

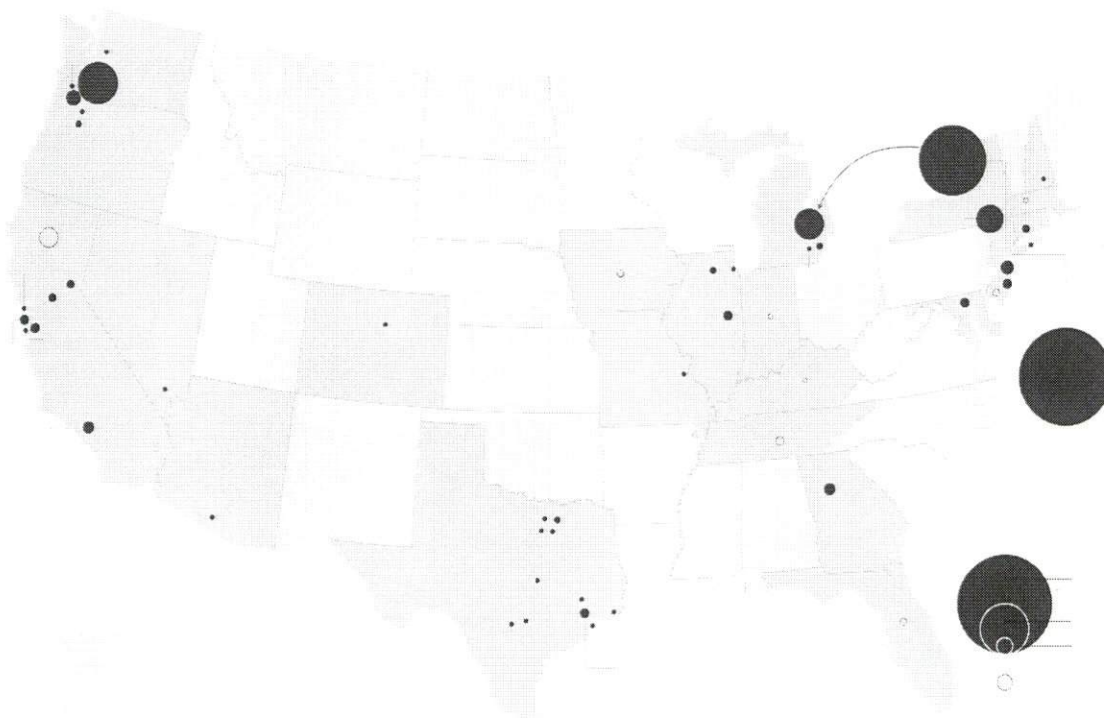
## Measles Cases Surpass 700 as Outbreak Continues Unabated

The outbreak is now the worst in decades. Children under age 5 account for about half of the cases.

By: Donald G. McNeil Jr.

April 29<sup>th</sup>, 2019

Measles continues to spread in the United States, federal health officials said on Monday, surpassing 700 cases this year as health officials around the country sought aggressive action to stem the worst outbreak in decades.



Confirmed Measles Cases by County in 2019

Most cases in Clark County occurred in unimmunized children under 10 years old.

Outbreaks linked to Orthodox Jewish communities in New York spread to Michigan.

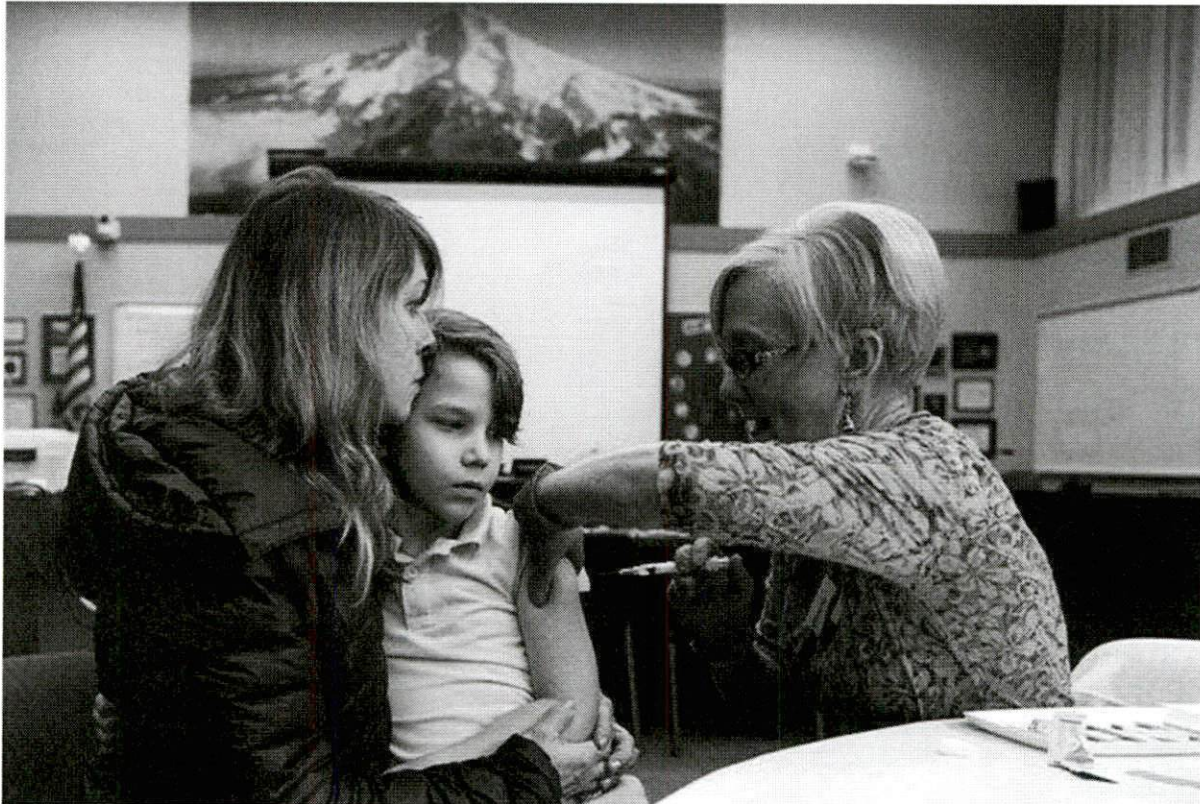
Source: Latest data available from state health departments, as of April 29.

