

Chickenpox and Shingles in Minnesota 2015

Chickenpox (Varicella) and Shingles in Minnesota 2015

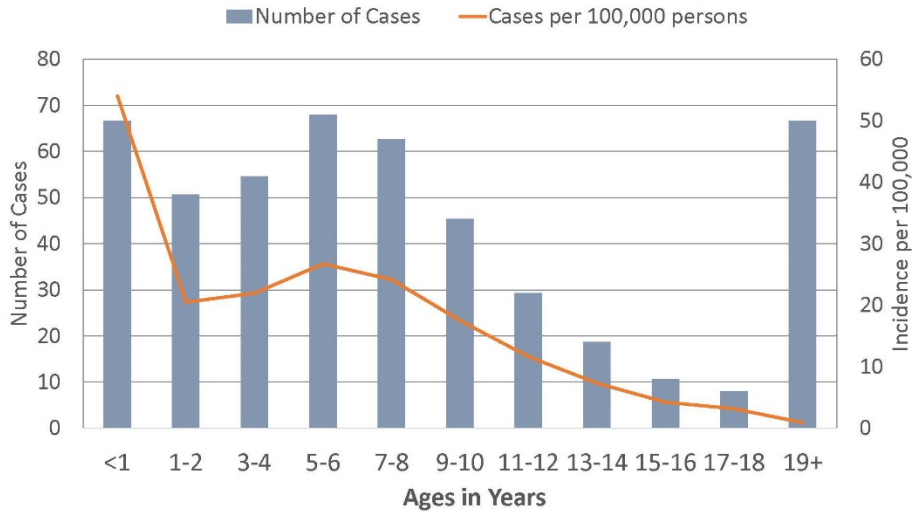
Reporting of all cases of chickenpox (varicella) has been required in Minnesota since 2013. This report is based on case reports submitted by schools, health care providers, and child care providers.

Chickenpox Case Reporting, January to December 2015

In 2015, the Minnesota Department of Health (MDH) received 532 reports of suspected chickenpox. Of these, 361 were identified as probable or confirmed cases and were used for statistics. The annual incidence of chickenpox in Minnesota was 7 cases/100,000 persons, compared to 6/100,000 in 2014.

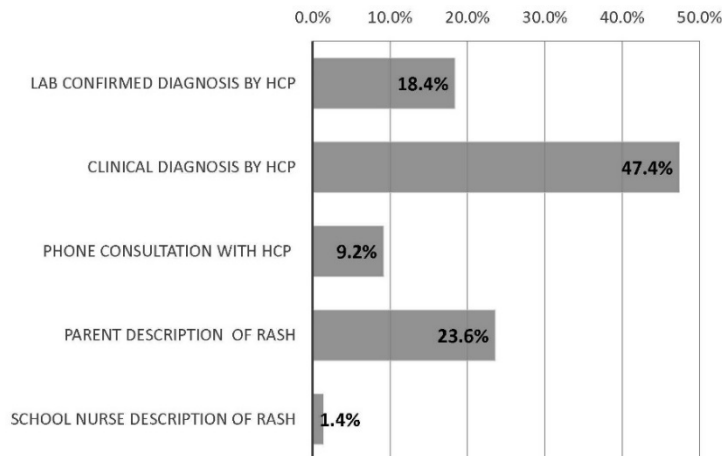
Minnesota Chickenpox Cases by County, 2015							
County	Cases	County	Cases	County	Cases	County	Cases
Anoka	13	Faribault	2	Morrison	3	St. Louis	7
Becker	1	Freeborn	1	Mower	1	Stearns	2
Beltrami	1	Goodhue	10	Murray	1	Steele	4
Benton	6	Hennepin	70	Nicollet	4	Swift	5
Blue Earth	2	Isanti	2	Olmsted	3	Todd	2
Brown	3	Itasca	1	Otter Tail	5	Wabasha	2
Carlton	1	Jackson	4	Pennington	1	Wadena	21
Carver	7	Kandiyohi	8	Pine	4	Waseca	3
Chippewa	1	Koochiching	1	Ramsey	29	Washington	9
Chisago	2	Le Sueur	1	Redwood	3	Winona	1
Clay	3	Lyon	2	Rice	8	Wright	21
Cottonwood	3	Marshall	1	Roseau	1	Yellow Medicine	1
Dakota	32	McLeod	2	Scott	7		
Dodge	3	Meeker	18	Sherburne	12	Total Statewide	361

Chickenpox Cases and Incidence Rate by Age Group, Minnesota 2015 (N=361)



This graph shows the number and the incidence of probable and confirmed cases by age. The incidence/100,000 persons (orange line) was highest in children <1 year old, who are too young to be vaccinated. It was lowest in adults age 19 years and over. Most U.S. adults are immune because they have either had chickenpox in the past or have been vaccinated.

