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ANNUAL SUMMARY OF COMMUNICABLE DISEASES: 2022

Tuscarawas County Health Department
Tuscarawas County, Ohio

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Tuscarawas County, Ohio

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DEPARTMENT DESCRIPTION

Tuscarawas County is represented by both a city health department and general health district. The New Philadelphia City Health Department (NPCHD) is responsible for communicable disease investigation and control for those cases residing within the city limits of New Philadelphia. The Tuscarawas County General Health District, dba Tuscarawas County Health Department (TCHD), is responsible for disease investigation and control for all cases outside the City of New Philadelphia but inside the Tuscarawas County lines. This also includes the municipalities of Dover and Uhrichsville.

PERSONNEL

Staff at both agencies work on routine surveillance and outbreak investigations. The key personnel at both agencies responsible for the routine communicable disease surveillance, prevention, and control include:

- Chelsea Martin, BSN, RN, Clinical Coordinator, Tuscarawas County Health Department
- Valerie Wallace, BSN, RN, Public Health Nurse, Tuscarawas County Health Department
- Jordan McCartney, RN, Public Health Nurse, Tuscarawas County Health Department
- Amy Kaser, RN, Director of Nursing, Tuscarawas County Health Department
- Katie Seward, MPH, CHES, Health Commissioner, Tuscarawas County Health Department
- Natasha Yonley, MPH, CPH, CHES, Epidemiologist, Tuscarawas County Health Department
- Nichole Bache, RN, Director of Nursing, New Philadelphia City Health Department
- Vickie Ionno, RN, Health Commissioner, New Philadelphia City Health Department
- Maegan Cummings, RN, New Philadelphia City Health Department

INTRODUCTION

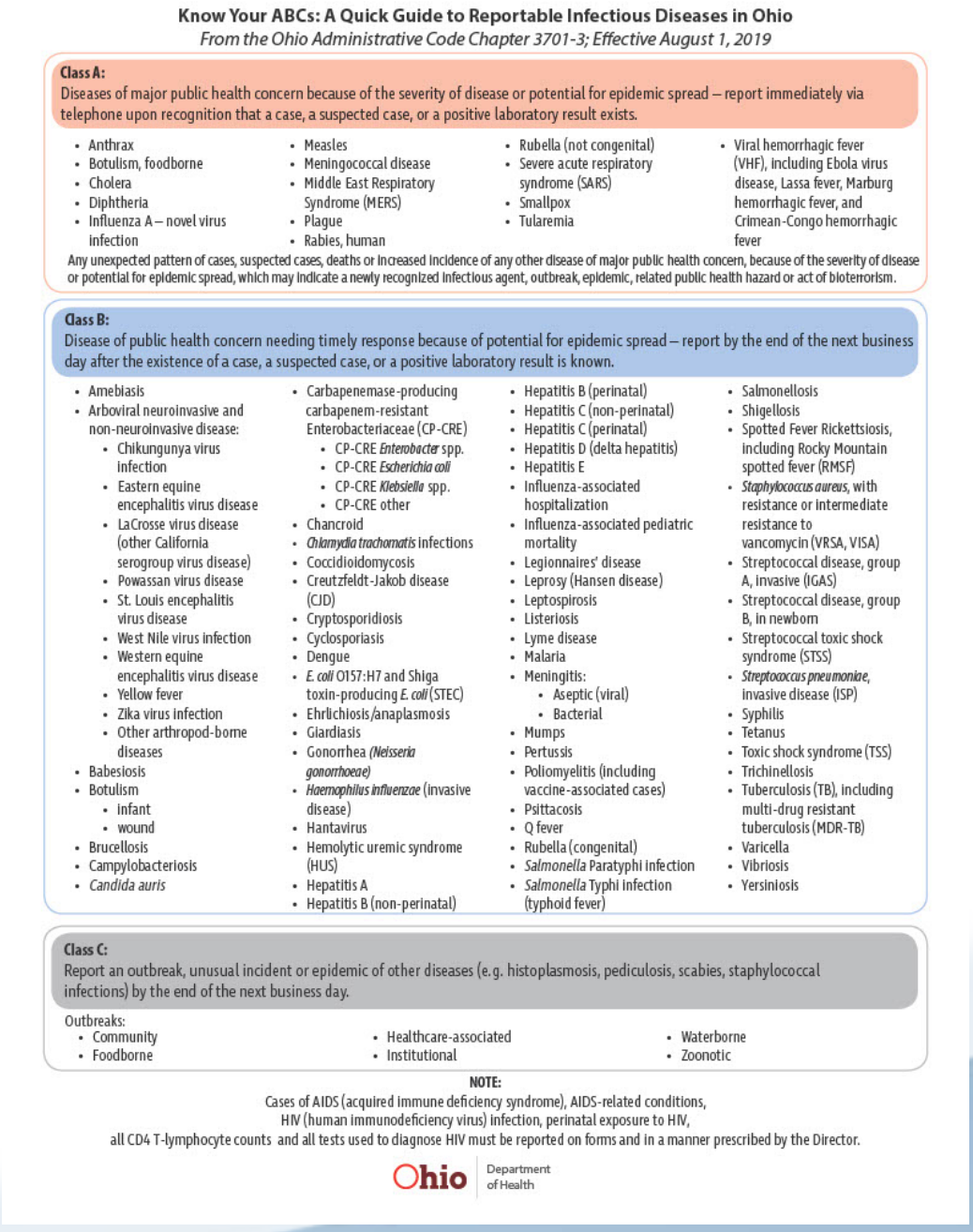
This report summarizes communicable diseases reported to the Tuscarawas County Health Department (TCHD) and the New Philadelphia City Health Department (NPCHD), collectively throughout this report as Tuscarawas County, in 2022. Communicable diseases (also called “infectious diseases”) are illnesses caused by bacteria, viruses, and parasites (also called “microorganisms”), and are transmitted from an infected person or animal to another. The route of transmission varies by disease; however, it may include contact with contaminated objects, direct contact with contaminated body fluids (e.g., blood) or respiratory secretions, the bite of an animal or vector (e.g., insect) carrying the microorganism, inhalation of contaminated airborne particles, or ingestion of contaminated food or water. The Annual Summary of Communicable Diseases 2021 includes cases of reportable diseases that were reported among residents of Tuscarawas County, reported to public health, and found to meet the public health surveillance definition of a confirmed, probable, or suspected case. This data does not represent all cases of reportable infectious disease that occurred in the community, as individuals may not seek medical care for mild or asymptomatic infections, or laboratory confirmation tested is not always conducted. Data contained in this summary is considered provisional.

Ohio Administrative Code 3701-3-02 reads, “cases and suspected cases of selected infectious diseases are required to be reported to Ohio and local public health agencies.” TCHD and NPCHD have been reporting, tracking, and investigating infectious disease cases through the Ohio Disease Reporting System (ODRS). Many of these diseases must also be reported by the Ohio Department of Health (ODH) to the Centers for Disease Control and Prevention (CDC) as part of national public

health surveillance of infectious diseases. Please note that data in tables 2a-2f are grouped by *type* of disease. The 2021 data does contain confirmed and probable cases. Starting in 2022, only ***Confirmed*** cases will be reported for communicable disease except for Lyme Disease. Since not all laboratory testing is completed to confirm a case of Lyme Disease, many are left as suspected cases. As a reminder this data is accurate as of February 28, 2022; as cases are finalized, results may fluctuate.

This document is intended to be a resource for individuals and public health partners concerned about infectious diseases in Tuscarawas County. Further information on communicable diseases may be obtained by contacting the Tuscarawas County Health Department.

Ohio Reportable Diseases[3]



Know Your ABCs: A Quick Guide to Reportable Infectious Diseases in Ohio

From the Ohio Administrative Code Chapter 3701-3; Effective August 1, 2019

Class A:
Diseases of major public health concern because of the severity of disease or potential for epidemic spread – report immediately via telephone upon recognition that a case, a suspected case, or a positive laboratory result exists.

- Anthrax
- Botulism, foodborne
- Cholera
- Diphtheria
- Influenza A – novel virus infection
- Measles
- Meningococcal disease
- Middle East Respiratory Syndrome (MERS)
- Plague
- Rabies, human
- Rubella (not congenital)
- Severe acute respiratory syndrome (SARS)
- Smallpox
- Tularemia
- Viral hemorrhagic fever (VHF), including Ebola virus disease, Lassa fever, Marburg hemorrhagic fever, and Crimean-Congo hemorrhagic fever

Any unexpected pattern of cases, suspected cases, deaths or increased incidence of any other disease of major public health concern, because of the severity of disease or potential for epidemic spread, which may indicate a newly recognized infectious agent, outbreak, epidemic, related public health hazard or act of bioterrorism.

Class B:
Disease of public health concern needing timely response because of potential for epidemic spread – report by the end of the next business day after the existence of a case, a suspected case, or a positive laboratory result is known.

