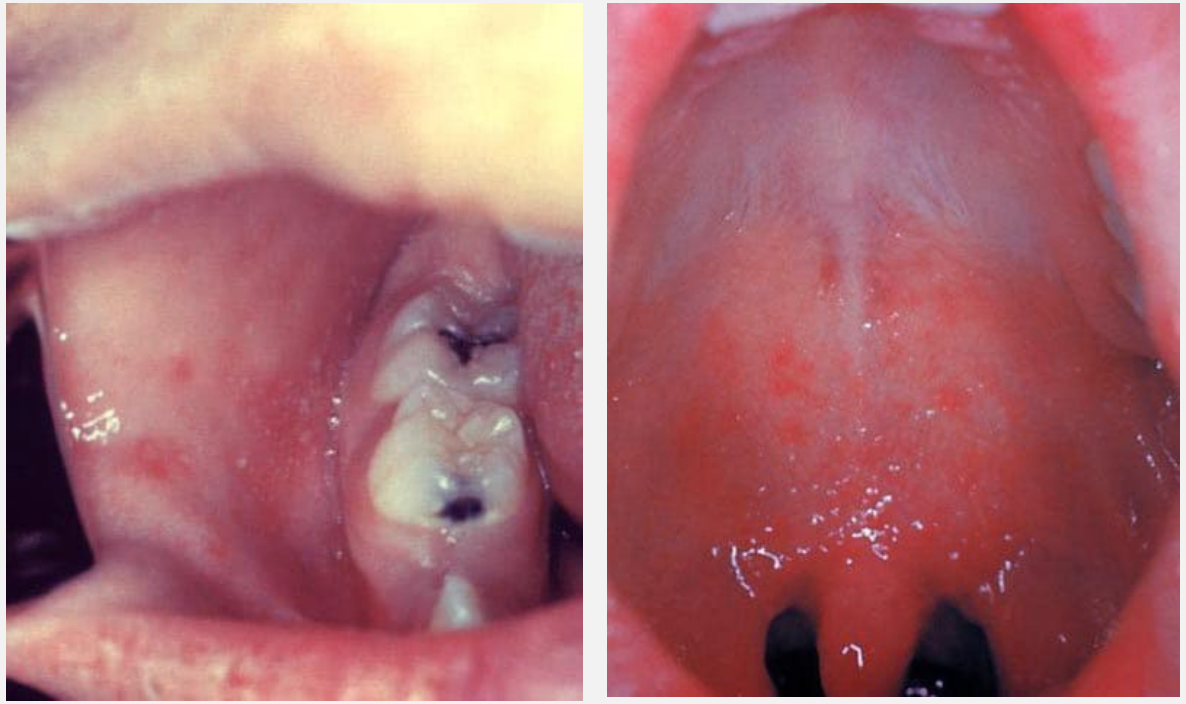
Available:Clinical Overview of Measles | Measles (Rubeola) | CDC, accessed 2/22/2025

Measles Clinical Features

- Incubation period 11 to 12 days
  - Exposure to rash onset averages 14 days (range 7-21 days)
- Prodrome lasts 2 to 4 days (range 1-7 days)
  - Stepwise increase in fever to 103-105°F
  - Cough, coryza, and conjunctivitis (three "C"s)
  - Koplik spots (on mucous membranes)
- Rash
  - Persists 5 to 6 days
  - Begins at the hairline, then involves the face and upper neck
  - Proceeds downward and outward to hands and feet
  - Severe areas peel off in scales
  - Fades in order of appearance

Available: Chapter 13: Measles | Pink Book | CDC, accessed 2/22/2025

Measles Clinical Presentation



Koplik spots

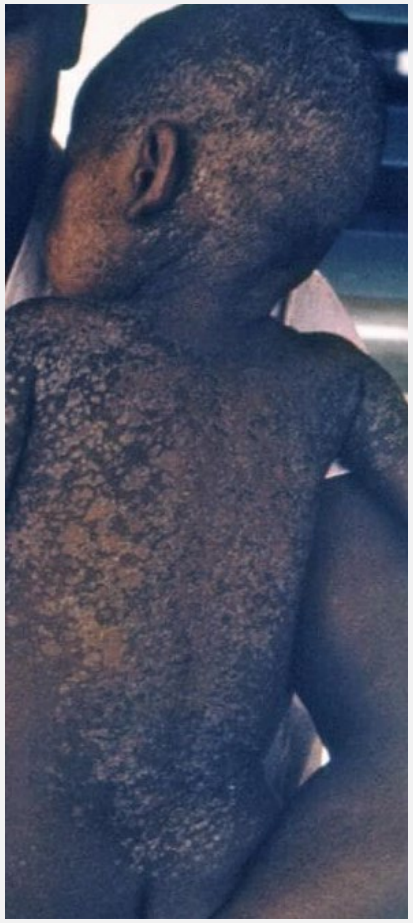
Measles rash on the forehead

Available: Photos of Measles | Measles (Rubeola) | CDC, accessed 2/22/2025

Measles Clinical Presentation

Maculopapular rash on cheek

Child with classic measles rash

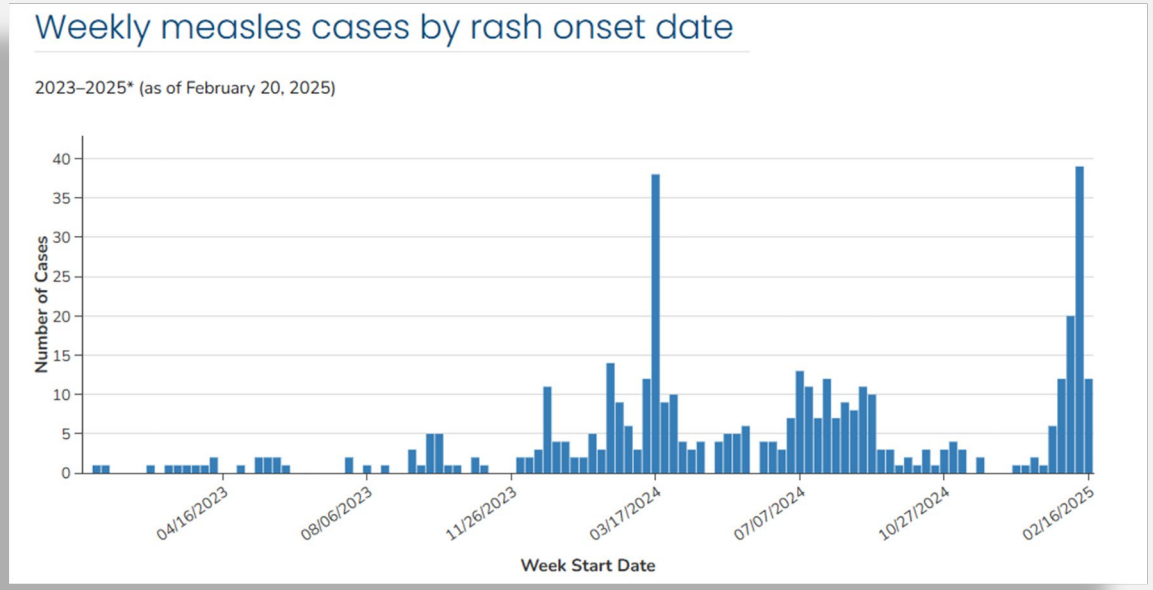


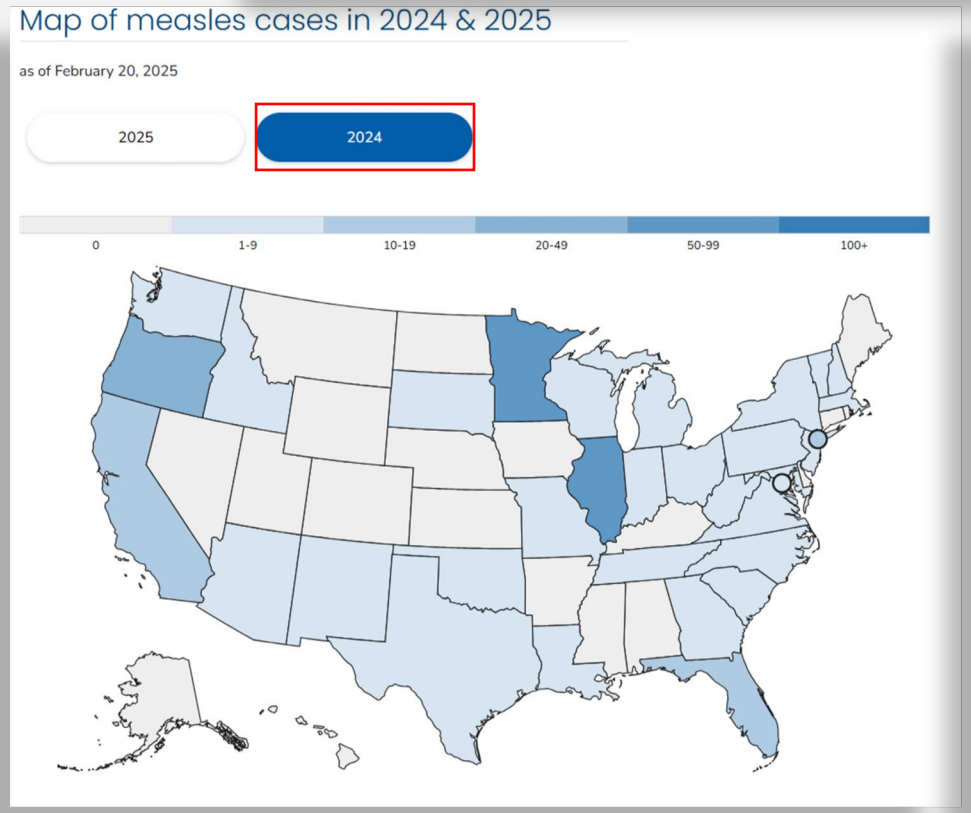
Skin sloughing off of a child healing from measles infection

