



INYO COUNTY PUBLIC HEALTH BRIEF

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Public Health
Prevent. Promote. Protect.

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Measles – No Joke – A Rash of Cases



Current Situation

The latest data released on Monday, Feb 2, from this current outbreak of measles shows that there are 102 cases of laboratory confirmed cases in the US, with 92 of them in California. Ten counties have been affected, and most of the cases have been in Southern California, especially Orange, San Diego, and Los Angeles Counties. Six of the cases have been in infants less than 1 year of age, and 62% of the cases have been in persons older than 20 years of age, including a 70 year old. 39 of the cases visited Disney Theme Parks between Dec 17-20, 4 are employees of Disney, and for 29, there is no known source. Twenty of the cases occurred in persons who were household contacts of the initial cases, and there are now 3 cases transmitted in community settings – all 3 in Emergency Departments. Most cases are occurring in person who are un or undervaccinated. There is no evidence of sustained transmission at the Disney parks, so visiting there is not considered risky.

What is measles?

Measles is an acute infection caused by the measles virus. Before the vaccinations became available in 1963, there were about 3-4 million cases each year in the USA, with 500 deaths, 48,000 hospitalizations, and 4,000 cases of brain inflammation. Although it is still common in most of the world, with an estimated 20 million cases and 122,000 deaths annually, it was declared eradicated in the United States in 2000. In 2004, there were only 37 cases reported, almost all related to US residents traveling overseas, or foreign visitors bringing it into the US. And then there was last year, and now 2015 looks to be worse.

Measles Cases and Outbreaks

During 2014*

644

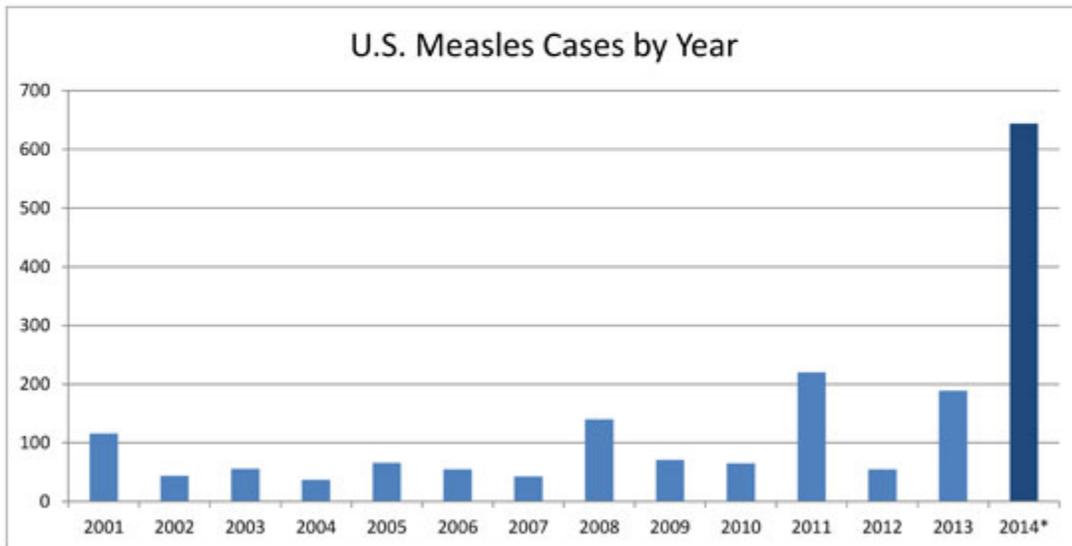
Cases

23

Outbreaks

reported in 27 states: Alabama, California, Colorado, Connecticut, Hawaii, Illinois, Indiana, Kansas, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New Mexico, New York, North Carolina, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, Wisconsin

representing 89% of reported cases this year



*Provisional data reported to CDC's National Center for Immunization and Respiratory Diseases



Sure, someone most likely brought it from overseas into Disneyland, but that would have been the end of it had that person only had contact with a population that was adequately

vaccinated. When measles gets into crowded places and communities of unvaccinated people in the US (such as people who refuse vaccines for religious, philosophical, or personal reasons), outbreaks are more likely to occur. These communities make it difficult to control the spread of disease and make us vulnerable to having the virus re-establish itself in our country again. That's what we are now afraid is happening.