- Amebiasis
- Arboviral neuroinvasive and non-neuroinvasive disease:
  - Chikungunya virus infection
  - Eastern equine encephalitis virus disease
  - LaCrosse virus disease (other California serogroup virus disease)
  - Powassan virus disease
  - St. Louis encephalitis virus disease
  - West Nile virus infection
  - Western equine encephalitis virus disease
  - Yellow fever
  - Zika virus infection
  - Other arthropod-borne diseases
- Babesiosis
- Botulism
  - Infant
  - wound
- Brucellosis
- Campylobacteriosis
- *Candida auris*
- Carbapenemase-producing carbapenem-resistant Enterobacteriaceae (CP-CRE)
  - CP-CRE *Enterobacter* spp.
  - CP-CRE *Escherichia coli*
  - CP-CRE *Klebsiella* spp.
  - CP-CRE other
- Chancroid
- *Chlamydia trachomatis* infections
- Coccidioidomycosis
- Creutzfeldt-Jakob disease (CJD)
- Cryptosporidiosis
- Cyclosporiasis
- Dengue
- *E. coli* O157:H7 and Shiga toxin-producing *E. coli* (STEC)
- Ehrlichiosis/anaplasmosis
- Giardiasis
- Gonorrhea *(Neisseria gonorrhoeae)*
- *Haemophilus influenzae* (invasive disease)
- Hantavirus
- Hemolytic uremic syndrome (HUS)
- Hepatitis A
- Hepatitis B (non-perinatal)
- Hepatitis B (perinatal)
- Hepatitis C (non-perinatal)
- Hepatitis C (perinatal)
- Hepatitis D (delta hepatitis)
- Hepatitis E
- Influenza-associated hospitalization
- Influenza-associated pediatric mortality
- Legionnaires' disease
- Leprosy (Hansen disease)
- Leptospirosis
- Listeriosis
- Lyme disease
- Malaria
- Meningitis:
  - Aseptic (viral)
  - Bacterial
- Mumps
- Pertussis
- Poliomyelitis (including vaccine-associated cases)
- Psittacosis
- Q fever
- Rubella (congenital)
- *Salmonella* Paratyphi infection
- *Salmonella* Typhi infection (typhoid fever)
- Salmonellosis
- Shigellosis
- Spotted Fever Rickettsiosis, including Rocky Mountain spotted fever (RMSF)
- *Staphylococcus aureus*, with resistance or intermediate resistance to vancomycin (VRSA, VISA)
- Streptococcal disease, group A, invasive (IGAS)
- Streptococcal disease, group B, in newborn
- Streptococcal toxic shock syndrome (STSS)
- *Streptococcus pneumoniae*, invasive disease (ISP)
- Syphilis
- Tetanus
- Toxic shock syndrome (TSS)
- Trichinellosis
- Tuberculosis (TB), including multi-drug resistant tuberculosis (MDR-TB)
- Varicella
- Vibriosis
- Yersiniosis

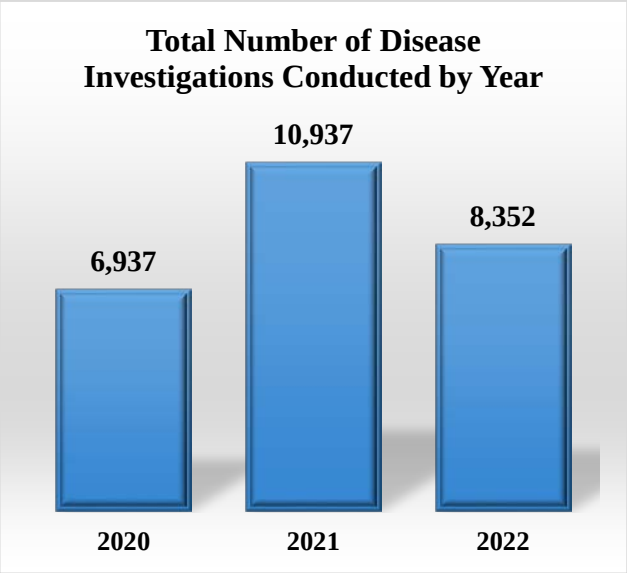
Class C:
Report an outbreak, unusual incident or epidemic of other diseases (e.g. histoplasmosis, pediculosis, scabies, staphylococcal infections) by the end of the next business day.

Outbreaks:
- Community
- Foodborne
- Healthcare-associated
- Institutional
- Waterborne
- Zoonotic

NOTE:
Cases of AIDS (acquired immune deficiency syndrome), AIDS-related conditions, HIV (human immunodeficiency virus) infection, perinatal exposure to HIV, all CD4 T-lymphocyte counts and all tests used to diagnose HIV must be reported on forms and in a manner prescribed by the Director.

Ohio Department of Health

KEY FINDINGS



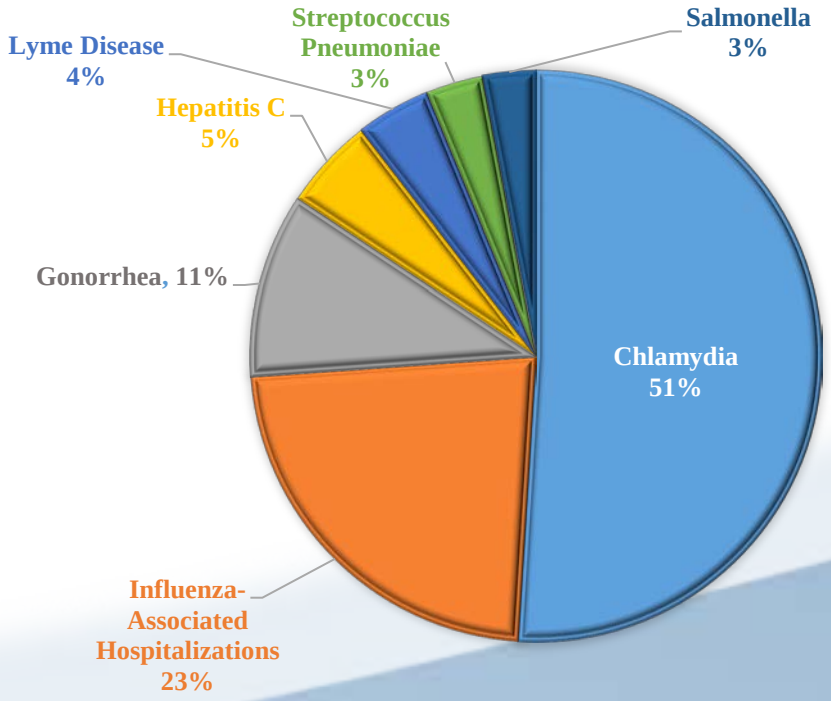
In 2022, there were 8,352 disease investigations completed between the New Philadelphia City Health Department (NPCHD) and the Tuscarawas County Health Department (TCHD). This is a 23.6% decrease from 2021 to 2022. The decrease in communicable disease from 2021 to 2022 was most likely due to decreased in the reported cases of COVID-19.

The chart shows all confirmed, probable, and suspected cases that were reported to Tuscarawas County.

Numbers are subject to change due to delayed laboratory reporting or jurisdictional changes after diagnosis.

Most Reported Confirmed Diseases [Ten (10) or more cases], (excluding COVID-19), All Ages, Tuscarawas County, 2022

Reportable Disease	Number of Cases	Case Rate per 100,000 population
Chlamydia	205	219.8
Influenza-Associated Hospitalizations	92	98.6
Gonorrhea	42	45.0
Hepatitis C (acute and chronic)	21	22.5
Lyme Disease	17	18.2
Streptococcus Pneumoniae	13	13.9
Salmonella	12	12.9



DEMOGRAPHIC PROFILE OF TUSCARAWAS COUNTY

Tuscarawas County Population, 2023[1]

- The demographic profile of Tuscarawas County is described in the following tables.
- Tuscarawas County is served by two local health departments:
    - New Philadelphia City Health Department serves a population of 17,288*.
    - Tuscarawas County Health Department serves a population of 75,448*.

**According to data taken from Ohio Department of Health's Profile and Performance database*

Table 1a: Tuscarawas County Population by Gender, 2021[2]

Gender	2020	
	Population	Percent (%)
Male	46,188	49.9
Female	46,312	50.1
Total	92,500	100

Table 1b: Tuscarawas County Population by Race and Ethnicity, 2020[1]

Race	2020	
	Population	Percent (%)
White	85,679	91.9
Black or African American	724	0.8
American Indian and Alaska Native	967	1.0
Asian Alone	306	0.3
Native Hawaiian and Other Pacific Islander	29	<0.1
Other race	1,737	1.9
Two or More Races	3,831	4.1
Total	93,273	100

Table 1c: Tuscarawas County Population by Age Group, 2021[2]

Age (Years)	2020	
	Population	Percent (%)
Persons 4 and under	4,931	5.3
Persons 5 to 24	23,246	25.1
Persons between 25 and 64	45,953	49.7
Persons 65 and over	18,370	19.9
Total	92,500	100

COUNTS AND RATE OF CONFIRMED COMMUNICABLE DISEASE

Table 2a: Counts and Rate of Enteric Reportable Diseases among Tuscarawas County Residents, by Jurisdiction, 2021-2022

† = Rate per 100,000 population *= reporting time to local health department (A= immediately, B=by end of next business day)

Enteric Diseases					
Tuscarawas County (Entire County)					
Disease Name	Class*	2021		2022	
		# of Cases	Case Rate†	# of Cases	Case Rate†
Campylobacteriosis	B	16	17.2	2	2.1
Cryptosporidiosis	B	16	17.2	4	4.3
Cyclosporiasis	B	1	1.1	0	0
E. coli	B	5	5.4	0	0
Giardiasis	B	0	0	4	4.3
Hepatitis A	B	1	1.1	0	0
Salmonellosis	B	5	5.4	12	12.9
Shigellosis	B	1	1.1	0	0
Yersiniosis	B	3	3.2	3	3.2

Table 2b: Counts and Rate of Reportable Hepatitis among Tuscarawas County Residents, by Jurisdiction, 2021-2022

† = Rate per 100,000 population *= reporting time to local health department (A= immediately, B=by end of next business day)

Hepatitis					
Tuscarawas County (Entire County)					
Disease Name	Class*	2021		2022	
		# of Cases	Case Rate†	# of Cases	Case Rate†
Hepatitis B, perinatal	B	0	0.0	0	0
Hepatitis B, non-perinatal (acute and chronic)	B	7	7.5	2	2.1
Hepatitis C (acute and chronic)	B	53	56.8	21	22.5

Table 2c: Counts and Rate of Reportable Sexually Transmitted Diseases among Tuscarawas County Residents, by Jurisdiction, 2021-2022

† = Rate per 100,000 population *= reporting time to local health department (A= immediately, B=by end of next business day)

Sexually Transmitted Diseases *(Also can be referred to as Sexually Transmitted Infections/STIs)*					
Tuscarawas County (Entire County)					
Disease Name	Class*	2021		2022	
		# of Cases	Case Rate†	# of Cases	Case Rate†
Chlamydia trachomatis infections	B	292	313.1	205	219.8
Gonorrhea (*Neisseria gonorrhoeae*)	B	59	63.3	42	45.0

Table 2d: Counts and Rate of Reportable Vaccine-Preventable Diseases among Tuscarawas County Residents, by Jurisdiction, 2021-2022

† = Rate per 100,000 population *= reporting time to local health department (A= immediately, B=by end of next business day)

Vaccine-Preventable Diseases					
Tuscarawas County (Entire County)					
Disease Name	Class*	2021		2022	
		# of Cases	Case Rate†	# of Cases	Case Rate†
Haemophilus influenza, invasive	B	1	1.1	3	3.2
Influenza-associated hospitalization	B	1	1.1	92	98.6
Measles	A	0	0	0	0
Mumps	A	0	0	0	0
Pertussis	B	1	1.1	4	4.3
Varicella	B	2	2.1	3	3.2