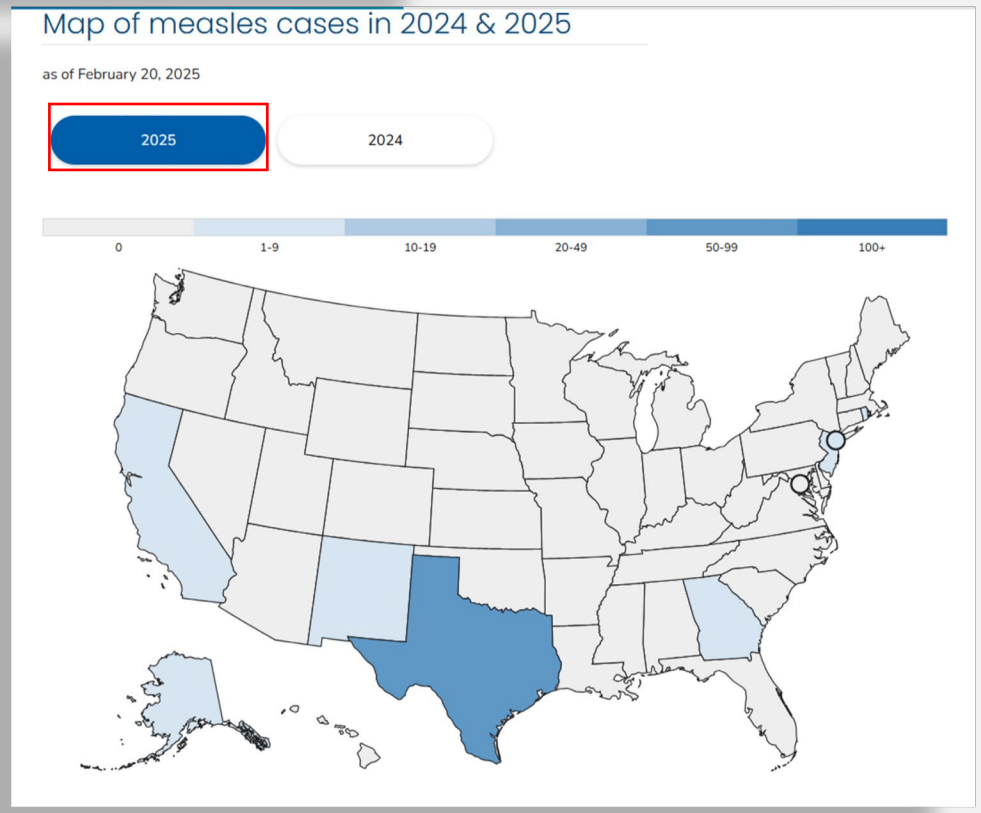
Available: Photos of Measles | Measles (Rubeola) | CDC, accessed 2/22/2025

Measles Cases and Outbreaks in the U.S. At-A-Glance

Available: Measles Cases and Outbreaks | Measles (Rubeola) | CDC, accessed 2/22/2025







