

North Carolina Vaccine-Preventable Diseases Annual Report, 2025

- 2 Summary
- 4 *Haemophilus influenzae*
- 6 Hepatitis A
- 8 Measles
- 9 Meningococcal Disease
- 11 Mpox
- 13 Mumps
- 15 Pertussis (Whooping Cough)
- 18 Pneumococcal Meningitis
- 20 Tetanus
- 21 Varicella (Chickenpox)



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**
Division of Public Health

Vaccine-Preventable Diseases Reported in North Carolina, 2025

Controlling vaccine-preventable diseases (VPDs) requires consistent, concerted and coordinated efforts of public health agencies and health care providers to rapidly identify and report suspected cases and swiftly implement control measures. Although some VPDs remain at or near record low levels, others have increased significantly during recent years. Maintaining high immunization rates is critical to prevent reemergence. Vaccine effectiveness varies by vaccine and for some vaccines, effectiveness can wane over time. Because no vaccine is 100% effective, breakthrough cases in vaccinated individuals are expected. These breakthrough cases generally lead to milder illness. This annual surveillance report summarizes 14 VPDs, ten of which were reported in North Carolina during 2025. Additional details on the surveillance data for those diseases which were reported are presented on subsequent pages. An appendix summarizing acute flaccid myelitis is also included.

2025 Surveillance Highlights

- The number of reported pertussis (whooping cough) cases was the highest since 1955
- Three cases of measles were reported in December 2025 with connections to outbreaks in neighboring states; these were the first cases related to an increase that continued into 2026
- Varicella (chickenpox) cases doubled compared to the previous year
- Mpox cases continue to be reported, but remain much lower than the level seen during the 2022 outbreak
- No cases of diphtheria, polio, rubella, or congenital rubella syndrome were reported

Vaccination Summary

Vaccination rates in North Carolina are generally at or above the national average among children, but vaccine hesitancy and nonmedical vaccine exemptions in school-aged children are increasing. National Immunization Survey (NIS) coverage estimates are updated annually and are typically published in the fall. Coverage data are available on the [CDC's VaxView dashboards](#).

According to the [North Carolina Kindergarten Immunization Dashboard](#), the percentage of kindergartners in the 2025-2026 school year who had received all required immunizations by day 30 of enrollment decreased slightly, but overall the trend is stable; 92.6% of kindergartners were up to date during 2025-2026, vs. 92.8% in 2024-2025 and 92.5% in 2023-2024. Despite the overall steady trend, kindergartners with religious exemptions grew to 3.6%. Private schools had the highest percentage of kindergartners with religious exemptions (11.7%), followed by charter schools (4.5%), and public schools (2.7%). Data by county varied widely. The percentage of kindergartners who had received all the required immunizations for a county was as low as 91.3% and as high as 100%.

Please note that exemption data relies on school reporting and should be interpreted with this in mind. Vaccine-hesitant individuals often cluster geographically, and those communities are at significant risk of VPD outbreaks. In recent years, under-vaccination in specific communities has contributed to outbreaks of measles, mumps, varicella (chickenpox) and pertussis (whooping cough).

Number of Cases of VPDs Reported in North Carolina, 2020-2025								
Disease	2020	2021	2022	2023	2024	Previous five-year average	2025	Significant Change*
Diphtheria	0	0	0	0	0	0	0	--
<i>Haemophilus influenzae</i> , invasive disease	129	110	218	269	302	206	251	--
Hepatitis A	521	945	106	28	48	330	43	--
Measles	0	0	0	0	1	<1	3	↑
Meningococcal invasive disease	7	9	18	26	13	15	14	--
Mpox	0	0	703	12	79	159	60	--
Mumps	21	2	2	4	7	7	7	--
Pertussis (whooping cough)	191	52	46	106	829	245	968	↑
Pneumococcal meningitis	23	25	62	89	82	56	75	--
Polio	0	0	0	0	0	0	0	--
Rubella	0	0	0	0	0	0	0	--
Congenital rubella syndrome	0	0	0	0	0	0	0	--
Tetanus	0	0	1	0	1	<1	2	↑
Varicella (chickenpox)	13	32	98	173	155	94	313	↑

↑ = significant increase (≥ 2 standard deviations above average) ↓ = significant decrease (≥ 2 standard deviations below average) -- = no significant change

Report Specifications. Notable information about this report includes:

- Cases include those classified as confirmed or probable and are only among North Carolina residents.
- Cases are counted using the earliest date of illness identification which is most frequently the symptom onset date. Therefore, case counts in this report may differ slightly from those published in national summaries or state dashboards which can be based on other dates such as date of initial report to public health, or the date when case surveillance records were closed and reported to the Centers for Disease Control and Prevention (CDC).
- Ages are based on the date the case was entered in the North Carolina Electronic Disease Surveillance System (NC EDSS).
- Incidence rates are based on data obtained from the U.S. census population estimates project. Note that estimates of rates based on a small number of cases are unstable and can fluctuate widely. Therefore, these estimates should be interpreted with caution. Ninety-five percent confidence intervals are shown for demographic-specific rates.
- Fourteen VPDs are shown in the table above. Data for other VPDs in North Carolina, such as influenza, are summarized in separate reports.
- Please note that case classification criteria are subject to change and case counts may fluctuate based on these changes.

Haemophilus influenzae, invasive disease

251

cases reported in
2025

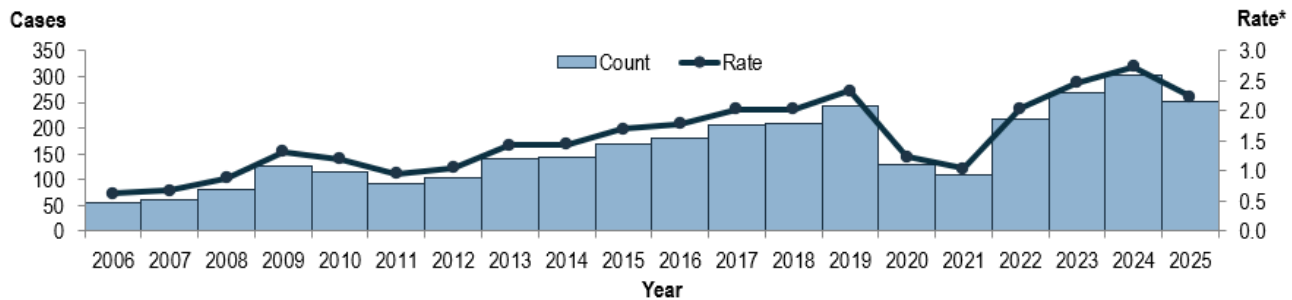
- Cases decreased from 2024 but remain elevated compared to the 5-year average
- Cases decreased year-to-year for the first time since 2020-2021

Haemophilus influenzae can cause a variety of clinical syndromes, including bacteremia, pneumonia, meningitis, and epiglottitis. *H. influenzae* organisms are divided into serotypes based on proteins found in the capsule that surrounds the organism. Serotypes without a capsule are called non-typeable. Invasive disease caused by any serotype, including non-typeable serotypes, is reportable in North Carolina. *H. influenzae* serotype b (Hib) is the most virulent and is the only serotype for which there is a vaccine. Hib was the leading cause of bacterial meningitis in children under five years of age before a vaccine was available.

The Hib vaccine is recommended for all children younger than five years old in the United States. [In North Carolina](#), Hib vaccination is required for all children under the age of five. According to the National Immunization Survey (NIS), Hib vaccination coverage is declining: it is estimated that 78.1% of North Carolinian children born in 2022 had completed the full Hib vaccine series by 24 months of age, compared to 82.8% of children born in 2020.

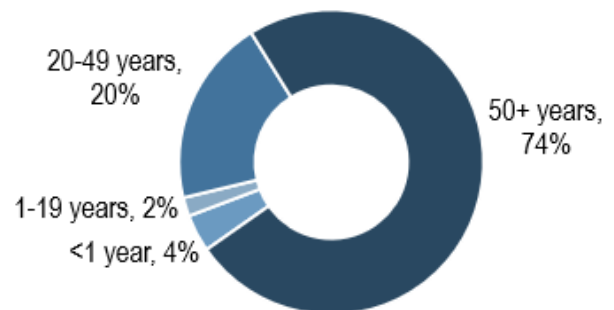
H. influenzae cases decreased in 2025 but are still elevated compared to the last 20-years.

NC 2006-2025 *Haemophilus influenzae* case count and rate by year

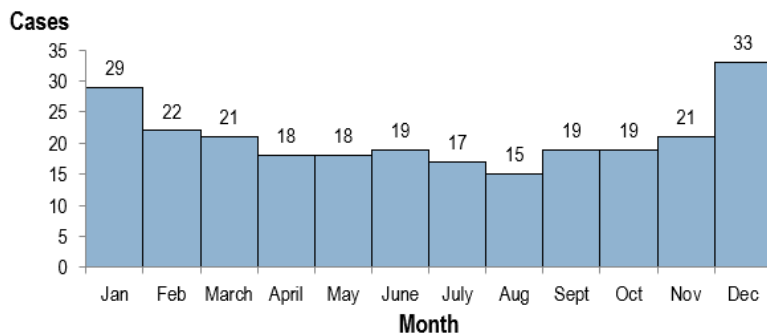


NC 2025 *Haemophilus influenzae* cases by age group

H. influenzae cases occur mostly in older adults. In 2025, almost three-quarters of cases were in adults 50 years and older.



