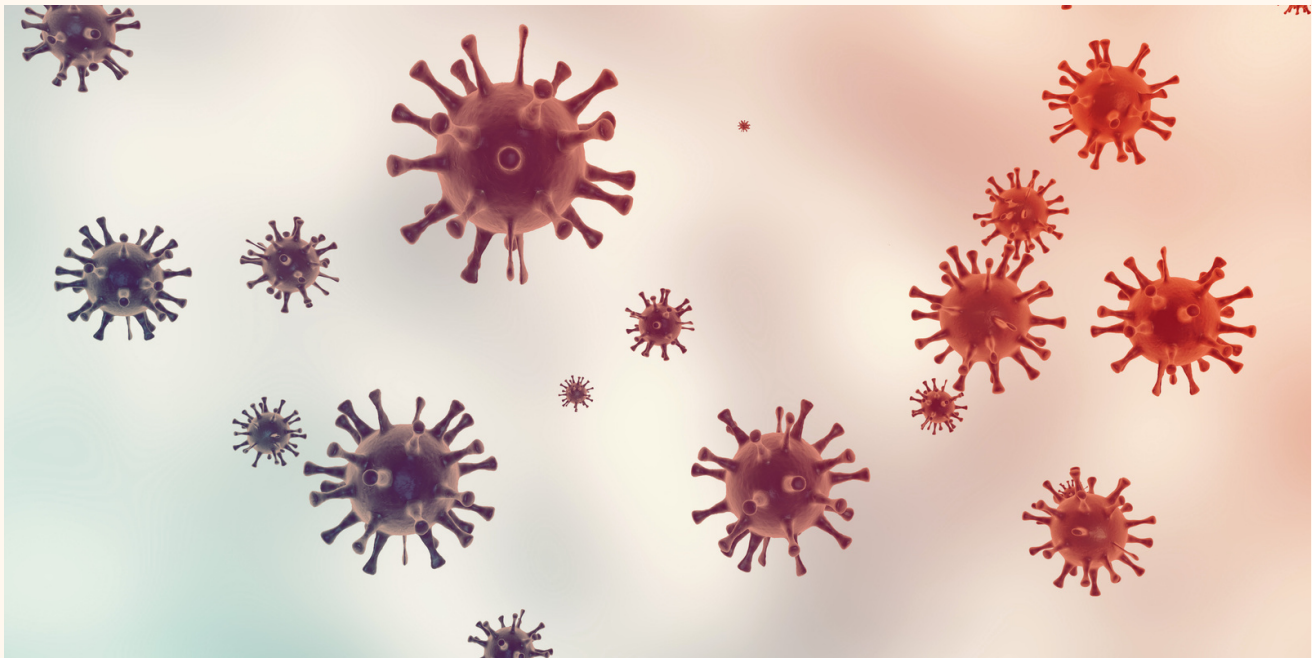




**CLARK COUNTY**  
**2016-2020**

# **INFECTIOUS DISEASES AMONG CHILDREN**

**PREPARED BY:**  
Brenna Heinle, MPH  
Clark County Combined Health District  
9/20/2022



## Infectious Disease Reporting

In Ohio, more than 80 infectious diseases are required by law to be reported to local and state public health agencies. These diseases have the potential to cause serious illness, missed time from school or work, hospitalization and even death. During 2016-2020, 1,252 cases of infectious disease were reported among children less than 18 years old living in Clark County, excluding COVID-19.

## Report Focus

This report summarizes probable and confirmed cases of enteric diseases, vaccine preventable diseases, sexually transmitted infections among children in Clark County and mortality of children due to an infectious diseases during 2016-2020.

For each disease subtype listed above, this report provides data regarding:

- Disease incidence among children
- Hospitalizations
- Time Trends for selected diseases
- Demographics

**Throughout this report, the term "children" refers to individuals less than 18 years old.**

## Disease Prevention

Many diseases in this report can be avoided through simple actions, such as handwashing or vaccination.

For information on preventing infectious diseases among children, please see:



[cdc.gov/parents/children/healthy\\_children](https://cdc.gov/parents/children/healthy_children)



# Table of Contents

Overview.....2

Enteric Diseases.....4

Vaccine Preventable Diseases.....7

Sexually Transmitted Infections.....10

Population of Clark County.....13

Mortality.....14



# Enteric Diseases

Enteric diseases are caused by micro-organisms such as viruses, bacteria and parasites that cause intestinal illness. These diseases most frequently result from consuming contaminated food or water and some can spread from person to person.

## Burden Among Children

Over one quarter (29.7%) of all enteric disease cases in Clark County occurred among children, although children make up only 22.5% of the population (Table 1, Figure 13). Among Children in Clark County, 119 enteric disease cases were reported during 2016-2020 for an age specific rate of 387.7 cases per 100,000 population less than 18 years old (Table 1).