High measles vaccine coverage and rapid public health response are critical for preventing and controlling measles cases and outbreaks. The economic cost is huge. It is estimated that the investigations following only 107 cases in 2011 cost local and state taxpayers \$5.3 million – and in 2014, there were 644 cases!

What is the incubation period (time between exposure and getting sick)?

Once exposed, persons may get sick up to 2 days later, but will usually get sick after 8-12 days.

How is it spread?

Measles is one of, if not the most highly contagious disease on the planet. It is typically spread through droplets which survive and remain suspended in the air for two hours. It can therefore be “caught” long after the infected person has left the room.

When is someone contagious?

Persons are contagious for about 24 hours PRIOR to the onset of the prodrome, and 4 days BEFORE they develop a rash, until 4 days after the onset of rash.

What are the symptoms?

Persons initially have what is called a “prodrome” phase before any rash, which consist of fever (up to 105F), malaise/fatigue, a cough (which goes on for 10 days), stuffy/runny nose (coryza), and inflammation of the eyes (conjunctivitis) making them very sensitive to bright light. They may also have white spots on a red base inside their cheeks or on the roof of their mouth (called Koplik spots).

Two to four days later, a rash develops, which is red and blotchy (maculopapular), typically beginning on the head (hairline and behind ears), and then extending down the body to the legs, including the palms and the soles of the feet. The rash may last for a week. Persons who are immunocompromised may not have a rash.

What are the complications?

Complications are frequent, and include:

- Middle ear infections (otitis media)
- Bronchopneumonia (common cause of hospitalization)

- Laryngitis, tracheitis, bronchitis
- Diarrhea and dehydration (a frequent killer in the 3rd world)
- Death (one in 1,000 cases)
- Acute brain inflammation (encephalitis)
- Behavioral and intellectual deterioration and seizures 7-10 years later (subacute sclerosing panencephalitis – SSPE)

What are the facts about the vaccine?

The measles vaccine, commonly known as the MMR for measles, mumps, and rubella, is one of the most highly studied and safest vaccines ever developed. Measles vaccines have been used in the US since 1963. Since 2 doses were recommended starting in 1989, the number of cases has plummeted, with effectiveness at 97-99% in preventing disease among those who have had the 2 doses.

A study by Andrew Wakefield is credited with causing fear of the vaccine among tightly knit clusters of parents in high income areas, who believe that autism is caused by the vaccine. Although thoroughly discredited, the effect of this study lingers such that there are pockets in California where the vaccination rate is less than that in some of the poorest countries in Africa.

What is herd immunity?

Herd immunity is where a critical percentage of people in a community is immunized against a contagious disease. This has the effect of protecting most members of the community against that illness, because there are not enough people left who are vulnerable to get the infection. The usual percentage for herd immunity to take effect is around 90%. In California, typical rates are around 98%, but some communities now have rates less than 80%. Where this occurs, cases are beginning to show up that are not linked to Disneyland, evidence of ongoing spread within these communities.

What should you do?

Most adults do not need to do anything. If you were born before 1957, it is presumed that you actually had measles, are currently protected. If you were born after 1957, check your vaccine records. If you had a single vaccine, you are OK. If you are traveling overseas, a booster may be recommended – check with your healthcare provider or the Health Department for recommendations.

If you are <18 years of age, you should have had 2 measles-mumps-rubella (MMR) shots, and there is a 99% chance that you are protected. Infants receive the first dose at age 12-15 months, and the second at age 4-6 years.

If your child is not adequately immunized, I encourage you to discuss their status with your healthcare provider, and consider getting them fully immunized.

What will we do if there is a suspect case in our community?

If we have a suspect case of measles in our community, be assured we will take appropriate action to protect the community at large. This includes those who are most vulnerable in our community, such as infants too young to be vaccinated, and those who are immunocompromised and at risk for severe illness, complications, and death. Anyone who is un or undervaccinated will be excluded from work, childcare, or school for the 21 days after the last possible exposure if the case is confirmed, in order to prevent secondary spread in our community.

