Miami County Public Health

Prevent. Promote. Protect.

2022 Annual Communicable Disease Report

Miami County, Ohio

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Introduction

The 2022 Annual Communicable Disease Report presents annual disease characteristics and a 10-year (2013-2022) overview of the count of probable and confirmed diseases that occurred in Miami County, Ohio. Additional sections include the most common communicable diseases by race and age groups of communicable diseases (COVID-19) and sexually transmitted infections. An Executive Summary at the beginning of the report summarizes the key findings and highlights the most important information. This summary was designed to be a quick and easy way for readers to get a sense of the report's contents.

For more information on prevention, control, and reporting of communicable diseases, refer to the Ohio Department of Health's Infectious Disease Control Manual (IDCM) Infectious Disease Control Manual (IDCM) | Ohio Department of Health. The IDCM is based on the Ohio Administrative Code (OAC) Chapter 3701-3, which designates the diseases to report to the local health department and the time frame for reporting.

All data collected and analyzed were derived from Ohio Department of Health's Ohio Disease Reporting System (ODRS) and Ohio Department of Health COVID-19 Dashboard Overview | COVID-19 (ohio.gov). All analyses, interpretations, and conclusions were developed by Miami County Public Health.

Executive Summary

In Miami County, there was a slight decrease in communicable disease cases from 2021 to 2022. In 2022, COVID-19 cases accounted for 94% of all reportable conditions, while sexually transmitted infections accounted for 3.2%. This indicates that COVID-19 was the top communicable disease in the county during that period, while sexually transmitted infections accounted for a smaller proportion of the reported cases.

Class A Diseases

Over the past decade, there has been a significant increase in the overall count of Class A diseases in Miami County, primarily driven by the COVID-19 pandemic. In 2022, Miami reported 420 hospitalization cases, which marked a decrease from the 792 cases reported in 2021. Among the COVID-19 cases in Miami County residents in 2022, females accounted for 52%.

Class B Diseases

- **Vaccine Preventable Diseases:** In the past five years, there has been a decrease in the case count among Miami County residents. Among the vaccine-preventable diseases, influenza-associated hospitalizations accounted for the majority of cases during this period. Specifically, in 2022, influenza-associated hospitalization cases in children aged 0-17 constituted 43% of the total cases.

- **Sexually Transmitted Infections (STIs):** In 2022, chlamydia cases accounted for 43% of all reported STI cases in Miami County. Over the past 10 years, there has been a 9.9% increase in chlamydia cases specifically among females in the county.

Communicable Disease Overview

A communicable disease, also known as an infectious disease, is an illness that can spread directly or indirectly from one person to another, from an animal to a person, or from a surface or food. Some ways an infectious disease is spread include contact with blood and bodily fluids, breathing and airborne virus, or being bitten by an insect.

Reporting cases of communicable diseases is essential for planning, evaluating, and detecting outbreaks of diseases and for developing and implementing effective disease prevention and control programs.

Communicable diseases are grouped into four categories based on the severity of the disease, the potential for disease spread, vaccine, and mode of transmission.

- Class A diseases are those of major public health concern because of the severity of disease or potential for epidemic spread.
- Class B diseases are general infectious diseases of public health concern because of potential for epidemic spread.
- Class C outbreaks: In 2022 Miami County experienced 14 known outbreaks in long term care facilities, schools, preschools, and businesses. Seventy-one percent of the outbreaks were caused by COVID-19.
- Vaccine preventable diseases are reportable general infectious diseases for which an effective preventative vaccine exists.

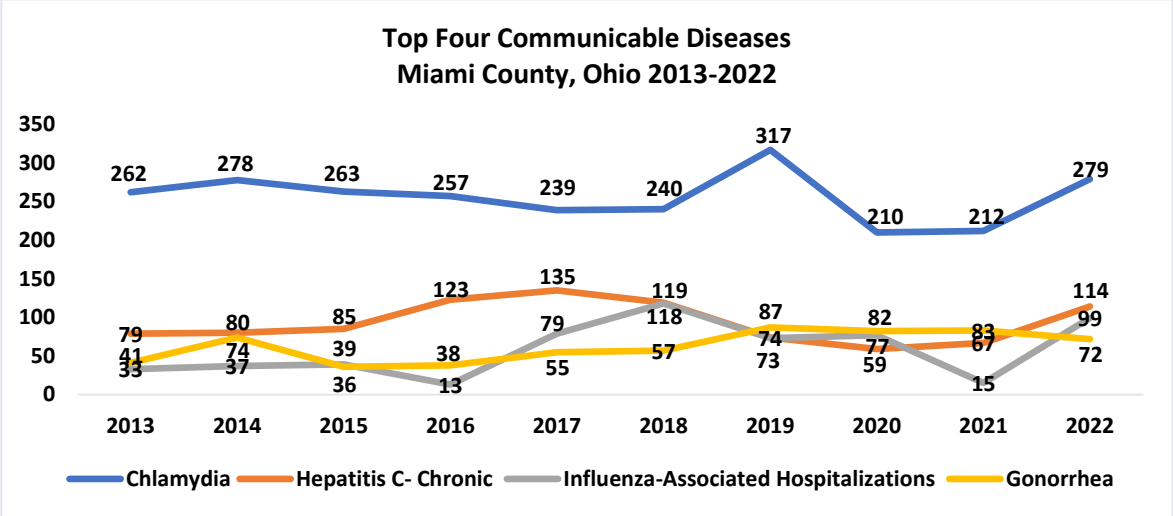
Miami County, Ohio
Reportable Communicable Diseases 2013-2022