## Hospitalizations

Among children in Clark County, 23.5% of enteric disease cases were hospitalized.

Hospitalization rates varied by disease from 0% of Shigellosis cases to 50% of Yersiniosis cases (Table 1).

**Table 1:** Enteric Diseases Among Children; Cases, rates and characteristics of reportable enteric diseases among children living in Clark County, 2016-2020.

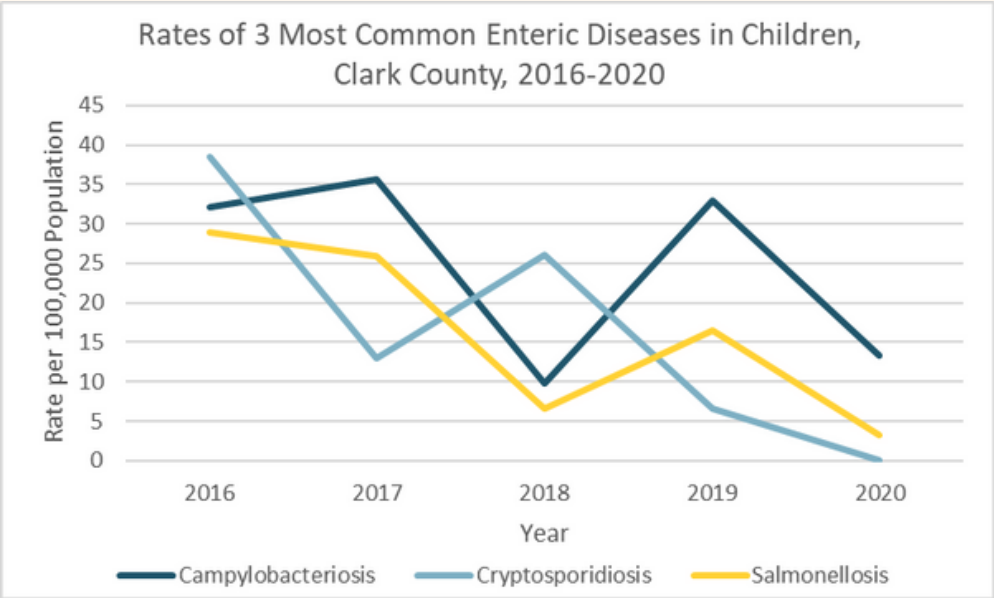
Disease	Cases	Rate*	% Hospitalized	% of All Cases That Occurred Among Children
Overall Enteric Diseases	119	387.7	23.5%	29.7%
Campylobacteriosis	38	123.8	23.7%	28.8%
Cryptosporidiosis	26	84.7	23.1%	65.0%
E. coli, Shiga Toxin-Producing (O157:H7, Not O157, Unknown Serotype)	10	32.6	30.0%	47.6%
Giardiasis	13	42.4	7.7%	52.0%
Salmonellosis	25	81.5	32.0%	31.3%
Shigellosis	5	16.3	0.0%	45.5%
Yersiniosis	2	6.5	50.0%	33.3%

\*Age specific rate per 100,000 population <18 years old

# Enteric Diseases Cont.,

## Most Common Diseases

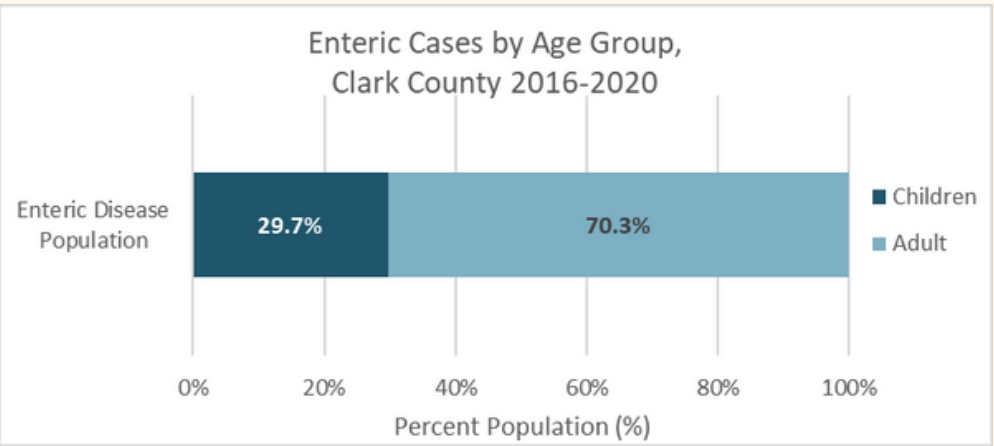
Among Children in Clark County, Campylobacteriosis was the most commonly reported enteric disease, followed by Cryptosporidiosis and Salmonellosis (Table 1). From 2016 to 2020, the rates have steadily decreased (Figure 1).