NC 2025 *Haemophilus influenzae* invasive cases by month

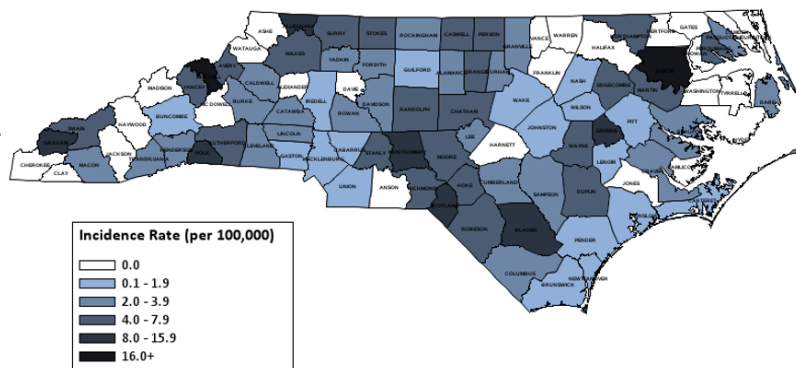


H. influenzae cases occurred at all times of the year, although cases were more common during the winter months.

Haemophilus influenzae, invasive disease

NC 2025 *Haemophilus influenzae* incidence rates by county

H. influenzae cases did not concentrate in any specific region of North Carolina in 2025. At least one case was reported in 74 of North Carolina's 100 counties.



Annual Summary Key Points

- Cases of invasive *H. influenzae* have been steadily increasing over the past 20 years, with the exception of the COVID-19 pandemic years of 2020-2021.
- The case decrease in 2025 is encouraging and may signal that cases have peaked. More analysis is needed to understand *H. influenzae* trends.
- Invasive *H. influenzae* can cause very serious disease. It often affects older adults who have immunocompromising or other underlying health conditions. The severity of illness is demonstrated by the high number of hospitalizations and deaths among reported cases.
- Non-typeable cases are by far the most common. Non-typeable does not mean that the serotype is unknown; rather, non-typeable bacteria do not produce a capsule.
- H. influenzae* type b is now rare since the vaccine is available. For the last three years, NC has reported one case of invasive Hib per year.

Annual Summary					
	2021	2022	2023	2024	2025
Cases	110	218	269	302	251
Rate*	1.0	2.0	2.5	2.7	2.2
Case Statistics, 2025					
Sex	Cases	%	Rate*	95% CI	
Male	108	43%	2.0	1.6, 2.4	
Female	143	57%	2.5	2.1, 2.9	
Unknown	0	0%	--	--	
Age Group					
Infant	10	4%	8.1	3.9, 15.0	
1-4 yrs	3	1%	0.6	0.1, 1.8	
5-9 yrs	1	<1%	0.2	0.0, 0.9	
10-19 yrs	1	<1%	0.1	0.0, 0.4	
20-49 yrs	50	20%	1.1	0.8, 1.5	
50-74 yrs	95	38%	2.9	2.4, 3.6	
75+ yrs	91	36%	10.0	8.0, 12.3	
Unknown	0	0%	--	--	
Race					
White	176	70%	2.3	2.0, 2.7	
Black or African American	53	21%	2.2	1.6, 2.9	
American Indian / Alaskan Native	4	2%	2.2	0.6, 5.7	
Asian or Pacific Islander	3	1%	0.6	0.1, 1.9	
Multiple Races	7	3%	2.3	0.9, 4.7	
Other or Unknown	8	3%	--	--	
Hispanic Ethnicity					
Yes	9	4%	0.6	0.3, 1.2	
No	234	93%	2.4	2.1, 2.7	
Unknown	8	3%	--	--	
Disease Severity					
Hospitalized	217	86%			
Died	31	12%			
Serotypes					
Type b	1	<1%			
Non-b, typeable	58	23%			
Non-typeable	149	59%			
Unknown	43	17%			

*Rate per 100,000 population

Hepatitis A

43

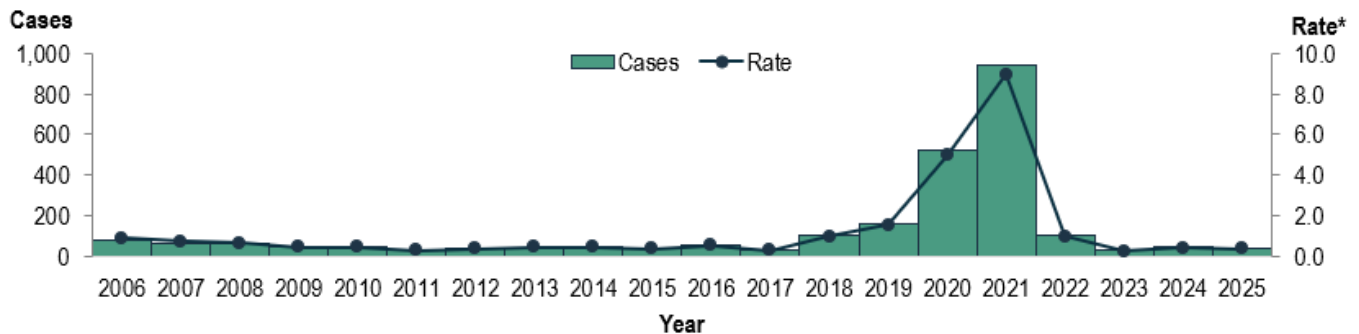
cases reported in 2025

- Cases have returned to a baseline level after the large increase during the outbreak years of 2018-2022
- No outbreaks of hepatitis A were reported in 2025

Hepatitis A is an acute liver disease caused by the hepatitis A virus (HAV) which is transmitted by the fecal-oral route. HAV spreads person-to-person or by consuming contaminated food or drink. Common signs and symptoms include nausea, vomiting, abdominal pain, fatigue, and jaundice; however, infection is often asymptomatic in children under 6 years of age. Learn more about hepatitis A.

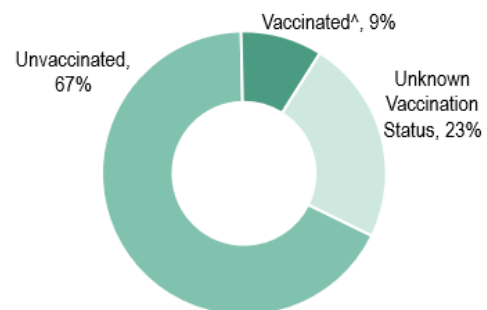
According to the 2023 National Immunization Survey (NIS) results, it is estimated that 93.0% of North Carolina children born in 2022 had received at least one dose of the hepatitis A vaccine by 24 months of age, compared to 87.7% nationally. For the recommended second dose; an estimated 76.3% of children born in 2022 received at least two doses of vaccine by 35 months of age, compared to 77.8% nationally. Coverage improved among older age groups: 88.5% of adolescents aged 13-17 years had received at least two doses of the hepatitis A vaccine, compared to 87.1% nationally. Currently, [North Carolina immunization law](#) does not require that individuals be immunized against hepatitis A.

Hepatitis A cases have returned to low levels, comparable to the years before a large statewide outbreak began in 2018. NC 2006-2025 hepatitis A case count and rate by year



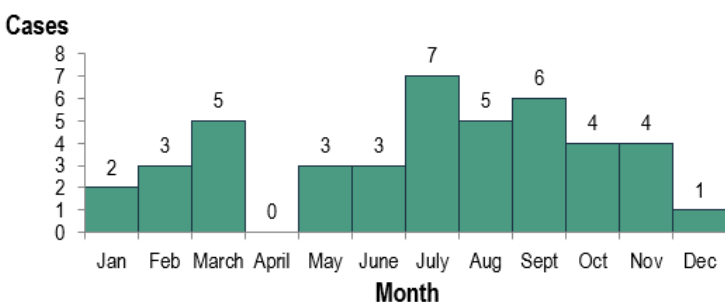
NC 2025 hepatitis A cases by vaccination status

Two-thirds of hepatitis A cases were unvaccinated. This is expected as hepatitis A vaccines are highly effective in preventing disease. Only 9% of hepatitis A cases were vaccinated.



[^]Received at least one hepatitis A vaccine

NC 2025 hepatitis A cases by month

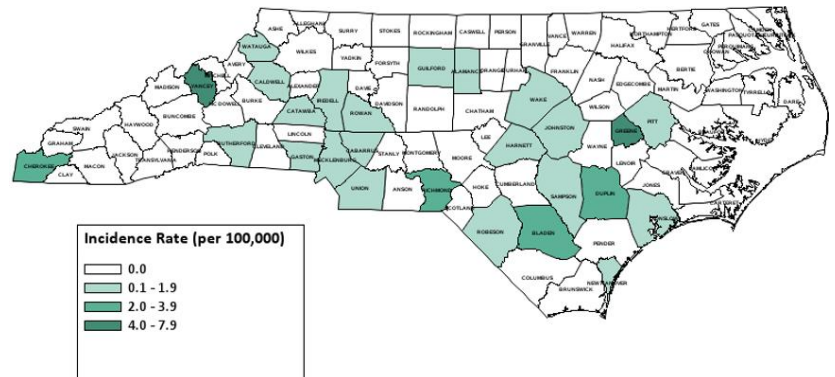


Hepatitis A cases occurred throughout 2025 but were highest during the summer months. Hepatitis A does not usually follow a strong seasonality pattern.

Hepatitis A

Hepatitis A cases were reported in 26 different counties in 2025.

NC 2025 hepatitis A incidence rates by county



Annual Summary Key Points

- The annual number of hepatitis A cases was typically between 30-50 in the years prior to the statewide outbreak from 2018 to 2022. Post-outbreak, cases have returned to that baseline level.
- Some hepatitis A cases occur in people who traveled internationally and acquired the virus overseas. However, the source of most hepatitis A cases is unknown.
- Almost all cases were in adults 20 years of age or older. Cases in children are now rare in North Carolina since the hepatitis A vaccine was added to the routine childhood immunization schedule in 2006.
- Hepatitis A can be a severe disease. Almost two-thirds of cases in 2025 were hospitalized.

