

MEASLES UPDATE 2025: HOW TO AVOID RASH DECISIONS

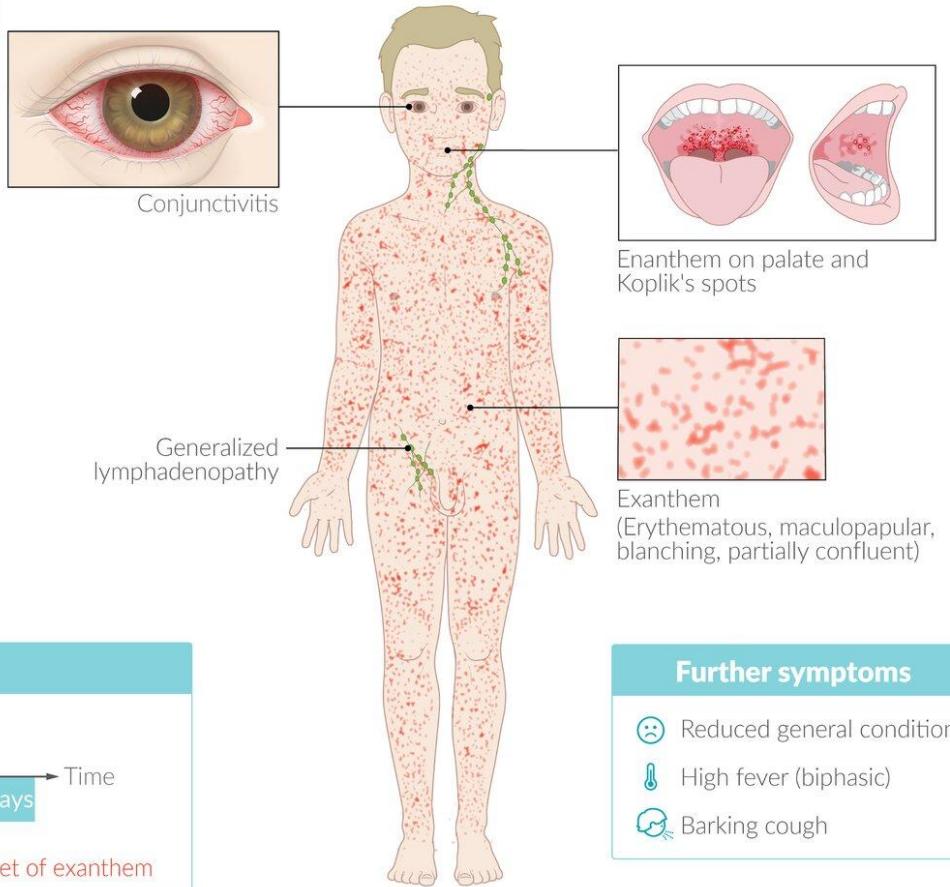
6/11/2025

Denver Niles, M.D., D(ABMM)

OBJECTIVES

- Clinical aspects
 - Clinical presentation
 - Viruses confused with measles
 - Isolation
 - Testing algorithm for suspected cases
 - Post-exposure prophylaxes
- History of measles vaccine
- Vaccine hesitancy
- West Texas outbreak

CLINICAL PRESENTATION



Source: amboss.com/us/knowledge/measles

3 C's:
Cough
Coriza
Conjunctivitis

Rash

VIRUSES CONFUSED WITH MEASLES

Virus	Clinical Overlap with Measles	Distinguishing Features
Rubella (German measles)	Fever, rash (starts on face, spreads), lymphadenopathy	Milder illness, postauricular/occipital LAD, shorter duration, arthralgias more common
Parvovirus B19 (Fifth disease)	Rash (slapped cheek, lacy), low-grade fever	"Slapped cheek" facial rash followed by reticular body rash; often no cough or conjunctivitis
Human herpesvirus 6/7 (Roseola)	High fever followed by rash as fever resolves	Rash appears after fever breaks; typically affects infants; no Koplik spots
Adenovirus	Fever, conjunctivitis, pharyngitis, rash	Pharyngoconjunctival fever, more prominent eye findings, often without cough
Enteroviruses (e.g., coxsackie, echovirus)	Fever, rash, oral lesions (sometimes)	Seasonal, GI symptoms may be present, rash may involve palms/soles
Dengue virus	Fever, rash, myalgias, retro-orbital pain	History of travel to endemic areas, thrombocytopenia, bleeding signs, no Koplik spots
Epstein-Barr virus (EBV)	Rash (especially after ampicillin), pharyngitis, fever	Marked tonsillar exudates, lymphadenopathy, splenomegaly
COVID-19 (SARS-CoV-2)	Fever, rash (less common), conjunctivitis, respiratory sx	More variable presentation, anosmia, taste loss, less likely to present with classic triad

