

Communicable Disease and Epidemiology Response Team

Annual Report 2023

Epidemiology Response Team

Rowan County Health Department formed an Epidemiology Response Team (Epi Team) to identify, monitor, mitigate, and respond to outbreaks or potential outbreaks of communicable diseases. The Epi Team members consist of the Health Director, Communicable Disease Nurse, Nursing Supervisor for Immunizations and Communicable Disease, Environmental Health, Laboratory Technician, Director of Nursing, Clinic Coordinator, and Management Support. The Epi Response Team meets to discuss events that have occurred and identify the ongoing communicable disease risk in the community. If there is a risk or a threat, the team develops intervention strategies to prevent the spread of a disease threat. The Epi teams meets at least annually and anytime there is a notice of a communicable disease threat.

Emerging and Current Communicable Diseases

The following are communicable diseases that we are currently investigating, contact tracing, reporting, vaccinating against, that are posing threats to the health of the public. There has been one communicable disease outbreak reported during 2023.

Female and Congenital Syphilis

In November 2023 NC DHHS sent a memo to providers of the continuing rise of congenital syphilis, following a memo previously sent in December 2022. The December 2022 memo was shared in early January 2023 with surrounding providers to help reverse the alarming trend. Between 2012 and 2022, there was a 547% increase in reported syphilis cases among women with an associated 5600% increase in congenital syphilis infections. Congenital syphilis is preventable during early detection and appropriate treatment of maternal infection during pregnancy. North Carolina public health law requires healthcare providers to screen all pregnant women for syphilis during the first prenatal visit, between 28-30 weeks of gestation, and at delivery. Failing to adhere to North Carolina public health law results in missed opportunities to identify, treat, and prevent congenital syphilis. Untreated syphilis can cause miscarriages, stillbirth, preterm delivery, and perinatal death in women.

In 2022, 86% of pregnant women with syphilis were asymptomatic at diagnosis missing a large population based on symptom screening alone. 53% of mothers with infants with congenital syphilis had little or no prenatal care prior to delivery, not screening at delivery missed identifying infected mothers and infants. Infected infants may be asymptomatic at birth resulting in hepatosplenomegaly, blindness, deafness, deformities of bone and teeth, or terrible complications later in life.

From January 2023 – September 2023 NC has experienced 5 congenital syphilis related stillbirths and neonatal deaths, RCHD has not had any reports of congenital syphilis in 2023. The graph below shows the congenital syphilis cases categorized by live birth and still birth or neonatal death since 2011.

FIGURE 1: CONGENITAL SYPHILIS CASES IN NORTH CAROLINA
DATA SOURCE NC EDSS 11/1/23

MPOX

Mpox (previously known as monkeypox) caused by an orthopoxvirus was declared a public health emergency in the United States on August 4th, 2022. The virus is spread through direct skin to skin contact with the rash, sores, or scabs of someone with mpox. Bodily fluids and respiratory droplets, such as saliva can spread mpox along with contaminated objects. Individuals with HIV are over-represented in current mpox cases, making individuals with HIV at an increased risk. North Carolina has seen coinfection with mpox, HIV, and other STIs.

Mpox presents itself in three stages: the incubation period is 1-2 weeks, a prodrome characterized by fever, flu-like symptoms, and lymphadenopathy, followed by the onset of a deep-seated vesicular or pustular rash. The rash begins on the face and spreads to other parts of the body. In this outbreak, the rash has presented on the perianal and genital areas. In the most severe cases, patients have been hospitalized due to severe pain from the rash with inability to urinate or defecate.

On December 2023 the North Carolina Division of Public Health (NC DPH) shared a memo and the Centers for Disease Control and Prevention (CDC), Health Advisory alerting clinicians of the Clade I Monkeypox virus (MPXV) outbreaks involving human-to-human transmission in the Democratic Republic of the Congo (DRC) with potential for international spread. No Clade I MPXV infections have been reported in the United States. NC DPH is urging providers to increase vaccination efforts for individuals who might be at higher risk to reduce the potential of transmission.

At RCHD we have seen one case of mpox in 2023, not related to the ongoing outbreak in DRC. RCHD continues to offer mpox vaccines, a 2-dose JYNNEOS vaccine series for:

- Anyone who has or may have multiple or anonymous sex partners; or
- Anyone whose sex partners are eligible per the criteria above; or
- People who know or suspect they have been exposed to mpox in the last 14 days; or
- Anyone else who considers themselves to be at risk for mpox through sex or other intimate contact.

North Carolina Mpox Case Demographic Data	Number of Cases (%)
Total	715
Sex/Gender	
Male	685 (96)
Female	26 (4)
Other than sex assigned at birth	4 (<1)
Age	
0-17	3 (<1)
18-29	245 (34)
30-49	410 (57)
50+	57 (8)
Race	
American Indian/Alaskan Native	3 (<1)
Asian	4 (<1)
Black or African American	481 (67)
Native Hawaiian or Pacific Islander	0
White	177 (25)
Multi-racial	25 (4)
Other	24 (3)
Unknown	1 (<1)
Ethnicity	
Hispanic	89 (12)
Non-Hispanic	605 (85)
Unknown	21 (3)
Coinfection	
Known to be living with HIV	377 (53)

FIGURE 2: INCLUDES DEMOGRAPHIC DATA AVAILABLE OF MPOX IN NORTH CAROLINA AS OF DECEMBER 28, 2023, AT 12:00 PM. DATA ARE PROVISIONAL AND SUBJECT TO CHANGE AS NEW INFORMATION IS RECEIVED.