Annual Summary						
	2021	2022	2023	2024	2025	
Cases	945	106	28	48	43	
Rate*	8.9	1.0	0.3	0.4	0.4	
Case Statistics, 2025						
Sex	Cases	%	Rate*	95% CI		
Male	24	56%	0.4	0.3, 0.7		
Female	19	44%	0.3	0.2, 0.5		
Age Group						
Infant	0	0%	0.0	0.0, 3.0		
1-4 yrs	0	0%	0.0	0.0, 0.7		
5-9 yrs	0	0%	0.0	0.0, 0.6		
10-19 yrs	1	2%	0.1	0.0, 0.4		
20-49 yrs	15	35%	0.3	0.2, 0.6		
50-74 yrs	15	35%	0.5	0.3, 0.8		
75+ yrs	12	28%	1.3	0.7, 2.3		
Race						
White	27	63%	0.4	0.2, 0.5		
Black or African American	4	9%	0.2	0.0, 0.4		
American Indian / Alaskan Native	0	0%	0.0	0.0, 1.6		
Asian or Pacific Islander	4	9%	0.8	0.2, 2.2		
Multiple Races	0	0%	0.0	0.0, 0.7		
Other or Unknown	8	19%	--	--		
Hispanic Ethnicity						
Yes	7	16%	0.5	0.2, 1.0		
No	30	70%	0.3	0.2, 0.4		
Unknown	6	14%	--	--		
Disease Severity						
Hospitalized	27	63%				
Died	0	0%				

*Rate per 100,000 population

Measles

3

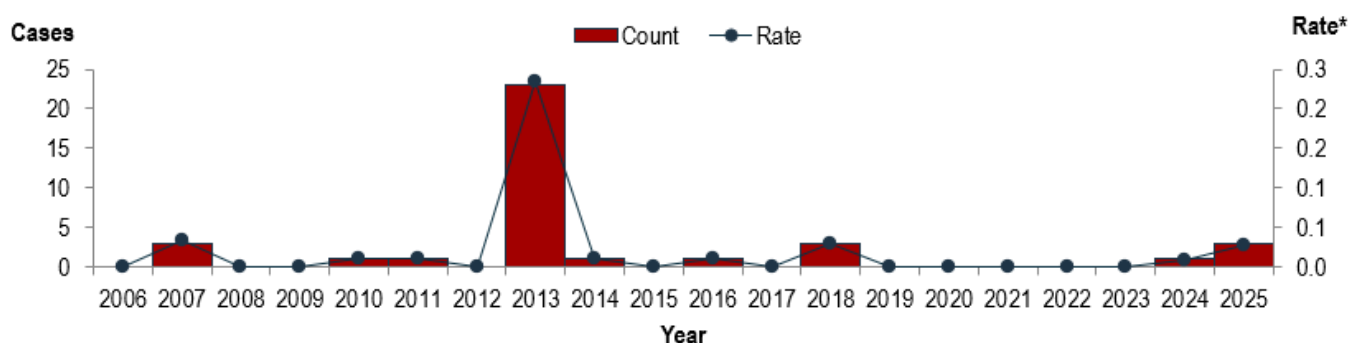
cases reported in
2025

- Three cases were reported during 2025, the first cases associated with an increase in measles from December 2025 – February 2026
- Measles cases are increasing nationally. The number of measles cases in the U.S. during 2025 was the most since 1992

Measles is an acute viral illness that is transmitted through airborne droplets or by direct contact with respiratory or throat secretions from an infected person. Measles is characterized by fever, runny nose, red eyes, and a maculopapular rash that first begins on the head and face, and gradually moves down to the torso and the extremities. Complications such as pneumonia, encephalitis, and death can occur. Measles is a very contagious disease. Any person that shares the same space (e.g. being in the same room) as a measles case is considered exposed to measles.

North Carolina historically has maintained low measles numbers.

NC 2006-2025 measles case count and rate by year



Vaccination is the best way to prevent measles. **In North Carolina**, one dose of MMR vaccine is required for children on or after 12 months and before 16 months of age, and a second dose is required for students entering school, college, or university for the first time. Results from the 2024 NIS estimate that 95.2% of North Carolina children born in 2022 had received at least one dose of MMR vaccine by 24 months of age, compared to 91.4% nationally. Additionally, 93.8% of teens 13-17 years of age in North Carolina were estimated to have received at least two doses of MMR vaccine compared to 92.6% nationally.

A person is considered immune to measles if they were born before 1957, or if they have:

- Written documentation of vaccines for measles,
- Laboratory evidence of immunity (such as a positive antibody test), or
- Laboratory confirmation of measles.

Although rare, it is possible for someone to get measles even if they are vaccinated. If this happens, symptoms are usually milder and they are less likely to transmit the disease to others. One dose of MMR vaccine is considered 93% effective at preventing measles. Two doses are considered 97% effective¹.

2025 Cases

Three cases of measles were reported during 2025. All three cases occurred in December and were the first cases associated with an increase in measles from December 2025 – February 2026, which resulted in 24 cases spread across 10 North Carolina counties. More information on recent cases is available on the North Carolina [measles cases and outbreaks page](#).

Due to the low number of cases in 2025, demographic and geographic data is not included in this report to protect patient privacy.

¹Centers for Disease Control and Prevention. 2025. Measles vaccination. <https://www.cdc.gov/measles/vaccines/index.html>

Meningococcal Invasive Disease

14

cases reported in 2025

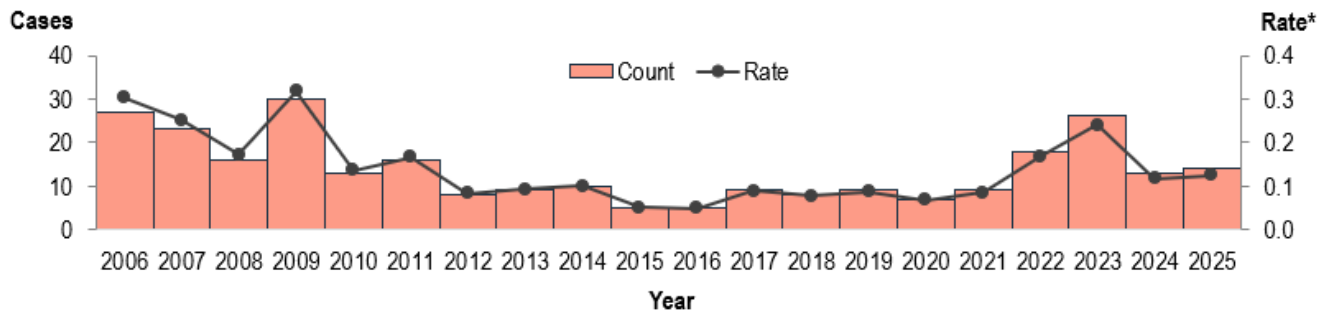
- Reported cases remained steady after declining from a peak in 2023
- No outbreaks of meningococcal disease were reported in 2025

Invasive meningococcal disease caused by *Neisseria meningitidis* is an acute, serious illness that can cause several syndromes including meningitis, bacteremia, and sepsis. Learn more about [meningococcal disease](#).

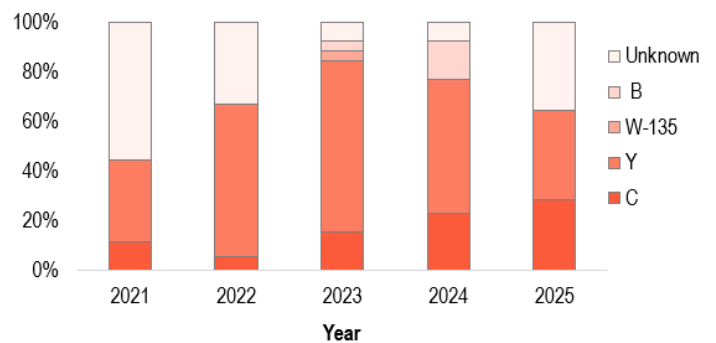
The quadrivalent meningococcal conjugate vaccine contains four serogroups (A, C, Y, and W). Two doses are recommended for children as part of the routine immunization schedule: the first at 11-12 years of age, and the second at 16 years of age. Vaccination with the serogroup B vaccine is recommended for various populations considered to be at increased risk for disease. [In North Carolina](#), one dose of meningococcal conjugate vaccine is required for 7th grade entry (or by 12 years of age), and a second dose is required for 12th grade entry (or by 17 years of age). According to the 2024 NIS, it is estimated that 92.8% of North Carolinians aged 13-17 had received at least one dose of the meningococcal conjugate vaccine, which is higher than the estimated 90.1% of teenagers nationally.

Meningococcal cases remained steady in 2025.

NC 2006-2025 meningococcal case count and rate by year

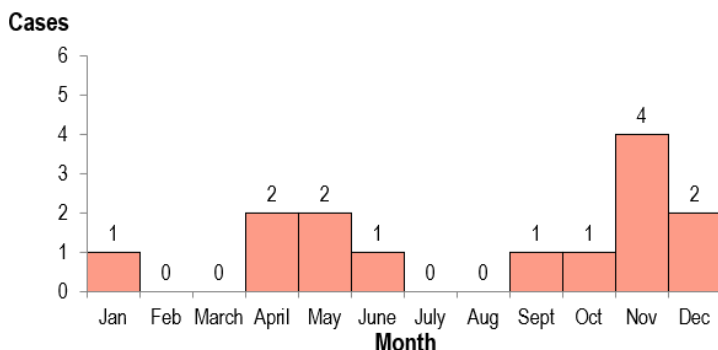


NC 2021-2025 meningococcal cases by serogroup



In 2025, cases were split between serogroups C, Y, and those with unknown serogroup. Over the past three years, the share of cases caused by serogroup C has been rising and serogroup Y has been falling.