Table 2e: Counts and Rate of Reportable Vector-borne and Zoonotic Diseases among Tuscarawas County Residents, by Jurisdiction, 2021-2022

† = Rate per 100,000 population, *= reporting time to local health department (A= immediately, B=by end of next business day)

Vector-borne and Zoonotic Diseases					
Tuscarawas County (Entire County)					
Disease Name	Class*	2021		2022	
		# of Cases	Case Rate†	# of Cases	Case Rate†
Babesiosis	B	0	0	0	0
Brucellosis	B	0	0	0	0
Dengue	B	1	1.1	0	0
La Cross virus	B	1	1.1	1	1.1
Lyme disease	B	39	41.8	17	18.2
Lyme disease, *suspect*	B	140	150.1	145	155.5
Q Fever	B	0	0	0	0
Rabies, animal	B	0	0	0	0
Spotted fever rickettsiosis (including RMSF)	B	0	0	0	0
West Nile Virus	B	0	0	0	0

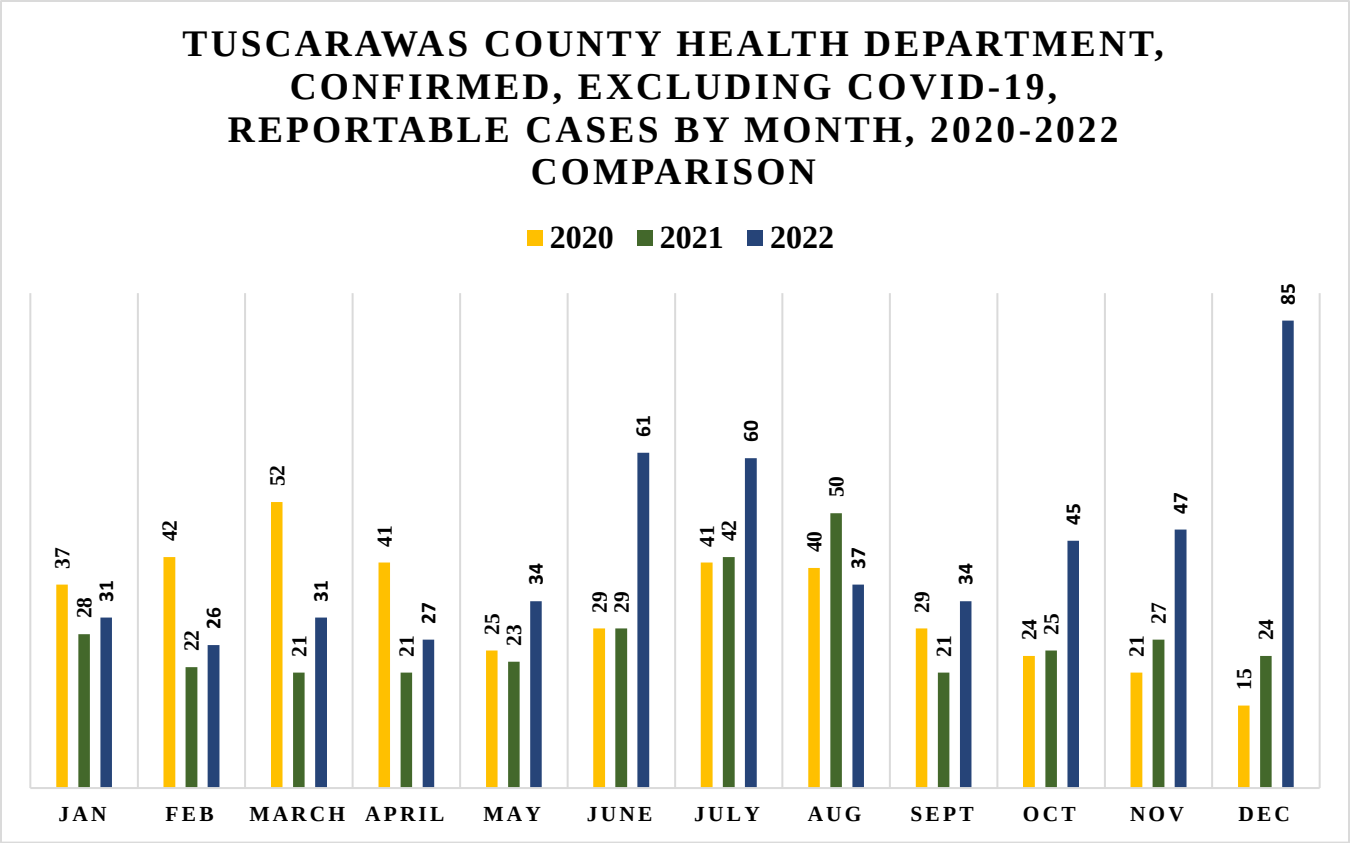
Table 2f: Counts and Rate of Other Reportable Diseases (excluding COVID-19) among Tuscarawas County Residents, by Jurisdiction, 2021-2022

† = Rate per 100,000 population, *= reporting time to local health department (A= immediately, B=by end of next business day)

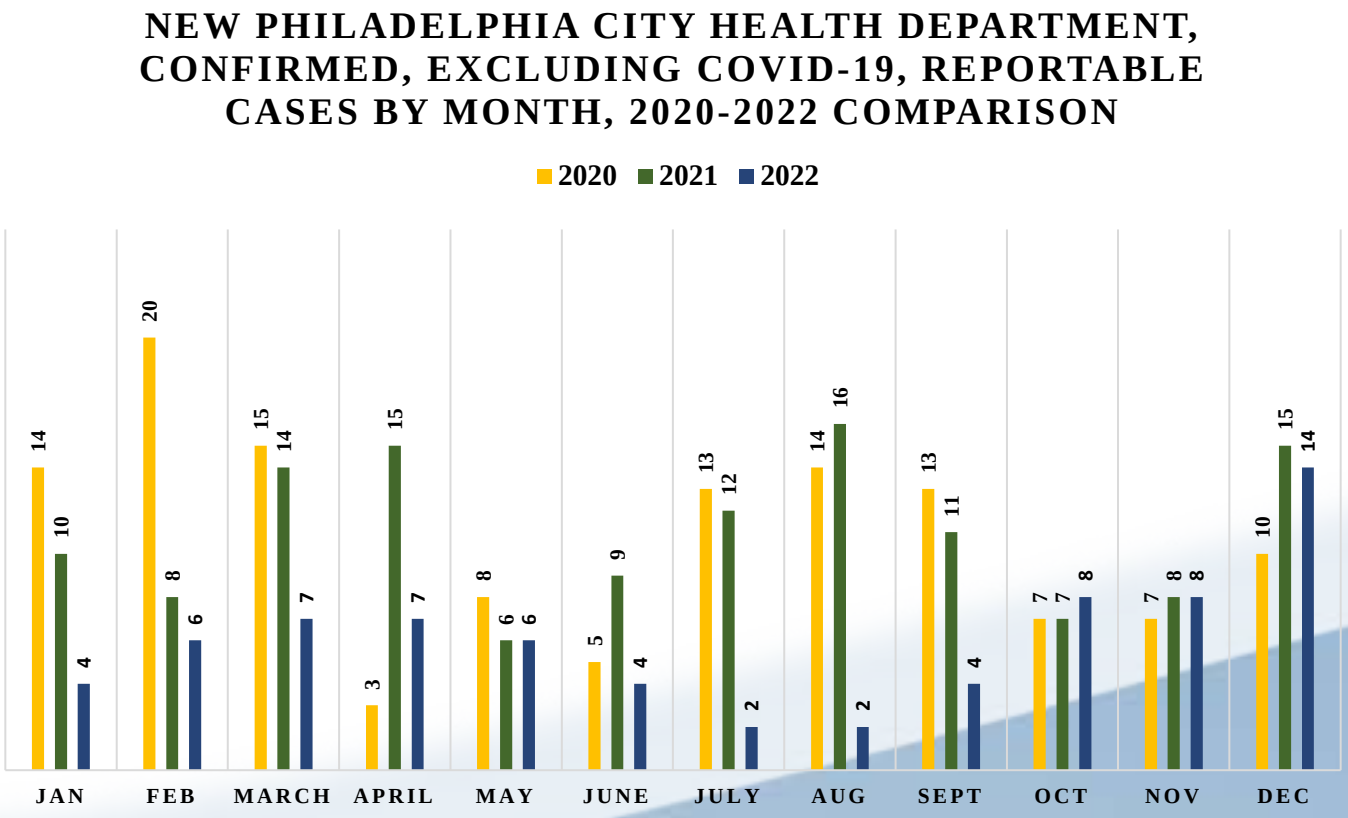
Other Reportable Diseases					
Tuscarawas County (Entire County)					
Disease Name	Class*	2021		2022	
		# of Cases	Case Rate†	# of Cases	Case Rate†
CP-CRE	B	1	1.1	2	2.1
Legionnaires' disease	B	7	7.5	1	1.1
Meningitis, aseptic (viral)	B	3	3.2	5	5.4
Meningitis, bacterial	B	2	2.1	0	0
Multisystem Inflammatory Syndrome in Children (MIS-C)	A	3	3.2	0	0
Streptococcal disease, group A, invasive (IGAS)	B	2	2.1	9	9.7
Streptococcal disease, group B, in newborn	B	0	0	0	0
Streptococcus pneumoniae, invasive disease (ISP)	B	9	9.7	13	13.9
Tuberculosis (TB), including multi-drug resistant TB (MDR-TB)	B	2	2.1	0	0

All COVID-19 Data can be found on pages 14-17 of this document.

Graph 1: Reportable Communicable Disease by Month, Tuscarawas County, Ohio, 2020-2022



Graph 2: Reportable Communicable Disease by Month, New Philadelphia, Ohio, 2020-2022



INFECTIOUS DISEASE OUTBREAKS IN TUSCARAWAS COUNTY

Table 3: Number of Confirmed Outbreaks* Reported by Year, Tuscarawas County, 2019-2022

*This does include COVID-19 outbreaks as they were opened.

Year:	2020	2021	2022
Cluster	7	2	
Community	13	9	
Foodborne			
Healthcare-Associated	7	4	**2**
Institutional	11	19	**3**
Unspecified (Class A)			
Unusual Incidence			
Waterborne			
Zoonotic			
Other	4		
Year Total	**42***	**34***	**5**

OUTBREAK DEFINITIONS[3]

Community: Two or more cases of similar illness with a common exposure in the community and not considered a foodborne, waterborne, zoonotic, healthcare-associated, or institutional disease outbreak.