MEASLES: IDENTIFY, ISOLATE, INFORM



MEASLES TESTING ALGORITHM

Suspected Case



Source: CDC

Immune status



Measles IgM/IgG

+

Measles RT-PCR
(+/- strain typing)

Measles IgG

HOW CONTAGIOUS IS MEASLES?

R_0 = average number of people who will catch the disease from 1 infected person



POST-EXPOSURE PROPHYLAXES

PEP Option	Indication	Timing (Post-Exposure)	Special Considerations
MMR Vaccine	<ul style="list-style-type: none">- Susceptible individuals (≥ 6 months old)- No contraindication to vaccine	Within 72 hours	Live vaccine; not recommended in immunocompromised or pregnant individuals
Immune Globulin (IGIM)	<ul style="list-style-type: none">- Infants < 6 months- Pregnant women	Within 6 days (144 hours)	IM only
Immune Globulin (IVIG)	<ul style="list-style-type: none">- Severely immunocompromised individuals	Within 6 days (144 hours)	Preferred over IGIM for severely immunocompromised patients or when IM injection volume would be excessive
No PEP Recommended	<ul style="list-style-type: none">- Documented immunity (e.g., 2 doses of MMR, or lab-confirmed immunity)	Not applicable	No further action needed

MEASLES VACCINE HISTORY

1954

Measles isolated



1968

More attenuated vaccine licensed



1989

Second dose of measles recommended



2000



Measles declared eliminated in US

1963



First live-attenuated vaccine

1971



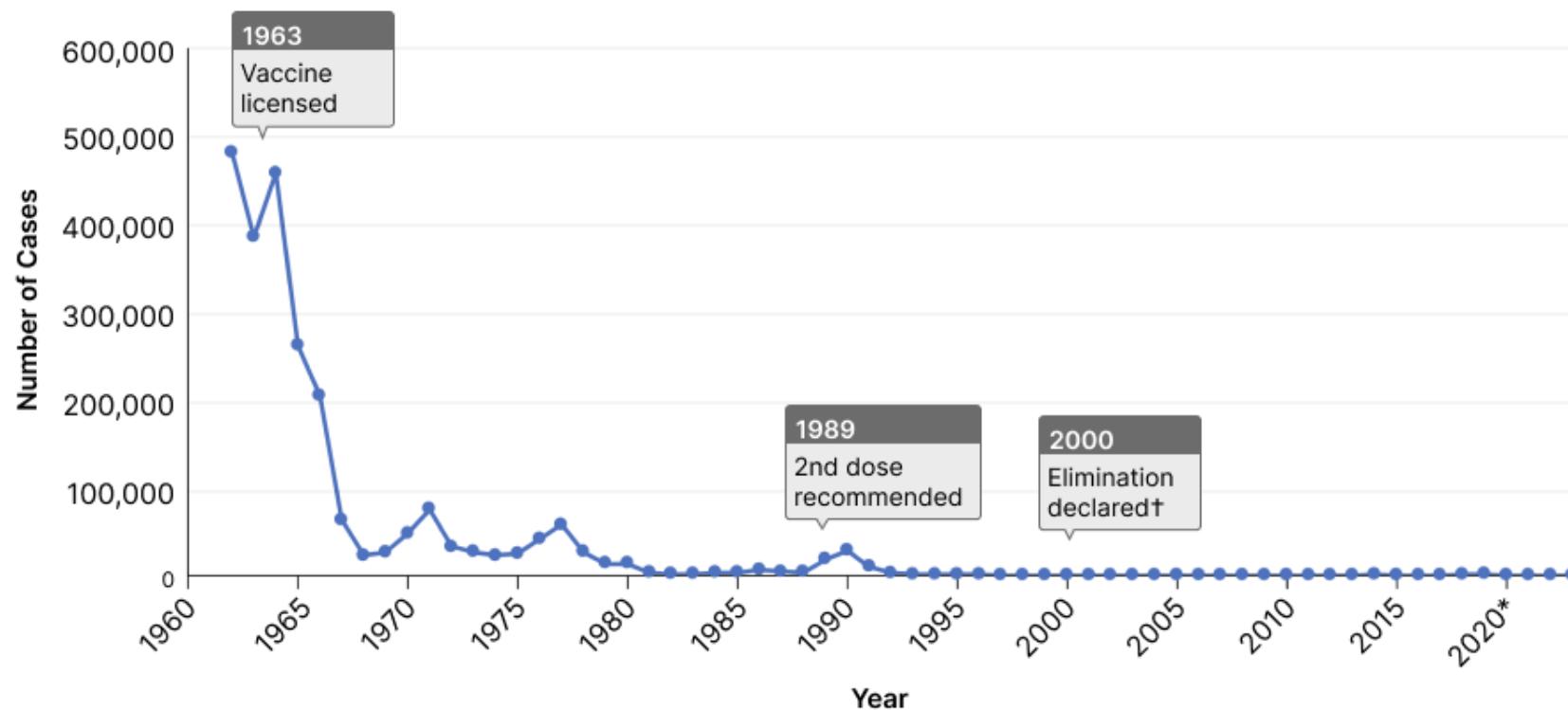
MMR vaccine introduced

1998



Misleading Lancet paper links MMR with autism

Reported Measles Cases in the United States from 1962 – 2023*

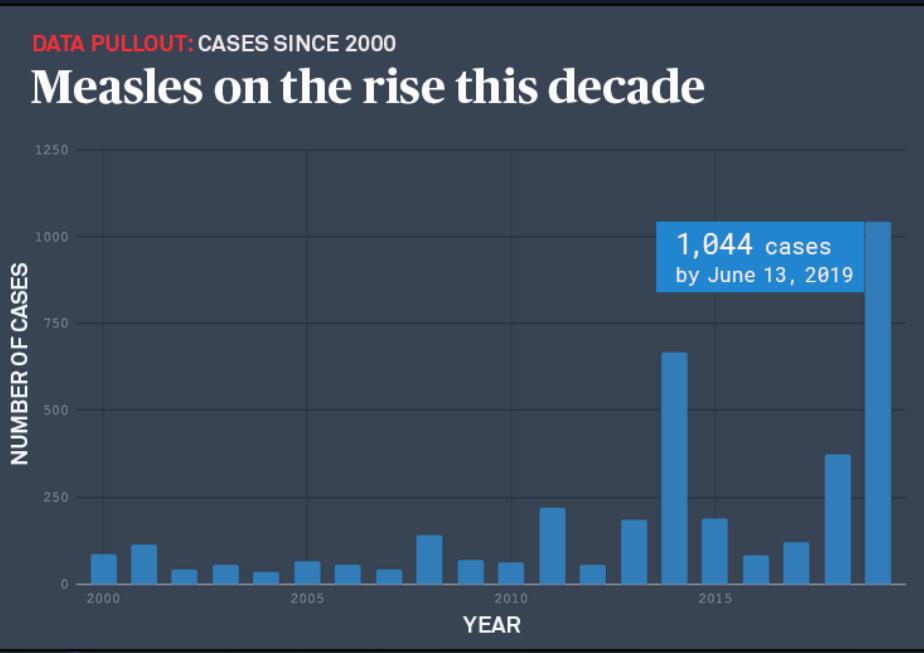
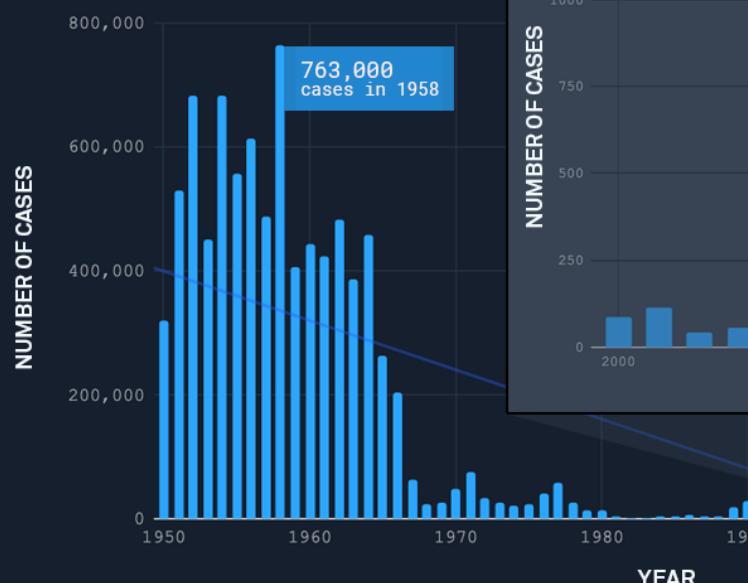


