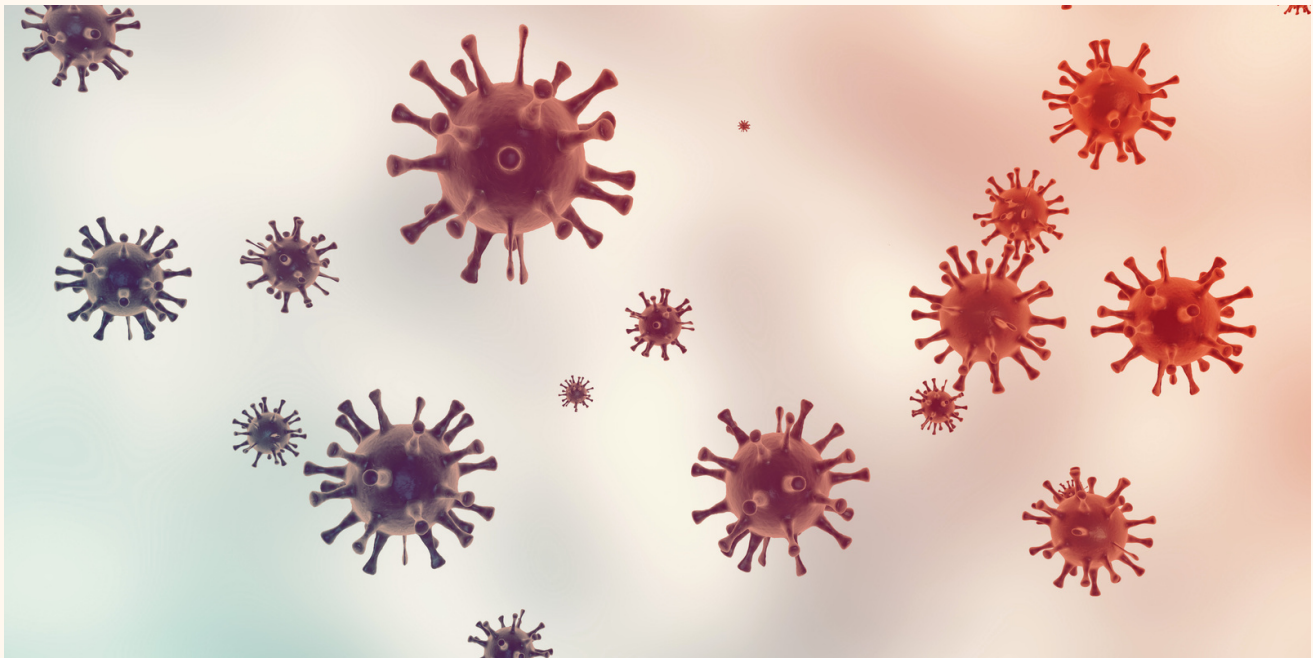




**CLARK COUNTY**  
**2016-2020**

# **INFECTIOUS DISEASES AMONG THE ELDERLY**

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12/9/2022



## 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 work, time with family, hospitalization and even death. During 2016-2020, 724 cases of infectious disease were reported among the elderly, greater than 64 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 the elderly in Clark County and mortality of the elderly due to an infectious diseases during 2016-2020. For each disease subtype listed above, this report provides data regarding:

- Disease incidence among the elderly
- Hospitalizations
- Time Trends for selected diseases
- Demographics

**Throughout this report, the term "elderly" refers to individuals greater than 64 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, please see:



[cdc.gov/earlycare/infectious-disease/index.html](https://www.cdc.gov/earlycare/infectious-disease/index.html)



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# 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 the Elderly

Over one third (37.5%) of all enteric disease cases in Clark County occurred among the elderly, the elderly make up only 19.7% of the population (Table 1, Figure 13). Among the elderly in Clark County, 64 enteric disease cases were reported during 2016-2020 for an age specific rate of 254.0 cases per 100,000 population greater than 64 years old (Table 1).

## Hospitalizations

Among the elderly in Clark County, 37.5% of enteric disease cases were hospitalized. Hospitalization rates varied by disease from 0% of Listeriosis cases to 100% of Giardiasis cases (Table 1).