Foodborne: The occurrence of 2 or more cases of a similar illness resulting from the ingestion of a common food.

Healthcare-Associated: The occurrence of cases of an illness above the expected or baseline level, usually over a given period of time, as a result of being in a healthcare facility or receiving healthcare-associated products or procedures. The number of cases indicating the presence of an outbreak will vary per the disease agent, size and type of population exposed, previous exposure to the agent, and the time and place of occurrence.

Institutional: Two or more cases of similar illness with a common exposure at an institution (e.g., correctional facility, day care center, group home, school, assisted-living facility) and not considered a foodborne or waterborne disease outbreak.

Unspecified (Class A reporting): Any unexpected pattern of cases, suspected cases, deaths, or increased incidence of any other disease of major public health concern which, because of the severity of disease or potential for epidemic spread, may indicate a newly recognized infectious agent, outbreak, epidemic, related public health hazard, or act of bioterrorism.

Unusual Incidence: Two or more cases of infectious disease that can be connected by person, place, and time, and do not meet the criteria for another type of outbreak.

Waterborne: Waterborne disease outbreaks are divided into two categories, depending on the type of water implicated in the outbreak. Outbreaks associated with water (excluding recreational water) must meet two criteria: first, two or more persons must be epidemiologically linked by location of exposure to water, by time, and characteristics of illness; Second, the epidemiologic evidence must implicate water as the probable source of illness. Outbreaks associated with recreational water must also meet two criteria: First, two or more persons must be epidemiologically linked by the location of the exposure to recreational water, time, and illness. Recreational water settings include swimming pools, wading pools, spas, waterslides, interactive fountains, wet decks, and fresh and marine bodies of water. Second, the epidemiologic evidence must implicate water or volatilization of water-associated compounds into the air surrounding an aquatic facility as the probable source of the illness.

Zoonotic: Occurs when two or more cases of similar illness after exposure to the same animal or the same or similar species of animals and epidemiologic evidence implicating animals as the probable source of illness.

TIMELINESS OF DISEASE REPORTING

A key part of good public health practice is timeliness of disease reporting.[4] Requirements for each reportable disease vary based on the communicability and severity of the disease as to when they should be reported.

Using Ohio Disease Reporting Systems (ODRS), it is possible to query the date when a healthcare provider diagnosed an illness, onset date, and the date when the local health department received notification. Table 4 lists selected diseases and the corresponding median and mean numbers of days between healthcare provider diagnosis and reporting to the local health department. The reporting lag time is the difference between the date a case was reported to the local health department (LHD) and the case's diagnosis date. If the diagnosis date is blank, ODRS is defaulted to the date fields in the following order: lab specimen collection date, lab result date, onset date, date reported to ODH, or created date. For class A diseases (immediately reported), mean and median lag time values should be less than one (1). For class B diseases, the lag time values should be less than two (2).

Table 4: Reporting Lag Time for Selected Reportable Diseases, Tuscarawas County, 2022

Reportable Condition	Reporting Requirement	# of Cases	Mean (Days)	Median (Days)	% of Cases Missing Diagnosis Date
E. coli	By end of next business day	0	N/A	N/A	N/A
Hepatitis A	By end of next business day	0	N/A	N/A	N/A
Listeriosis	By end of next business day	0	N/A	N/A	N/A
Measles	Immediately	0	N/A	N/A	N/A
Meningococcal disease - Neisseria meningitidis	Immediately	0	N/A	N/A	N/A
Mumps	By end of next business day	0	N/A	N/A	N/A
Pertussis	**By end of next business day**	**4**	**3.25**	**2.5**	**0**
Rubella	By end of next business day	0	N/A	N/A	N/A
Salmonellosis	**By end of next business day**	**12**	**4.5**	**3.5**	**91.7**
Vibrio	By end of next business day	0	N/A	N/A	N/A

In 2022, there were zero (0) reported class A disease, of the diseases listed above, which must be reported immediately to the local health department. Out of the class B diseases listed above, one (1), *Salmonella*, did not meet the goal for reporting lag time. Delays in lag time can be attributed to the cases being mailed or faxed and arriving over the weekend or holidays. Also, some cases are sent to other counties, and they then send them to the correct Tuscarawas County jurisdiction.

DISEASE SPOTLIGHT: Salmonellosis

Confirmed Cases in Tuscarawas County

	2021	2022	Healthy People 2030 Target[5]
Number of Cases	5	12	11.5
Rate (per 100,000 pop.)	5.4	12.9	

Image from:
https://phil.cdc.gov/Details.aspx?pid=18134 [9]

EPIDEMIOLOGY:[6,7,8]

Infectious agents: *Salmonella* serotype Typhimurium and *Salmonella* serotype Enteritidis

Case Definition: An illness of variable severity commonly manifested by diarrhea, abdominal pain, nausea, and sometimes vomiting. Asymptomatic infections may occur, and the organism may cause extraintestinal infections.

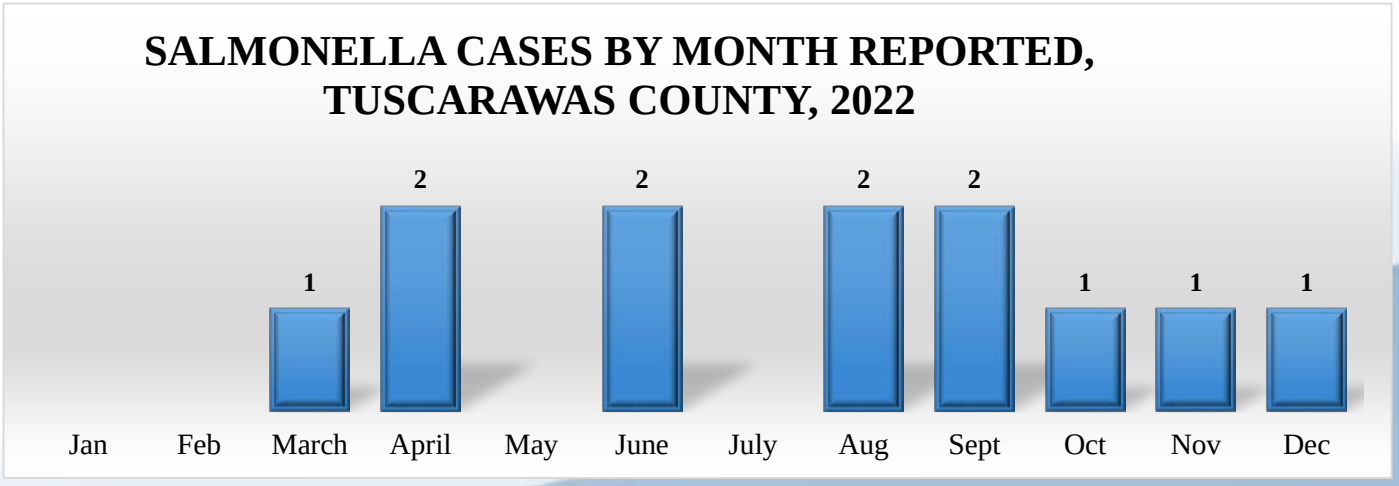
Mode of Transmission: Salmonella is transmitted directly (via the fecal-oral route) from animals (e.g., pets, livestock, reptiles) or from ingestion of contaminated food or water. Direct person-to-person transmission may occur via the fecal-oral route but is uncommon.

Incubation Period: The incubation period is 6-72 hours, usually 12-36 hours.

Symptoms: Salmonellosis is most commonly an acute gastrointestinal illness characterized by diarrhea, abdominal cramps, fever, and sometimes vomiting. Infection may progress from gastroenteritis to septicemia or a focal infection (e.g., cholecystitis, meningitis).

Treatment: Salmonella gastrointestinal infections usually resolve in 5 to 7 days and often do not require treatment other than oral fluids. Persons with severe diarrhea may require rehydration with intravenous fluids.

Prevention: People should not eat raw or undercooked eggs, poultry, or meat. Raw eggs may be unrecognized in some foods such as homemade Hollandaise sauce, Caesar and other salad dressings, tiramisu, homemade ice cream, homemade mayonnaise, cookie dough, and frostings. Poultry and meat, including hamburgers, should be well cooked, not pink in the middle. Persons also should not consume raw or unpasteurized milk or other dairy products. Produce should be thoroughly washed before consuming.



COVID-19 PANDEMIC DATA

The Centers for Disease Control and Prevention (CDC) estimates that from February 2020 through September 2021, only 1 in 4 or 25% of COVID-19 infections were reported.

DEATHS ASSOCIATED WITH COVID-19

In 2022, 104 deaths were related to COVID-19 compared to 255 in 2021. This brings the COVID-19 pandemic death total to 535 community lives lost in 2020, 2021, and 2022. Tuscarawas County had a consistently higher death rate than Ohio and the United States for COVID-19 associated deaths. When looking at death rates for total cases from 2020 through 2022 Tuscarawas County had a death rate of 2.2%, compared to Ohio's 1.2%, and the United States death rate at 1.1%.

Death data were obtained from the Ohio Disease Reporting System (ODRS) and are subject to limitations. Deaths that are identified during case or outbreak investigation are entered into ODRS, but cases are not followed to determine if death occurred after the investigation ended.