Source: CDC

Cases of measles since 1950

PBS
NEWS
HOUR

Measles reached a peak of 763,000 cases in 1958. Fast-forward 42 years and it was eliminated in the U.S. In 2019, the virus has mounted a comeback, reaching its highest level in 25 years.



Source: Centers for Disease Control and Prevention

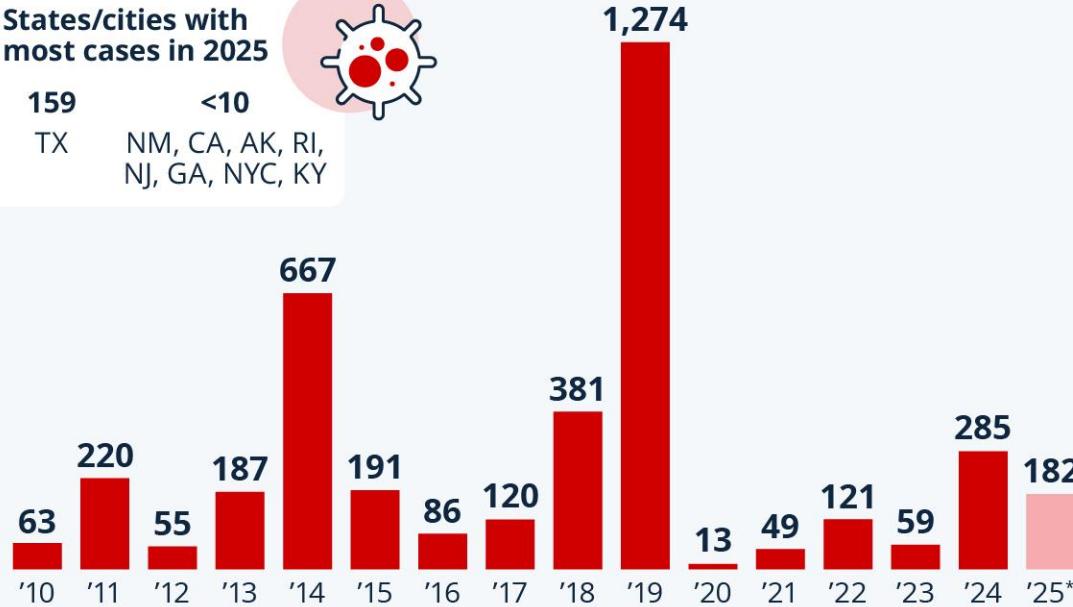
Source: PBS News Hour

Texas Outbreak Drives up U.S. Measles Cases in Early 2025

Number of measles cases reported in the U.S. per year

States/cities with most cases in 2025

159 TX
<10 NM, CA, AK, RI,
NJ, GA, NYC, KY



* As of Feb. 27, TX and NM outbreaks as of Mar. 4 (minimum count)