By Weiyi Cai, Denise Lu and Scott Reinhard

In New York, an epicenter of the outbreak, city officials closed two more schools for Orthodox Jewish children for failing to comply with an order to exclude unvaccinated children.

In California, hundreds of students and staff members at two universities remained under quarantine following possible exposure to the virus.

And with measles spreading globally, officials at the Centers for Disease Control and Prevention have urged Americans traveling abroad to make sure they are immunized against the disease. On Monday, the agency renewed an urgent call for parents to get their children vaccinated.



Heidi Clarke held her son, Micah Risner, 5, as a nurse, Ann Rowland, administered immunizations in Portland, Ore. Federal officials now fear that measles may regain a foothold in the United States. Credit Alisha Jucevic for The New York Times

“The outbreaks in New York City and New York State are the largest and longest-lasting since measles elimination in 2000,” Dr. Nancy Messonnier, the C.D.C.’s director for immunization, said at a news conference.

“The longer this continues, the greater the chances that measles will again get a foothold in the United States,” she said.

More than 500 of the 704 cases recorded as of last Friday were in people who had not been vaccinated, the C.D.C. reported. While there have been no deaths, 66 people have been hospitalized, a third of them with pneumonia.

## Number of Measles Cases in the United States Since 2000

\*\*\*\*\*SEE ATTACHED TABLE\*\*\*\*\*

Source: Centers for Disease Control and Prevention

By The New York Times

Around the country, there have been 13 individual outbreaks in 22 states in 2019, the agency reported. Some of those outbreaks have already been contained.

The outbreak in New York, the nation's biggest city, has been concentrated in Orthodox Jewish communities in Brooklyn and Rockland County.

The city reported on Monday that there had been 423 cases since the virus appeared in October. State officials reported another 236 in counties north and east of the city.

Officials in New York City have now closed seven Orthodox schools for failing to comply with vaccination orders; five have reopened after providing records showing that they were turning unvaccinated students away.

The city has also issued summonses to 57 residents of Brooklyn's Williamsburg neighborhood — where more than 80 percent of the city's cases have occurred — for refusing to get themselves or their children vaccinated.

Each summons can lead to a fine of up to \$1,000 — or double that if the person it is issued to does not appear in court.

“The longer it takes schools and individuals to comply with our order, the longer this outbreak will continue,” Dr. Oxiris Barbot, the city's health commissioner, said.

California has had a low-intensity epidemic with a handful of new cases each week, punctuated by occasional scares about widespread exposure at airports or on university campuses.

Franz Hall at U.C.L.A.'s campus. Hundreds of students and staff members were quarantined at the university following possible exposure to measles. Credit: Jenna Schoenefeld for The New York Times



Franz Hall at U.C.L.A.'s campus. Hundreds of students and staff members were quarantined at the university following possible exposure to measles. Credit Jenna Schoenefeld for The New York Times

Last week, nearly 800 students and staff members at California State University, Los Angeles, and the University of California, Los Angeles, who may have been exposed to measles on their campuses were quarantined under orders to stay home and not ride public transportation.

As of Monday, more than half of them were cleared after showing proof that they had either had two measles shots or were immune because they had caught the disease in childhood.

About 370 remained in quarantine, mostly at Cal State, Los Angeles.

On Monday, signs reading "POSSIBLE MEASLES EXPOSURE" were posted at the entrance to Cal State's John F. Kennedy Memorial Library. Anyone who visited on April 11, when a student with measles apparently passed through, was warned to check his or her vaccination records.

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How has the measles in your state affected you and your family? Tell us about the atmosphere in your community and any precautions you've taken.

Aliyah Johnson, 22, a senior, said she first heard of the scare when her mother called to check on her. "Out of sight is out of mind," she said. She has had her shots, Ms. Johnson added.