How Chickenpox Cases Were Identified, Minnesota 2015

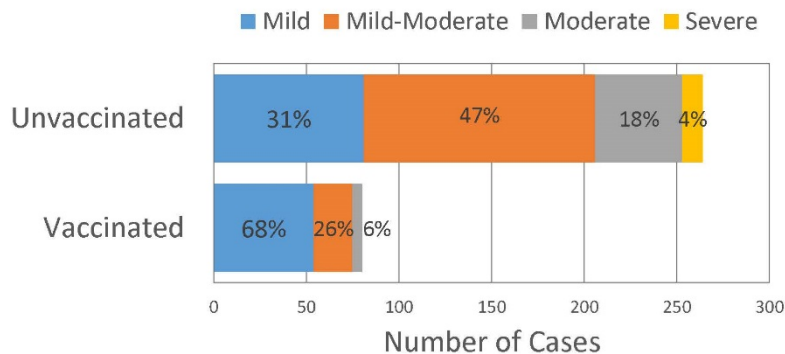


Cases reported to MDH were most commonly seen by health care providers and diagnosed clinically (47.4 percent). However, 23.6 percent of cases were initially reported to schools and child cares by parents, and the rash was described to MDH staff during follow-up phone interviews. Cases confirmed by laboratory testing accounted for 18.4 percent of cases.

Severity of Disease and Effect of Vaccination

Cases with severe rash are more likely to have lesions in the mouth and throat, which can make swallowing uncomfortable and increase the risk of dehydration. Severe disease also increases the risk of other complications, such as secondary infections caused by bacteria, which may require hospitalization for treatment. Vaccination is very effective at preventing chickenpox and nearly 100 percent effective at preventing severe cases.

Confirmed Chickenpox Cases by Vaccination Status and Rash Severity, Minnesota, 2013-2015 (N=344)



This graph shows that over the last 3 years, most of the confirmed cases in Minnesota occurred in unvaccinated individuals. Breakthrough chickenpox disease sometimes occurs in vaccinated persons. The graph also shows that chickenpox in vaccinated persons is more likely to be mild than chickenpox in unvaccinated persons (68 percent vs. 31 percent, respectively), and that the most severe cases of chickenpox occur only in unvaccinated individuals.

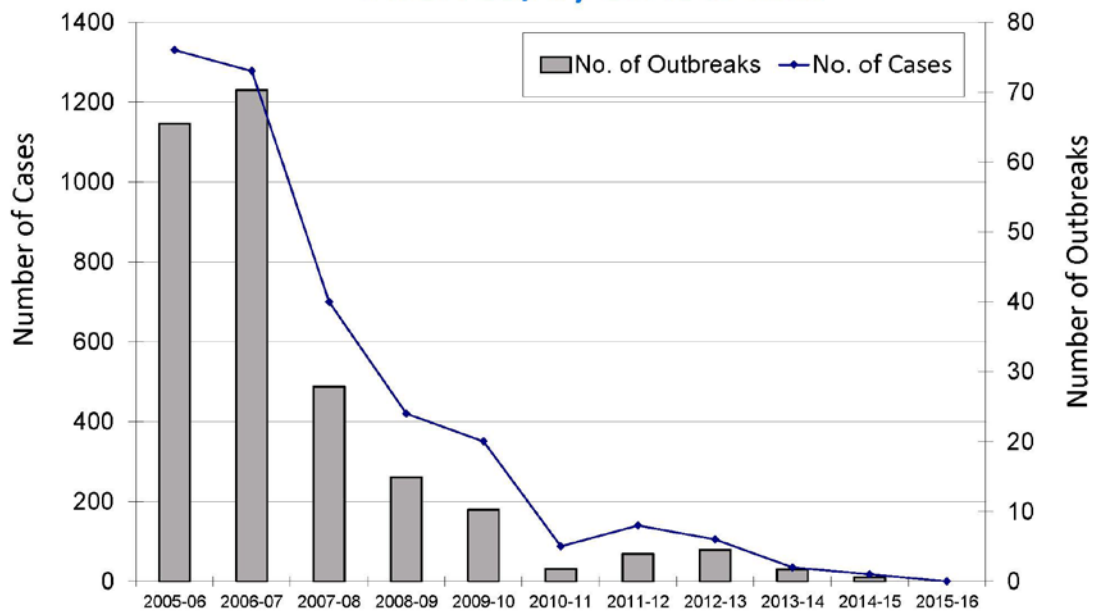
Hospitalized Cases

During 2015, seven individuals with chickenpox were hospitalized, but no deaths were reported. Five of the seven had severe disease and/or complications including pneumonia and secondary bacterial infection of the skin and/or the bloodstream. Four (57 percent) of the hospitalized individuals had not been vaccinated. One individual had been vaccinated but was hospitalized for observation rather than for severe chickenpox rash or complications. Vaccination history of the other two individuals, both adults, was unknown.