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

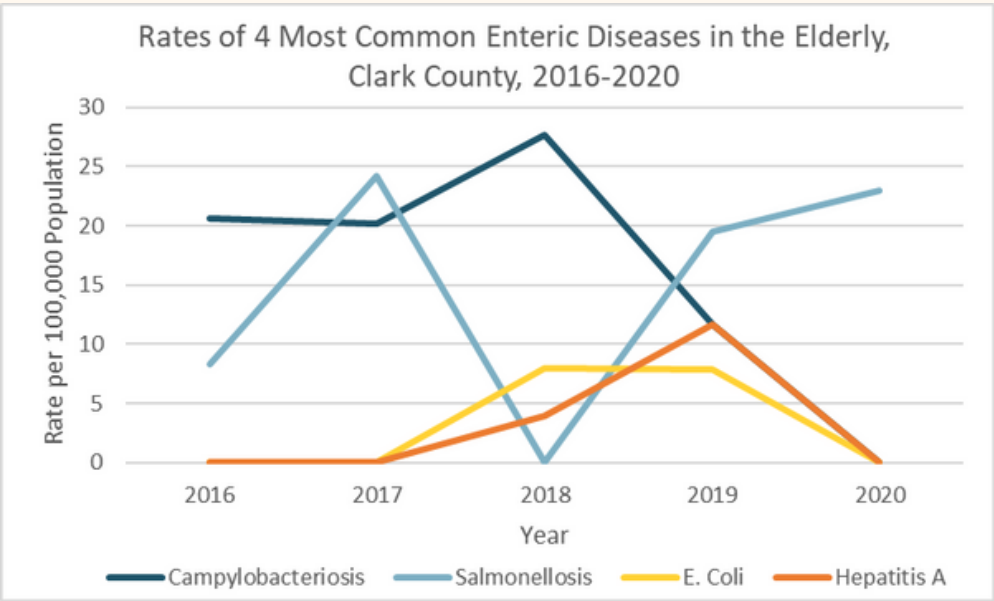
Disease	Cases	Rate*	% Hospitalized	% of All Cases That Occurred Among the Elderly
Overall Enteric Diseases	64	254.0	37.5%	16.0%
Campylobacteriosis	20	79.4	25.0%	15.2%
Cryptosporidiosis	2	7.9	0.0%	5.0%
E. coli, Shiga Toxin-Producing (O157:H7, Not O157, Unknown Serotype)	4	15.9	50.0%	19.0%
Giardiasis	3	11.9	100.0%	12.0%
Hepatitis A	4	15.9	75.0%	5.3%
Listeriosis	1	4.0	0.0%	50.0%
Salmonellosis	19	75.4	42.1%	23.8%
Shigellosis	3	11.9	33.3%	27.3%
Vibriosis (not Cholera)	3	11.9	33.3%	42.9%
Yersiniosis	3	11.9	33.3%	50.0%

\*Age specific rate per 100,000 population 65+ years old  
Clark County Combined Health District

# Enteric Diseases Cont.,

## Most Common Diseases

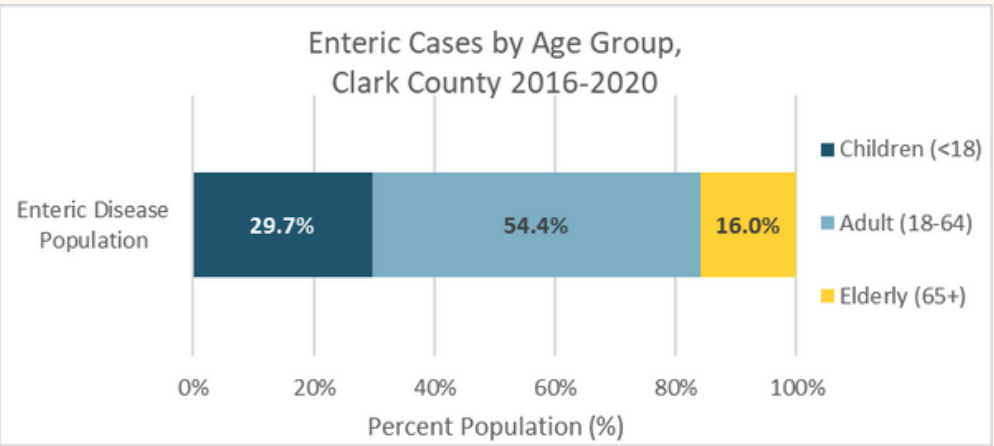
Among the elderly in Clark County, Campylobacteriosis was the most commonly reported enteric disease, followed by Salmonellosis, E. Coli and Hepatitis A (Table 1). From 2016 to 2020, the rates have varied (Figure 1).