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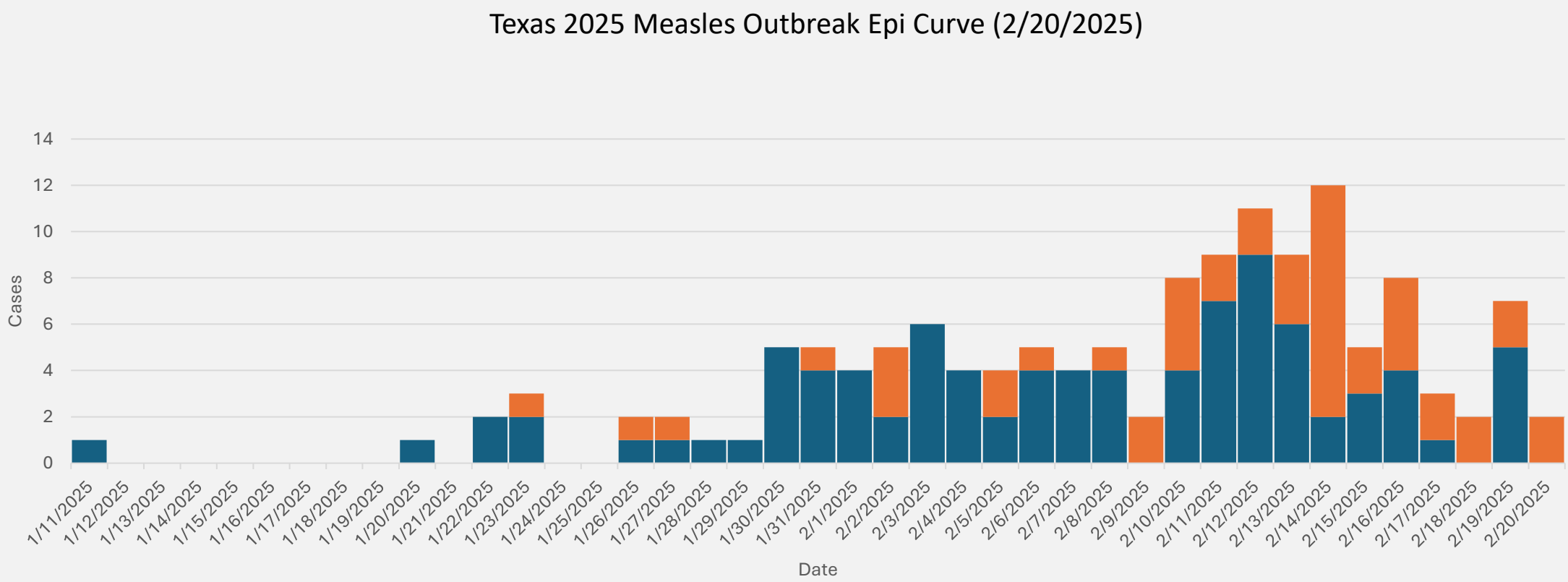
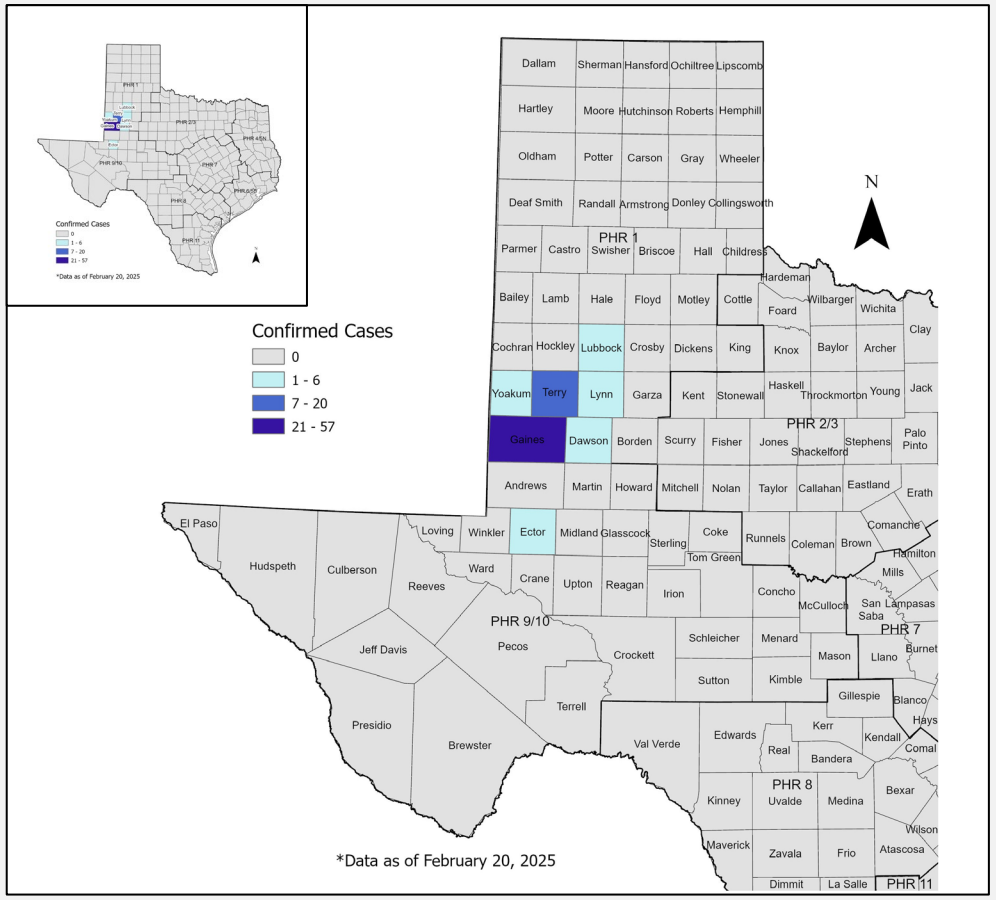
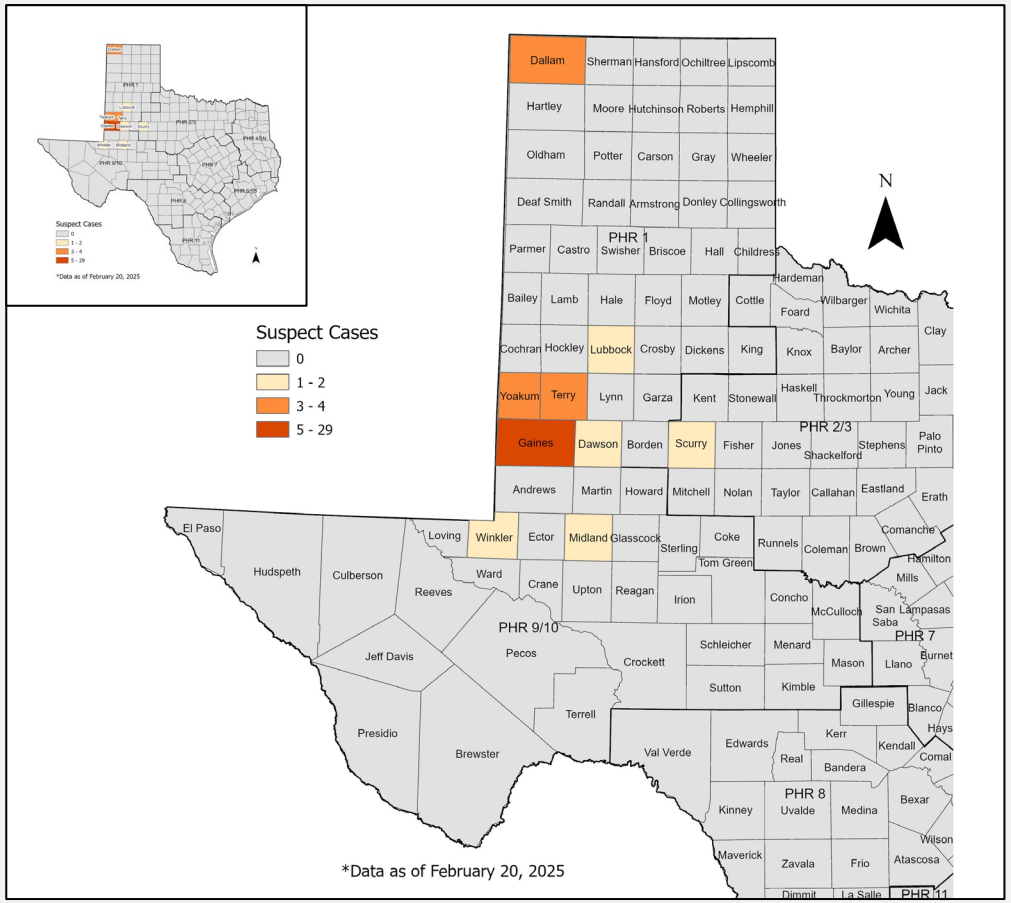
Texas Measles Confirmed and Suspect Cases (as of February 20, 2025)		
Confirmed	**Suspect**	**Total**
90 (65%)	**48 (35%)**	**138**



Data based on the following hierarchy according to available data: rash onset date, symptom onset date, specimen collection date, hospital admission date, or date reported to the region.

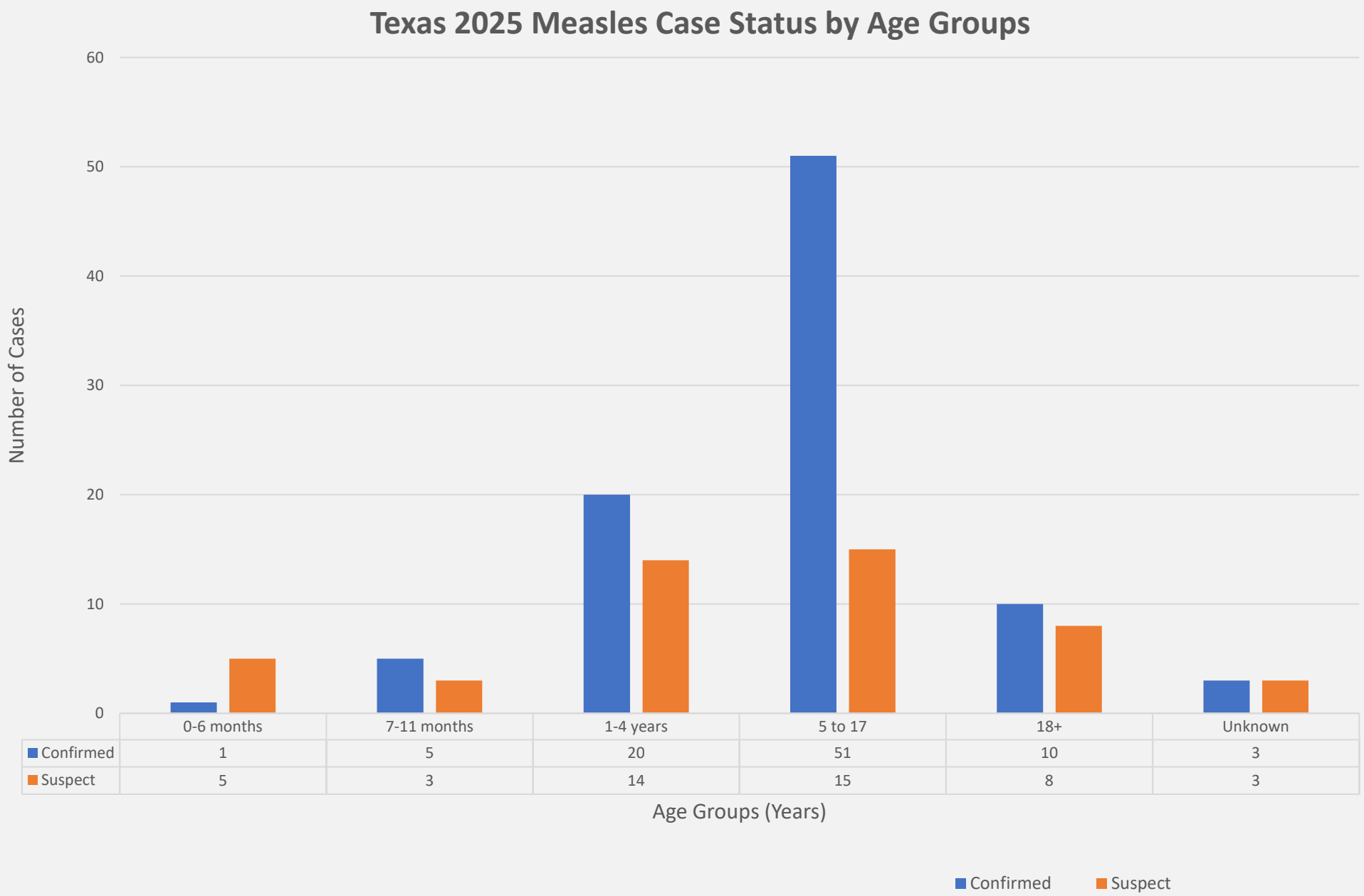
Texas Counties with Confirm and Suspect Measles Cases (2/20/2025)