NC 2025 meningococcal cases by month

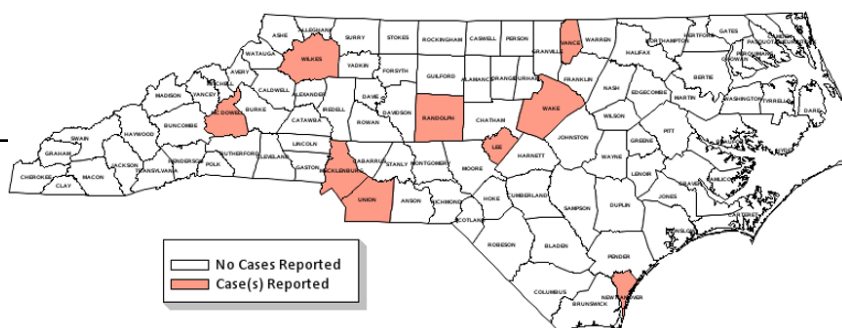


Meningococcal cases were reported sporadically during 2024. November had the highest single month case total. No cases were reported during four months of the year.

Meningococcal Invasive Disease

Meningococcal cases occurred in nine counties in 2025. Cases were distributed throughout the state, with no geographic clustering.

NC 2025 meningococcal cases by county



Annual Summary Key Points

- After a peak year in 2023, cases in 2024 decreased by 50% and remained steady in 2025. However, cases are still above the recent baseline number of annual cases that was seen from 2012 to 2021.
- Almost all cases occurred in adults aged 20-74. Case rates among children and elderly adults are very low.
- Most cases were hospitalized, demonstrating the severity of invasive meningococcal disease and the need for urgent medical care.
- The rise in serogroup C and decrease in serogroup Y over the past three years shows that serogroup prevalence is shifting. No cases of serogroup B were reported, demonstrating the effectiveness of the serogroup B-specific vaccine.
- Some recent cases of serogroup Y were found to be resistant to ciprofloxacin and penicillin. [NC DHHS recommends](#) discontinuing the use of ciprofloxacin for prophylaxis of close contacts in certain North Carolina and South Carolina counties.

Annual Summary					
	2021	2022	2023	2024	2025
Cases	9	18	26	13	14
Rate*	0.1	0.2	0.2	0.1	0.1
Case Statistics, 2025					
Sex	Cases	%	Rate*	95% CI	
Male	6	43%	0.1	0.0, 0.2	
Female	8	57%	0.1	0.1, 0.3	
Age Group					
Infant	0	0%	0.0	0.0, 3.0	
1-4 yrs	0	0%	0.0	0.0, 0.7	
5-9 yrs	0	0%	0.0	0.0, 0.6	
10-19 yrs	1	7%	0.1	0.0, 0.4	
20-49 yrs	7	50%	0.2	0.1, 0.3	
50-74 yrs	5	36%	0.2	0.0, 0.4	
75+ yrs	1	7%	0.1	0.0, 0.6	
Race					
White	3	21%	0.0	0.0, 0.1	
Black or African American	3	21%	0.1	0.0, 0.4	
American Indian / Alaskan Native	1	7%	0.4	0.0, 2.4	
Asian or Pacific Islander	0	0%	0.0	0.0, 0.8	
Multiple Races	4	29%	0.8	0.2, 2.0	
Other or Unknown	3	21%	--	--	
Hispanic Ethnicity					
Yes	4	29%	0.3	0.1, 0.7	
No	10	71%	0.1	0.0, 0.2	
Unknown	0	0%	--	--	
Disease Severity					
Hospitalized	12	86%			
Died	0	0%			
Serotypes					
A	0	0%			
B	0	0%			
C	4	29%			
Y	5	36%			
W-135	0	0%			
Unknown	5	36%			

Mpox

60

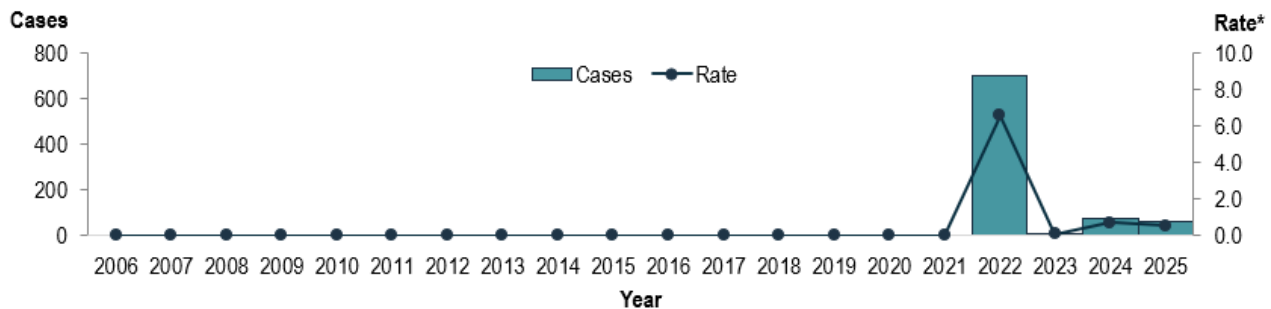
cases reported in 2025

- Mpox cases remained steady in 2025 and much lower than the level seen during the 2022 outbreak
- No cases of Clade I mpox were reported in 2025

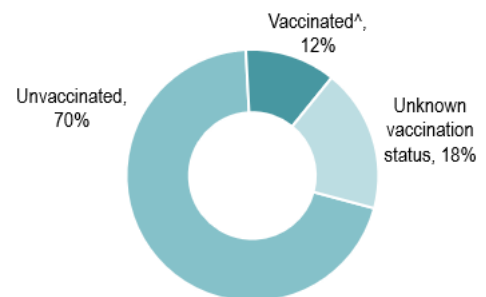
Mpox (formerly known as monkeypox) is a viral disease that can be spread person-to-person through contact with body fluids or lesions, items that have been in contact with fluids or lesions, and respiratory droplets. People with mpox often get a rash, along with other symptoms. There are two types of mpox: clade I and clade II. Both types spread the same way and can be prevented using the same methods. A subclade of clade II (clade IIb) has been associated with the 2022-23 mpox outbreak that has predominantly affected gay, bisexual, or other men who have sex with men (MSM) in the United States and globally. In 2025, clade I mpox cases were documented sporadically across the United States, but all cases had recently traveled internationally or were linked to people who recently traveled.

Vaccination is the best way to reduce the risk of mpox infection. People who have known or presumed exposure to mpox virus should receive the mpox vaccine as post-exposure prophylaxis. Mpox vaccination should also be offered before exposure to people with high potential for exposure or who anticipate potential exposure. Two doses of the JYNNEOS vaccine are recommended for those who meet the vaccine eligibility criteria. The second dose should occur at least 28 days after the initial vaccine to ensure suitable immunity to mpox. Information on vaccine eligibility criteria and uptake can be found on the [NC DHHS mpox webpage](#).

After the large outbreak in 2022, mpox cases have remained steady.
NC 2006-2025 mpox case count and rate by year

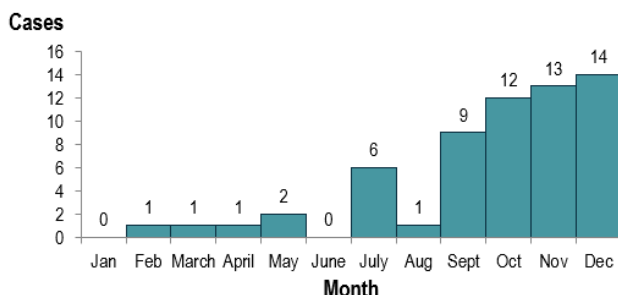


NC 2025 mpox cases by vaccination status



[^]Received at least one dose of mpox (JYNNEOS) vaccine

NC 2025 mpox cases by month

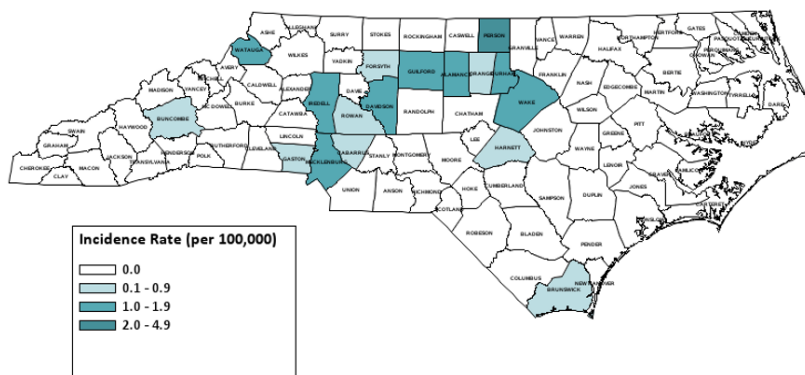


Most mpox cases occurred in the last four months of the year.

Mpox

Seventeen North Carolina counties had mpox cases during 2025. Cases were most common in the central part of the state.