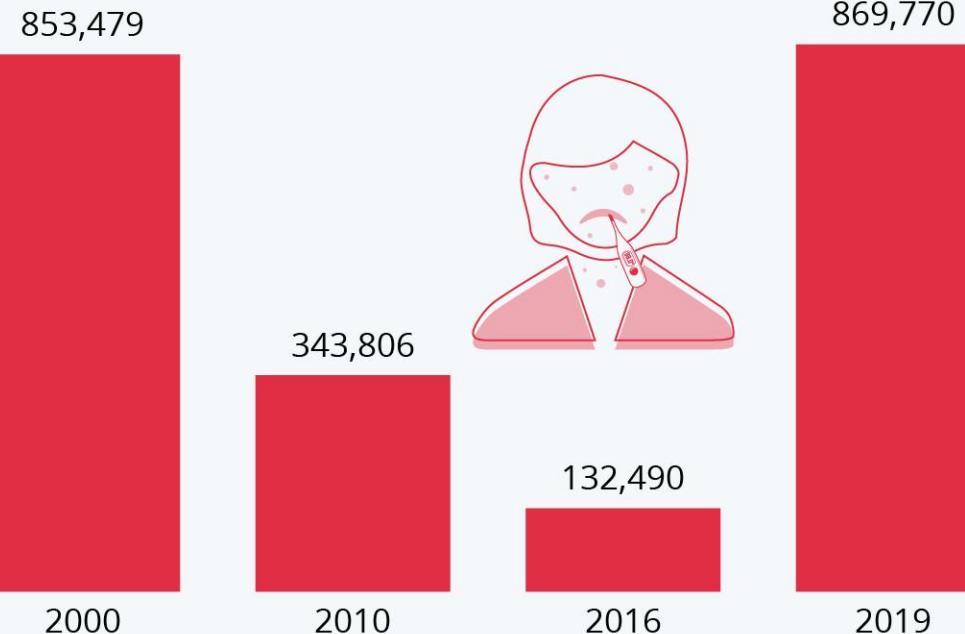
Sources: Centers for Disease Control and Prevention, Texas/New Mexico Departments of Health



statista

Global Surge in Measles Cases

Number of reported measles cases across the world



Estimated total measles cases including those unreported was 9,828,400 in 2019 with an estimated death toll of 207,500

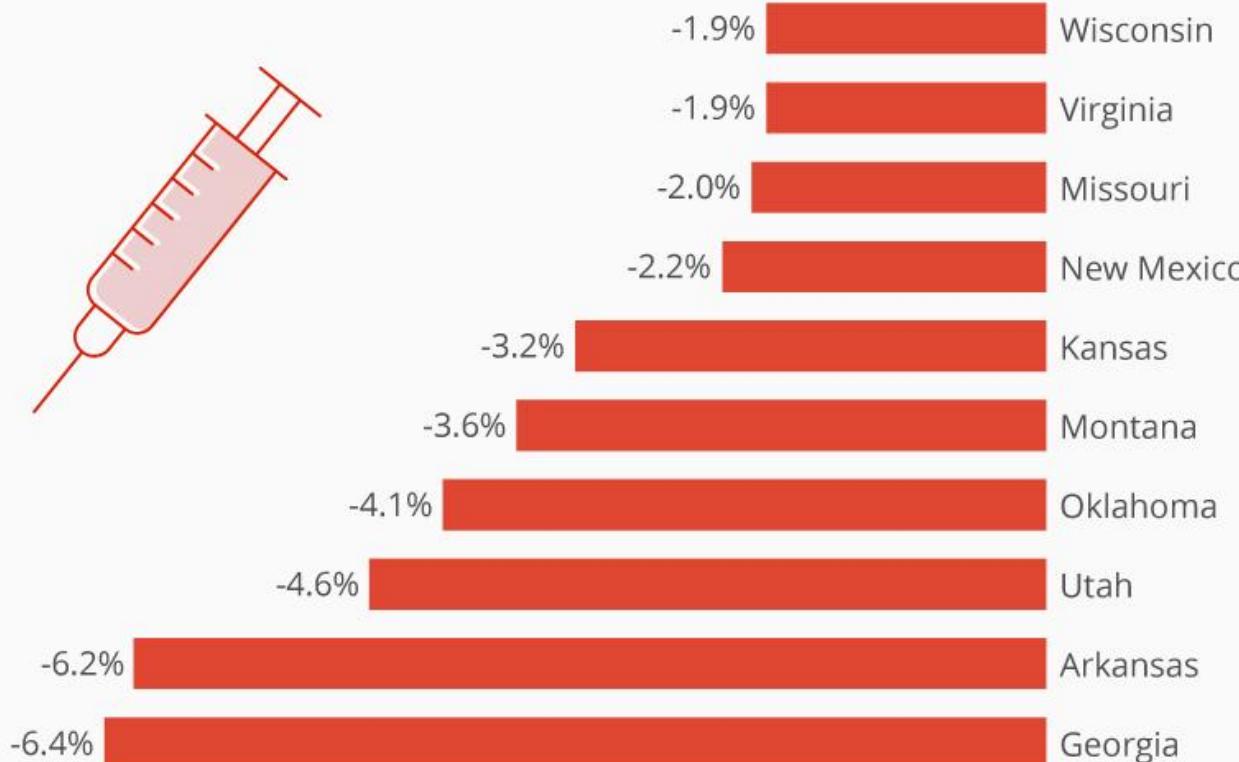
Sources: World Health Organization, U.S. Centers for Disease Control and Prevention