County	Confirmed Cases	Suspect Cases
	n	n
Dallam	**0**	4
Dawson	**6**	1
Gaines	**57**	29
Lubbock	**1**	1
Lynn	**1**	0
Terry	**20**	4
Yoakum	**4**	4
Scurry	0	1
Ector	1	0
Midland	0	2
Winkler	0	1
Unknown	0	1
Total	**90**	**48**

Texas Measles Cases, 2025



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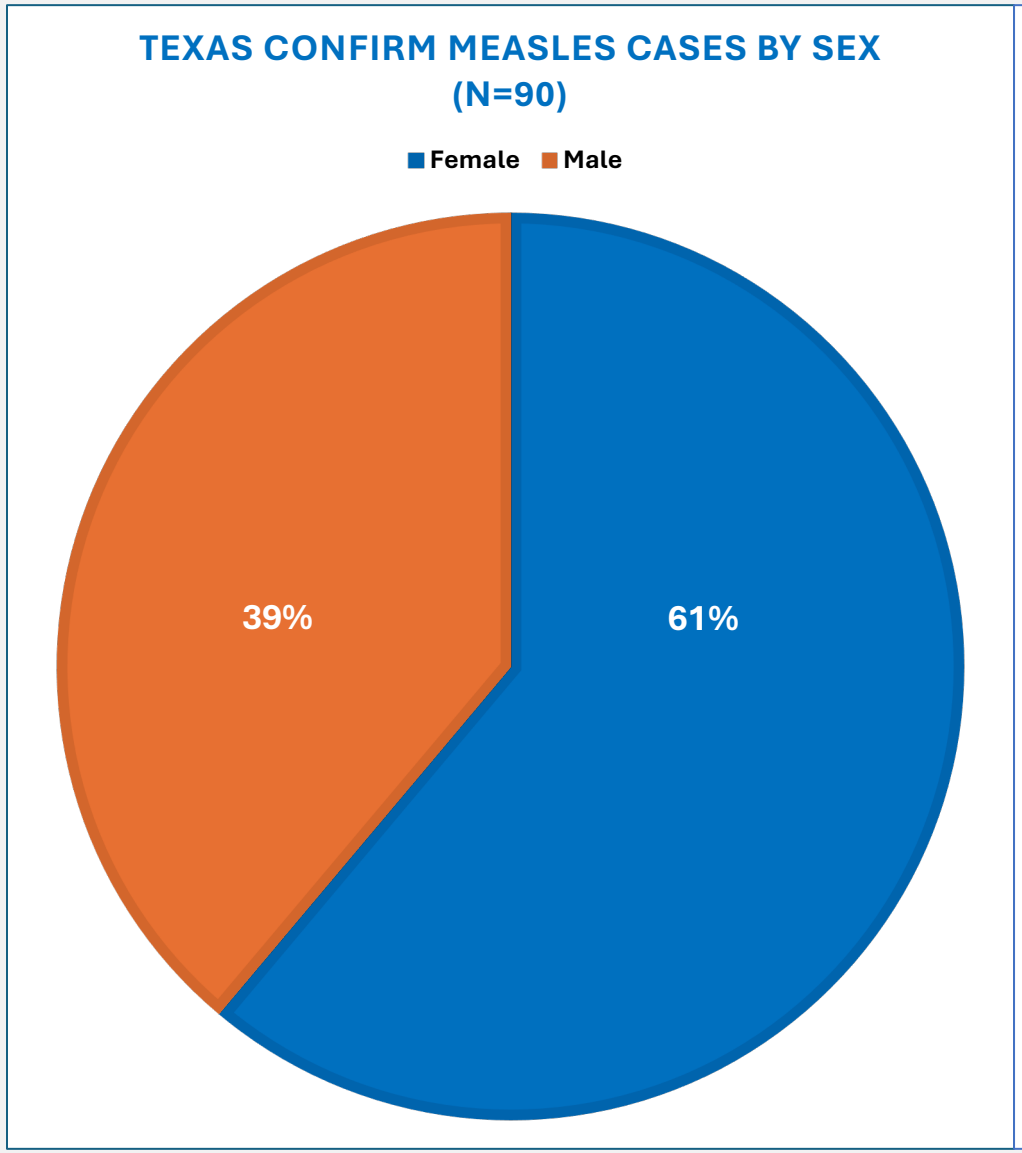
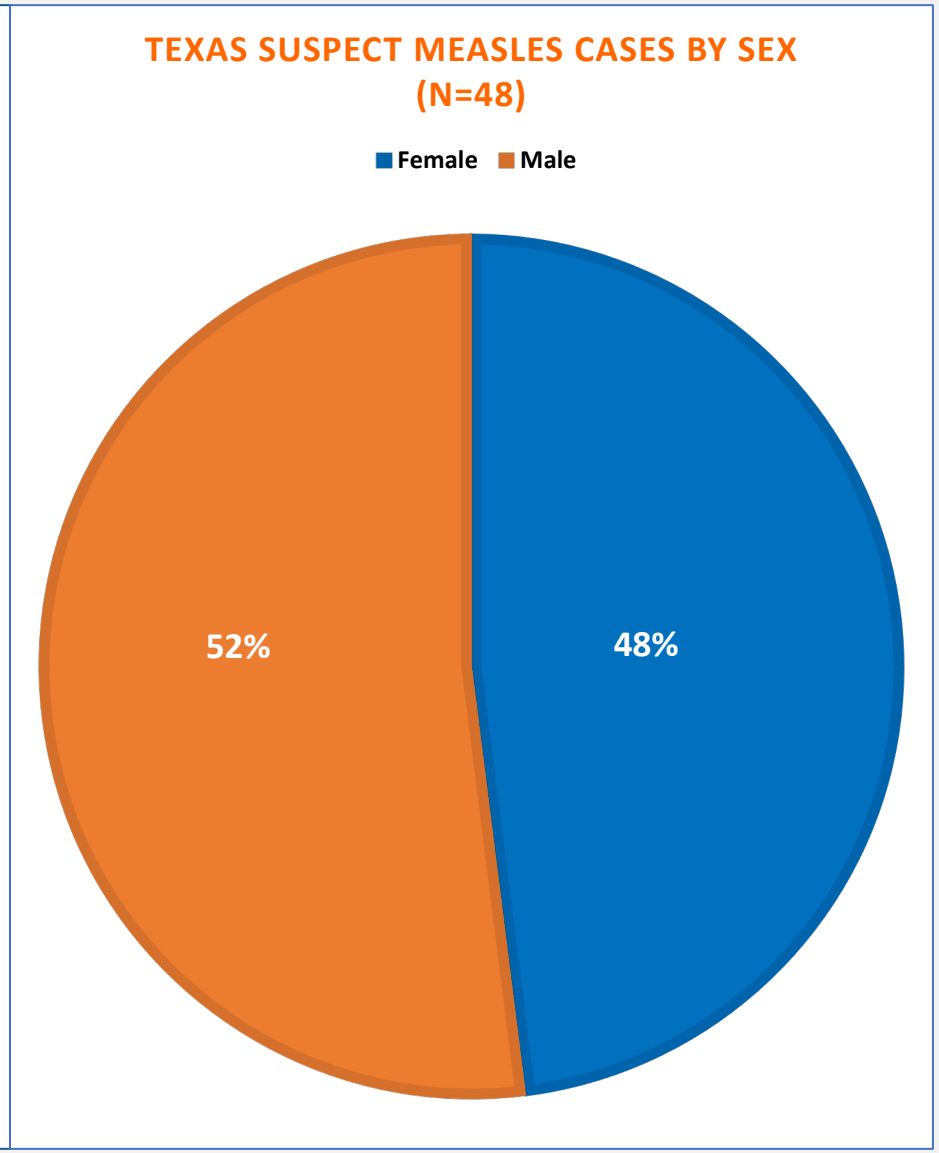
Texas Measles Cases, 2025





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Texas Measles Cases, 2025

Hospitalized[1] Confirmed Cases by Age Groups						
Age Groups (Years)	Hospitalized	ICU Admission	ED Only	Not Hospitalized	Unknown	Total
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
0-6 months	1 (6)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)
7-11 months	2 (13)	0 (0)	0 (0)	1 (2)	2 (8)	5 (6)
1-4 years	5 (31)	0 (0)	0 (0)	10 (23)	5 (19)	20 (22)
5 to 17	7 (44)	1 (100)	2 (67)	26 (59)	15 (58)	51 (57)
18+	0 (0)	0 (0)	1 (33)	5 (11)	4 (15)	10 (11)
Unknown	1 (6)	0 (0)	0 (0)	2 (5)	0 (0)	3 (3)
Total	**16**	**1**	**3**	**44**	**26**	**90**

[1]Hospitalization status indicates if the case was ever an inpatient

TEXAS Health and Human Services

Texas Department of State Health Services

Measles Lab Testing

Diana Martinez, PhD, MPH

Deputy State Epidemiologist

Texas Department of State Health Services

When & How to Test Persons Exposed to Measles

- For any person exposed to a confirmed case of measles who develops measles-compatible symptoms within ***1 to 21 days after exposure***, coordinate measles testing with your local health department ***immediately***.