**Figure 1:** Rates of the 4 most common enteric diseases in the elderly of Clark County from 2016-2020.

## Age

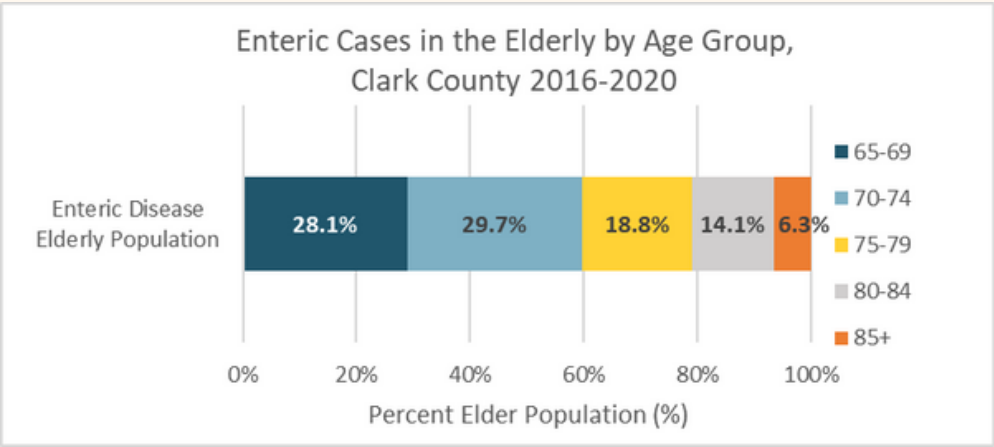
The elderly made up 16.0% of all enteric cases in Clark County from 2016 to 2020 (Figure 2). More enteric disease cases were reported among the elderly in the 70-74 years age group (29.7%). 28.1% of enteric disease cases were in the 65-69 age group (Figure 3). The elderly in the 65-69 year old age group is the highest (31.2%) age group of the elder population in Clark County (Figure 14).



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

# Enteric Diseases Cont.,

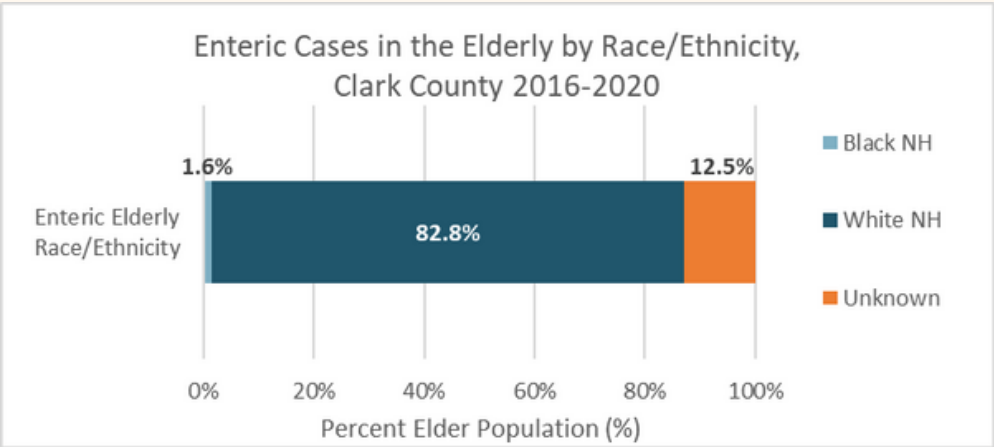
## Age Continued



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

## Race and Ethnicity

More enteric disease cases were reported among the non-Hispanic White elderly (Figure 4). 82.8% of enteric diseases cases were non-Hispanic White, and the non-Hispanic White make up 76.8% of the elderly population in Clark County (Figure 15).



**Figure 4:** Enteric Cases in the elderly 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 the Elderly

Over one third (37.1%) of all VPD cases in Clark County occurred among the elderly, although the elderly make up only 19.7% of the population (Table 2, Figure 13). Among the elderly in Clark County, 483 VPD cases were reported during 2016-2020 for an age specific rate of 1916.9 cases per 100,000 population greater than 64 years old (Table 2).

## Hospitalizations

Among the elderly in Clark County, 8.3% of VPD cases were hospitalized. Hospitalization rates varied by disease from 0% of Mumps 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 the Elderly; Cases, rates and characteristics of reportable VPD diseases among the elderly living in Clark County, 2016-2020.