statista

The States Where Vaccination Rates Are Falling

Percentage point difference in vaccinated kindergartners (2009 vs 2018)*



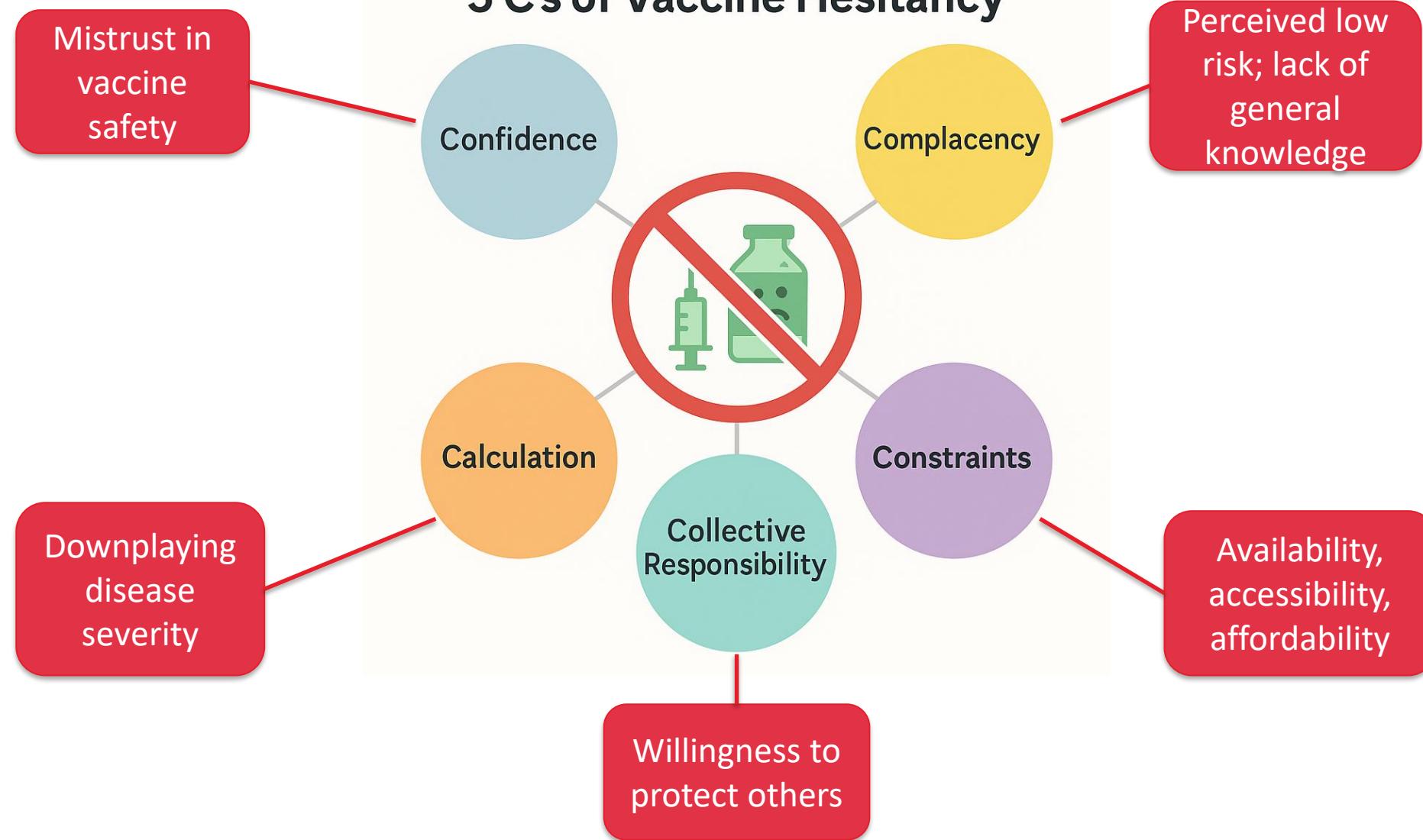
@StatistaCharts

* Analysis included vaccinations for MMR, DTaP, Varicella, Hepatitis B and Polio.