Reportable Diseases	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Anaplasmosis-Anaplasma phagocytophilum	0	1	0	0	0	0	0	0	0	0
Candida auris	0	0	0	0	0	0	0	0	0	1
Campylobacteriosis	9	14	12	15	19	13	10	7	17	18
Chlamydia infection	262	278	263	257	239	240	317	210	212	279
COVID-19	0	0	0	0	0	0	0	7503	11503	11275
Carbapenamase-producing carbapenem-resistant Enterobacteriaceae	0	0	0	0	0	4	2	1	5	5
Creutzfeldt-Jakob Disease	0	0	0	0	0	0	0	1	0	0
Cryptosporidiosis	1	0	1	18	2	2	3	5	2	5
Cyclosporiasis	0	0	0	0	0	0	0	4	0	2
E. coli, Shiga Toxin-Producing (O157:H7, Not O157, Unknown Serotype)	1	2	2	2	0	2	5	1	1	2
Ehrlichiosis-Ehrlichia chaffeensis	0	0	0	0	0	1	0	0	0	0
Giardiasis	8	2	1	4	3	9	2	5	0	8
Gonococcal infection	41	74	36	38	55	57	87	82	83	72
Haemophilus influenzae (invasive disease)	3	1	4	0	0	1	1	1	0	5
Hepatitis A	2	0	0	0	0	21	16	0	0	1
Hepatitis B (including delta) - acute	3	5	3	3	2	1	3	1	0	0
Hepatitis B (including delta) - chronic	9	10	18	7	14	13	15	9	5	12
Hepatitis C - Perinatal Infection	0	0	0	0	0	1	0	0	1	0
Hepatitis C - acute	2	5	1	2	1	6	3	1	0	2
Hepatitis C - chronic	79	80	85	123	135	119	74	59	67	114
Influenza-associated hospitalization	33	37	39	13	79	118	73	77	15	99
Influenza A - novel virus infection	0	1	0	0	0	0	0	0	0	0
LaCrosse virus disease (other California serogroup virus disease)	1	0	0	0	0	1	0	0	0	0
Legionellosis	1	5	4	1	3	3	1	6	6	3
Lyme Disease	4	0	1	6	6	3	10	3	4	0
Meningitis - aseptic/viral	14	5	5	4	1	2	2	1	1	4
Meningitis - bacterial (Not N. meningitidis)	1	2	2	1	10	5	1	1	1	1
Mpox	0	0	0	0	0	0	0	0	0	2
Mumps	1	1	0	2	0	1	1	1	0	0
Pertussis	12	9	4	8	9	6	11	3	1	0
Salmonellosis	17	12	10	14	39	4	11	8	7	9
Shigellosis	2	0	0	0	2	1	1	1	2	0
Spotted Fever Rickettsiosis,including Rocky Mountain spotted fever (RMSF)	0	0	0	0	0	0	1	0	0	0
Streptococcal - Group A -invasive	2	2	1	4	9	3	10	6	1	7
Streptococcal - Group B - in newborn	0	0	1	0	0	0	2	0	0	0
Streptococcus pneumoniae - invasive antibiotic resistant/intermediate	9	7	10	6	15	16	8	7	6	7
Syphilis	0	6	3	4	5	5	10	9	5	16
Toxic shock syndrome (TSS)	0	0	0	0	0	0	1	0	0	0
Tuberculosis	0	0	0	0	0	0	0	0	1	0
Varicella	7	3	8	7	8	3	2	5	1	9
Vibriosis (not cholera)	0	0	0	0	1	0	0	1	0	0
Yersiniosis	0	0	1	0	0	0	1	0	1	1
Total number of cases	524	562	515	539	657	661	684	8019	11948	11959

Source: Ohio Disease Reporting System, Ohio Department of Health

Top Four Communicable Diseases

For a more accurate comparison of the top communicable diseases over the last decade, COVID-19 has been excluded as it is a new and emerging disease that could potentially skew the results. Examining a ten-year period from 2013 to 2022, all four communicable diseases experienced an increase in cases. Chlamydia cases saw a rise of 6.4%, while Hepatitis C chronic cases increased by 44%. Gonorrhea cases exhibited a significant surge of 76%. However, the most notable increase was observed in Influenza-associated hospitalizations, which saw a drastic upsurge of 200%. Overall, these findings highlight the growing prevalence of these communicable diseases over the past decade.



Source: Ohio Disease Reporting System, Ohio Department of Health

Common Reportable Class B Diseases 2022

The table below includes the top 10 common probable and confirmed Class B diseases among Miami County residents, excluding sexually transmitted diseases and COVID-19.

Disease	%	Count
Hepatitis C acute/chronic	38%	116
Influenza-associated hospitalization	33%	99
Campylobacteriosis	6%	18
Salmonellosis	3%	9
Varicella	3%	9
Giardiasis	3%	8
Streptococcus Pneumoniae, invasive	2%	7
Streptococcal Disease, group A, invasive	2%	7
Carbapenamase-producing carbapenem-resistant Enterobacteriaceae	2%	5
Haemophilus influenzae (invasive disease)	2%	5
Other	7%	21
Total	100%	304

Source: Ohio Disease Reporting System, Ohio Department of Health

Top 5 Common Reportable Class B Disease Among Children (0-17 years), Miami County, Ohio

Disease	%	Count
Influenza-associated hospitalization	44%	14
Varicella	25%	8
Campylobacteriosis	9%	3
Meningitis - aseptic/viral	9%	3
E. coli, Shiga Toxin-Producing (O157:H7, Not O157, Unknown Serotype)	3%	1
Other	9%	3
Total Class B Cases	100%	32

Source: Ohio Disease Reporting System, Ohio Department of Health

Top 5 Common Reportable Class B Disease Among Adults (65+) Miami County, Ohio

Disease	%	Count
Influenza-associated hospitalization	54%	54
Hepatitis C (acute/chronic)	20%	20
Campylobacteriosis	6%	6
Giardiasis	4%	4
Streptococcal - Group A -invasive	4%	4
Other	12%	12
Total Class B Cases	100%	100

Source: Ohio Disease Reporting System, Ohio Department of Health

In 2022:

- The top 5 common diseases accounted for most reported class B diseases among children (90%) and adults 65+ years (88%).