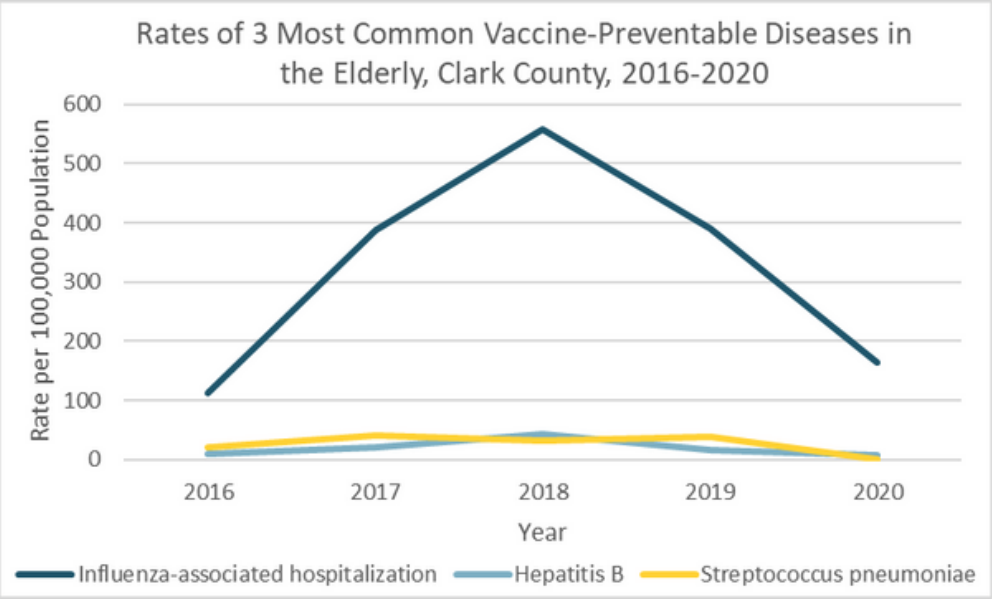
Disease	Cases	Rate*	% Hospitalized	% of All Cases That Occurred Among the Elderly
<b>Overall Vaccine-Preventable Diseases</b>	483	1916.9	8.3%	37.1%
<b>Haemophilus influenzae (invasive disease)</b>	9	35.7	77.8%	64.3%
<b>Hepatitis A</b>	4	15.9	75.0%	5.3%
<b>Hepatitis B (including delta) - Chronic</b>	24	95.2	0.0%	15.9%
<b>Influenza-associated hospitalization</b>	407	1615.3	100.0%	45.7%
<b>Meningitis - aseptic/viral</b>	1	4.0	100.0%	5.9%
<b>Mumps</b>	1	4.0	0.0%	16.7%
<b>Pertussis</b>	4	15.9	25.0%	12.5%
<b>Streptococcus pneumoniae</b>	33	131.0	51.5%	41.3%

\*Age specific rate per 100,000 population 65+ years old

# Vaccine-Preventable Diseases Cont.,

## Most Common Diseases

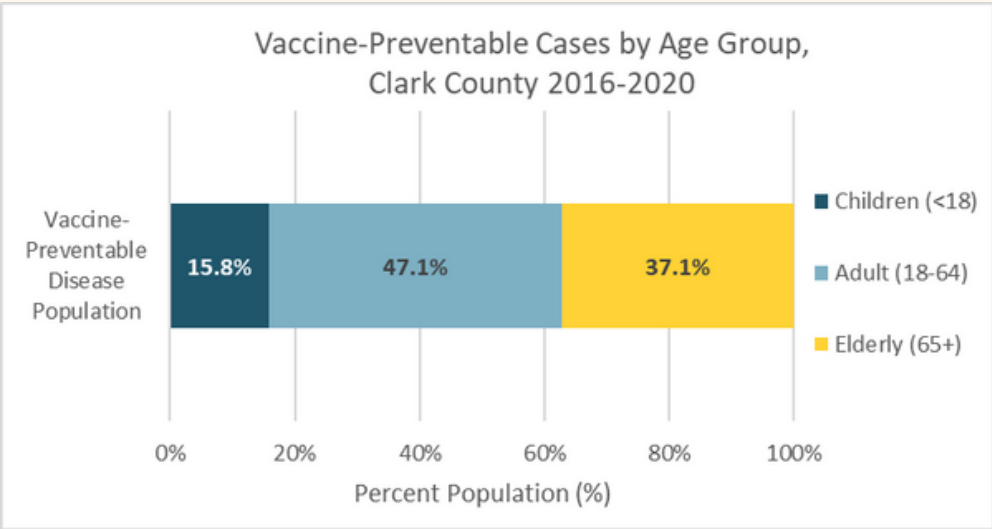
Among the elderly in Clark County, Influenza-associated hospitalization was the most commonly reported VPD, followed by Streptococcus pneumoniae and Hepatitis B (Table 2). From 2016 to 2020, the rates have stayed relatively the same for Streptococcus pneumoniae and Hepatitis B (Figure 5). From 2018 to 2020 influenza-associated hospitalizations decreased (Figure 5).