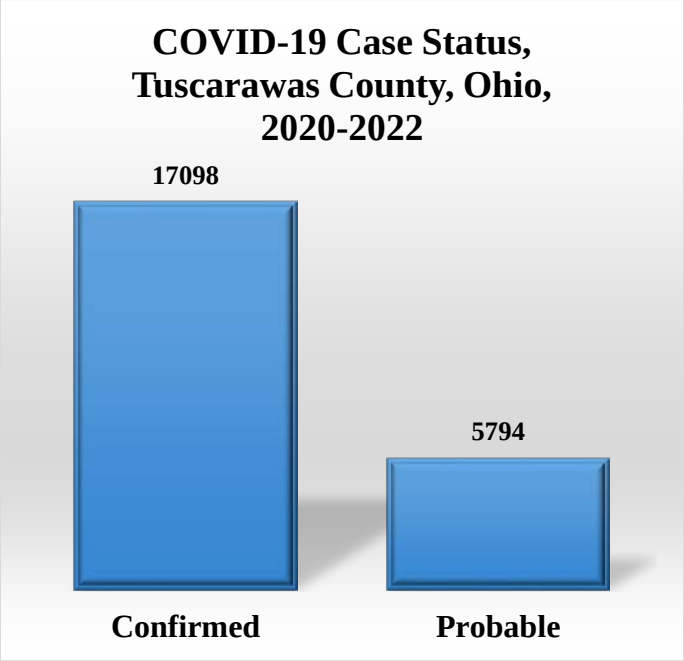
COVID-19 continued to be the most reported disease from 2020 to 2022. Numbers are subject to change due to delayed laboratory reporting or jurisdictional changes after diagnosis. Since the start of the pandemic in 2020, the Tuscarawas County zip codes with the highest number of cases reported were as follows:

Table 5: Total Percentage of COVID-19 cases by Zip Code, Tuscarawas County, 2020-2022 and Case Rate by Zip Code, 2022 ** Case rate is per **10,000** population since populations sizes are so small.*

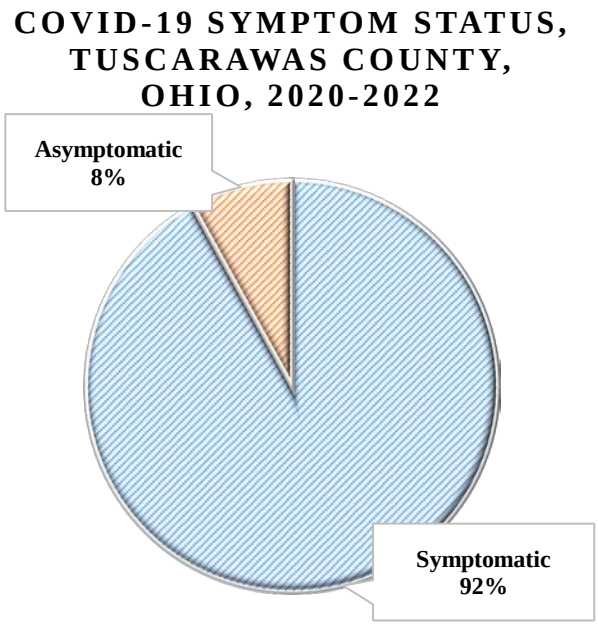
Zip Code	Area	% of Total Cases	2022 Case Rates*
All remaining Tuscarawas County Zip Codes:		0.1%	3.8
44626	East Sparta	0.1%	106.8
43749	Kimbolton	0.1%	197.4
44608	Beach City	0.3%	287.2
44653	Midvale	0.5%	520.1
43824	Fresno	0.1%	642.9
44643	Magnolia	1.0%	700.9
43804	Baltic	1.0%	752.1
44681	Sugarcreek	3.7%	834.4
44682	Tuscarawas	1.2%	850.2
44678	Somerdale	0.3%	985.9
44671	Sandyville	0.4%	1,028.6
44675	Sherrodsville	0.4%	1,126.1
44680	Strasburg	4.3%	1,213.9
44697	Zoar	0.2%	1,279.1
44663	New Philadelphia	25.8%	1,319.2
43832	Newcomerstown	6.7%	1,423.6
44621	Dennison	5.4%	1,454.4
44622	Dover	24.2%	1,479.6
44629	Gnadenhutten	2.7%	1,524.2
44683	Uhrichsville	9.4%	1,525.0
44699	Tippecanoe	0.2%	2,048.2
44624	Dundee	1.1%	2,230.5
43837	Port Washington	1.8%	2,773.7
44656	Mineral City	2.6%	2,929.4
44612	Bolivar	5.6%	4,350.0
43840	Stonecreek	1.0%	5,163.4

The data provided in the graphs below show all cases from January 2020 through December 2022.