- The top 10 common diseases accounted for most (94%) Class B diseases.

Vaccine-Preventable Diseases, 2018-2022 Trend

Vaccine-Preventable diseases are reportable Class B diseases for which an effective preventative vaccine exists. The Table below includes confirmed cases in Miami County from 2018-2022.

Vaccine-Preventable Disease	Cases by Year Onset				
	2018	2019	2020	2021	2022
Hepatitis A	21	16	0	0	1
Hepatitis B (acute/chronic)	14	18	10	5	12
Influenza-associated hospitalization	118	73	77	15	99
Mumps	1	1	1	0	0
Pertussis	6	11	3	1	0
Varicella	3	2	5	1	9
Total	163	121	96	22	121

Source: Ohio Disease Reporting System, Ohio Department of Health
Note: Vaccine-preventable diseases are reportable Class B diseases.

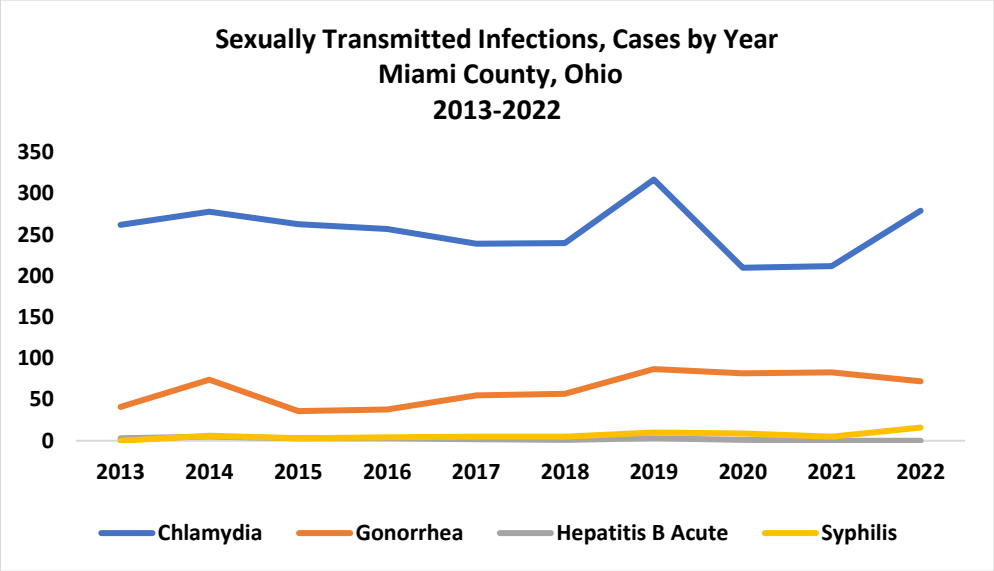
Vaccine-Preventable Disease	2022 Cases	
	Female	Male
Hepatitis A	0	1
Hepatitis B (acute/chronic)	6	6
Influenza-associated hospitalization	47	52
Mumps	0	0
Pertussis	0	0
Varicella	4	5
Total	57	64

Source: Ohio Disease Reporting System, Ohio Department of Health
Note: Counts included all confirmed and probable cases among Miami County in residents with known sex. Vaccine-preventable diseases are reportable Class B diseases.

Sexually Transmitted Infections (STIs)

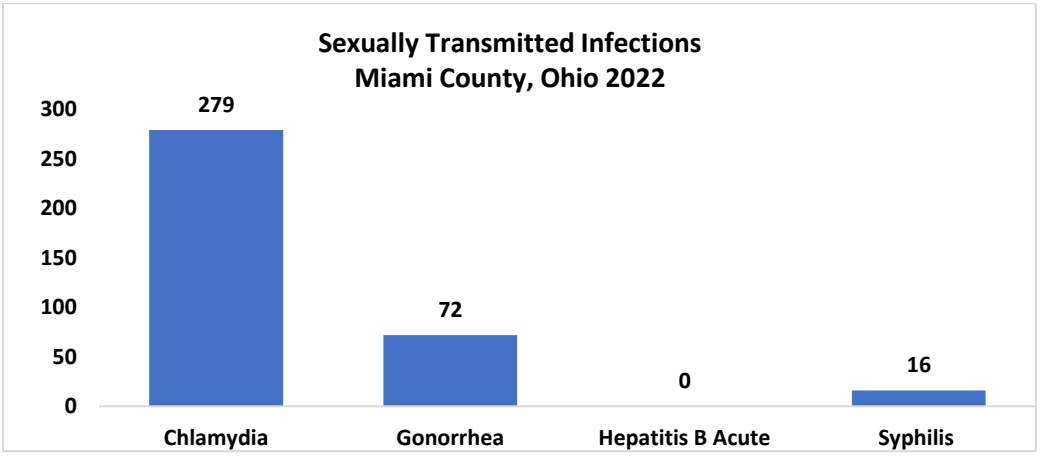
Sexually transmitted infections (STIs) are passed from one person to another through intimate physical contact such as heavy petting and from sexual activity. STIs do not always cause symptoms so it is possible to have an infection and not know it. It is important to get tested if you are having sex.

When used correctly and consistently, condoms offer one of the most effective methods of protection against STIs, including HIV. Although highly effective, condoms do not offer protection for STIs that cause extra-genital ulcers (i.e., syphilis or genital herpes). When possible, condoms should be used in all vaginal, anal, and oral sex.