**Figure 1:** Rates of the 3 most common enteric diseases in children of Clark County from 2016-2020.

## Age

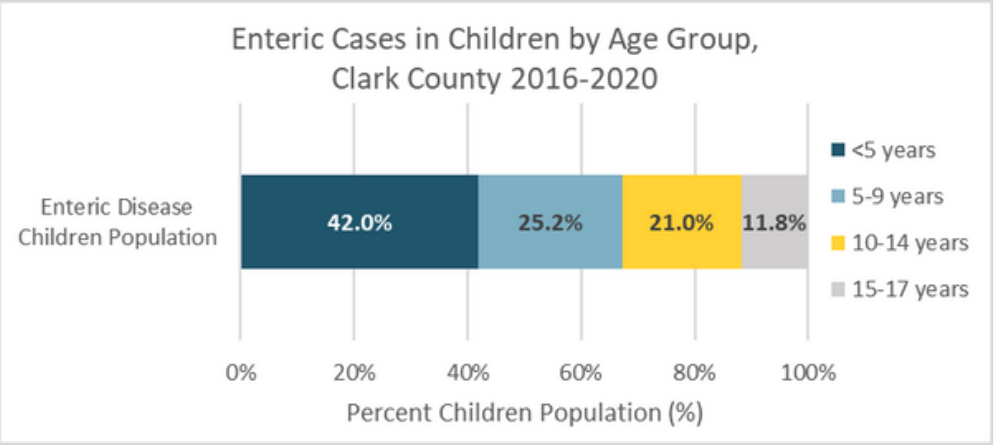
Children made up 29.7% of all enteric cases in Clark County from 2016 to 2020 (Figure 2). More enteric disease cases were reported among children in younger age groups. 42.0% of enteric disease cases were less than 5 years old (Figure 3), although children less than 5 years old make up only 25.4% of the child population in Clark County (Figure 14).



**Figure 2:** Enteric Cases by age group in Clark County from 2016-2020.

# Enteric Diseases Cont.,

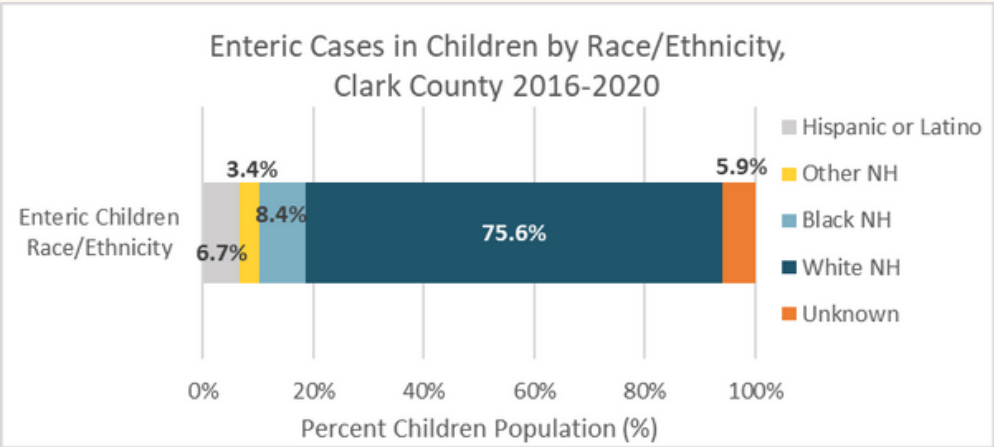
## Age Continued



**Figure 3:** Enteric Cases in children by age group in Clark County from 2016-2020.

## Race and Ethnicity

More enteric disease cases were reported among non-Hispanic White children (Figure 4). 75.6% of enteric diseases cases were non-Hispanic White, and the non-Hispanic White make up 72.0% of the child population in Clark County (Figure 15)



**Figure 4:** Enteric Cases in children by race/ethnicity in Clark County from 2016-2020.

NH=Non-Hispanic



# Vaccine-Preventable Diseases

A vaccine-preventable disease (VPD) is an infectious disease for which an effective preventive vaccine exists, which is normally recommended during childhood. Diseases listed in this section are caused by bacteria or viruses and many are spread via respiratory droplets.

## Burden Among Children

Under one quarter (15.8%) of all VPD cases in Clark County occurred among children, although children make up only 22.5% of the population (Table 2, Figure 13). Among Children in Clark County, 205 VPD cases were reported during 2016-2020 for an age specific rate of 667.9 cases per 100,000 population less than 18 years old (Table 2).