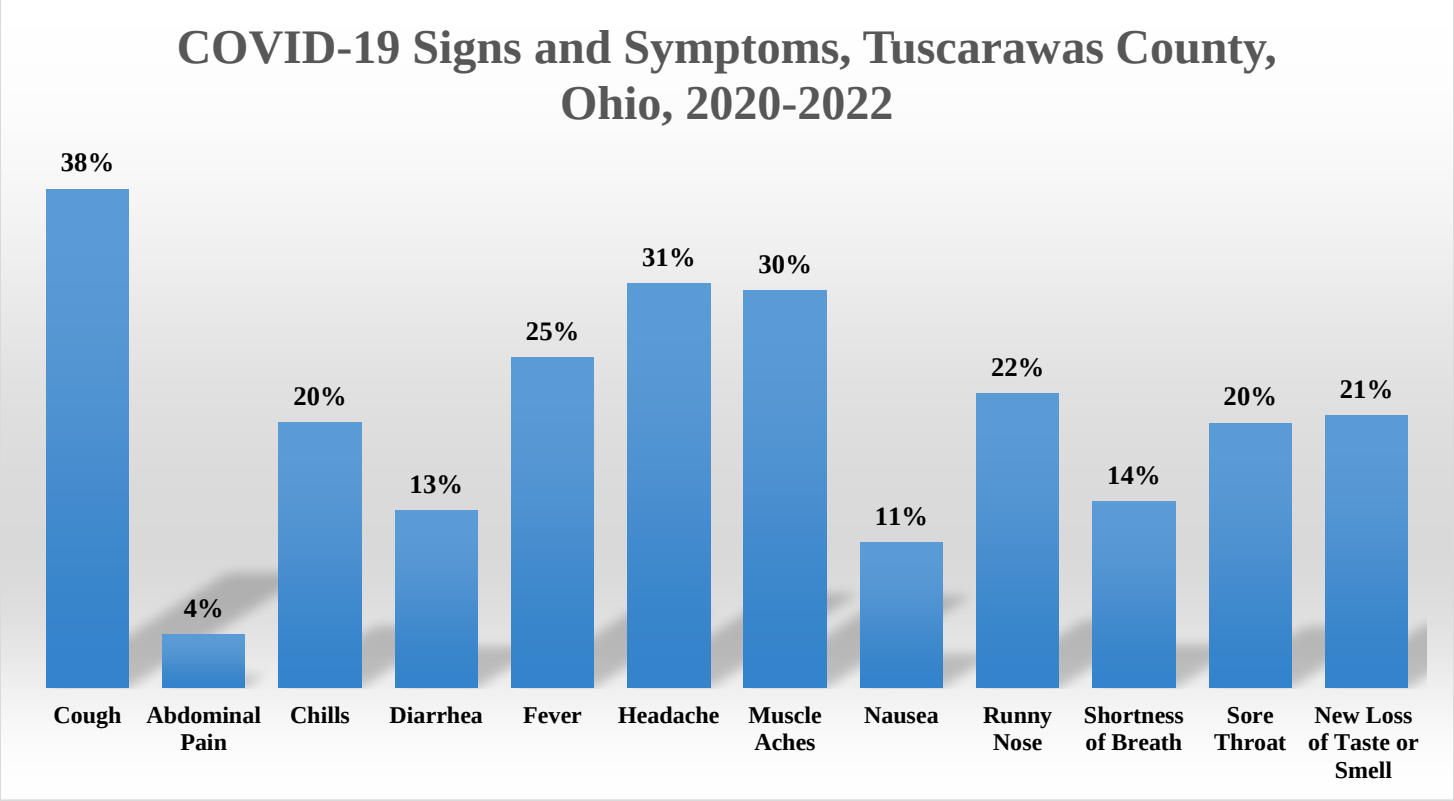
Graph 3: Total COVID-19 Case Status



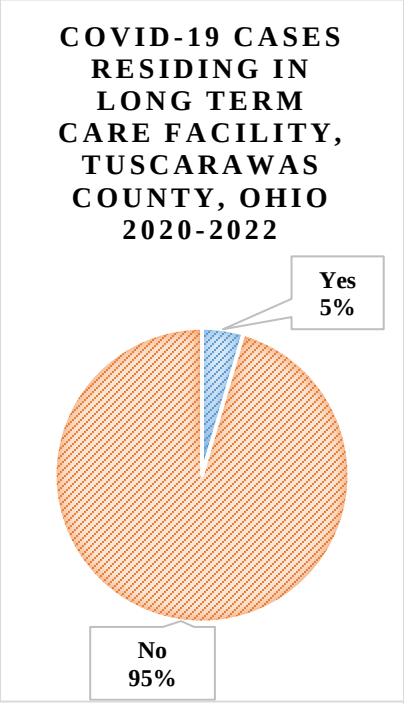
Graph 4: COVID-19 Symptom Status



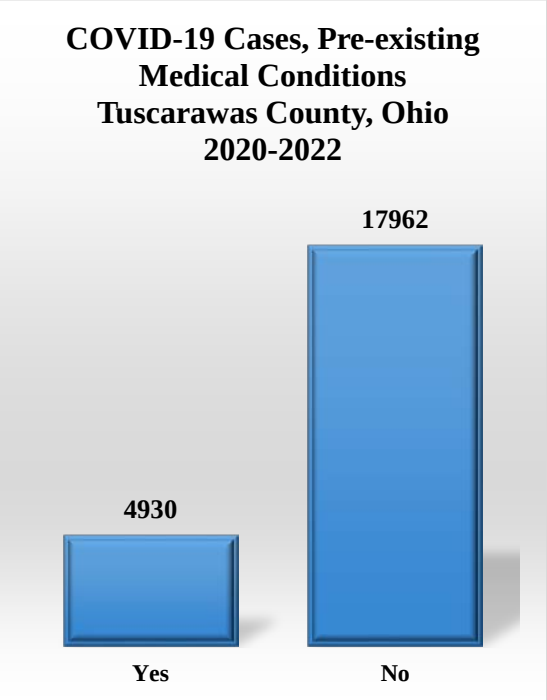
Graph 5: COVID-19 Signs and Symptoms



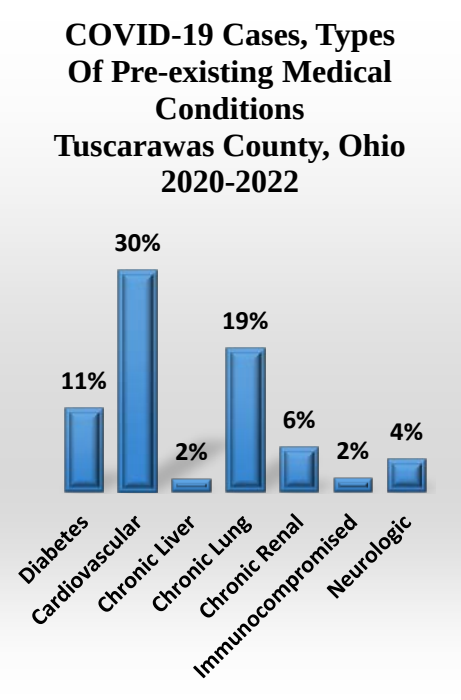
Graph 6: LTC Cases



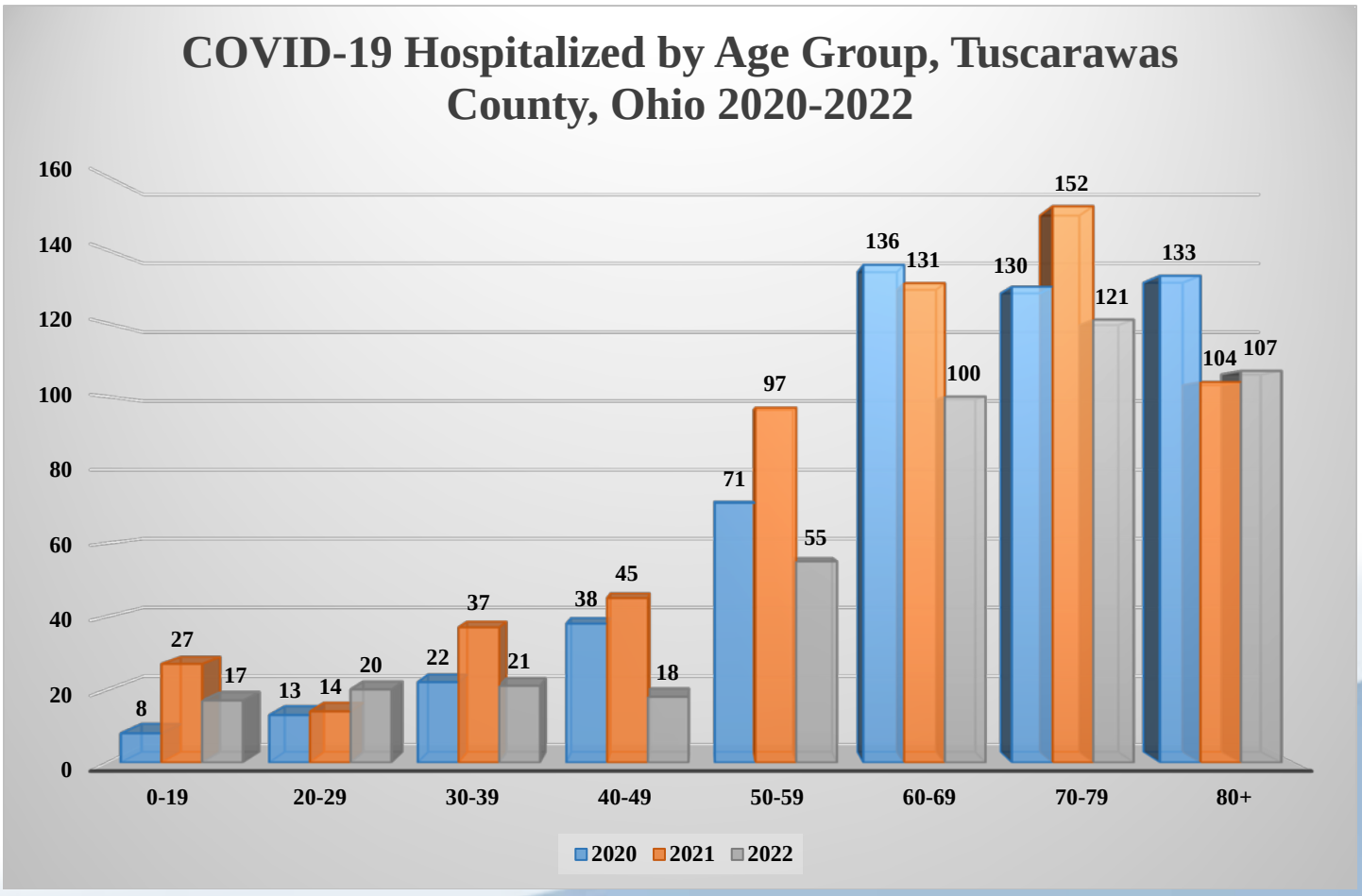
Graph 7: Pre-existing Medical Conditions



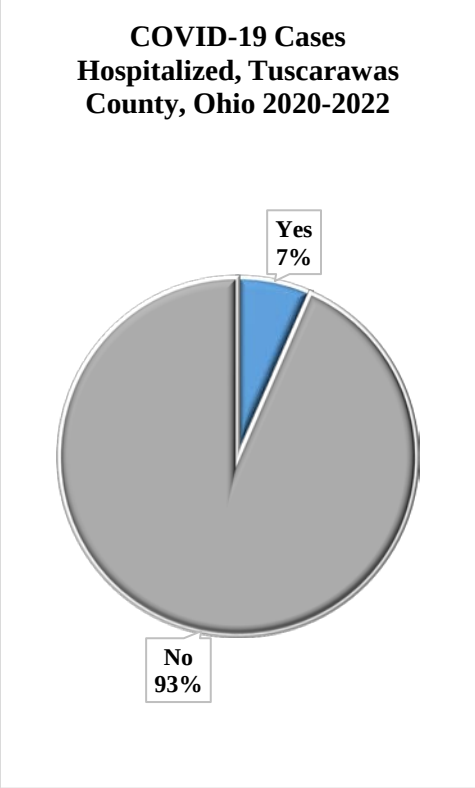
Graph 8: Types of Conditions



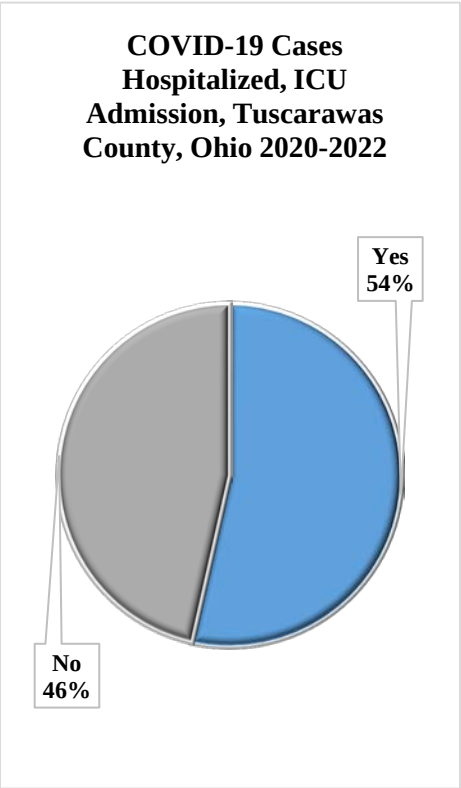
Graph 9: COVID-19 Hospitalized by Age Group



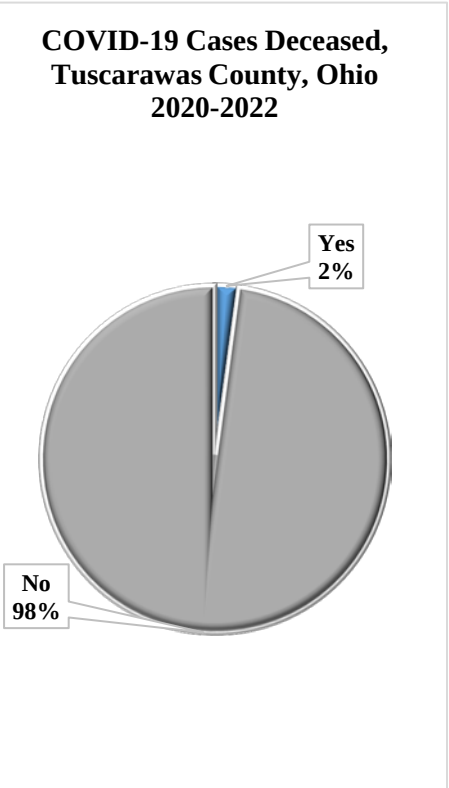
Graph 10:
COVID-19 Hospitalized Cases



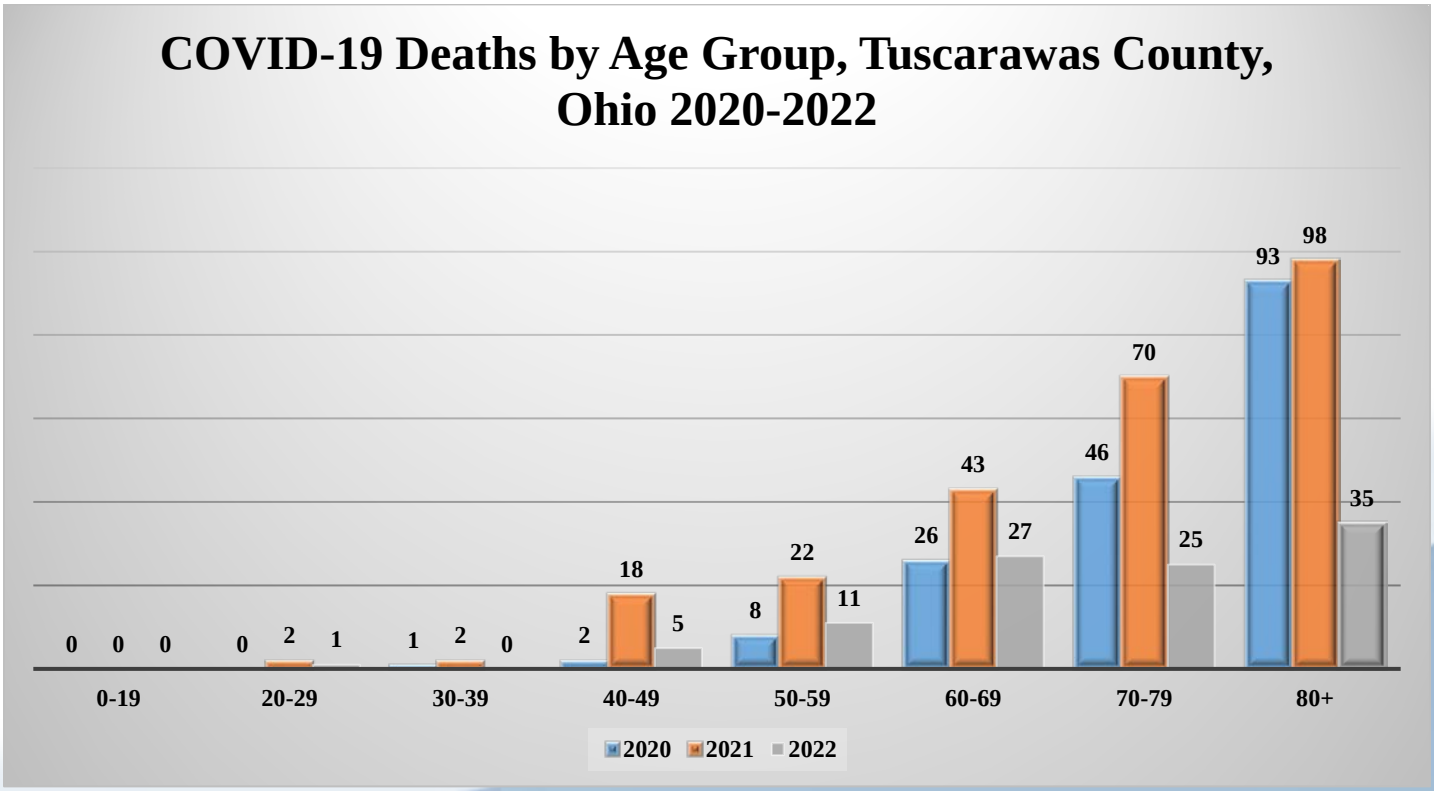
Graph 11:
COVID-19 Cases hospitalized from Graph 10 that Required ICU Admission