- Your local health department will provide guidance for specimen collection, storage, and shipping including required specimen submission form completion, materials to be used in collection and storage, and proper shipping procedure (temperature, delivery date, method, etc.).

Measles Testing Reminders

- RT-PCR testing at the DSHS State Public Health Laboratory is **preferred.**
  - IgM testing is confirmatory *if not otherwise ruled out by other confirmatory testing, such as PCR, or more specific measles testing in a public health laboratory*

- *Note: If a specimen is collected too early in disease progression, it might result in a false negative. For those persons who receive a negative result, please follow up with them a few days later to see if they have experienced worsening symptoms and to determine if additional testing is needed.*
  - Work with your local health department to determine if additional testing is needed based on symptomology and disease progression.

Negative Test Results

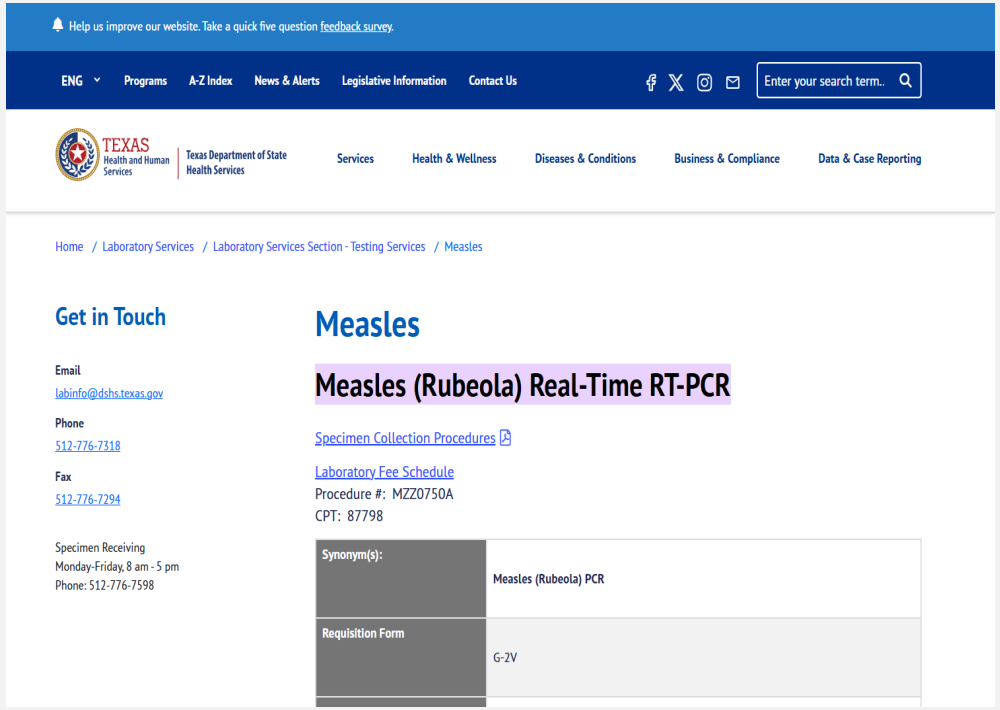
- Do not rely solely on the lab result
  - If symptoms are compatible with measles and the patient has other high-risk factors (e.g., not vaccinated, recent travel to outbreak areas, sick contacts, etc.), contact local health department and submit a second specimen for RT-PCR testing at the DSHS Laboratory

Where to Test Suspect Measles Cases

- The DSHS State Public Health Laboratory in Austin, TX is preferred for measles testing
  - RT-PCR result turnaround time is in average 24 to 48 hours
  - Submitter receives results via the method of their choice
- Commercial labs
  - Associated with hospitals, private practices, urgent care centers
  - Usually perform IgG and/or IgM serology only
  - Some may perform measles PCR testing, although uncommon
  - Longer result turnaround time, usually with an average of 5-7 days

Testing at the DSHS Laboratory

- Use **unexpired**, appropriate collection materials (swabs, viral transport media (VTM) prior to specimen collection.
- Review the Measles Viral Specimen Collection – RT-PCR testing protocol that is available on the DSHS Laboratory Services website
- Review the required DSHS Lab G-2V form before shipment to ensure accuracy and completeness.
- Talk with your local health department if Saturday or holiday testing is needed and ensure packaging is properly labeled, if approved.
- Use plenty of ice packs when shipping specimens to ensure they arrive at the DSHS Laboratory in Austin at the appropriate temperature.



Measles Testing Reminders

- Collected specimen swabs from the throat (preferred) or nasopharyngeal (NP)
- Swabs for RT-PCR are most effective at detecting active infection towards beginning of rash onset
  - 1-7 days after rash onset
  - May be able to detect virus up to 14 days after rash onset, but becomes less reliable the further away from rash onset a specimen is collected
- Specimens must:
  - Be collected using non-expired swab materials and placed in unexpired viral transport media (VTM)
  - Have two patient identifiers on the G2V lab submission form and collection tube
    - Both patient identifiers must match exactly; one identifier must be the first and last name of the patient
  - Arrive at the laboratory at the proper temperature
    - If specimens are shipped the same day of collection and will arrive at the laboratory the next morning, ship at 4°C/39.2°F (boxed within ice packs)
    - If specimens will be stored and shipped after the date of collection, freeze at -70°C/-94°F (boxed with dry ice)

It is recommended to have viral testing kits and be a DSHS lab submitter prior to submission!

Infection Control Precautions

Thi Dang, MPH, CHES, CIC, FAPIC

HAI-AR Epidemiology Manager

Healthcare Safety Unit

Office of the Chief State Epidemiologist

Texas Department of State Health Services

Healthcare exposures

- Healthcare workers are at higher risk for measles acquisition than the general population, as patients with measles often seek medical care for their symptoms
- Healthcare exposure occurs when spending any amount of time while not wearing recommended respiratory protection (N95 respirator):
  - In a shared air space with an infectious measles patient at the same time, or
  - In a shared air space vacated by an infectious measles patient for up to two (2) hours
- An airspace can be a small space in a healthcare facility (e.g., patient compartment of an ambulance, a single patient room, or a clinic waiting area) OR a large space (e.g., different areas in a large emergency department that share a common unfiltered air source).

Available at: https://www.cdc.gov/infection-control/hcp/healthcare-personnel-epidemiology-control/measles.html and https://www.cdc.gov/infection-control/hcp/measles/appendix-a.html ; accessed 02/25/25.

Preventing healthcare exposures

Ensure healthcare workers have presumptive evidence of immunity

Exclude potentially infectious healthcare workers

Educate healthcare workers on recognition, triage, diagnosis, and management of measles cases

Available at: https://www.cdc.gov/infection-control/hcp/healthcare-personnel-epidemiology-control/measles.html; accessed 02/25/25.

Healthcare worker immunity status

- Presumptive evidence of measles immunity should be documented
  - Documentation of vaccination with 2 doses of measles virus-containing vaccine; OR
  - Laboratory evidence of immunity; OR
  - Laboratory confirmation of disease; OR
  - Birth before 1957
- Only those with documented immunity should care for suspected or confirmed measles patients

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Available at: https://www.cdc.gov/mmwr/preview/mmwrhtml/rr6204a1.htm#Tab3, https://www.cdc.gov/infection-control/hcp/healthcare-personnel-epidemiology-control/measles.html and https://www.cdc.gov/infection-control/hcp/measles; accessed 02/25/25.

Healthcare worker exclusion

- Symptomatic/known or suspected measles case
  - Exclude for 4 days after rash appears
  - Immunocompromised workers should be excluded for the duration of illness
- Exposed/asymptomatic without presumptive immunity
  - Exclude from 5th day after first exposure through 21st day after last exposure

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Available at: https://www.cdc.gov/infection-control/hcp/healthcare-personnel-epidemiology-control/measles.html; accessed 02/25/25.

Necessary supplies

- NIOSH-certified disposable N95 respirator
- Surgical masks
- Signage
- Tissues
- Disinfectants
- Hand hygiene supplies

Available at: https://www.cdc.gov/infection-control/hcp/measles; accessed 02/25/25.