## Hospitalizations

Among children in Clark County, 77.1% of VPD cases were hospitalized. Hospitalization rates varied by disease from 0% of Varicella cases to 100% of Meningitis - aseptic/viral cases (Table 2). By definition, 100% of Influenza-associated hospitalizations cases were hospitalized.

**Table 2:** VPD Diseases Among Children; Cases, rates and characteristics of reportable VPD diseases among children living in Clark County, 2016-2020.

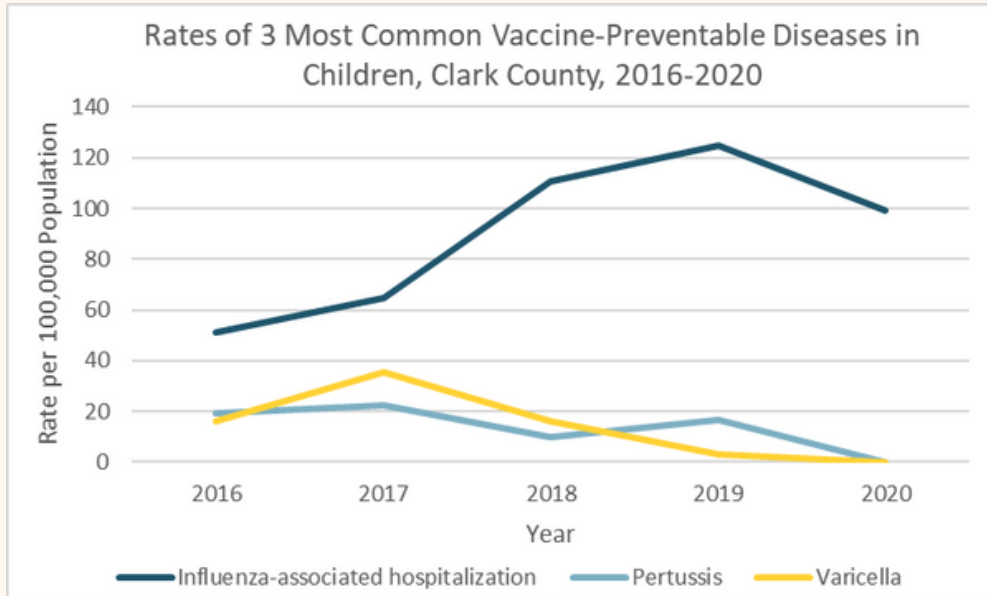
Disease	Cases	Rate*	% Hospitalized	% of All Cases That Occurred Among Children
<b>Overall Vaccine-Preventable Diseases</b>	205	667.9	77.1%	15.8%
<b>Haemophilus influenzae (invasive disease)</b>	2	6.5	50.0%	14.3%
<b>Influenza-associated hospitalization</b>	138	449.6	100.0%	15.5%
<b>Influenza-associated pediatric mortality</b>	1	3.3	0.0%	100.0%
<b>Meningitis - aseptic/viral</b>	11	35.8	100.0%	64.7%
<b>Mumps</b>	25	13.0	0.0%	66.7%
<b>Pertussis</b>	21	68.4	33.3%	65.6%
<b>Streptococcus pneumoniae</b>	6	19.5	33.3%	7.5%
<b>Varicella</b>	22	71.7	0.0%	91.7%

\*Age specific rate per 100,000 population <18 years old

# Vaccine-Preventable Diseases Cont.,

## Most Common Diseases

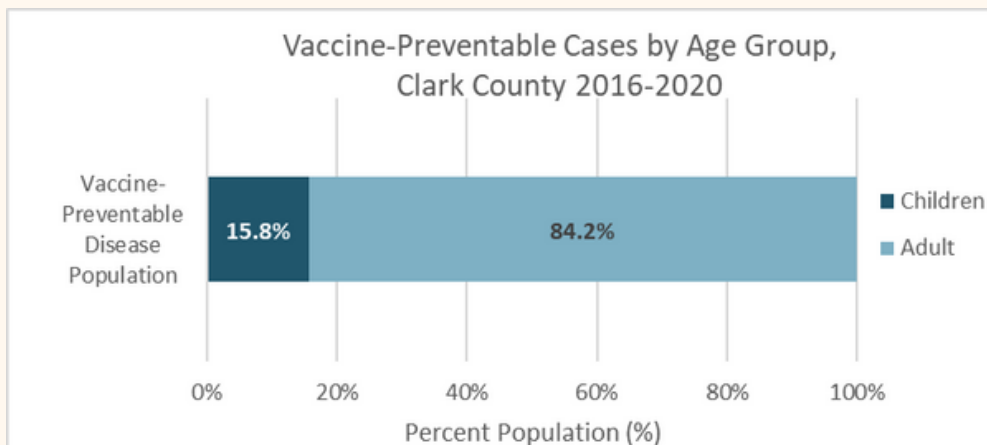
Among Children in Clark County, Influenza-associated hospitalization was the most commonly reported VPD, followed by Pertussis and Varicella (Table 2). From 2016 to 2020, the rates have steadily decreased for Pertussis and Varicella (Figure 5). From 2019 to 2020 influenza-associated hospitalizations decreased (Figure 5).