Source: Health Testing Centers

statista

5 C's of Vaccine Hesitancy



MEASLES MISINFORMATION

THE LANCET

The Lancet, Volume 351, Issue 9103, Pages 637 - 641, 28 February
doi:10.1016/S0140-6736(97)11096-0

This article was retracted

RETRACTED: Ileal-lymphoid-nodular hyperplasia, enterocolitis, and pervasive developmental disorder in children

Dr AJ Wakefield FRCS ^a , SH Murch MB ^b, A Anthony MB
MRCPath ^a, MA Thomson FRCP ^b, P Harvey FRCP ^d, A Valerio
FRCP ^c, and others

Summary

Background

We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

Methods

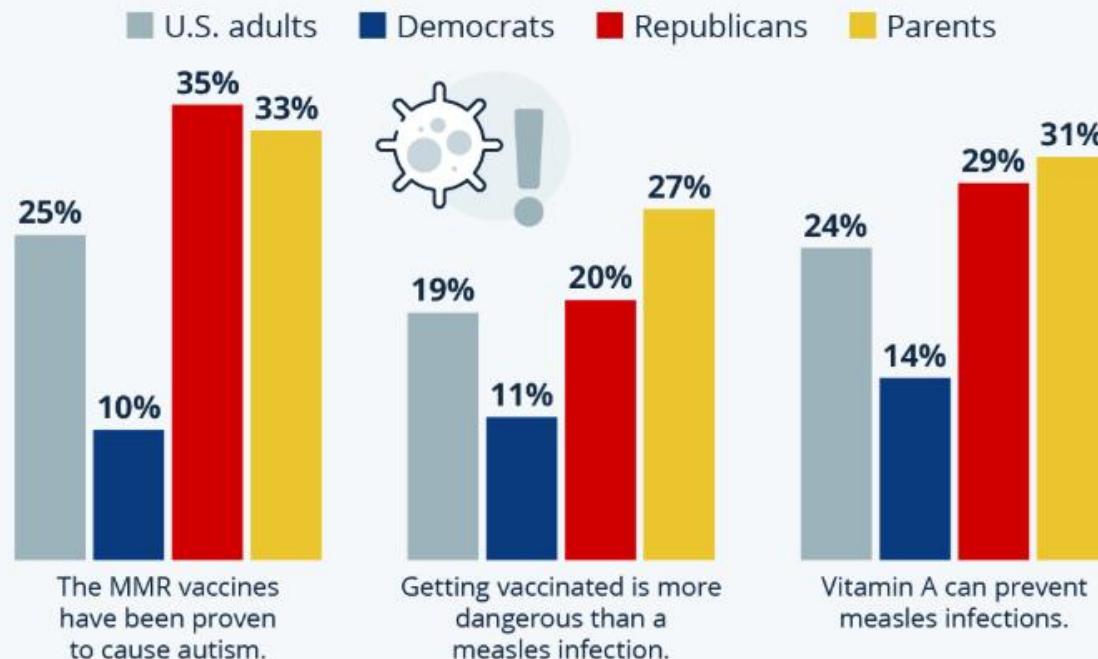
12 children (mean age 6 years [range 3–10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileocolonoscopy and biopsy sampling, magnetic-resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.

RETRACTED



Study Finds Widespread Belief in Measles Misinformation

Share of U.S. adults who believe that the following false claims about measles are definitely or probably true



1,380 U.S. adults incl. 457 parents of children under 18 y/o surveyed April 8-15, 2025

Source: KFF

Like measles, misinformation is spreading, poll finds

APRIL 23, 2025 · 5:00 AM ET

HEARD ON MORNING EDITION



Maria Godoy

AP AP News

Vaccine teams in Mexico scramble over measles outbreak rippling out from Mennonite community

Officials say results of their campaign alongside Mennonite leaders have been mixed — they cite tens of thousands of new vaccinations in...