Tuberculosis:

Tuberculosis (TB) is spread from one person to another through airborne bacteria caused by *Mycobacterium tuberculosis*. TB usually attacks the lungs, but the kidney, spine, and brain can also be affected. Not everyone infected by TB becomes sick or presents symptoms.

The chart below shows the number of cases for the years 2019-2023. In Rowan County we have two current active TB cases, one was diagnosed the last week of December 2023 and contacts are still being evaluated, potentially changing the number of candidates for treatment. Two individuals are currently in treatment.

Year	Cases	Number of contacts	Contacts evaluated	Candidate for treatment	Completed Treatment
2019	3	15	15	7	3
2020	1	7	2	0	0
2021	1	2	2	0	0
2022	2	11	11	8	4
2023	2	11	11	2	0

Communicable Disease Outbreaks in 2023

Throughout 2023 RCHD investigated and reported a total of 20 outbreaks. Most of them were in long-term care facilities, 19 were respiratory illnesses and 1 was gastrointestinal.

COVID-19:

In June of 2022, NC DPH revised the definition for reporting outbreaks of COVID-19 in congregate living facilities. The updates are as follow:

- Two or more laboratory-confirmed cases of COVID-19 in residents and staff must occur within 14 days in the same facility.
- To declare an outbreak over 14 days should have passed since the date of the last specimen collected of the most recent outbreak associated case in the facility.
- A cluster must have a minimum of five laboratory confirmed cases of COVID-19 within 14 days with evidence of epidemiologic linkage.

There were 18 COVID-19 outbreaks for 2023, the majority were in long-term care facilities.

Norovirus:

Norovirus is a very contagious virus transmitted through eating contaminated food, drinking contaminated water, or touching your hand to your mouth after your hand has been in contact with a contaminated surface or object. Anyone can get sick and infected with norovirus, experiencing common symptoms such as vomiting, diarrhea, and stomach cramps.

There has been 1 outbreak of norovirus for 2023 at an assisted living facility.

Influenza:

Influenza often referred as the flu is an infection of the respiratory system (nose, throat, and lungs). There is currently one active influenza outbreak in the prison, it is being monitored.

HIV/STD:

A large percentage of the CD Nurse time is spent in STD follow up. The Health Department must obtain proof of treatment for any positive STD test and report these into the state system. If a person who has tested positive for an STD and has not been treated or not properly treated per NC STD guidelines, the CD nurse is responsible for assuring they receive appropriate treatment. If there is a positive HIV case the CD nurse will connect them to the state disease intervention specialists to link them to care, where the state will provide follow up.

FIGURE 3: SHOWS CHLAMYDIA, GONORRHEA, AND SYPHILIS CASES DURING 2020-2023

Through Rowan County Health Department, we have tested many individuals and newly diagnosed 4 individuals with HIV back in August 2023. They were linked to care with the state and were followed up on.

General Communicable Disease Report:

Rowan County Health Department is responsible for reporting a total of 75 different communicable diseases. The table below shows a summary of the most frequently reported communicable diseases in 2023.

	2019 (Jan – Sept)	2020 (Jan – Sept)	2021	2022	2023
Pertussis	7	7	0	0	3
Hepatitis A	3	2	72	6	1
Hepatitis B – Acute	3	1	3	7	1
Hepatitis B – Perinatal	-	-	-	1	2
Hepatitis C – Acute	8	3	4	1	4
Cryptosporidiosis	4	6	2	0	0
Cyclosporiasis	1	3	0	1	1
Spotted Fever Rickettsiosis (including Rocky Mountain Spotted Fever)	13	6	1	0	1
Lyme Disease	17	6	1	1	4
Shigellosis	10	7	2	4	1
Salmonellosis	24	27	15	25	25
Campylobacter Infection	41	20	22	16	39
Streptococcal Infection Group A, Invasive	9	21	12	12	21
Legionellosis	3	1	4	2	4
Hemoph. influenza	13	2	3	5	3
E Coli-Shiga Toxin	0	2	2	6	6
Meningitis, Pneumococcal	-	-	1	4	0
Mumps	-	-	-	1	0
Varicella (Chicken Pox)	-	-	1	0	3
Influenza Adult Death (18 years of age or more)	0	1	0	1	2
Mpox	-	-	-	7	1
CRE (Carbapenem Resistant Enterobacteriaceae)	-	-	-	9	8
Meningococcal invasive disease	-	-	-	-	1
Foodborne dz c. perfringens	-	-	-	-	1
Creutzfeldt-jakob disease	-	-	-	-	1
Vibrio infection (other than cholera and vulnificus)	-	-	-	-	3
Tularemia	-	-	-	-	1
Toxic shock syndrome streptococcal	-	-	-	-	5
Botulism	-	-	-	-	1