**Figure 5:** Rates of the 3 most common VPD's in children of Clark County from 2016-2020.

## Age

Children made up 15.8% of all VPD cases in Clark County from 2016 to 2020 (Figure 6). More VPD cases were reported among children in younger age groups. 43.9% of VPD cases were less than 5 years old (Figure 7), although children less than 5 years old make up only 25.4% of the child population in Clark County (Figure 14).

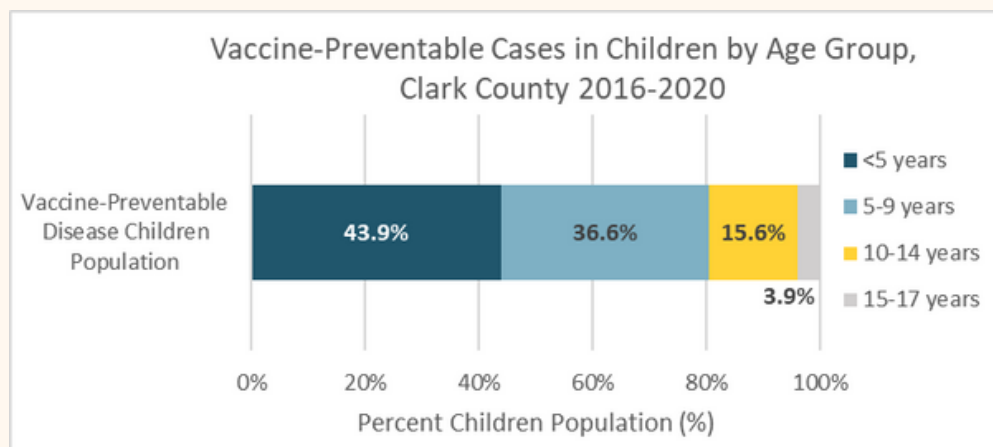


**Figure 6:** VPD Cases by age group in Clark County from 2016-2020.



# Vaccine-Preventable Diseases Cont.,

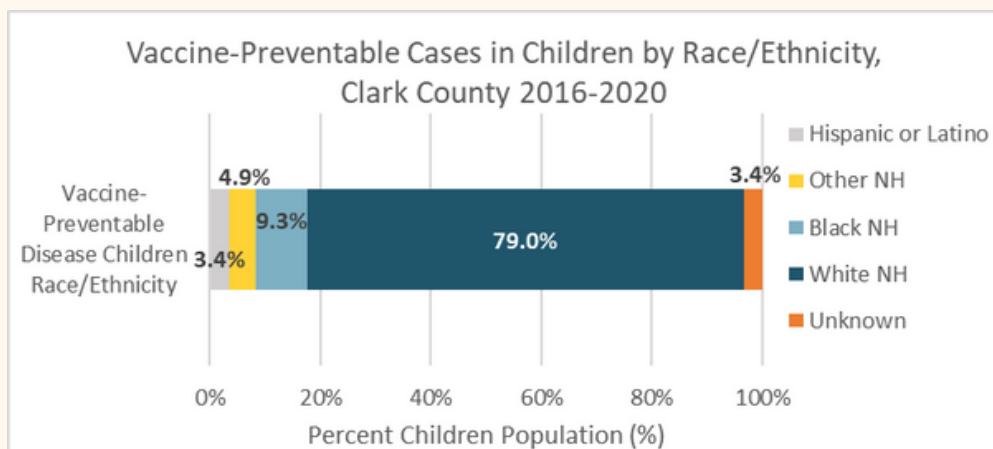
## Age Continued



**Figure 7:** VPD Cases in children by age group in Clark County from 2016-2020.

## Race and Ethnicity

More VPD cases were reported among non-Hispanic White children (Figure 8). 79.0% of VPD cases were non-Hispanic White, and the non-Hispanic White make up 72.0% of the child population in Clark County (Figure 15)



**Figure 8:** VPD Cases in children by race/ethnicity in Clark County from 2016-2020.

NH=Non-Hispanic

# Sexually Transmitted Infections

Sexually transmitted infections (STIs), or sexually transmitted diseases (STDs), are infections that are passed from one person to another through sexual contact. The contact is usually vaginal, oral, or anal sex. But sometimes they can spread through other intimate physical contact.