At U.C.L.A., some students were unaware that the possible exposure on their campus had been traced to the very lecture halls they were entering. Still, some said they were more worried about upcoming exams.

Gianna Jimenez, a sophomore studying molecular biology, said she and her peers were disturbed by the spread of unscientific theories, such as the notion that vaccines cause autism.

"People just believe whatever they see on the internet whether it's true or not," she said. "The fact that it's 2019 and we're dealing with this is outrageous and ridiculous."

Universities in New York are required by state law to make sure their students are vaccinated against measles.

At New York University, incoming freshmen do not get dorm keys until they produce persuasive evidence of immunization or get vaccinated at the student health center, said John Beckman, a university spokesman.

The university, he added, has just told all students with medical or other exemptions that, if the school has a case, they may be barred from campus.

More than 94 percent of American parents vaccinate their children against measles and other diseases, Dr. Robert Redfield, director of the C.D.C., said on Monday.

About 100,000 children in this country below age 2 have not been vaccinated, he said, meaning they are vulnerable in this outbreak.

Some infants are not immunized because their parents avoid vaccination. Others cannot be protected either because they are allergic to components of the vaccine or for other medical reasons.

This year's outbreak, the C.D.C. said, was sparked by 126 infections acquired by travelers overseas since early 2018. The bulk of them occurred in Israel, Ukraine and the Philippines, but cases have also come from Thailand, Germany, Britain and other countries.

Of the 44 cases imported so far this year, the C.D.C. said, 34 were not in immigrants or foreign visitors, but in Americans who had traveled overseas.

***[Get answers to common questions about the measles outbreak.]***

Even with modern medical care, the disease normally kills about one out of every 1,000 victims, according to the C.D.C.

Pneumonia and encephalitis — swelling of the brain — are the most common severe complications. Epidemics among malnourished children who cannot get modern hospital care have mortality rates of 10 percent or more, according to the World Health Organization.

Measles is among the most contagious of diseases. Virus-laced droplets can hover in still indoor air for up to two hours after someone infected has coughed or sneezed. Up to 90 percent of people who are exposed will catch the virus if they are not immunized.

The vaccine is considered very safe, and two doses are about 97 percent effective at conferring immunity. The vaccine is normally given at ages 1 and 5, but during outbreaks pediatricians may give it to healthy children as young as six months old.

Around the world, measles cases fell 80 percent between 2000 and 2016, with deaths dropping to 90,000 a year from 550,000.

But two years ago, cases began rebounding, driven by a combination of poverty, warfare, tight vaccine supplies and, in some countries, hesitation about vaccination.

Earlier this month, the W.H.O. said there were three times as many measles cases around the world this year as there were in the first three months of 2018.

Before measles vaccination became widespread in the United States in 1963, up to four million Americans got measles each year, the C.D.C. said. Of the roughly 500,000 cases that were reported to medical authorities annually back then, about 48,000 were hospitalized, 4,000 developed encephalitis, and 400 to 500 died.

The C.D.C.'s case count on Monday said 503 of the 704 measles infections were in people who were not vaccinated. Of the remaining 201 cases, vaccination status was unknown for 125 patients, meaning that 76 patients said they had been vaccinated but got sick anyway.

The agency does not yet know how many shots each of those 76 had, “but under extreme disease pressure we know there can be vaccine failures,” Dr. Messonnier said.

She suggested that adults likely to encounter the virus, including health workers, travelers and anyone in affected neighborhoods, get a blood test that can show how immune they are to measles, mumps and rubella.

***[Here's our full coverage about the measles outbreak.]***

Anyone born before 1957 is assumed to have had the measles as a child and therefore immune.

Americans born between 1957 and 1989 are in a middle ground. Some got the early “killed virus” vaccine, which later proved to be too short-lived and was replaced by a “weakened virus” vaccine.

Until 1989, it was routine to give one shot; now children get two. One shot of the new vaccine provides 93 percent immunity in the overall population, while two shots drive that up to 97 percent, which is considered more than enough to keep the virus from spreading.

Vaccination levels vary from state to state, largely dependent on how easy state legislatures make it to get exemptions. All states permit exemptions for children who are allergic to the vaccine, have a compromised immune system or have another medical reason to avoid it.

Some states permit religious exemptions, even though no major religion opposes vaccination, and a few states also permit “philosophical” or “personal choice” exemptions.

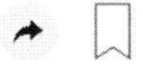
Some states with high vaccination rates have “pockets of unvaccinated people,” the C.D.C. said. At various times, some religious minorities like Orthodox Jews and the Amish in Ohio have had low vaccination rates.

Some wealthy liberal communities, like Vashon Island in Washington State, have also had low rates. Recently conservative groups opposed to vaccines have sprung up, such as Texans for Vaccine Choice, which is associated with the Tea Party.

*Julie Turkewitz contributed reporting from Denver, Jose Del Real from Los Angeles and Dana Goldstein from New York.*

Donald G. McNeil Jr. is a science reporter covering epidemics and diseases of the world’s poor. He joined The Times in 1976, and has reported from 60 countries.

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## Number of Measles Cases in the United States Since 2000