NC 2025 mpox incidence rates by county



Annual Summary Key Points

- Most cases occurred among males between the ages of 20 and 49.
- Since 2022, cases have occurred primarily among gay, bisexual, or other men who have sex with men (MSM). Two doses of the JYNNEOS vaccine are recommended for those who meet the vaccine eligibility criteria.
- The rate of mpox was highest among men and Black or African Americans. This is consistent with the trend seen during the 2022 outbreak.
- Nine people were hospitalized in 2025 due to mpox. No deaths were reported.
- Co-infections with other sexually-transmitted infections (STIs) are common in people with mpox. Health care providers should screen mpox patients for other STIs such as syphilis and HIV

Annual Summary					
	2021	2022	2023	2024	2025
Cases	0	703	12	79	60
Rate*	0.0	6.6	0.1	0.7	0.5
Case Statistics, 2025					
Sex	Cases	%	Rate*	95% CI	
Male	57	95%	1.1	0.8, 1.4	
Female	3	5%	0.1	0.0, 0.2	
Age Group					
Infant	0	0%	0.0	0.0, 3.0	
1-4 yrs	0	0%	0.0	0.0, 0.7	
5-9 yrs	0	0%	0.0	0.0, 0.6	
10-19 yrs	2	3%	0.1	0.0, 0.5	
20-49 yrs	53	88%	1.2	0.9, 1.6	
50-74 yrs	5	8%	0.2	0.0, 0.4	
75+ yrs	0	0%	0.0	0.0, 0.4	
Race					
White	18	30%	0.2	0.1, 0.4	
Black or African American	29	48%	1.2	0.8, 1.7	
American Indian / Alaskan Native	0	0%	0.0	0.0, 1.6	
Asian or Pacific Islander	2	3%	0.4	0.1, 1.5	
Multiple Races	5	8%	1.0	0.3, 2.3	
Other or Unknown	6	10%	--	--	
Hispanic Ethnicity					
Yes	17	28%	1.2	0.7, 1.9	
No	42	70%	0.4	0.3, 0.6	
Unknown	1	2%	--	--	
Disease Severity					
Hospitalized	9	15%			
Died	0	0%			

Mumps

7

cases reported in 2025

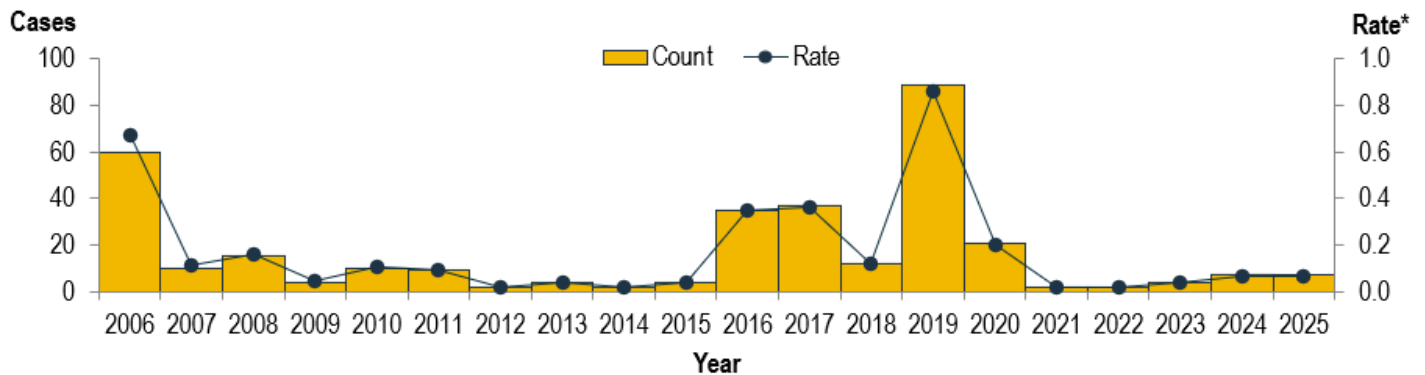
- Mumps cases in North Carolina remain at a very low level
- No outbreaks of mumps were reported in 2025

Mumps is a viral illness best known for causing swelling of the salivary glands below the ears and above the jaw, called parotitis. Mumps can sometimes cause complications such as orchitis (inflammation of the testicles) in males, oophoritis (inflammation of the ovaries) in females, deafness, and meningitis. Before the U.S. mumps vaccination program began in 1967, about 200,000 cases of mumps were reported each year. Since that time, there has been more than a 99% decrease in mumps cases in the United States.

Vaccination is the best way to prevent mumps. [In North Carolina](#), one dose of MMR vaccine is required for children on or after 12 months and before 16 months of age, and a second dose is required for students entering school, college, or university for the first time. The national immunization survey (NIS) estimates that 95.2% of North Carolina children born in 2022 had received at least one dose of MMR vaccine by 24 months of age, compared to 91.4% nationally. Additionally, 93.8% of teens 13-17 years of age in North Carolina were estimated to have received at least two doses of MMR vaccine compared to 92.6% nationally.

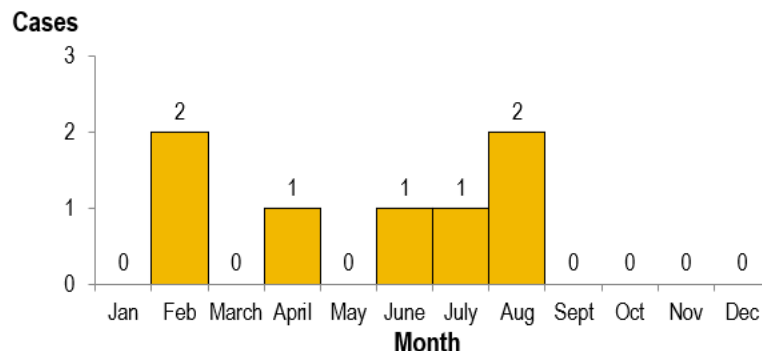
Fewer than 10 mumps cases were reported for the fifth consecutive year.

NC 2006-2025 mumps case count and rate by year



Mumps occurred sporadically through the year.

NC 2025 mumps cases by month

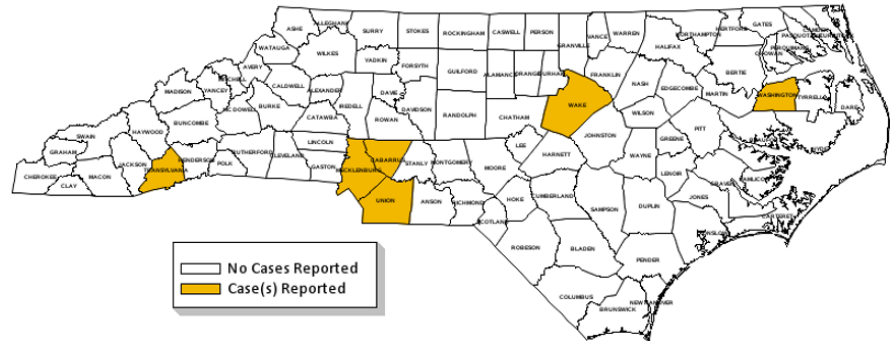


Historically, mumps is most common during the spring months in North Carolina. In 2025, cases occurred between February and August, with no cases in the final third of the year.

Mumps

NC 2025 mumps cases by county

Mumps cases occurred in just six counties in 2025.



Annual Summary

	2021	2022	2023	2024	2025
Cases	2	2	4	7	7
Rate*	<0.1	<0.1	<0.1	0.1	0.1

Case Statistics, 2025

Sex	Cases	%	Rate*	95% CI
Male	6	86%	0.1	0.0, 0.2
Female	1	14%	<0.1	0.0, 0.1
Age Group				
Infant	0	0%	0.0	0.0, 3.0
1-4 yrs	0	0%	0.0	0.0, 0.7
5-9 yrs	4	57%	0.6	0.2, 1.6
10-19 yrs	1	14%	0.1	0.0, 0.4
20-49 yrs	2	29%	0.1	0.0, 0.2
50-74 yrs	0	0%	0.0	0.0, 0.1
75+ yrs	0	0%	0.0	0.0, 0.4
Race				
White	4	57%	0.1	0.0, 0.1
Black or African American	2	29%	0.1	0.0, 0.3
American Indian / Alaskan Native	0	0%	0.0	0.0, 1.6
Asian or Pacific Islander	0	0%	0.0	0.00, 0.8
Multiple Races	1	14%	0.2	0.0, 1.1
Other or Unknown	0	0%	--	--
Hispanic Ethnicity				
Yes	2	29%	0.1	0.0, 0.5
No	5	71%	0.1	0.0, 0.1
Unknown	0	0%	--	--
Disease Severity				
Hospitalized	2	29%		
Died	0	0%		

Annual Summary Key Points

- North Carolina continues to see very few mumps cases. 2020 was the last year an outbreak of mumps was reported.
- Within the past decade, large outbreaks have occurred in congregate or close-contact settings in North Carolina, so it is important to maintain high vaccination rates.
- Most cases (86%) in 2025 occurred in males.
- In 2025, most cases were in children.
- Two individuals were hospitalized due to their mumps infection.

*Rate per 100,000 population

Pertussis (Whooping Cough)

968

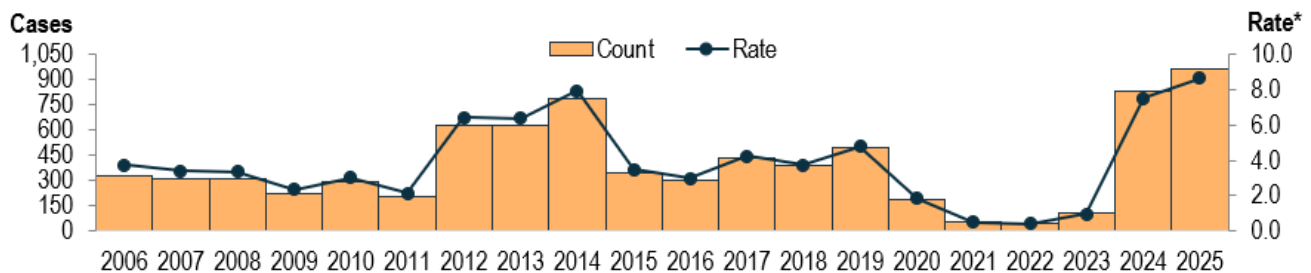
cases reported in
2025

- After a historic year in 2024, cases increased to an even higher level in 2025
- Eighteen outbreaks of pertussis were reported in 2025. Most outbreaks occurred in elementary, middle, and high schools.