## Burden Among Children

Under one quarter (12.6%) of all STI cases in Clark County occurred among children, although children make up only 22.5% of the population (Table 3, Figure 13). Among Children in Clark County, 910 STI cases were reported during 2016-2020 for an age specific rate of 2965.0 cases per 100,000 population less than 18 years old (Table 3).

## Hospitalizations

Among children in Clark County, 0.2% of STI cases were hospitalized. Hospitalization only occurred in 50.0% of Syphilis - congenital cases (Table 3).

**Table 3:** Sexually Transmitted Infections Among Children; Cases, rates and characteristics of reportable sexually transmitted infections among children living in Clark County, 2016-2020.

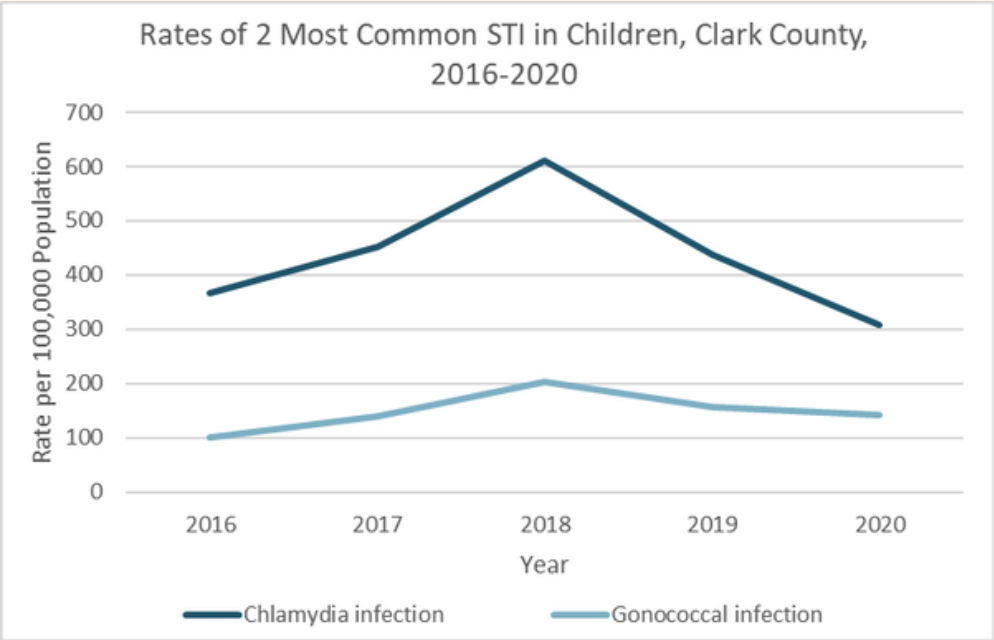
Disease	Cases	Rate*	% Hospitalized	% of All Cases That Occurred Among Children
<b>Overall Sexually Transmitted Infections (STI)</b>	910	2965.0	0.2%	12.6%
<b>Chlamydia infection</b>	668	2176.5	0.0%	17.2%
<b>Gonococcal infection</b>	227	739.6	0.0%	12.3%
<b>Hepatitis C - chronic</b>	7	22.8	0.0%	0.7%
<b>Hepatitis C - Perinatal Infection</b>	3	9.8	0.0%	100.0%
<b>Syphilis - congenital</b>	4	13.0	50.0%	100.0%
<b>Syphilis - secondary</b>	1	3.3	0.0%	1.4%

\*Age specific rate per 100,000 population <18 years old

# Sexually Transmitted Infections Cont.,

## Most Common Diseases

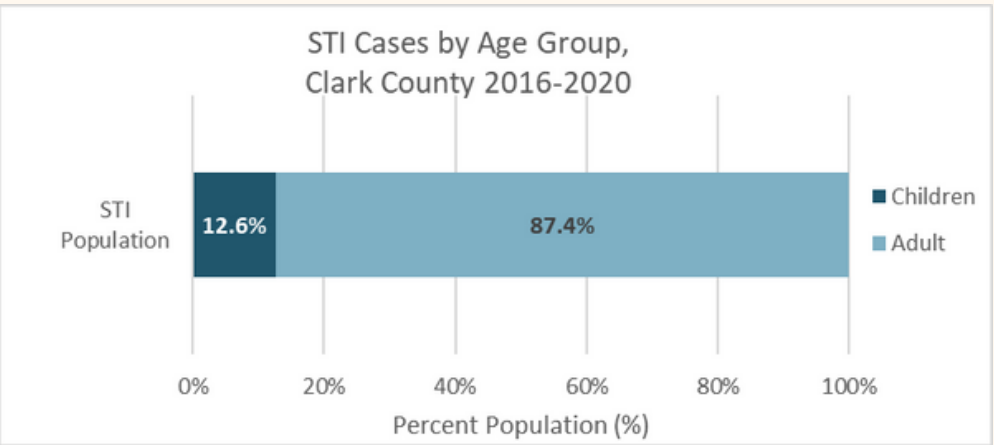
Among Children in Clark County, Chlamydia infection was the most commonly reported STI, followed by Gonococcal infection (Table 3). From 2018 to 2020, the rates have steadily decreased (Figure 9).