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

## Age

The elderly made up 37.1% of all VPD cases in Clark County from 2016 to 2020 (Figure 6). More VPD cases were reported among the elderly in oldest age group (85+ years old). 23.2% of VPD cases were 85+ years old (Figure 7), although the 85+ years old age group make up only 8.9% of the elderly population in Clark County (Figure 14).

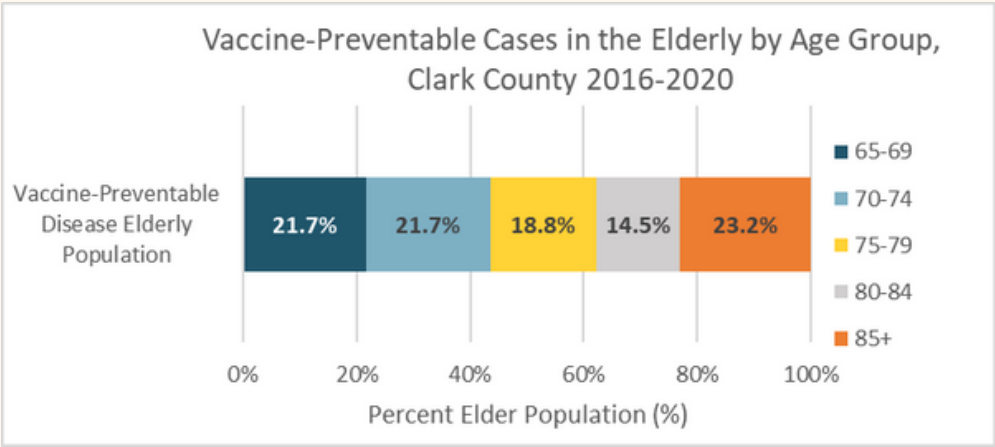


**Figure 6:** VPD Cases by age group in Clark County from 2016-2020.



# Vaccine-Preventable Diseases Cont.,

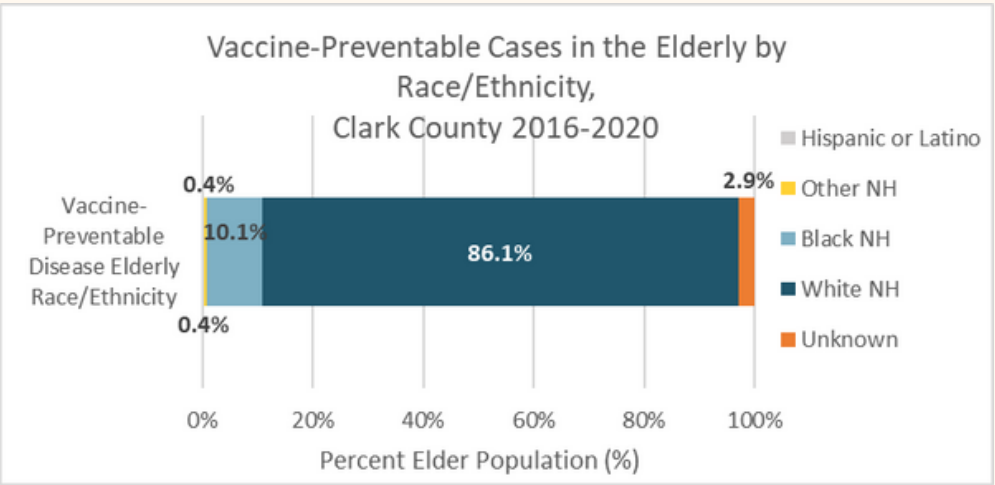
## Age Continued



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

## Race and Ethnicity

More VPD cases were reported among the non-Hispanic White elderly (Figure 8). 86.1% of VPD cases were non-Hispanic White, and the non-Hispanic White make up 76.8% of the elderly population in Clark County (Figure 15).



**Figure 8:** VPD Cases in the elderly 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. These infections also include viral hepatitis, due to the capability of being passed through sexual contact.

## Burden Among the Elderly

Under one twentieth (2.1%) of all STI cases in Clark County occurred among the elderly, and the elderly make up 19.7% of the Clark County population (Table 3, Figure 13). Among the elderly in Clark County, 154 STI cases were reported during 2016-2020 for an age specific rate of 611.2 cases per 100,000 population greater than 64 years old (Table 3).

## Hospitalizations

Among the elderly in Clark County, 4.5% of STI cases were hospitalized. Hospitalization occurred in 75.0% of Hepatitis A cases and 3.8% of Chronic Hepatitis C cases (Table 3).