Pertussis (commonly known as “whooping cough”) is a highly contagious respiratory infection spread from person to person through respiratory droplets from a cough or sneeze, or by direct contact with respiratory secretions. People with pertussis can experience paroxysms, or uncontrollable fits of coughing. The paroxysms can cause a need to gasp for air, which can sometimes result in a “whooping” sound. [Learn more about pertussis.](#)

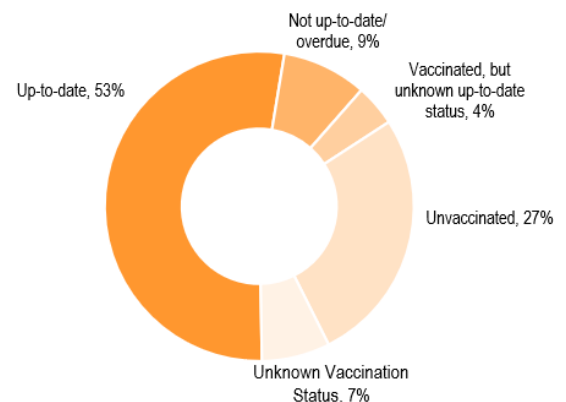
Vaccination is the best way to protect against pertussis. In North Carolina, five doses of the childhood pertussis vaccine (called DTaP) are required. The first three doses are required by age seven months, and two booster doses are also required: the first by age 19 months and the second booster on or after the fourth birthday, before entering school for the first time. Another booster dose of the adolescent/adult pertussis vaccine (called Tdap) is required for 7th grade entry or by 12 years of age, whichever comes first.

In 2024, cases reached the highest level in North Carolina in 70 years. Cases rose to an even higher number in 2025. NC 2006-2025 pertussis case count and rate by year

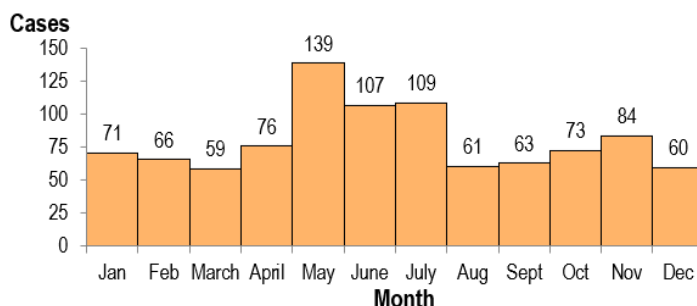


NC 2025 pertussis cases by vaccination status

Over half (53%) of 2025 pertussis cases were up-to-date on pertussis vaccination, representing breakthrough infection. Breakthrough cases typically experience milder symptoms and shorter illness duration. Over a quarter (27%) of cases had never received a dose of pertussis vaccine.



NC 2025 pertussis cases by month

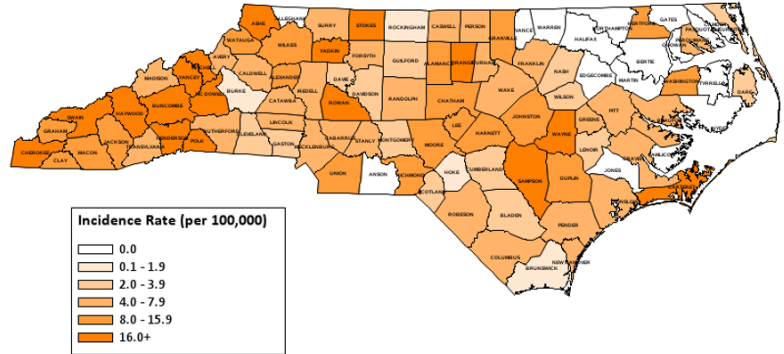


Cases occurred at a steady level throughout the year apart from May – July when cases spiked. The reason for the increase during these months is unknown, but spread during camps and other summer activities may have contributed.

Pertussis (Whooping Cough)

NC 2025 pertussis incidence rates by county

Pertussis was widespread throughout North Carolina except for the northeastern corner of the state. Incidence rates were highest in the far western region.



Annual Summary

	2021	2022	2023	2024	2025
Cases	52	46	106	831	968
Rate*	0.5	0.4	1.0	7.5	8.6

Case Statistics, 2025

Sex	Cases	%	Rate*	95% CI
Male	472	49%	8.7	7.9, 9.5
Female	490	51%	8.5	7.8, 9.3
Unknown	6	1%	--	--
Age Group	Cases	%	Rate*	95% CI
Infant	93	10%	75.6	61.1, 92.7
1-4 yrs	165	17%	33.0	28.2, 38.4
5-9 yrs	225	23%	34.7	30.3, 39.5
10-19 yrs	318	33%	22.8	20.4, 25.5
20-49 yrs	99	10%	2.3	1.8, 2.8
50-74 yrs	49	5%	1.5	1.1, 2.0
75+ yrs	17	2%	1.9	1.1, 3.0
Unknown	2	<1%	--	--
Race	Cases	%	Rate*	95% CI
White	725	75%	9.5	8.9, 10.3
Black or African American	84	9%	3.5	2.8, 4.4
American Indian / Alaskan Native	5	1%	2.2	0.7, 5.1
Asian or Pacific Islander	11	1%	2.3	1.1, 4.1
Multiple Races	8	1%	1.6	0.7, 3.1
Other or Unknown	135	14%	--	--
Hispanic Ethnicity	Cases	%	Rate*	95% CI
Yes	148	15%	10.5	8.8, 12.3
No	716	74%	7.3	6.8, 7.9
Unknown	104	11%	--	--
Disease Severity	Cases	%	Rate*	95% CI
Hospitalized	50	5%		
Died	0	0%		

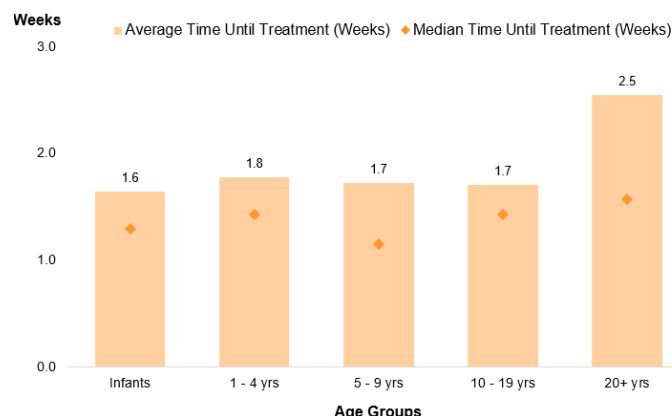
Annual Summary Key Points

- The 968 cases reported in 2025 is the highest number reported since 1955, when 1,366 cases were reported.
- The increase in cases during 2024-2025 is likely due to multiple factors. Pertussis is cyclical, with natural increases and decreases typically occurring every 3-5 years. Decreasing vaccination rates among certain populations may be contributing to the ability of pertussis to become established in communities.
- Infants had the highest rate among the age groups, more than double the next highest rate. Pertussis can be severe in infants. Maternal Tdap vaccine during pregnancy can help prevent pertussis infection in young infants.
- Pre-school and school-aged children also had high rates of pertussis. Most of the pertussis outbreaks occurred in school settings.
- Pertussis can be severe in infants and people with underlying respiratory conditions. Thankfully no deaths occurred in 2025.

*Rate per 100,000 population

Pertussis (Whooping Cough)

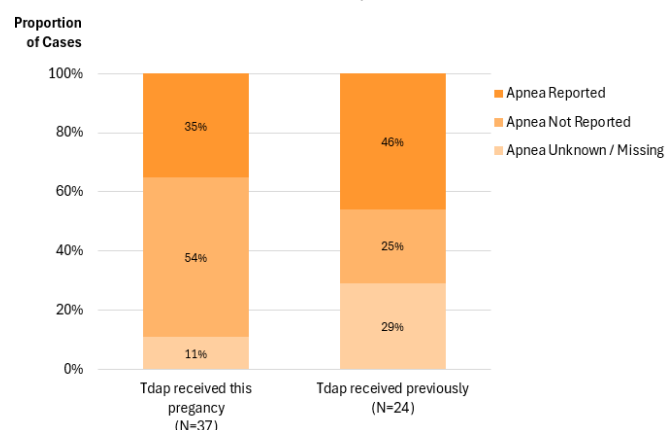
NC 2025 pertussis cases by time from onset date to antibiotic treatment



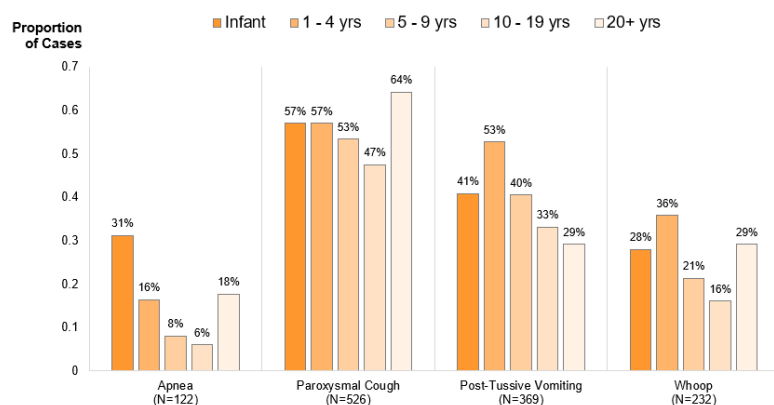
Antibiotics are recommended to treat pertussis. Azithromycin is the most common antibiotic prescribed for treatment. On average, adults did not receive antibiotic treatment as quickly after symptom onset as children. This is unsurprising, as parents and guardians often seek care for children sooner than they would for themselves.

Tdap is recommended for pregnant women during the third trimester of each pregnancy. Tdap passes antibodies to help protect the baby during the first months after birth. Apnea occurred more often in infants whose mothers did not receive maternal Tdap during the most recent pregnancy than in those whose mothers did receive maternal Tdap.