**Figure 9:** Rates of the 2 most common STI's in children of Clark County from 2016-2020.

## Age

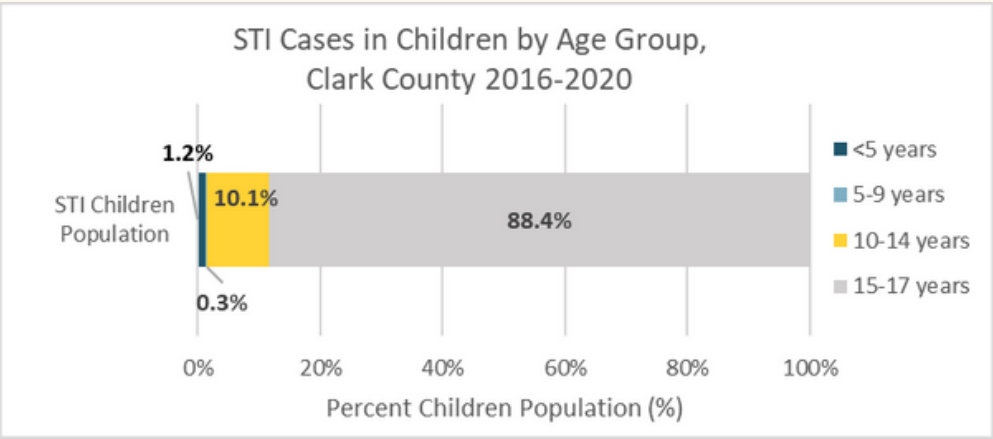
Children made up 12.6% of all STI cases in Clark County from 2016 to 2020 (Figure 10). More STI cases were reported among children in older age groups. 88.4% of STI cases were 15-17 years old (Figure 11), although children 15-17 years old make up only 18.5% of the child population in Clark County (Figure 14).



**Figure 10:** STI Cases by age group in Clark County from 2016-2020.

# Sexually Transmitted Infections Cont.,

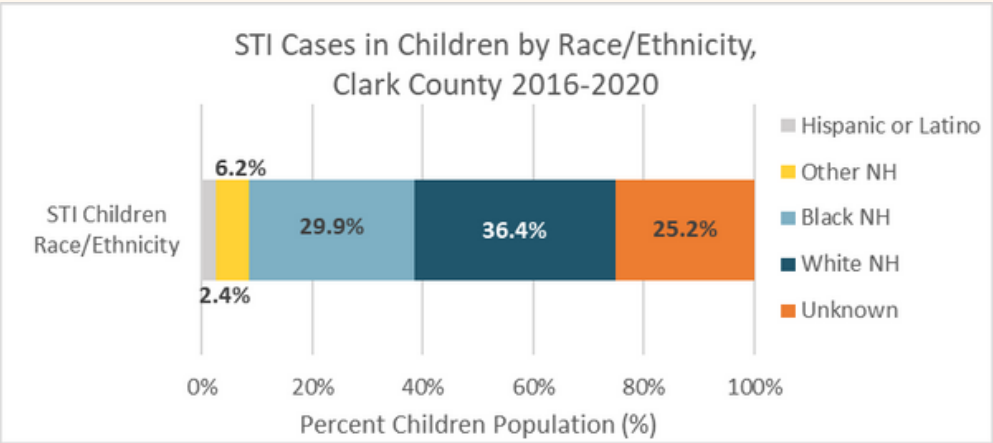
## Age Continued



**Figure 11:** STI Cases in children by age group in Clark County from 2016-2020.

## Race and Ethnicity

More STI cases were reported among non-Hispanic White children (Figure 12). 36.4% of STI cases were non-Hispanic White, and the non-Hispanic White make up 72.0% of the child population in Clark County (Figure 15)