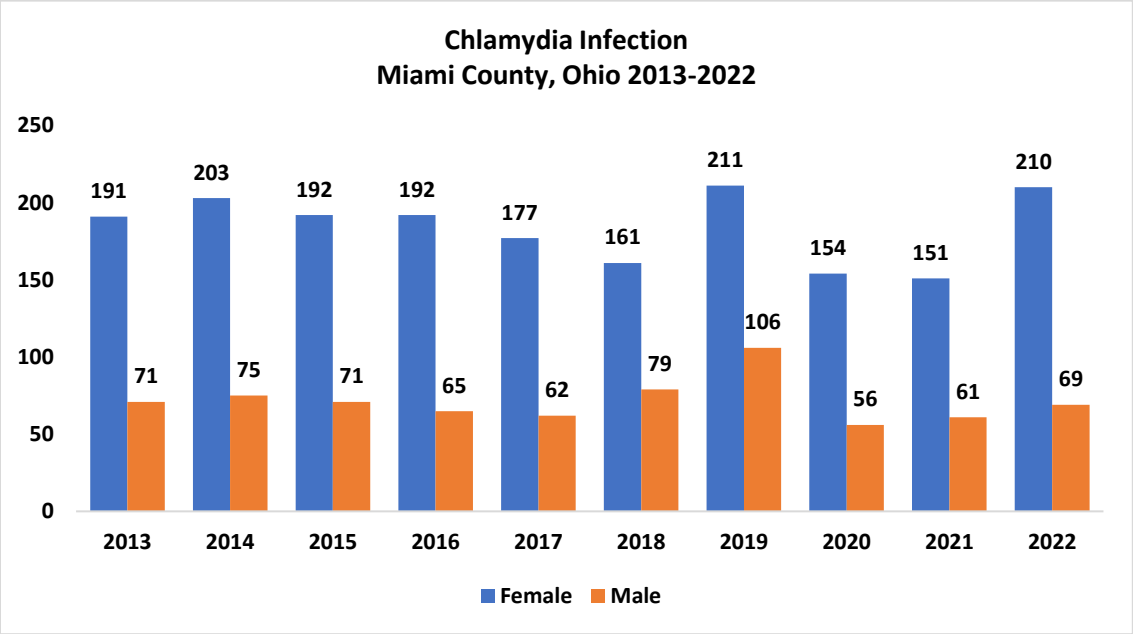
Source: Ohio Disease Reporting System, Ohio Department of Health ps://www.c.stdgeneral/d

Below is a breakdown of sexually transmitted infections (STIs) cases in Miami County in 2022. Chlamydia cases were significantly higher than the other STIs in Miami County. Chlamydia cases made up 43% of all STIs cases in Miami County. While there were no new cases of acute Hepatitis B infections reported in 2022.



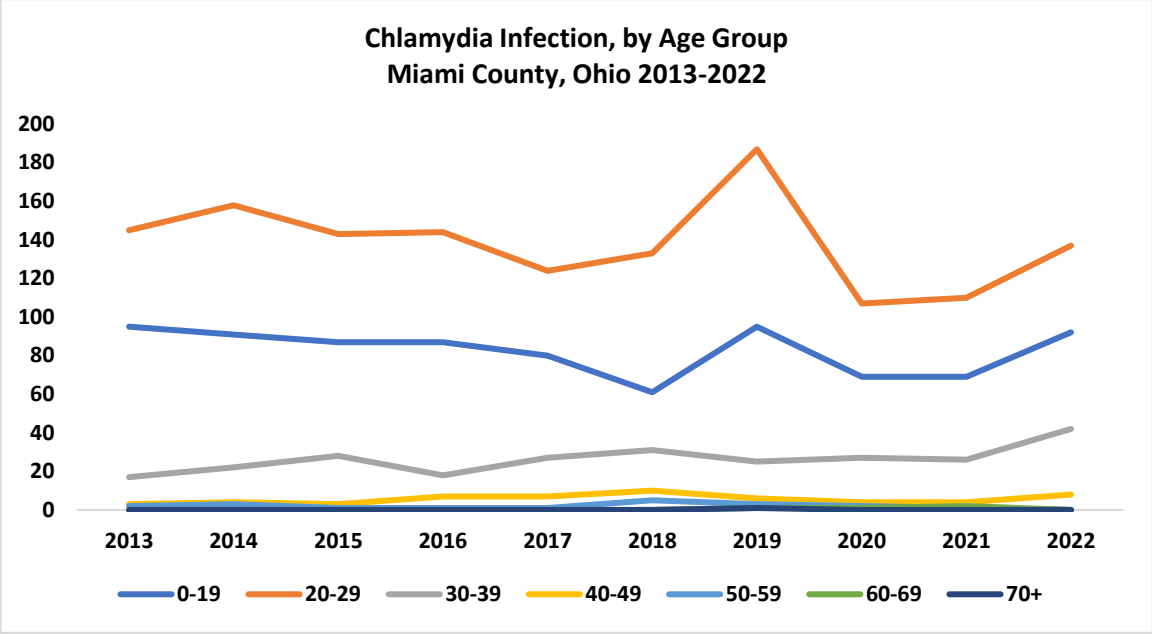
Source: Ohio Disease Reporting System, Ohio Department of Health

In the next graph, we can observe the breakdown of Chlamydia infections by gender over the past ten years. During this period, there has been a consistent increase in Chlamydia infections, particularly among females. In 2020, the year the COVID-19 pandemic began, there was a decrease in reported cases of Chlamydia infections. It is noteworthy that throughout the decade, females consistently had higher case counts compared to males. Over the past ten years, Chlamydia cases in females increased by 9.9%, while cases in males decreased by 2.8%.