NC 2025 infant pertussis cases by maternal Tdap and apnea



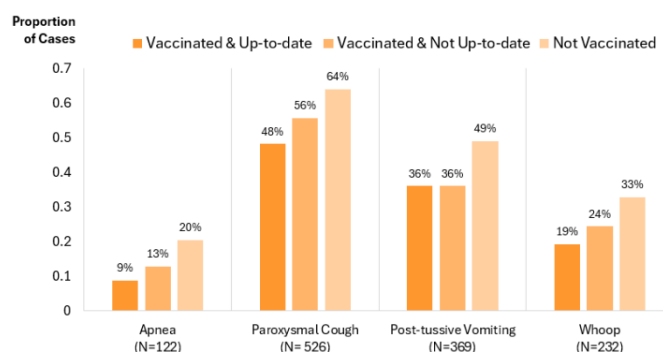
NC 2025 pertussis case cough symptoms by age group



Most pertussis cases experienced paroxysmal cough, followed by post-tussive vomiting, whoop and apnea. Infants had the highest rate of apnea.

Individuals that were known to be vaccinated and up to date on their pertussis-containing vaccines were less likely to experience symptoms. This suggests that up-to-date vaccination lowers the severity of pertussis infection.

NC 2025 pertussis case cough symptoms by vaccine status



Pneumococcal Meningitis

75

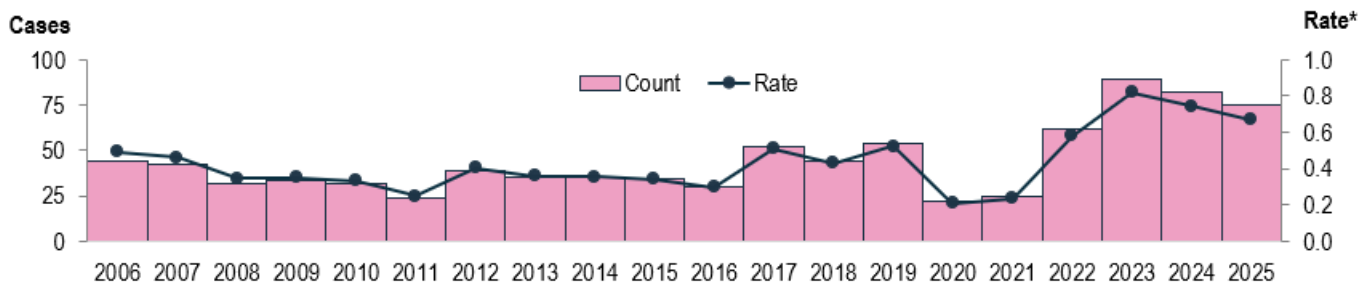
cases reported in 2025

- Cases decreased for the second consecutive year, but are still elevated compared to the 10-year average
- No outbreaks of pneumococcal meningitis were reported in 2025

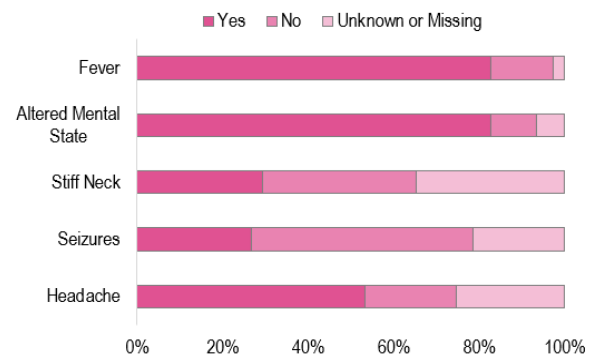
Streptococcus pneumoniae (pneumococcus) is a gram-positive bacterium that can cause many clinical syndromes including pneumonia, bacteremia, and meningitis. Pneumococcal meningitis is the only form of disease that is reportable in North Carolina. Learn more about [pneumococcal disease](#).

CDC recommends [pneumococcal vaccination](#) for people based on their age or if they have certain risk conditions. In North Carolina, four doses of PCV vaccine are required for children before 15 months of age. According to the 2024 NIS, an estimated 86.1% of North Carolina children born in 2022 had received at least four doses of PCV by 24 months of age, compared to 80.4% nationally. Results from the 2023 Behavioral Risk Factor Surveillance System (BRFSS) survey found that 74.1% of North Carolina adults 65 years of age and older had received at least one dose of pneumococcal vaccine, compared to 70.2% nationally.

Pneumococcal meningitis cases peaked in 2023 and have decreased for two consecutive years.
NC 2006-2025 pneumococcal meningitis case count and rate by year

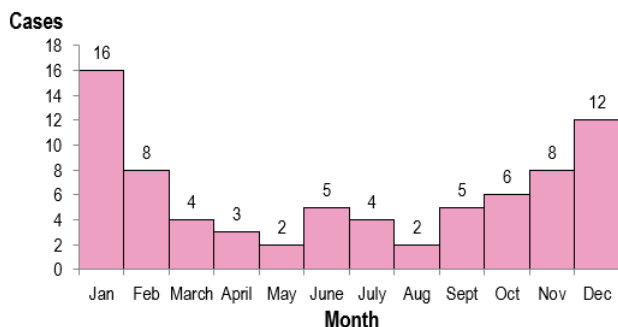


Fever and altered mental status are common symptoms.
NC 2025 pneumococcal meningitis cases by symptoms



A majority of cases experienced fever, altered mental status, and headache. Stiff neck and seizures were less common, but up to one-third of cases had missing data.

Almost half of cases occurred during the winter.
NC 2025 pneumococcal meningitis cases by month

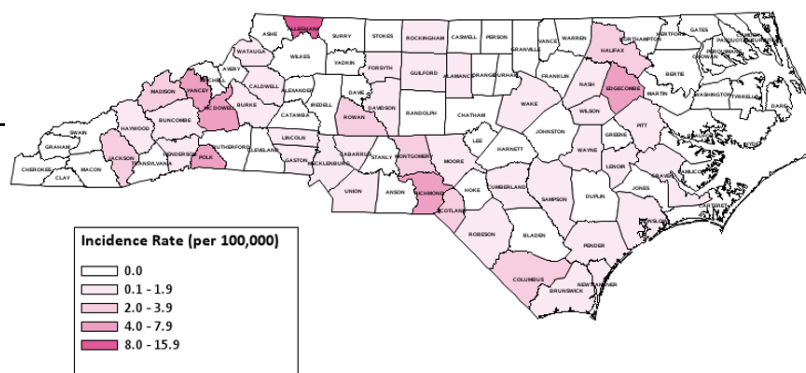


Pneumococcal meningitis is more common during months with cooler weather. In 2025, cases were highest during the winter months, and lowest during spring and summer.

Pneumococcal Meningitis

Pneumococcal meningitis cases occurred throughout North Carolina.

NC 2025 pneumococcal meningitis incidence rates by county



Annual Summary					
	2021	2022	2023	2024	2025
Cases	25	62	89	82	75
Rate*	0.2	0.6	0.8	0.7	0.7
Case Statistics, 2025					
Sex	Cases	%	Rate*	95% CI	
Male	35	47%	0.6	0.4, 0.9	
Female	40	53%	0.7	0.5, 0.9	
Age Group					
Infant	3	4%	2.4	0.5, 7.1	
1-4 yrs	0	0%	0.0	0.0, 0.7	
5-9 yrs	6	8%	0.9	0.3, 2.0	
10-19 yrs	7	9%	0.5	0.2, 1.0	
20-49 yrs	21	28%	0.5	0.3, 0.7	
50-74 yrs	34	45%	1.0	0.7, 1.5	
75+ yrs	4	5%	0.4	0.1, 1.1	
Race					
White	39	52%	0.5	0.4, 0.7	
Black or African American	24	32%	1.0	0.6, 1.5	
American Indian / Alaskan Native	1	1%	0.4	0.0, 2.4	
Asian or Pacific Islander	1	1%	0.2	0.0, 1.2	
Multiple Races	0	0%	0.0	0.0, 0.7	
Other or Unknown	10	13%	--	--	
Hispanic Ethnicity					
Yes	7	9%	0.5	0.2, 1.0	
No	63	84%	0.6	0.5, 0.8	
Unknown	5	7%	--	--	
Disease Severity					
Hospitalized	74	99%			
Died	8	11%			

Annual Summary Key Points

- The decrease in cases during 2025 is an encouraging sign, but cases are still elevated compared to the baseline level seen in the previous decade.
- Cases were similar among males and females in 2025.
- Infants less than one year of age had the highest rate, followed by adults ages 50 to 74 years old (2.4 and 1.0 per 100,000 North Carolina residents, respectively).
- Although white North Carolinians had the highest case count (N=39), the rate of cases in Black or African American North Carolinians was twice as high (0.5 versus 1.0 per 100,000, respectively).
- Pneumococcal meningitis is a severe disease. Almost every case was hospitalized, and eight cases died from their illness.

*Rate per 100,000 population

Tetanus

2

cases reported in
2025

- Tetanus is rare in North Carolina
- Adults are recommended to get a tetanus vaccine booster every 10 years

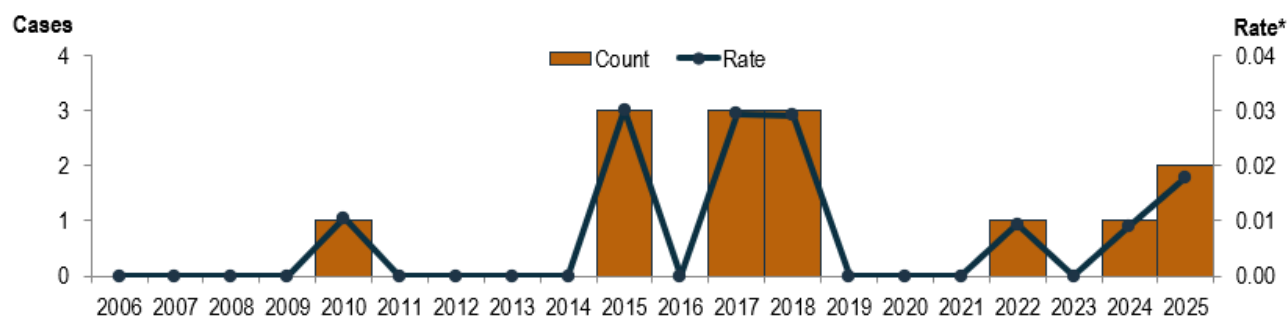
Tetanus infections are caused by spores of the bacterium *Clostridium tetani*, which are present naturally in the environment and are widespread in dust, soil, and manure. Spores thrive in anaerobic conditions, meaning that they can grow in environments without oxygen. When spores are introduced into dead tissue or deep wounds, they germinate into full-grown bacteria and secrete tetanus toxin, which causes disease. Tetanus is not transmitted person to person.