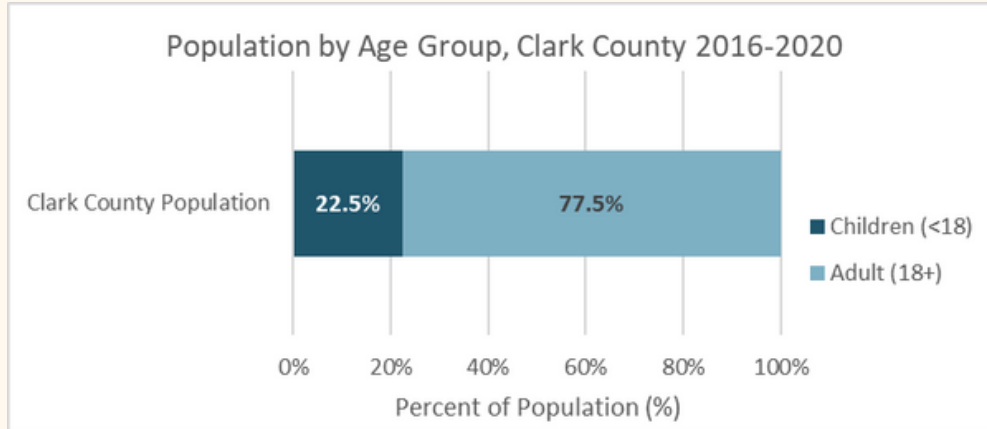
**Figure 12:** STI Cases in children by race/ethnicity in Clark County from 2016-2020.

NH=Non-Hispanic

# Population of Clark County Children

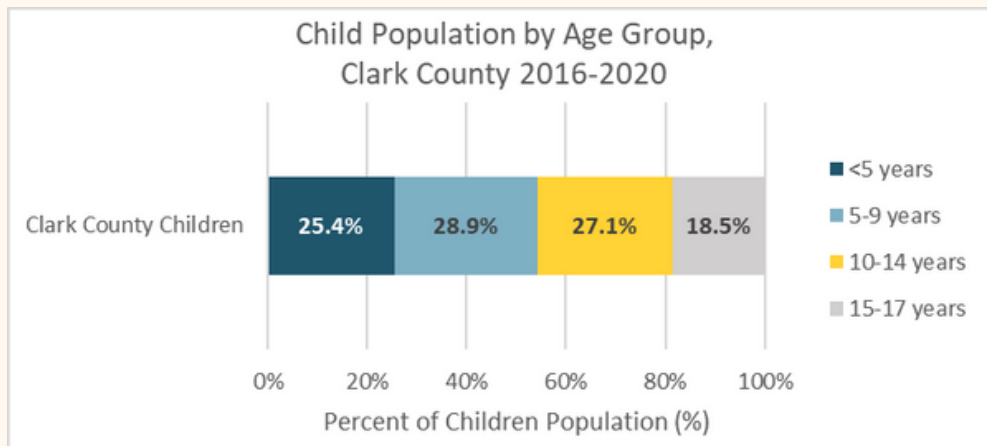
To help compare the data from the sub-types of diseases above, the demographics of Clark County children are below.

## Clark County Population



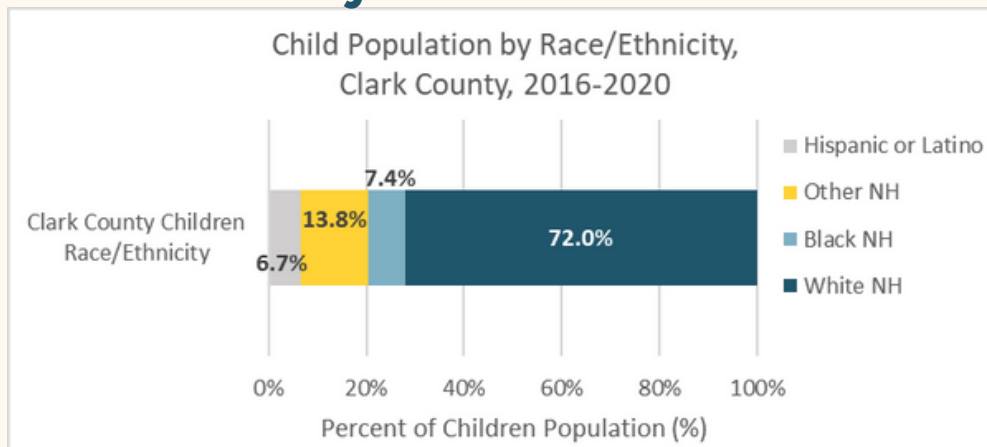
**Figure 13:** Clark County Population by Age Group, 2016-2020.

## Age



**Figure 14:** Clark County Child Population by Age Group, 2016-2020.

## Race and Ethnicity



**Figure 15:** Clark County Child Population by Race/Ethnicity, 2016-2020.

NH=Non-Hispanic

# Mortality

## Deaths Among Children Related to Infectious Diseases

During 2016-2020, 4 children in Clark County had an infectious disease listed as the underlying cause of death, accounting for 4.0% of all deaths among Clark County children during the that time period. Of the deaths due to infectious diseases, 50.0% occurred among children less than 1 year of age.

The underlying causes related to infectious diseases were:

- Sepsis, unspecified
- Other viral infections of unspecified site
- Influenza with other respiratory manifestations, seasonal influenza virus identified