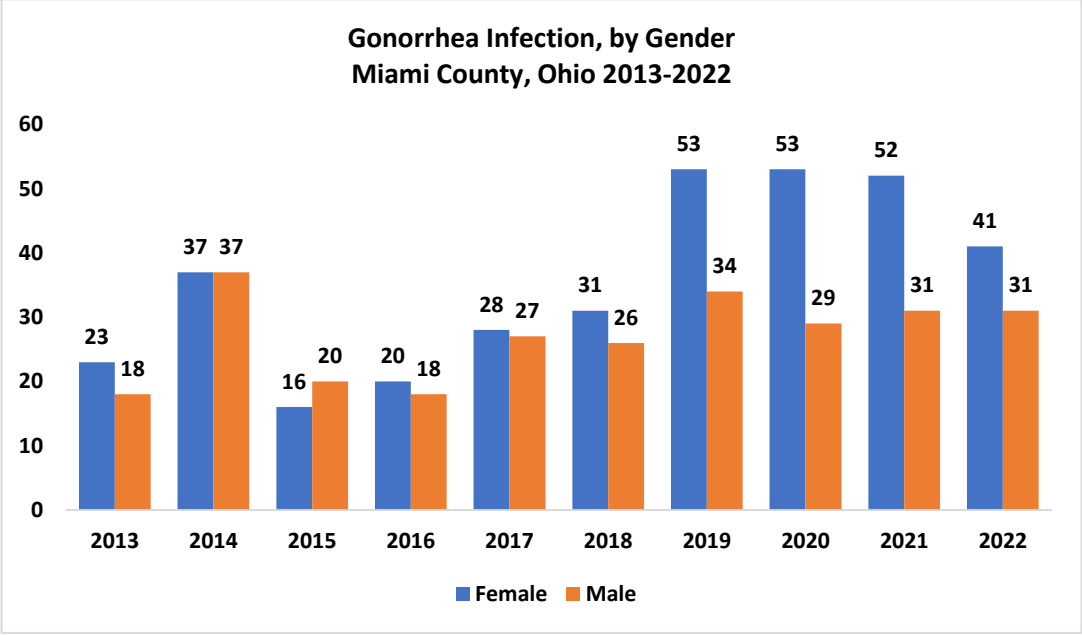
Source: Ohio Disease Reporting System, Ohio Department of Health

In terms of age distribution, it is evident that the 20–29-year-old age group consistently reports the highest number of Chlamydia cases compared to other age groups. In the 20-29 age group, there has been a 5.5% decrease in cases from 2013 to 2022. On the other hand, the 0-19 age group experienced a 3.2% decrease in cases over the span of ten years, although there was an observed increase in cases from 2021 to 2022 within this age group.



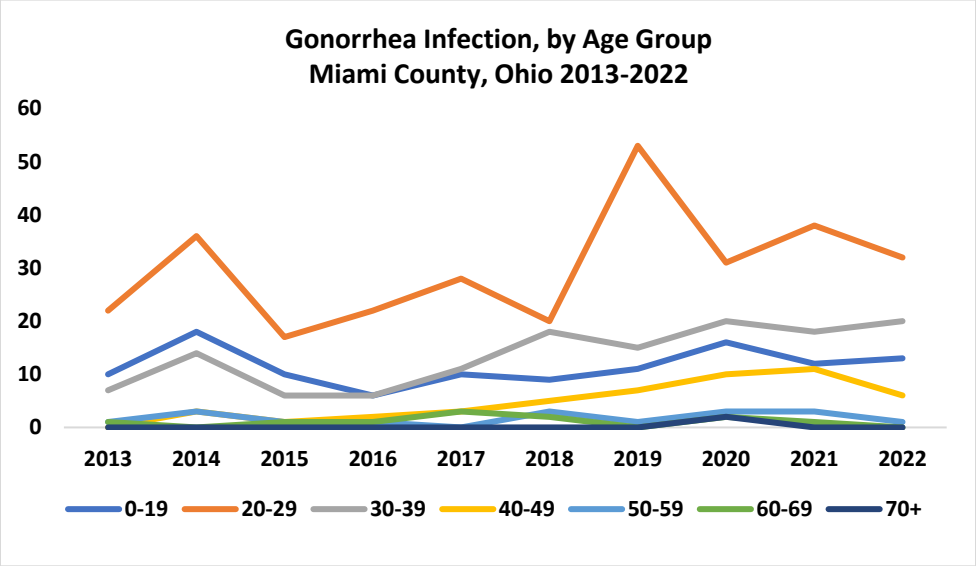
Source: Ohio Disease Reporting System, Ohio Department of Health

The graphs below illustrate the breakdown of Gonorrhea infections by gender. Over a 10-year period, there has been a consistent upward trend in Gonorrhea infections for both genders. Between 2019 and 2021, the number of cases remained relatively stable. However, in 2022, there was a decrease in the number of cases among females. The case count for males exhibited fluctuations between 2019 and 2021 but remained constant in 2022.



Source: Ohio Disease Reporting System, Ohio Department of Health

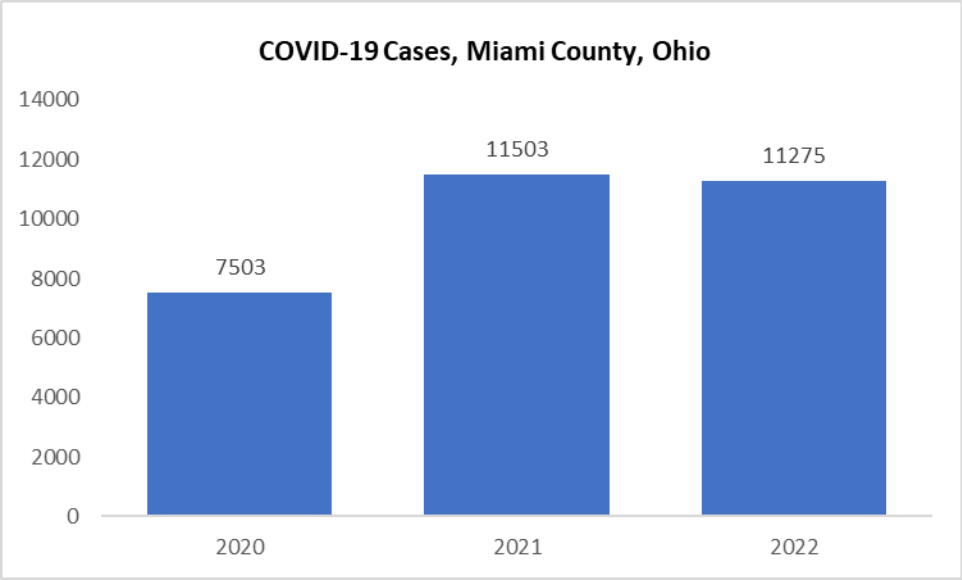
In the 0-19 age group, a noteworthy 30% increase in reported cases of Gonorrhea was observed over a ten-year period. Similarly, the 20-29 age group experienced a substantial 45% increase from 2013 to 2022. However, in 2020, there was a decrease in cases specifically within the 20-29 age group, which can be attributed to the onset of the COVID-19 pandemic. Additionally, the 40-49 age group saw a slight increase in cases in 2020. However, from 2021 to 2022, there was a significant 45% decrease in reported cases within this age group.