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

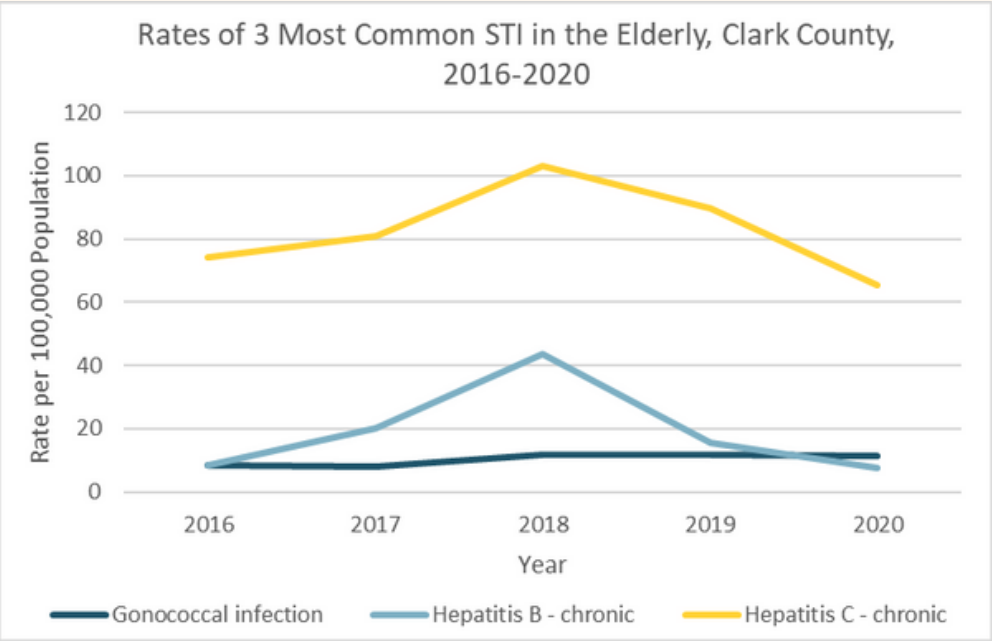
Disease	Cases	Rate*	% Hospitalized	% of All Cases That Occurred Among the Elderly
<b>Overall Sexually Transmitted Infections (STI)</b>	154	611.2	4.5%	2.1%
<b>Chlamydia infection</b>	3	11.9	0.0%	0.1%
<b>Gonococcal infection</b>	13	51.6	0.0%	0.7%
<b>Hepatitis A</b>	4	15.9	75.0%	5.3%
<b>Hepatitis B (including delta) - Chronic</b>	24	95.2	0.0%	15.9%
<b>Hepatitis C - chronic</b>	104	412.7	3.8%	10.8%
<b>HIV</b>	1	4.0	0.0%	2.9%
<b>Syphilis - All Types</b>	5	19.8	0.0%	2.1%

\*Age specific rate per 100,000 population 65+ years old

# Sexually Transmitted Infections Cont.,

## Most Common Diseases

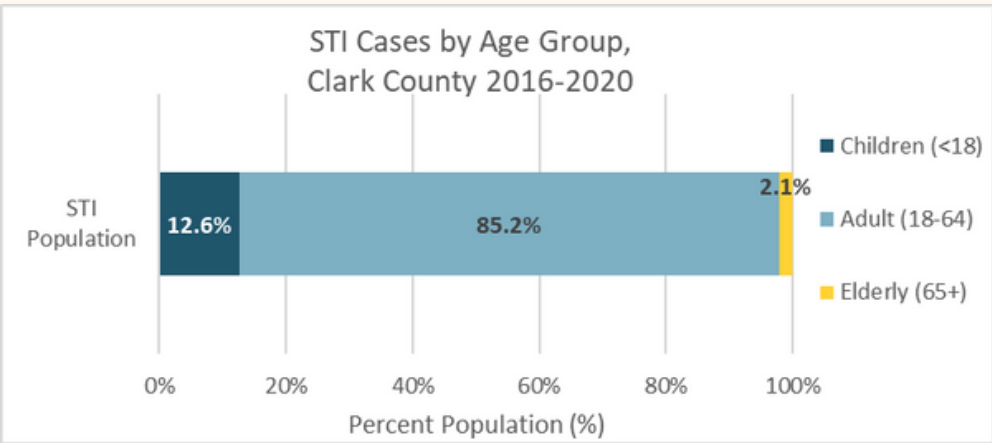
Among the elderly in Clark County, Chronic Hepatitis C was the most commonly reported STI, followed by Chronic Hepatitis B then Gonococcal infection (Table 3). From 2018 to 2020, the rates have steadily decreased for Chronic Hepatitis B & C while Gonococcal infections stayed consistent from 2016 to 2020 (Figure 9).