Scheduling appointments

- Screen callers for measles signs, symptoms, and exposure history
- Provide instructions for arrival
  - Which entrance to use
  - What precautions to take (e.g., wear a surgical mask, follow screening procedures)
- Schedule suspected or confirmed patients at the end of the day, if feasible

Available at: https://www.cdc.gov/infection-control/hcp/measles; accessed 02/25/25.

Patient placement

Identify entrance that minimizes facility exposure

- Immediately screen patients for measles signs, symptoms, and exposure history
- Ask suspected or confirmed measles patients to wear a surgical mask and educate them on appropriate use

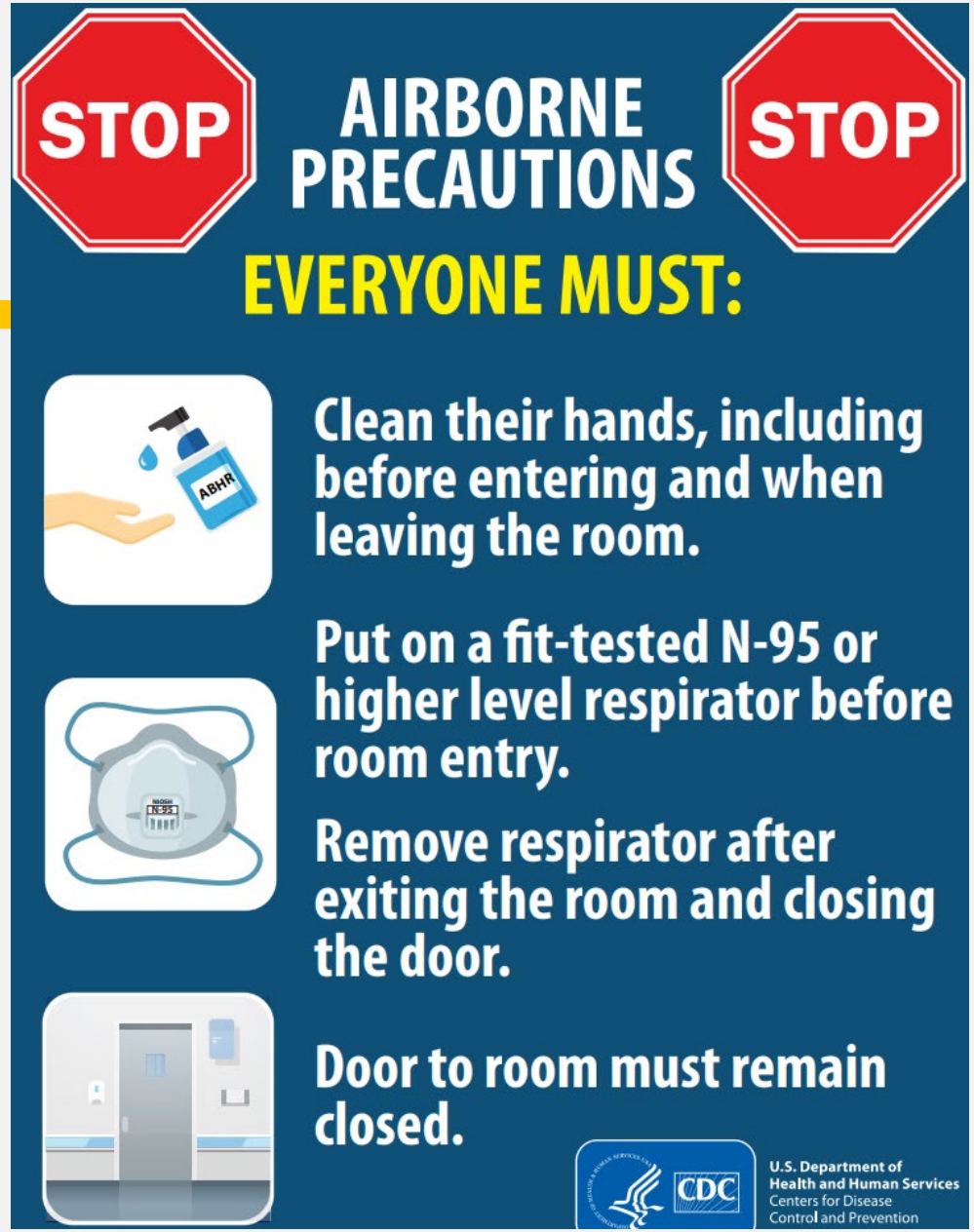
Identify where to place suspected or confirmed patients

- Airborne infection isolation room (AIIR)
- If an AAIR is not available, the patient should be placed in a private room with the door closed and be asked to wear a mask at all times, even when alone in the patient's room
- Room should remain vacant for 2 hours after patient departure

Available at: https://www.cdc.gov/infection-control/hcp/measles; accessed 02/25/25.

Patient care

- Use standard and airborne precautions
- Healthcare workers should wear fit-tested N95 respirators or higher-level respirators
- Limit patient movement



Available at: https://www.cdc.gov/infection-control/hcp/measles and https://www.cdc.gov/infection-control/media/pdfs/airborne-precautions-sign-P.pdf ; accessed 02/25/25.

Managing Healthcare Exposures

1. Determine when airborne precautions began and patient was masked

2. Identify patients and healthcare workers who shared airspace with the infectious measles patient

3. Determine susceptibility of those exposed

   - Confirm immunity status and if immunocompromised

4. Implement post-exposure prophylaxis, work restrictions and symptom monitoring recommendations

Available at: https://www.cdc.gov/infection-control/hcp/healthcare-personnel-epidemiology-control/measles.html; accessed 02/19/25.

Reporting Healthcare Exposure Data

- Healthcare facilities should report healthcare exposure data to local health departments and PHRs daily
- DSHS can provide tracking logs to summarize healthcare exposure data

MMR Vaccine Recommendation

Saroj Rai, PhD, MPH

Senior Scientific Advisor

Texas Department of State Health Services

Measles, Mumps, Rubella (MMR) Vaccine

- MMR vaccine = Measles, Mumps, and Rubella combination vaccine
- Centers for Disease Control and Prevention recommends that people get MMR vaccine to protect against measles, mumps, and rubella.
- All children should get two doses of MMR vaccine*
  - First dose at 12 to 15 months of age, and
  - Second dose at 4 through 6 years of age.
- Teens and adults should also be up to date on their MMR vaccination.
- MMR vaccine is highly effective in preventing measles.**
  - First vaccine effectiveness of 93% when administered on or after age 12 months and
  - Second-dose vaccine effectiveness of 97%.

*Available: Measles, Mumps, and Rubella (MMR) Vaccination | CDC, accessed 2/22/2025
**Available: MMWR Immunization ACIP, accessed 2/22/2025

Outbreak MMR Vaccination Recommendations for Gaines County Only

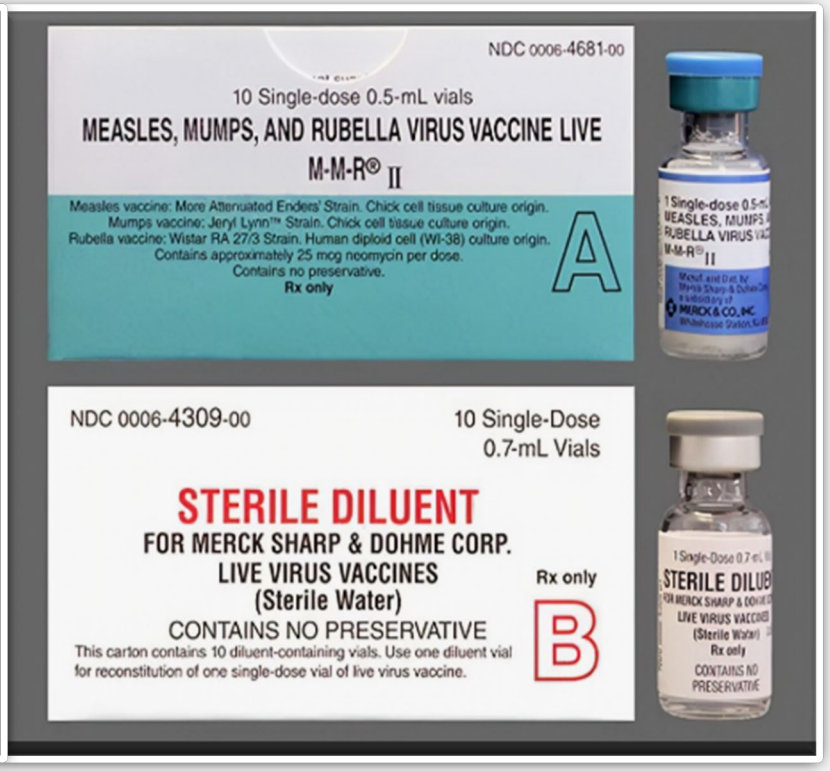
DSHS advises clinicians to follow the below measles immunization recommendations for the **residents of Gaines County.**

- Infants ages 6 to 11 months:
  - Administer an **early dose** of measles, mumps, and rubella (MMR) vaccine.
  - Follow the CDC's recommended schedule and get:
    - Another dose at 12 through 15 months.
    - A final dose at 4 through 6 years.
- Children over 12 months old:
  - If the child has not been vaccinated, administer one dose immediately and follow with a second dose at least 28 days after the first.
  - If the child has received one dose, administer the second dose as soon as possible, at least 28 days after the first.
- Teen and adults with no evidence of immunity:
  - Administer one dose immediately and follow with a second dose at least 28 days after the first.