Chickenpox School Reporting

Schools (grades K-12) have been required to report outbreaks of chickenpox since 2004, which is the first year that a single dose of chickenpox (varicella) vaccine was required for entry into kindergarten and seventh grade. A requirement for a second dose was added in 2009-10. Cases reported by schools have declined, and no schools reported outbreaks of five or more verifiable cases in the 2015-16 school year. Although 124 verifiable cases were reported, most occurred singly, and a few were part of clusters of 2-4 cases. When immunization rates in a school are high, the likelihood of an outbreak resulting from a case of chickenpox is low.

Reported Chickenpox (Varicella) Outbreaks in Minnesota Schools and Number of Students Involved, by School Year

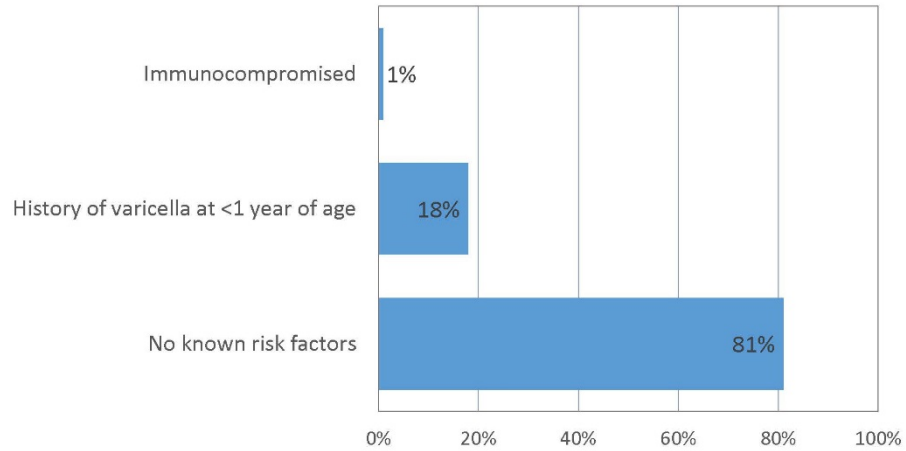


This graph shows that outbreaks of chickenpox in Minnesota schools have declined dramatically since requirements for vaccination against chickenpox were introduced in 2004 and in 2009-10.

Shingles (Zoster) in Minnesota Children Under 18 Years of Age

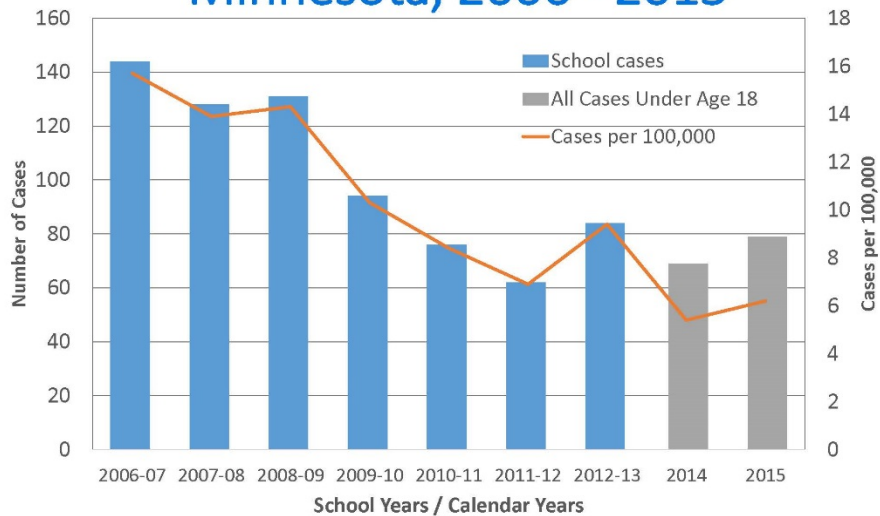
Shingles in children is uncommon. In 2015, 79 probable and confirmed cases were reported. The disease usually occurs without a known triggering event, but known risk factors for childhood shingles are having had chickenpox at <1 year of age, or having a weakened immune system.

Shingles Cases <18 Years of Age by Risk Factors, Minnesota, 2015, (N=79)



This graph shows that most of the cases (81 percent) had no known risk factors, but 18 percent had a history of having had chickenpox at <1 year of age. Only one case with a weakened immune system was reported.

Shingles Cases Under Age 18, Minnesota, 2006 - 2015



CHICKENPOX AND SHINGLES IN MINNESOTA 2015

From 2006-2013, schools were asked to report cases of shingles in children. This graph shows that as more and more children were vaccinated for chickenpox, the number of childhood shingles cases reported started to decline. Beginning in 2014, child care and health care providers also began to report cases of shingles in children, but the reported incidence of disease remains lower than it was in 2006-2008.

For more information on shingles in children and complicated cases of shingles in adults, see the “Varicella and Zoster” articles in the [Disease Control Newsletter](#) (<http://www.health.state.mn.us/divs/idepc/newsletters/dcn/index.html>).

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