

# Economic Evaluation of Chickenpox Vaccination

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## DESCRIPTION

Chickenpox is an infectious disease that causes skin rashes. This disease is caused by a bacterium called the varicella zoster virus. Chickenpox itself is also called varicella zoster. Most people get the virus when they are young if they have not been vaccinated against chickenpox. Children with chickenpox can easily transmit the virus to other children. Chickenpox is much less common today as most children are vaccinated at a young age. Before the first chickenpox vaccine was approved in the United States in 1995, most people got chickenpox. Few had complications. If we have not been vaccinated, we can get chickenpox at any age. Chickenpox can be severe in adults, so it is better to get chickenpox in childhood or to be vaccinated against it.

Since the chickenpox vaccine was introduced in 1995, it has reduced the number of cases and complications of the disease. It protects about 70%-90% of people from disease and has a great effect on serious diseases. Routine vaccination of children is recommended in many countries. Immunization within 3 days of exposure may improve outcomes in children. Treatment for infected people includes using calamine lotion to relieve itching, trimming nails to reduce scratching, and using paracetamol (acetaminophen) to reduce fever. Antiviral drugs such as acyclovir are recommended for people at high risk of complications.

Chickenpox occurs in all parts of the world. In 2013, he had 140 million cases of chickenpox and shingles worldwide. Before routine vaccination, the number of cases occurring each year was roughly equal to the number of people born. Since vaccination, the number of infections in the US has dropped by almost 90%. Chickenpox deaths in 2015 increased from 8,900 in 1990 to 6,400. Mortality is approximately 1 in 60,000 cases. Chickenpox was not isolated from smallpox until the late 19<sup>th</sup> century. In

1888 a connection with shingles was established. The first documented use of the term chickenpox was in 1658. Various explanations have been proposed for the use of "chicken" in the name, one of which is that he is relatively mildly ill.

Chickenpox is a highly contagious disease caused by the varicella-zoster virus. Chickenpox is a self-healing illness that usually lasts 4 to 5 days with a generalized bullous rash with fever, malaise, and blistering-like lesions. The rash covers the body but is usually more concentrated on the face, scalp, and trunk. Serious complications such as bacterial infection of skin lesions, pneumonia, cerebellar ataxia, and encephalitis can occur but are rare. The disease can be spread by aerosol spread of the virus when an infected person coughs or sneezes or it can be airborne directly from skin lesions. Although the incidence of chickenpox is highest in children between the ages of 1 and 6, the approval of the vaccine in 1995 and the requirement to vaccinate children in nurseries and schools greatly reduced the impact of the virus in the United States. After infection with chickenpox, the virus lies dormant in the sensory ganglia and then reactivates to cause shingles.

Most people who get chickenpox fight the infection without complications. Still, complications can occur, especially in adults and those with weakened immune systems. People who develop serious complications from chickenpox are usually hospitalized and treated with acyclovir.

Potential complications of chickenpox include:

- Skin infections
- Pneumonia, lung infections
- Encephalitis, inflammation of the brain

Children with viral illness should be given acetaminophen for fever to avoid complications of Reye's syndrome, a rare condition that can cause severe brain and liver damage.

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