Graph 12:
COVID-19 Deaths



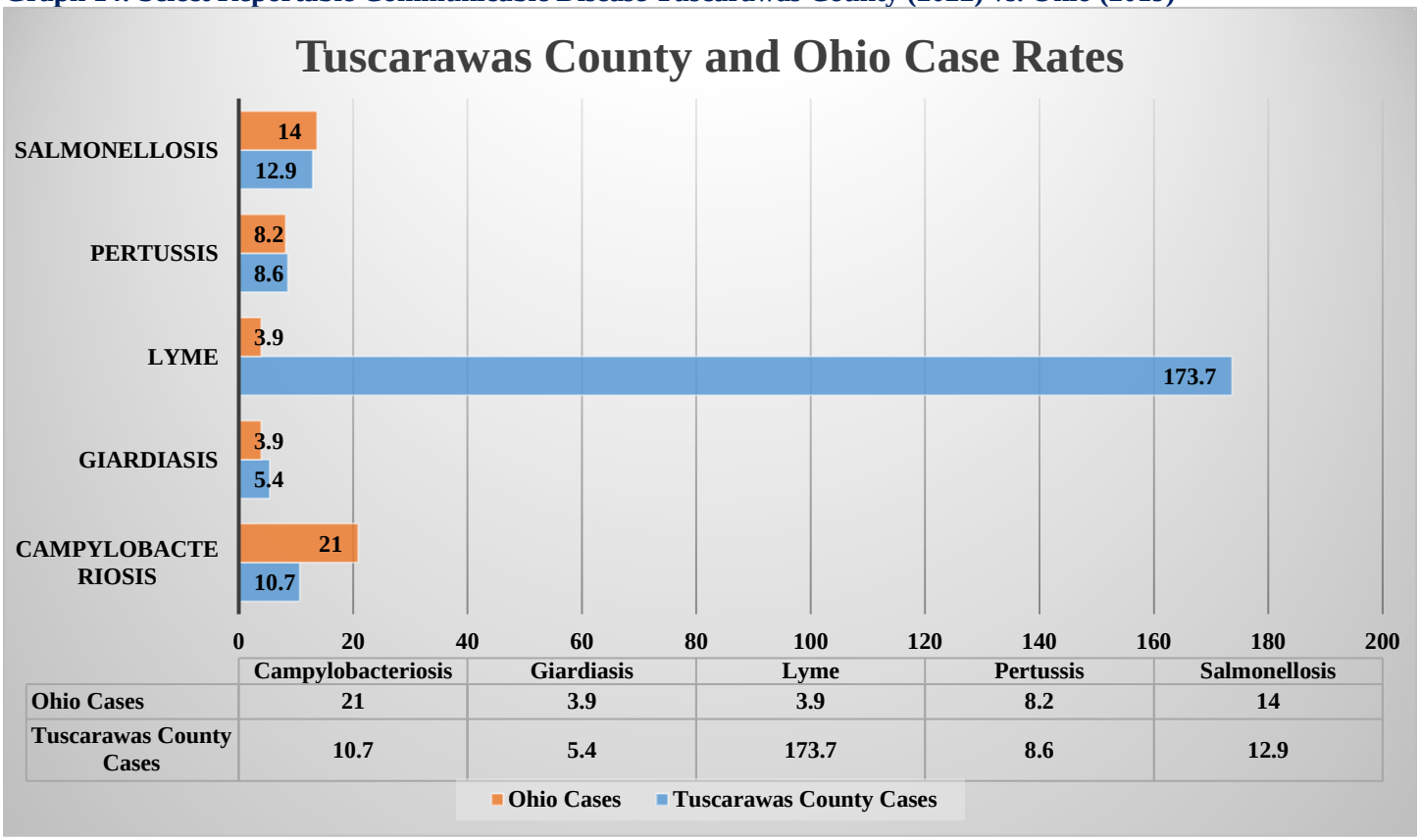
Graph 13: COVID-19 Deaths by Age Group



COMPARISON WITH THE STATE OF OHIO

Below is a chart with select reportable diseases in Tuscarawas County compared with the state of Ohio. The Ohio Department of Health puts together an annual report of communicable diseases, the most recent annual report as of March 2, 2023, is from 2019. The Annual Summary of Disease[10] from ODH is on total reported cases (Confirmed, Probable, and Suspect); in this instance, total reported cases to Tuscarawas County were included. Tuscarawas County has a very small portion of the total state numbers; therefore, it is better to look at the case rate of the diseases for every 100,000 population. Since the county and state populations are quite different, adjusting to rates allows for the data to be compared easier. Graph 14 and Table 6 list a comparison of Tuscarawas County to Ohio case rates per 100,000 population. For example, when looking at table 6, one would expect that for every 100,000 people in Tuscarawas County there would be approximately 174 cases of Lyme. This is comparable to the state of Ohio that would expect 4 cases per 100,000.

Graph 14: Select Reportable Communicable Disease Tuscarawas County (2022) vs. Ohio (2019)



	Campylobacteriosis	Giardiasis	Lyme	Pertussis	Salmonellosis
Ohio Cases	21	3.9	3.9	8.2	14
Tuscarawas County Cases	10.7	5.4	173.7	8.6	12.9

Table 6: Tuscarawas County and Ohio Case Rate per 100,000

	Tuscarawas County Rate	Ohio Rate	Status
Campylobacteriosis	10.7	20.9	Lower
Giardiasis	5.4	3.9	Lower
Lyme	173.7	3.9	Higher
Pertussis	8.6	8.2	Higher
Salmonellosis	12.9	13.7	Lower

PREVENTION[11]

There are several ways to protect yourself and others from infectious diseases. Learn, practice, and teach healthy habits.

1. Handle & Prepare Food Safely
    a. Food can carry germs. Wash hands, utensils, and surfaces often when preparing any food, especially raw meat. Always wash fruits and vegetables. Cook and keep foods at proper temperatures. Don't leave food out – refrigerate promptly.
2. Wash Hands Often
    a. One of the most important healthy habits to prevent the spread of germs is to clean your hands. Our hands can carry germs, so it is important to wash them often, even if they don't look dirty.
3. Clean & Disinfect Commonly Used Surfaces
    a. Germs can live on surfaces. Cleaning with soap and water is usually enough. However, you should disinfect your bathroom and kitchen regularly. Disinfect other areas if someone in the house is ill. You can use an EPA certified disinfectant (look for the EPA registration number on the label) or a bleach solution.
4. Cough and Sneeze into a Tissue or Your Sleeve
    a. If you are sick, the air that comes out of your mouth when you cough or sneeze may contain germs. Someone close by can breathe in your air, or touch a surface contaminated with your germs, and become ill. Cough or sneeze into a tissue or your shirt sleeve-not into your hands. Remember to throw away the tissue and wash your hands. You can wear a face mask and consider distancing from others when you are sick with a cough or sneezing illness.
5. Don't Share Personal Items
    a. Avoid sharing personal items that can't be disinfected, like toothbrushes and razors, or sharing towels between washes. Needles should never be shared, should only be used once, and then thrown away properly.
6. Practice Safer Sex
    a. The only guaranteed method to prevent STIs is to abstain from all sexual contact.
    b. However, there are effective steps you can take to reduce your risk of sexually transmitted infections (STI). Effective STI prevention begins before any sexual activity. Here are some steps you can take to reduce your STI risk:
        i. Talk honestly with potential partners about both of your sexual histories.
        ii. Get tested, along with your partner, before having sex.
        iii. Avoid sexual contact when under the influence of alcohol or drugs.
        iv. Consider pre-exposure prophylaxis (PrEP), a medication that someone who is HIV negative can take to reduce their risk of contracting HIV.
        v. Use barrier methods every time you engage in sexual activity.
7. Get Vaccinated
    a. Vaccines can prevent many infectious diseases. You should get some vaccinations in childhood, some as an adult, and some for special situations like pregnancy and travel. Make sure you and your family are up to date on your vaccinations.
8. Avoid Touching Wild Animals
    a. You and your pets should avoid touching wild animals which can carry germs that cause infectious diseases. If you are bitten, talk to your doctor. Make sure that your pet's vaccinations are up to date.
9. Stay Home When Sick
    a. When you are sick, stay home and rest. You will get well sooner and will not spread germs.

Vaccines

Vaccinations are an important tool to prevent infection and spread of some diseases. It is important that you and your family are up to date on your immunizations. To view the CDC recommendations for vaccines for those Birth – Age 18, visit: https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html. A schedule for those over the age of 18 can be viewed at https://www.cdc.gov/vaccines/schedules/hcp/imz/adult.html

Table 7: Vaccines administered by TCHD by type and year for 2020-2022:
All vaccine information was obtained from the Ohio Department of Health (ODH) vaccine reporting system, ImpactSIIS.