**Figure 9:** Rates of the 3 most common STI's in the elderly of Clark County from 2016-2020.

## Age

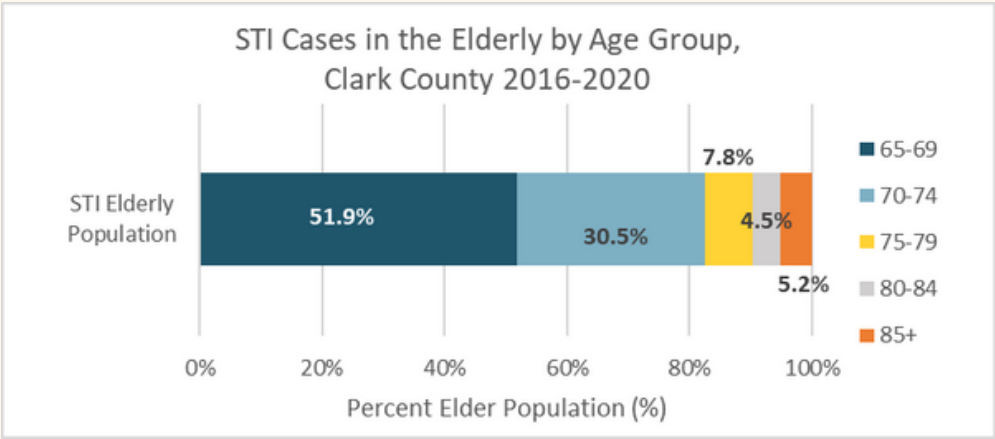
The elderly made up 2.1% of all STI cases in Clark County from 2016 to 2020 (Figure 10). More STI cases were reported among the elderly in the younger age group (65-69 years old). 51.9% of STI cases were 65-69 years old (Figure 11), although the 65-69 years old make up only 31.2% of the elder population in Clark County (Figure 14).



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

# Sexually Transmitted Infections Cont.,

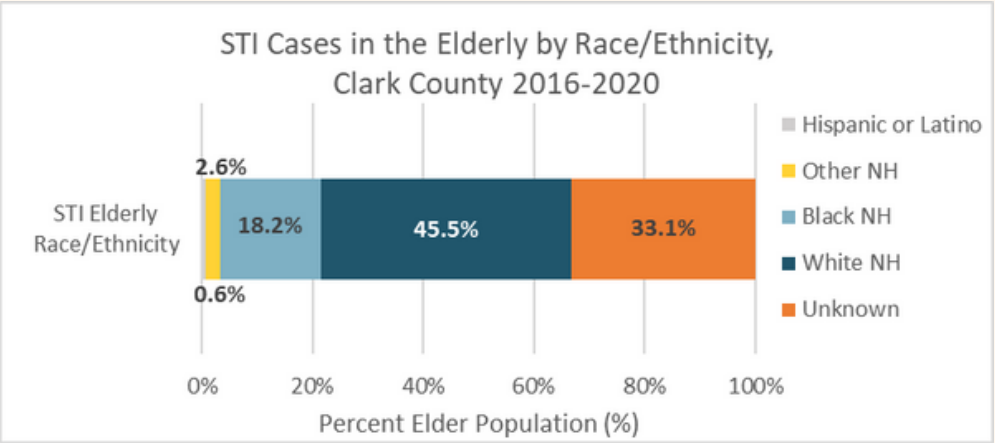
## Age Continued



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

## Race and Ethnicity

More STI cases were reported among the non-Hispanic White elderly (Figure 12). 45.5% of STI cases were non-Hispanic White, and the non-Hispanic White make up 76.8% of the elder population in Clark County (Figure 15).



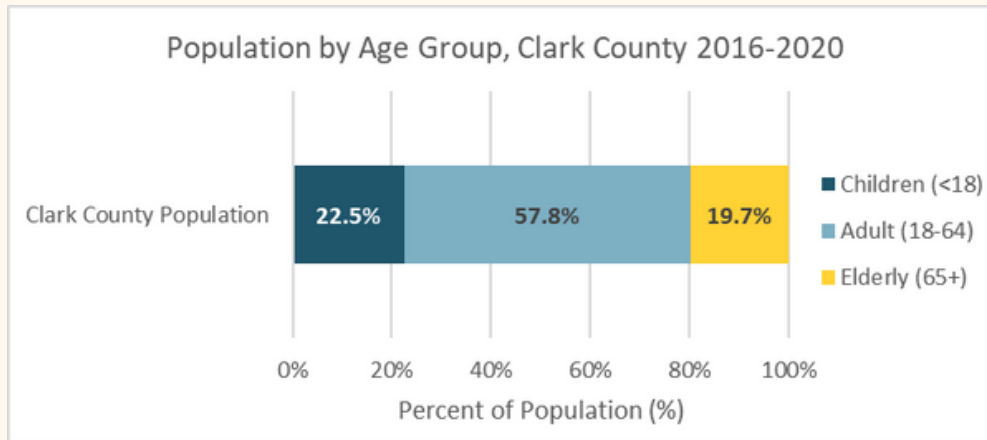
**Figure 12:** STI Cases in the elderly by race/ethnicity in Clark County from 2016-2020.