Source: Ohio Disease Reporting System, Ohio Department of Health

COVID-19 Pandemic

Coronavirus disease 2019 (COVID-19) is caused by a virus named SARS-CoV-2 that was first identified in Wuhan, China in December 2019. It has been over three years since COVID-19 was first identified, and within those three years, scientists have been able to develop vaccines that help reduce hospitalizations and deaths. There have been numerous variants of COVID-19 in the three-year time span. The first known variant, the Alpha variant, was identified in the United Kingdom in December 2020. The next variant identified was the Beta variant in South Africa. The Delta variant was identified in India in late 2020 and became easily transmissible, causing an increase in hospitalizations and deaths. The Omicron variant was identified in late 2021 in South Africa. The Omicron variant was found to be more transmissible than the Delta variant and presented with similar symptoms to past variants.

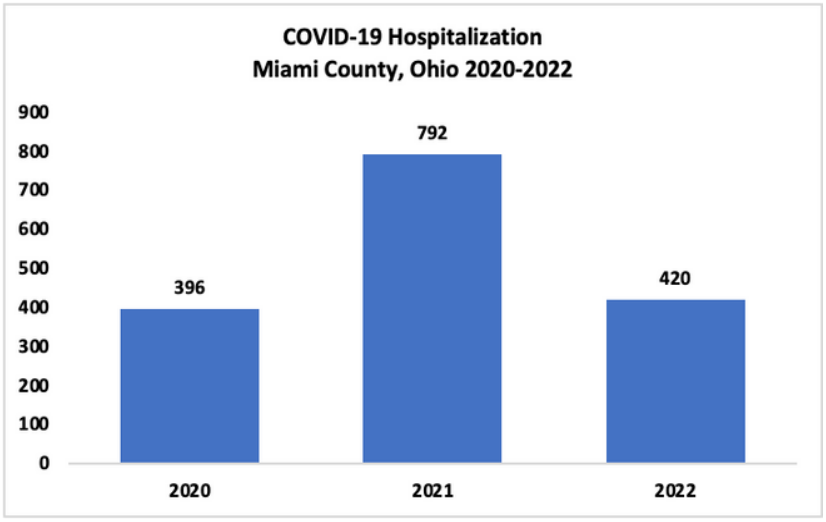


Source: Ohio Disease Reporting System, Ohio Department of Health

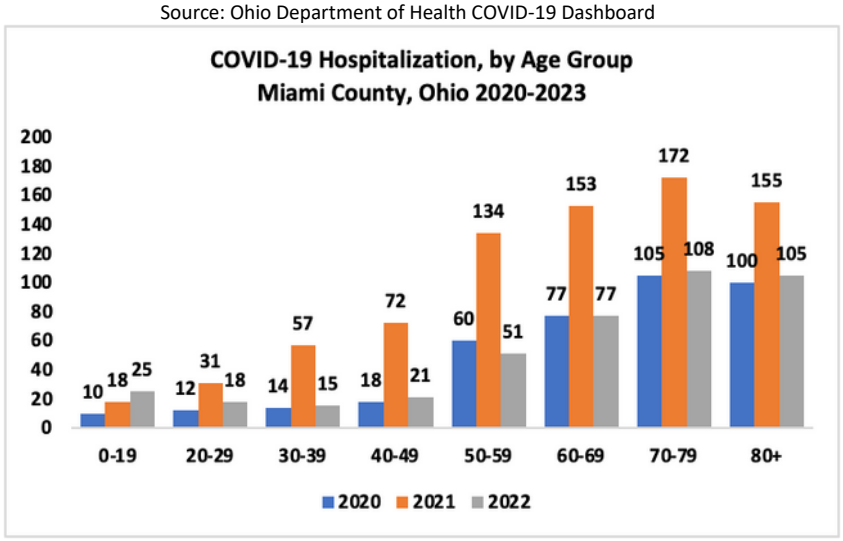
COVID-19 Cases in Miami County

A breakdown of COVID-19 cases over the past three years reveals that hospitalizations reached their peak in 2021 but experienced a significant decline in 2022. During this three-year period, there was an overall increase of 6% in COVID-19 cases. When examining COVID-19 cases by age, individuals over the age of 50 were more susceptible to hospitalizations compared to those under 50. Notably, the highest number of reported hospitalizations occurred in the 70-79 age group consistently throughout all three years.