Available: Health Alert: Measles Outbreak in Gaines County, Texas | Texas DSHS, accessed 2/22/2025

MMR Vaccine

- MMR vaccine available
  - **M-M-R®II,** manufactured by Merck
    - FDA approved since 1978
    - Package Insert - M-M-R®II



Postexposure Prophylaxis
MMR Vaccine & Immunoglobulin (IG)

- Presumptive evidence of measles immunity should be assessed for all identified contacts.
- Use of postexposure prophylaxis (PEP), available either in the form of MMR vaccine or immunoglobulin (IG), may prevent or modify the clinical course of disease among susceptible persons.
- PEP effectiveness appears to depend on the timing of PEP administration and the nature of exposure.
- Individuals who receive PEP should be monitored for signs and symptoms consistent with measles for at least one incubation period.

Available: Chapter 7: Measles | Manual for the Surveillance of Vaccine-Preventable Diseases | CDC, accessed 2/22/2025

Use of MMR Vaccine as Postexposure Prophylaxis

- The MMR vaccine, if administered within 72 hours of initial measles exposure, may provide some protection or modify the clinical course of disease among susceptible persons who otherwise have no contraindications to MMR vaccination (e.g., severe immunocompromise, age < 6 months, pregnancy).
- **However, vaccination should be offered at any interval following exposure to offer protection from future exposures**.
- All doses of live vaccine should be separated by 28 days or more.
  - If a live vaccine other than MMR (e.g., varicella) was received within the 28 days prior to need for PEP, the risks and benefits of MMR vaccination should be weighed.
- Except in health care settings, susceptible persons who receive a dose of MMR as PEP within 72 hours of initial measles exposure may return to childcare, school, or work.
- Any susceptible contact under 12 months of age who receives MMR vaccination should be revaccinated according to the routine pediatric schedule
  - Two additional doses with the first between 12–15 months of age
  - All doses of MMR must be separated by at least 28 days.

Available: Chapter 7: Measles | Manual for the Surveillance of Vaccine-Preventable Diseases | CDC, accessed 2/21/2025

Use of Immunoglobulin (IG) for Postexposure Prophylaxis (PEP)

- IG, if administered within 6 days of initial measles exposure, may provide some protection against measles or modify the clinical course of disease among susceptible persons.
- IG is the only option for PEP for populations which cannot receive MMR vaccine:
  - Infants < 6 months of age,
  - Severely immunocompromised people, and
  - Pregnant women.
- IG PEP can be given to susceptible infants aged 0–12 months.
- However, MMR vaccine is preferred per AAP guidance if received within 72 hours of exposure for infants aged 6-12 months.
- IG PEP should be provided to severely immunocompromised contacts regardless of prior measles vaccination status due to the risk for severe disease.

Available: Chapter 7: Measles | Manual for the Surveillance of Vaccine-Preventable Diseases | CDC, accessed 2/22/2025

Use of MMR Vaccine & IG as PEP
Summary

- Use of IG is meant to prevent or ameliorate the severity of measles in those individuals at high risk, not as a form of outbreak control.

Summary of Measles Postexposure Prophylaxis		
Risk Population	**Time from First Exposure**	
	< 72 hours	**Through 6 days**
Infant < 6 months old	IG	IG
Infant 6 through 12 months	IG Or MMR vaccine preferred	IG
Age > 12 months, no risk factor	MMR vaccine dose 1 or MMR vaccine dose 2, if ≥28 days from MMR dose 1	
Pregnant woman	IG	IG
Severely immunocompromised	IG	IG

Healthcare Personnel

- For healthcare personnel with known or suspected measles, exclude from work for 4 days after the rash appears.
- For immunocompromised healthcare personnel with known or suspected measles, exclude from work for the duration of their illness.
- During an outbreak of measles, health-care facilities should recommend 2 doses of MMR vaccine at the appropriate interval for unvaccinated health-care personnel (HCP) regardless of birth year who lack laboratory evidence of measles immunity or laboratory confirmation of disease.
- For asymptomatic healthcare personnel **with** presumptive evidence of immunity to measles who have an exposure to measles:
  - Postexposure prophylaxis is not necessary.
  - Work restrictions are not necessary.
  - Implement daily monitoring for signs and symptoms of measles from the 5th day after their first exposure through the 21st day after their last exposure.

Available: MMWR: Immunization of Health-Care Personnel (ACIP), accessed 2/22/2025

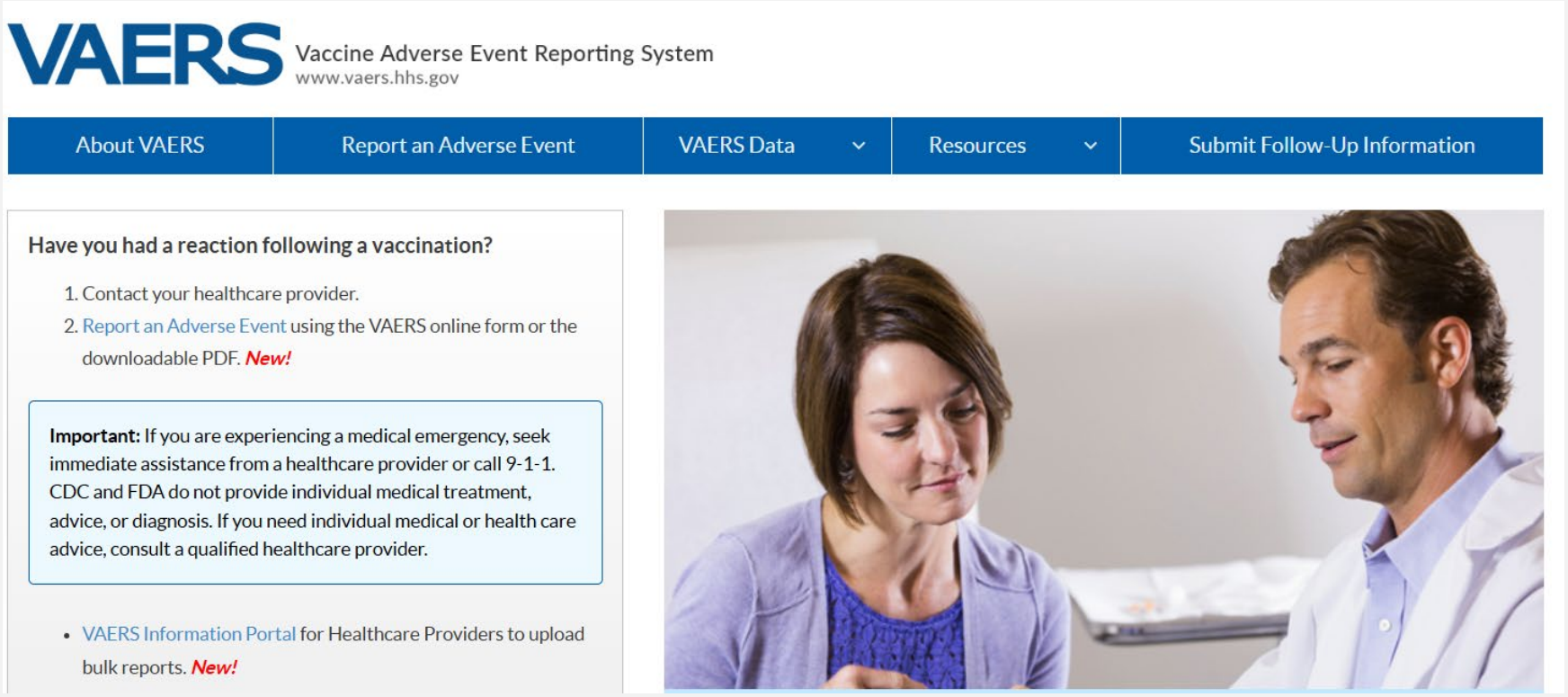
Healthcare Personnel

- For asymptomatic healthcare personnel **without** presumptive evidence of immunity to measles who have an exposure to measles:
  - Two doses of MMR vaccine, separated by at least 28 days.
  - Exclude from work from the 5th day after their first exposure through the 21st day after their last exposure, **regardless of receipt of PEP.**
- Work restrictions are not necessary for healthcare personnel who received the first dose of MMR **vaccine prior to exposure:**
  - They should receive their second dose of MMR vaccine as soon as possible (at least 28 days after their first dose).
  - Implement daily monitoring for signs and symptoms of measles from the 5th day after their first exposure through the 21st day after their last exposure.