NH=Non-Hispanic

# Population of Clark County Elderly

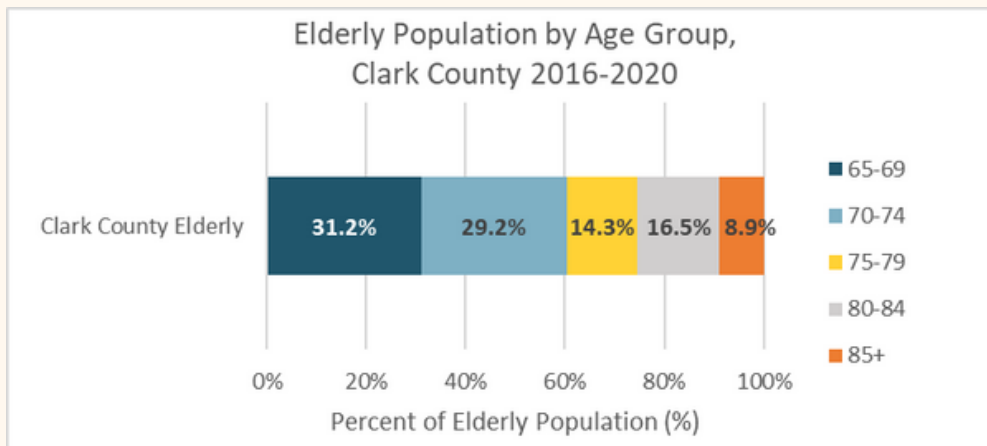
To help compare the data from the sub-types of diseases above, the demographics of the Clark County Elderly are below.

## Clark County Population



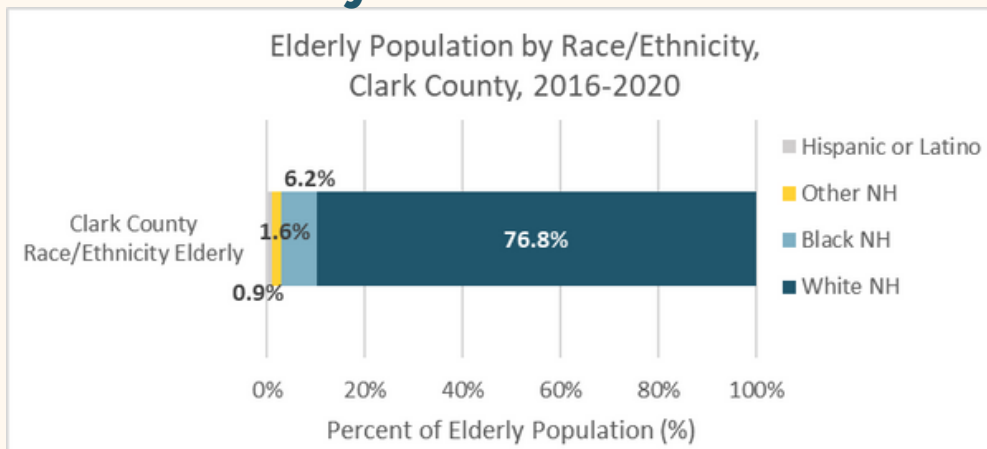
**Figure 13:** Clark County Population by Age Group, 2016-2020.

## Age



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

## Race and Ethnicity



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

NH=Non-Hispanic

# Mortality

## Deaths Among the Elderly Related to Infectious Diseases

During 2016-2020, 156 elderly individuals in Clark County had an infectious disease listed as the underlying cause of death, accounting for 2.3% of all deaths among the Clark County elderly during the that time period. Of the deaths due to infectious diseases, 27.56% occurred among elderly greater than 84 years of age.

The 3 main underlying causes related to infectious diseases were:

- Sepsis, unspecified
- Enterocolitis due to Clostridium difficile
- Influenza with pneumonia, seasonal influenza virus identified