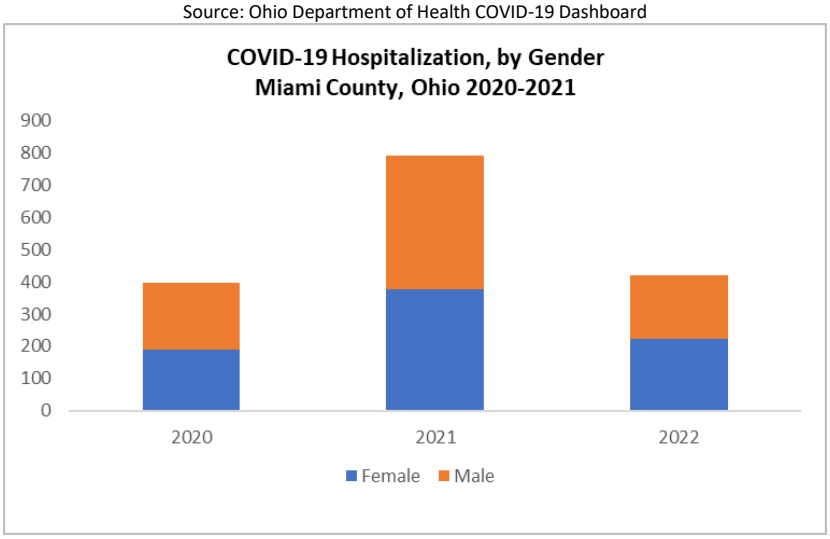
The graphs illustrate that in both 2020 and 2021, males reported a higher number of hospitalizations compared to females. However, a significant shift occurred in 2022, where females accounted for 52% of the reported COVID-19 hospitalization cases.



Source: Ohio Department of Health COVID-19 Dashboard

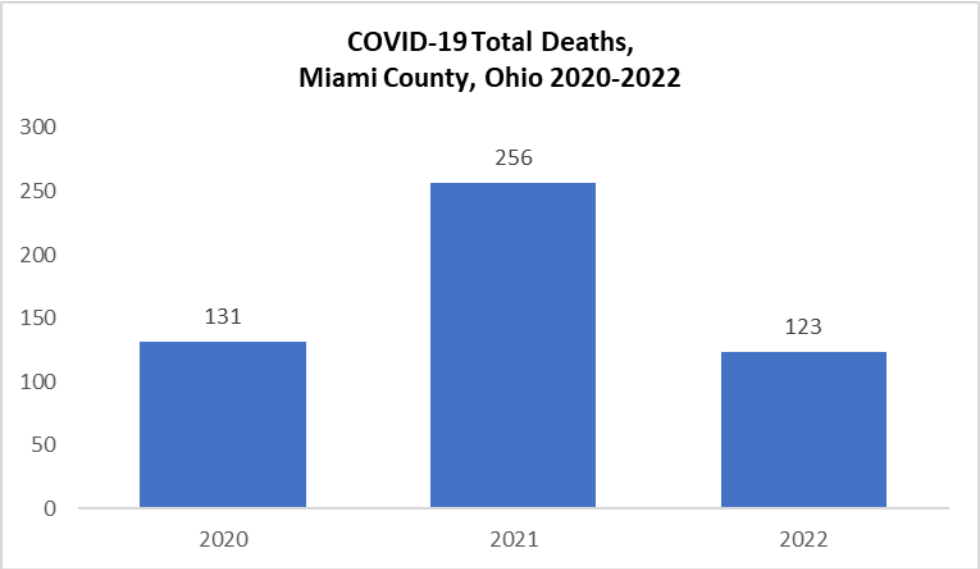


Source: Ohio Department of Health COVID-19 Dashboard



Source: Ohio Department of Health COVID-19 Dashboard

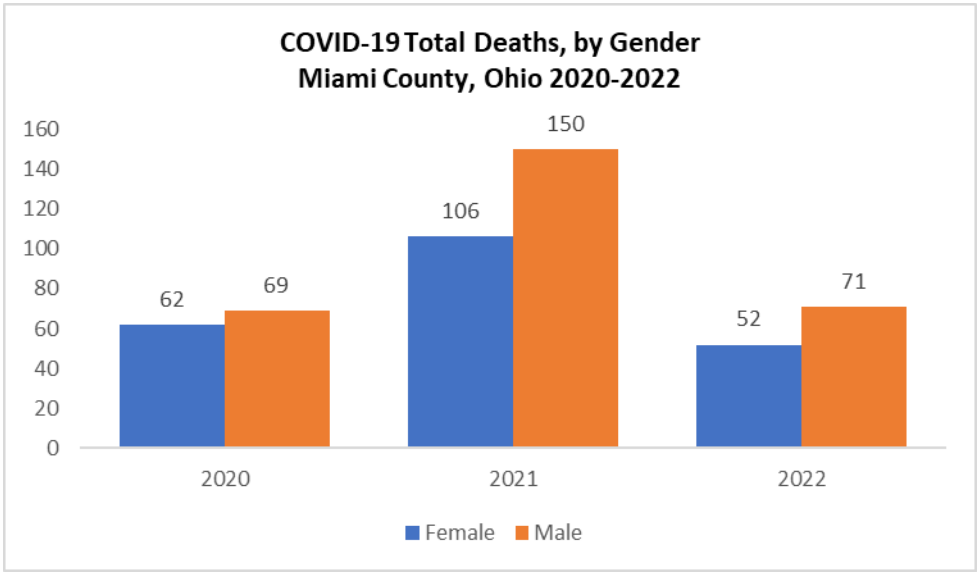
Furthermore, in Miami County, the highest number of COVID-19 deaths was reported in 2021. However, in 2022, the number of deaths decreased significantly, reaching an all-time low since the beginning of the pandemic.



Source: Ohio Department of Health COVID-19 Dashboard

COVID-19 Cases in Miami County

The graph depicts a comparison of COVID-19 deaths in Miami County from 2020 to 2022, categorized by gender. Notably, the data reveals that a higher number of deaths were reported among males compared to females. Specifically, in 2020, males accounted for 53% of all reported COVID-19 cases, whereas in 2022, they constituted 59% of the reported cases.