Certain types of wounds are more likely to become infected with tetanus bacteria because of anaerobic conditions. Deep puncture wounds (e.g. stepping on a nail), burn wounds, or crush injuries that are contaminated with dust or dirt are at higher risk of becoming infected than shallow wounds. Symptoms of tetanus include jaw cramping (lockjaw), painful muscle spasms and stiffness, headache, and fever. Serious complications can occur, including seizures, broken bones, difficulty breathing, and death.

Cases of tetanus have declined by 95% since the disease began to be reported in 1947, and deaths have been reduced by 99%. Sporadic cases of tetanus still occur in individuals who are not up-to-date on their tetanus vaccination. The low numbers of tetanus attest to proper wound management and proper vaccine recommendation and uptake.

Cases and rates of tetanus continue at a low level in North Carolina. Two cases were reported in 2025.

NC 2006-2025 tetanus case count and rate by year



Tetanus vaccines are combined with vaccines for diphtheria and pertussis (DTaP, Td, and Tdap). Five doses of DTaP are recommended for children at 2, 4, 6, and 15-18 months and 4-6 years. One dose of Tdap is recommended for adolescents, preferably at 11-12 years, and should be followed by a dose of Td vaccine (excludes the pertussis component) or Tdap every 10 years. Although it is rare in North Carolina, any tetanus infection emphasizes the need for strong vaccination recommendations for people who are not up-to-date or who are unsure of their vaccination status.

Tetanus is not passed person-to-person, but outbreaks have been documented during natural disasters when the risk for contamination of severe wounds greatly increases.

2025 Cases

Two cases of tetanus were reported during 2025. One case occurred in a person who received a puncture wound from a job site, and the other case was in a person who was injured by a stray animal. Neither patient was up to date on their tetanus vaccine.

Tetanus can be severe, and can result in admission to the intensive care unit for ventilator respiratory support. Both 2025 cases survived their illness.

Due to the low number of cases in 2025, demographic and geographic data is not included in this report to protect patient privacy.

Varicella (Chickenpox)

313

cases reported in 2025

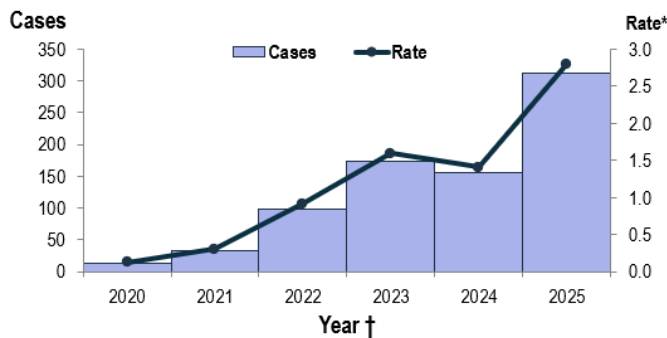
- Varicella cases increased significantly in 2025, doubling in number compared to 2024
- Four outbreaks of varicella were reported in 2025

Varicella (chickenpox) is a viral illness best known for causing an itchy, blister-like rash that can spread over the entire body. Varicella is caused by the varicella-zoster virus (VZV). In addition to the rash, symptoms may include fever and headache. Although rare, severe complications like skin infections, pneumonia, and encephalitis can occur.

Vaccination is the best way to prevent varicella. In North Carolina, children are required to have two doses of varicella vaccine, one on or after 12 months and before 19 months of age and a second before entering school for the first time. Results from the 2024 NIS estimate that 96.1% of North Carolina children born in 2022 had received at least one dose of varicella vaccine by 24 months of age, compared to 90.6% nationally.

VZV is the same virus that causes shingles, which is an illness that occurs primarily in older adults. Shingles occurs when VZV is re-activated in the body, usually years after infection with primary varicella or vaccination. Shingles is not a reportable disease and data on the number of cases is not available. Shingles vaccine is recommended for certain adults.

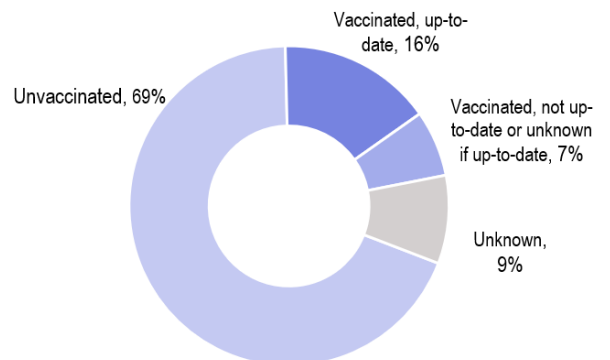
NC 2020-2025 varicella case count and rate by year



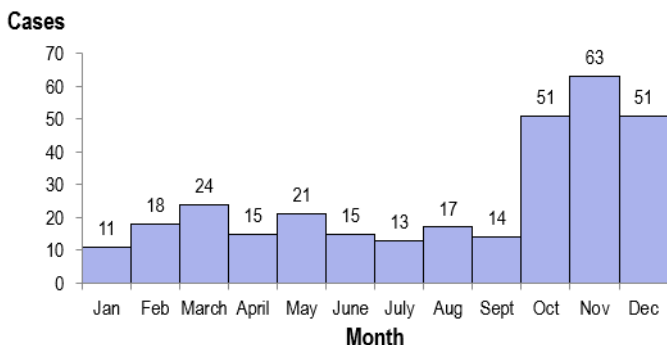
The number of varicella cases in 2025 is the most in a single year since reporting began in 2020. Cases doubled compared to 2024.

Over two-thirds of cases were unvaccinated.

NC 2025 varicella cases by vaccination status



NC 2025 varicella cases by month

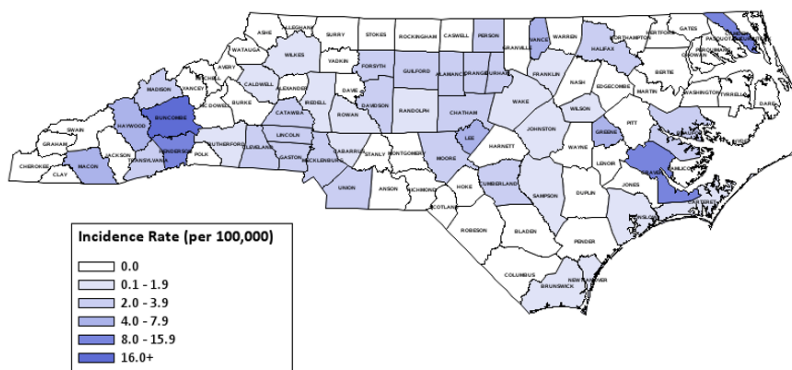


Cases occurred at a steady level during the first nine months of 2025. From October through December, cases increased significantly due to a large outbreak in the western part of the state.

Varicella (Chickenpox)

NC 2025 varicella incidence rates by county

Varicella cases were distributed throughout the state in 2025. The highest rate of cases occurred in Buncombe County.



Annual Summary Key Points

- Cases of varicella occurred more often in males than in females.
- The majority of cases occurred in children, and incidence rates among children were significantly higher than those in adults. The incidence rate in infants was more than triple the rate in any other age group.
- Asian or Pacific Islander and white North Carolinians had the highest rates, both with 3.1 cases per 100,000.
- North Carolinians of Hispanic ethnicity had a higher rate than non-Hispanic North Carolinians (4.1 versus 2.4 per 100,000).
- Hospitalization due to varicella infection is uncommon. Twelve individuals (4%) were hospitalized in 2025. No deaths were reported.

*Rate per 100,000 population

†Varicella became a reportable condition in 2020, therefore, historical data is not available

Annual Summary					
	2021	2022	2023	2024	2025
Cases	32	98	173	155	313
Rate*	0.3	0.9	1.6	1.4	2.8
Case Statistics, 2025					
Sex	Cases	%	Rate*	95% CI	
Male	173	55%	3.2	2.7, 3.7	
Female	137	44%	2.4	2.0, 2.8	
Unknown	3	1%	--	--	
Age Group	Cases	%	Rate*	95% CI	
Infant	46	15%	37.4	27.4, 49.9	
1-4 yrs	53	17%	10.6	7.9, 13.9	
5-9 yrs	73	23%	11.3	8.8, 14.1	
10-19 yrs	77	25%	5.5	4.4, 6.9	
20-49 yrs	56	18%	1.3	1.0, 1.7	
50-74 yrs	8	3%	0.2	0.1, 0.5	
75+ yrs	0	0%	0.0	0.0, 0.5	
Race	Cases	%	Rate*	95% CI	
White	235	75%	3.1	2.7, 3.5	
Black or African American	22	7%	0.9	0.6, 1.4	
American Indian / Alaskan Native	0	0%	0.0	0.0, 1.6	
Asian or Pacific Islander	15	5%	3.1	1.7, 5.1	
Multiple Races	0	0%	0.0	0.0, 0.7	
Other or Unknown	41	13%	--	--	
Hispanic Ethnicity	Cases	%	Rate*	95% CI	
Yes	58	19%	4.1	3.1, 5.3	
No	237	76%	2.4	2.1, 2.8	
Unknown	18	6%	--	--	
Disease Severity	Cases	%	Rate*	95% CI	
Hospitalized	12	4%			
Died	0	0%			

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