Vaccine	Protects Against	Number of Recommended Doses	2020	2021	2022
DTap	Diphtheria, tetanus, and whooping cough (pertussis)	5 doses	26	24	29
DTaP-Hep B-IPV	Diphtheria, tetanus, and whooping cough (pertussis), hepatitis B, polio	3 doses	87	64	61
DTap-IPV	Diphtheria, tetanus, and whooping cough (pertussis), polio	Booster only	45	52	44
HPV9	Cervical, vaginal, anal cancers or genital warts caused by certain types of HPV		98	129	129
Hep A; adult	Hepatitis A	2 or 3 doses	55	2	3
Hep A; ped/adol, 2 dose	Hepatitis A	2 doses	120	82	78
Hep A-Hep B	Hepatitis A and B	3 doses	23	8	16
Hep B; ped/adol	Hepatitis B	4 doses	51	80	57
Hep B; adult	Hepatitis B	2 or 3 doses	65	38	42
Hib	Haemophilus influenzae Type B	3 doses	99	93	81
IPV	Polio	4 doses	41	40	30
Influenza	Influenza of seasonal flu	Annually	465	255	540
MMR	Measles, mumps, rubella	2 doses	68	80	58
MMRV	Measles, mumps, rubella, varicella	2 doses	56	60	44
Meningococcal B	Meningitis	2 doses	10	31	18
Meningococcal MCV4O	Meningitis	2 doses	208	207	167
Pneumococcal PCV 13	Pneumonia	4 doses	97	90	81
Td, adult	Tetanus, diphtheria	2 doses	38	8	31
Tdap	Tetanus, diphtheria pertussis	5 doses	294	230	274
Meningococcal MCV4P	Meningitis	2 doses	142	176	208
Pneumococcal Polysaccharide PPV23	Pneumonia	2 doses	11	7	13
Rotavirus	Rotavirus	2 or 3 doses	42	24	28
Varicella	Varicella (chicken pox)	2 doses	86	97	77
Rabies	Rabies		3	3	6
COVID-19 mRNA	COVID-19	2 doses + booster	127	15,454	4,069
COVID-19 Janssen	COVID-19	1 dose + booster	-	590	64
Novavax	COVID-19		-	-	12
Total			**2,357**	**17,765**	**6,260**

BASIC INFORMATION ON REPORTABLE COMMUNICABLE DISEASES

The following gives information on commonly reported communicable diseases in Tuscarawas County. Each of the diseases follows the following format:

Disease Name:
Infectious Agent: what causes the illness
Reservoir: where the disease lives, grows, and multiplies
Mode of Transmission: how the disease is spread
Incubation Period: how long it can be in your body after exposure, prior to seeing signs and symptoms
Prevention Measures: how to eliminate the spread of disease

Campylobacteriosis:

- **Infectious Agent:** *Campylobacter jejuni*, *Campylobacter Coli*.
- **Reservoir:** Poultry, cattle, farm animals. Most raw poultry meat is contaminated.
- **Mode of Transmission:** Ingestion of undercooked poultry, contaminated water or milk from an infected cow, improper hand sanitization after handling farm animals.
- **Incubation Period:** 2-5 day, range 1-10 days.
- **Prevention Measures:** Pasteurize all milk, boil/chlorinate all water. Thoroughly cook meat and sanitize utensils/cutting boards. Implement stringent hand washing practices.

Chlamydia Infection:

- **Infectious Agent:** *Chlamydia trachomatis* (subtypes D-K).
- **Reservoir:** Humans.
- **Mode of Transmission:** Sexual Intercourse.
- **Incubation Period:** 7-14 days or longer.
- **Prevention Measures:** Sex education, condom use, screening of at risk populations (>25 years old).

Cryptosporidiosis:

- **Infectious Agent:** *Cryptosporidium parvum* – a coccidian protozoan parasite.
- **Reservoir:** Humans, cattle, domesticated animals.
- **Mode of Transmission:** Fecal-oral – including person-to-person, animal-to-person, waterborne and foodborne.
- **Incubation Period:** 7 days, range 1-12 days.
- **Prevention Measures:** Personal hygiene education, sanitary handling of feces, stringent hand washing practices and boiling and filtering water.

Giardiasis:

- **Infectious Agent:** *Giardia lamblia, Giardia intestinalis, Giardia duodenalis*, a flagellate protozoan parasite.
- **Reservoir:** Humans, possibly Beaver and other domesticated animals.
- **Mode of Transmission:** Fecal-oral , hand-to-mouth transfer. Most common at day care centers. Also, anal intercourse, contamination of foodstuffs and unfiltered stream and lake waters (given human or animal fecal contamination).
- **Incubation Period:** 3 to >25 days, median 7-10 days.
- **Prevention Measures:** Protect public water supplies against contamination, implement emergency boiling procedures, and promote stringent hand washing procedures.

Gonococcal Infection:

- **Infectious Agent:** *Neisseria gonorrhoeae*
- **Reservoir:** Humans.
- **Mode of Transmission:** Sexual Contact
- **Incubation Period:** 2-7 days.
- **Prevention Measures:** Safe sex practices, monogamy or abstinence.

Hepatitis C:

- **Infectious Agent:** Hepatitis C Virus (HCV).
  Reservoir: Humans.
- **Mode of Transmission:** Usually by skin puncture (needlestick, cut, abrasion, etc). No evidence for oral route.
- **Incubation Period:** 6-9 weeks. Chronic infections may persist up to 20 years before onset of cirrhosis or hepatoma.
- **Prevention Measures:** Immunization of all children, screening of donated blood products. Safe sex practices and eliminate recreational drug use.

Influenza:

- **Infectious Agent:** Multiple (ex: H1N1, H3N2)
- **Reservoir:** Humans, Birds, Swine.
- **Mode of Transmission:** Airborne spread of droplets or direct contact with mucous membranes of infected individual.
- **Incubation Period:** 1-3 days.
- **Prevention Measures:** Education on sanitization, annual vaccination, universal precautions.

Lyme Disease:

- **Infectious Agent:** *Borrelia burgdorferi, Borrelia garinii, Barrelia afzelii*
- **Reservoir:** Deer Ticks
- **Mode of Transmission:** Tick bite
- **Incubation Period:** 7-10 days.
- **Prevention Measures:** Education on tick habitat, prevention, and removal. Avoidance of tick infested areas, application of tick repellant and use of long shirts and pants.

Pertussis:

- **Infectious Agent:** *Bordetella Pertussis*.
- **Reservoir:** Humans.
- **Mode of Transmission:** Airborne, droplets.
- **Incubation Period:** 9-10 days.
- **Prevention Measures:** Pertussis vaccination as part of standard DPT.

Shigellosis:

- **Infectious Agent:** *Shigella dysenteriae, S. flexneri, S. boydii, S. Sonnei.*
- **Reservoir:** Humans, primates.
- **Mode of Transmission:** Direct or indirect fecal-oral contact by infected individual. Most commonly, poor hand washing followed by food preparation. Also flies may land on an infected latrine and subsequently on an exposed food.
- **Incubation Period:** 1-3 days.
- **Prevention Measures:** Educate on proper hand-washing techniques, implement fly-proof latrines, pasteurize, refrigerate and thoroughly cook all foods. Enforce quality control measures in food preparation (restaurants and industry).

Varicella (Chickenpox):

- **Infectious Agent:** Human α-Herpesvirus 3 (Varicella-Zoster Virus, VZV).
- **Reservoir:** Humans.
- **Mode of Transmission:** Direct contact, airborne, droplets from spread of vesicle fluid or secretions of the respiratory tract. Indirect contact, surfaces or fabrics contaminated with discharges from vesicles or membranes of the infected.
- **Incubation Period:** 2-3 weeks.
- **Prevention Measures:** Vaccination of children, isolate infected children.

Yersinosis:

- **Infectious Agent:** *Yersinia pseudotuberculosis, Y. enterocolitica*.
- **Reservoir:** Swine, rodents.
- **Mode of Transmission:** Fecal-oral transmission through contaminated food or water. Consumption of raw pork.
- **Incubation Period:** 3-7 days.
- **Prevention Measures:** Prepare foods in a sanitary manner, protect and sanitize the water supply, control the rodent population, wash hands thoroughly after caring for or slaughtering animals.

NOTES

Ohio Administrative Code 3701-3-02, 3701-3-05, and 3701-3-12 require that communicable diseases be reported to local health departments.

Case and Outbreak Classifications

Case and outbreak definitions can be found in the Infectious Disease Control Manual for reporting purposes in the state of Ohio.

Reportable Disease Class Definitions[3]

Reportable diseases in Ohio are grouped into three classes: Class A, Class B, and Class C.

Class A: Diseases are to be reported immediately upon recognition that a case, suspected case, or a positive laboratory result exists. These are of major public health concern because of their ease of transmission and ability for epidemic spread.

Class B: Diseases are to be reported by the end of the next business day after the existence of a case, suspected case, or a positive laboratory result is known. These diseases also have public health concern needing timely response because of their potential for epidemic spread.

Class C: Diseases are to be reported by the end of the next business day.

Reportable Disease Changes in Ohio in 2022

Additions: None

Case Definition Changes in 2021 for Nationally Notifiable Diseases[12]

Changes in 2022:

- Carbapenemase Producing Carbapenem- Resistant Enterobacteriaceae (CP-CRE)
  - CP-CRE, *Enterobacter* spp.
  - CP-CRE, *Escherichia coli (E.coli)*
  - CP-CRE, *Klebsiella* spp.
- Mpox virus infection
- New World arenavirus – Chapare virus

Notes about Reporting Systems[13,14]

The Ohio Disease Reporting System (ODRS) was developed to make disease reporting timelier and more efficient for disease reporters (i.e. laboratories, physicians, hospitals), and to improve communication about infectious diseases between disease reporters, local departments of health (LHD), and the Ohio Department of Health (ODH). Currently, ODH, LHD, and infection preventionists can enter and update case and laboratory reports in ODRS. The system uses patient address to determine correct jurisdiction in which to send the report for follow-up and investigation. The Ohio ImpactSIIS (Statewide Immunization Information System) is an online tool that keeps track of immunizations and lead test results for Ohio Residents. This is a secure system that keeps track of adult and childhood immunizations; only those who are authorized users may access the data.

HIV/AIDS Data

HIV/AIDS data is sent to Stark County for residents of Tuscarawas County. Looking at the Ohio Department of Health HIV Infections Annual Surveillance statistics Tuscarawas County does not meet the reporting threshold set by the Ohio Department of Health.[15]

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