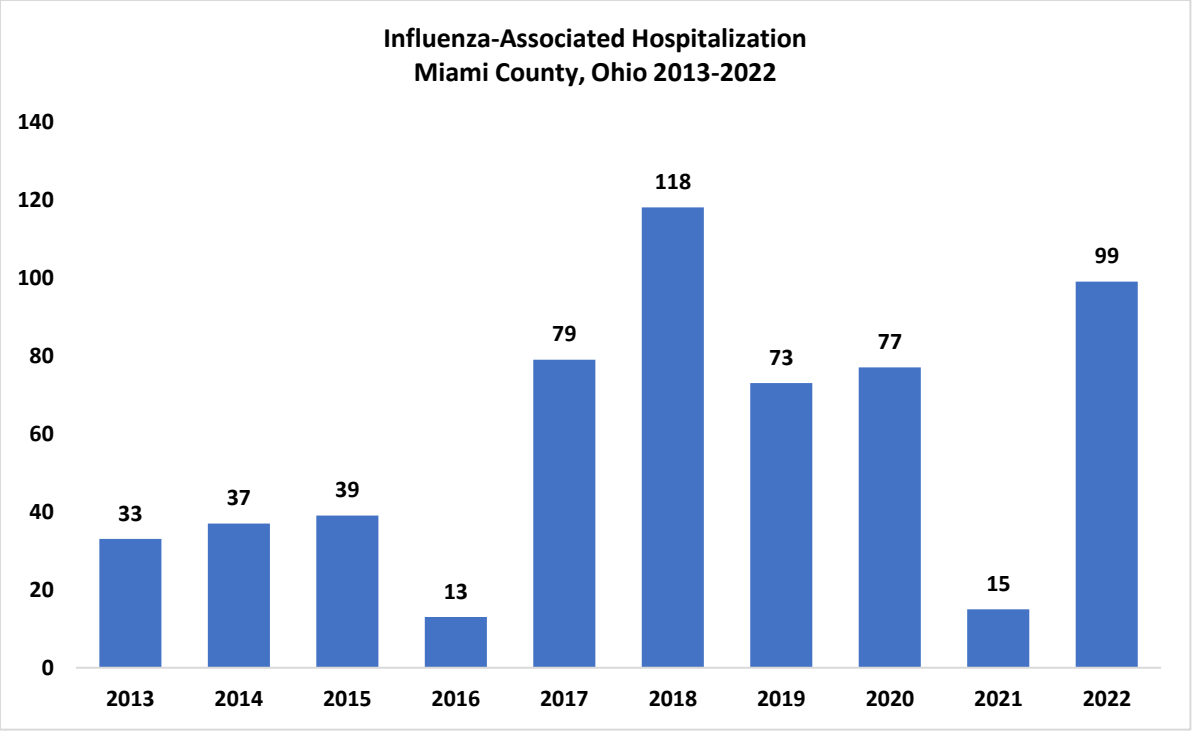


Source: Ohio Department of Health COVID-19 Dashboard

Influenza in Miami County

Influenza (flu) is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness. Serious outcomes of flu infection can result in hospitalization or death. Some demographics, such as geriatric people, young children, and people with underlying conditions, are at elevated risk of serious flu complications. The best way to prevent the flu is getting vaccinated each year.

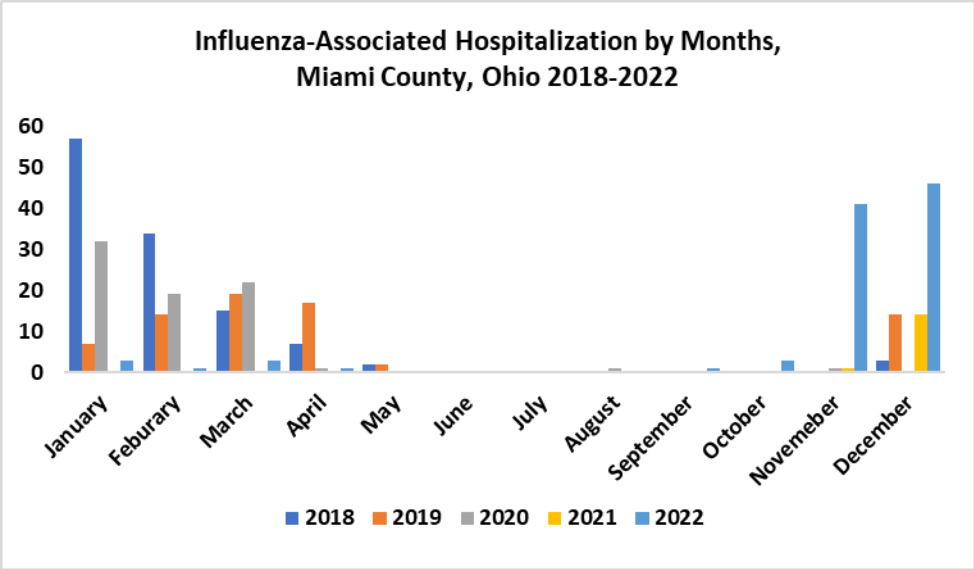
Symptoms for influenza include fever, body aches, headache, malaise, non-productive cough, sore throat, and runny nose. The influenza virus is spread by direct person-to-person contact through droplets.



Source: Ohio Disease Reporting System, Ohio Department of Health

In 2022, we reported 99 cases of hospitalization associated with influenza, which is a significant increase from the previous year when only 15 cases were reported. This increase could potentially be attributed to the COVID-19 pandemic and its impact on healthcare utilization. An unusual high number of flu cases at the end of the year attributed to this increase also. The case count in the year prior to that was the highest since 2018 with 118 cases reported.

In recent years, influenza-associated hospitalizations have been significantly impacted by the COVID-19 pandemic. Notably, January 2020 reported the highest number of cases in the past five years, while there were no reports of cases in December 2020, and very few in December 2021. The decrease in case count during these months can be attributed to the COVID-19 preventive measures that were in place throughout 2020 and 2021. However, in November and December 2022, there was a drastic spike in influenza cases compared to the same period in previous years.



Source: Ohio Disease Reporting System, Ohio Department of Health

Report written by:
Damilola Sopitan, Epidemiologist
Janel Hodges, REHS Lead Epidemiologist