USN U.S. News & World Report

A Child's Death From Measles Sounds the Alarm on Vaccine Misinformation | US News Opinion

Child's Death From Measles Sounds Alarm on Vaccine Misinformation. A new measles outbreak is hitting unvaccinated children and teens. Doctors...



NBC NBC News

Anti-vaccine movement falsely blames measles shots for Texas outbreak

The disproven claims about the Texas measles cases echo misinformation spread by Health Secretary Robert F. Kennedy Jr. about a 2019 outbreak in Samoa.



WEST TEXAS MEASLES OUTBREAK

TEXAS MEASLES OUTBREAK

West Texans, Mennonites at center of measles outbreak choose medical freedom over vaccine mandates

In rural West Texas, measles has sickened nearly 150 people, most of them unvaccinated. A school-age child has died. The virus is spreading among Gaines County's Mennonite community, where government mandates are not trusted.

BY DEVI SHASTRI, ASSOCIATED PRESS, AND CARLOS NOGUERAS RAMOS, THE TEXAS TRIBUNE

MARCH 4, 2025 5 AM CENTRAL

SHARE REPUBLISH ↗

TEXAS MEASLES OUTBREAK

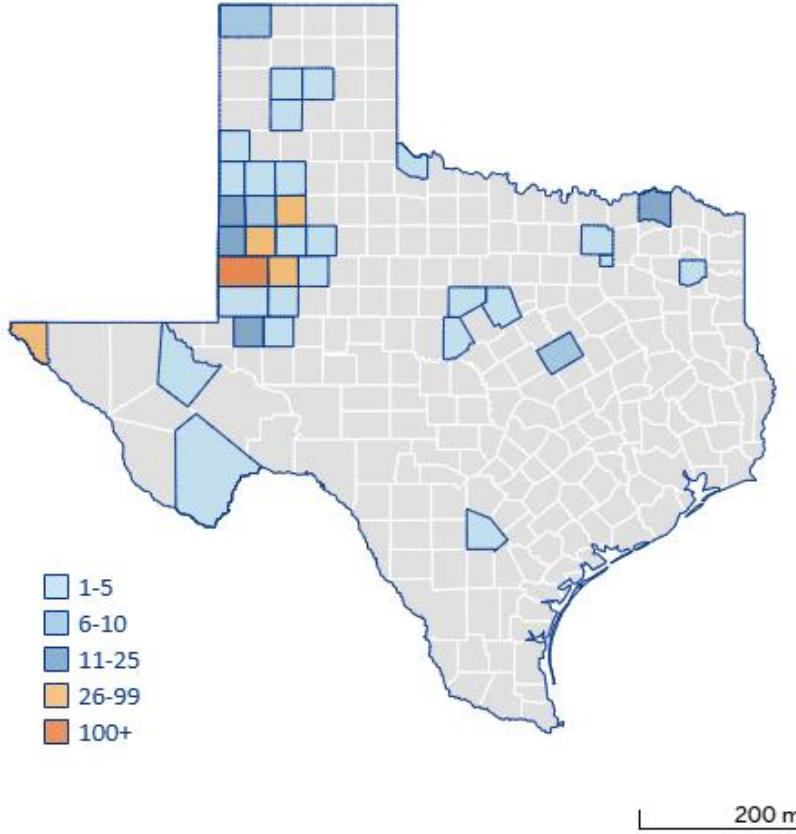
Parents of Texas child who died of measles stand by decision to not vaccinate

The measles vaccine has been proven to be safe and effective against the disease, which is highly contagious and can be life threatening.

BY TERRI LANGFORD MARCH 20, 2025 7 PM CENTRAL

SHARE REPUBLISH ↗

WEST TEXAS MEASLES OUTBREAK



Outbreak Cases by Age	
Age Group	Confirmed
0-4 Yrs	218
5-17 Yrs	281
18+ Yrs	241
Pending	4

Outbreak Cases by Vaccination Status	
Vaccination Status	Confirmed
Unknown/Unvaccinated*	701
Vaccinated: 1 dose	23
Vaccinated: 2+ doses	20

*The unvaccinated/unknown category includes people with no documented doses of measles vaccine more than 14 days before symptom onset.

Outbreak Cases by Date of Rash Onset

If date of rash not available, the following hierarchy is used for date: symptom onset date, specimen collection date, hospital admission date, or date reported to the region. People with measles are contagious from four days before rash onset to four days after.