Available: MMWR: Immunization of Health-Care Personnel (ACIP), accessed 2/22/2025

VAERS (Vaccine Adverse Event Reporting System)

- Report any adverse event that may occur after administering a vaccine dose to Vaccine Adverse Event Reporting System (VAERS)



DSHS Immunization Program Contact

For general immunization related questions, please contact Immunization.Info@dshs.texas.gov

Communications & Media Relations

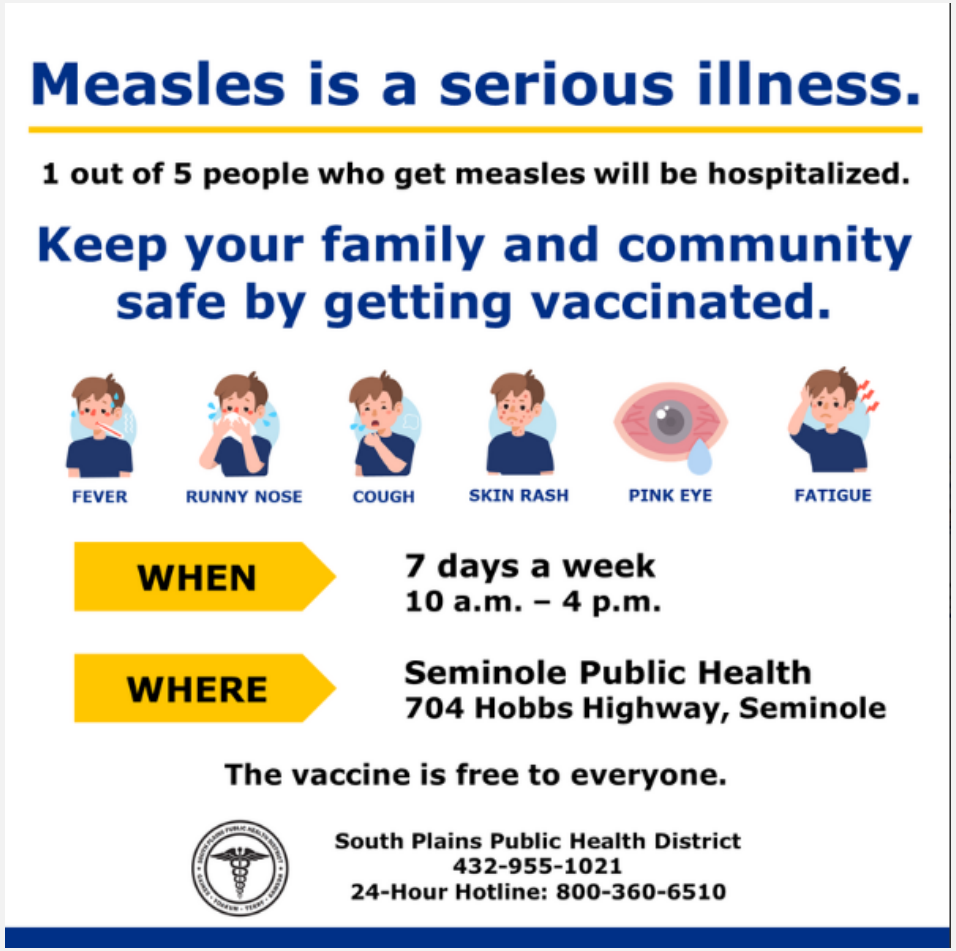
Lara Anton

Senior Press Officer

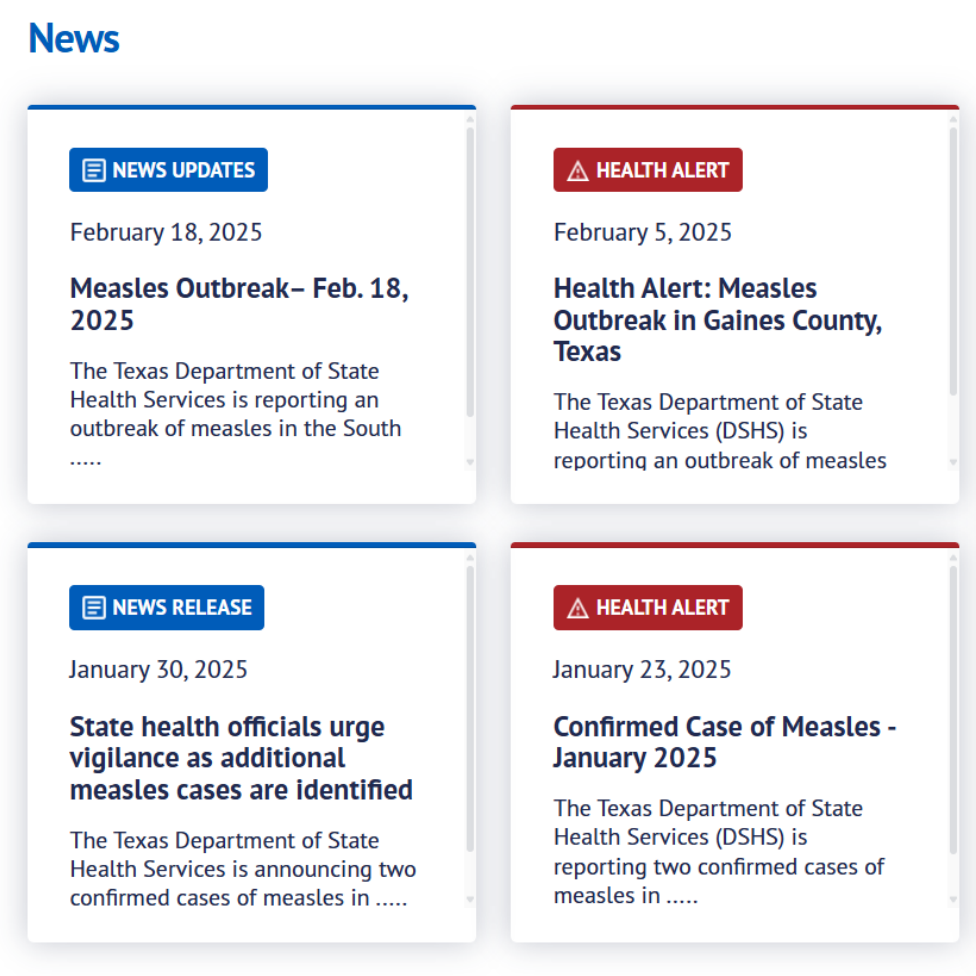
Texas Department of State Health Services

Communications & Media Relations

- **Coordinating with local public health**
  - To gain local perspective and understand what is most effective for their communities
- **Coordinating with CDC to develop materials for use around the state**
  - Distributed guidance to public school nurses and daycares to encourage immunization
  - Posted on Nextdoor
  - Created radio PSAs (Low German, Spanish, English)
  - Content for static and digital billboards (in development)
  - Exploring other materials and distribution tactics in PHR 1 (in development)



Communications & Media Relations



[News & Alerts | Texas DSHS]

- **DSHS Website**
  - Measles page updated with outbreak information, helpful resources
  - News updates, news releases, health alerts
    - News update includes links to data on school immunization coverage and exemptions
- **Consistency**
  - Bolster trust in public health and motivate action through consistent messaging across public health and across media

Resources

Resources

- The CDC. Classification of Measles Cases and Categorization of Measles Elimination Programs. https://www.cdc.gov/mmwr/preview/mmwrhtml/00001225.htm
- The CDC. Routine Measles, Mumps, and Rubella Vaccination. https://www.cdc.gov/vaccines/vpd/mmr/hcp/recommendations.html
- The DSHS Emerging and Acute Infectious Disease Guidelines (EAIDG) 2024. https://www.dshs.texas.gov/sites/default/files/IDCU/investigation/electronic/EAIDG/2024/EAIDG2024.pdf
- The DSHS Measles/Rubella Case Track Record Form. https://www.dshs.texas.gov/sites/default/files/IDCU/investigation/forms/Measles-Rubella2.pdf
- Measles Vaccination | Measles (Rubeola) | CDC
- Prevention of Measles, Rubella, Congenital Rubella Syndrome, and Mumps, 2013
- Measles Q&A CDC

Q&A

Closing Remarks

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Chief Deputy Commissioner

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Thank You