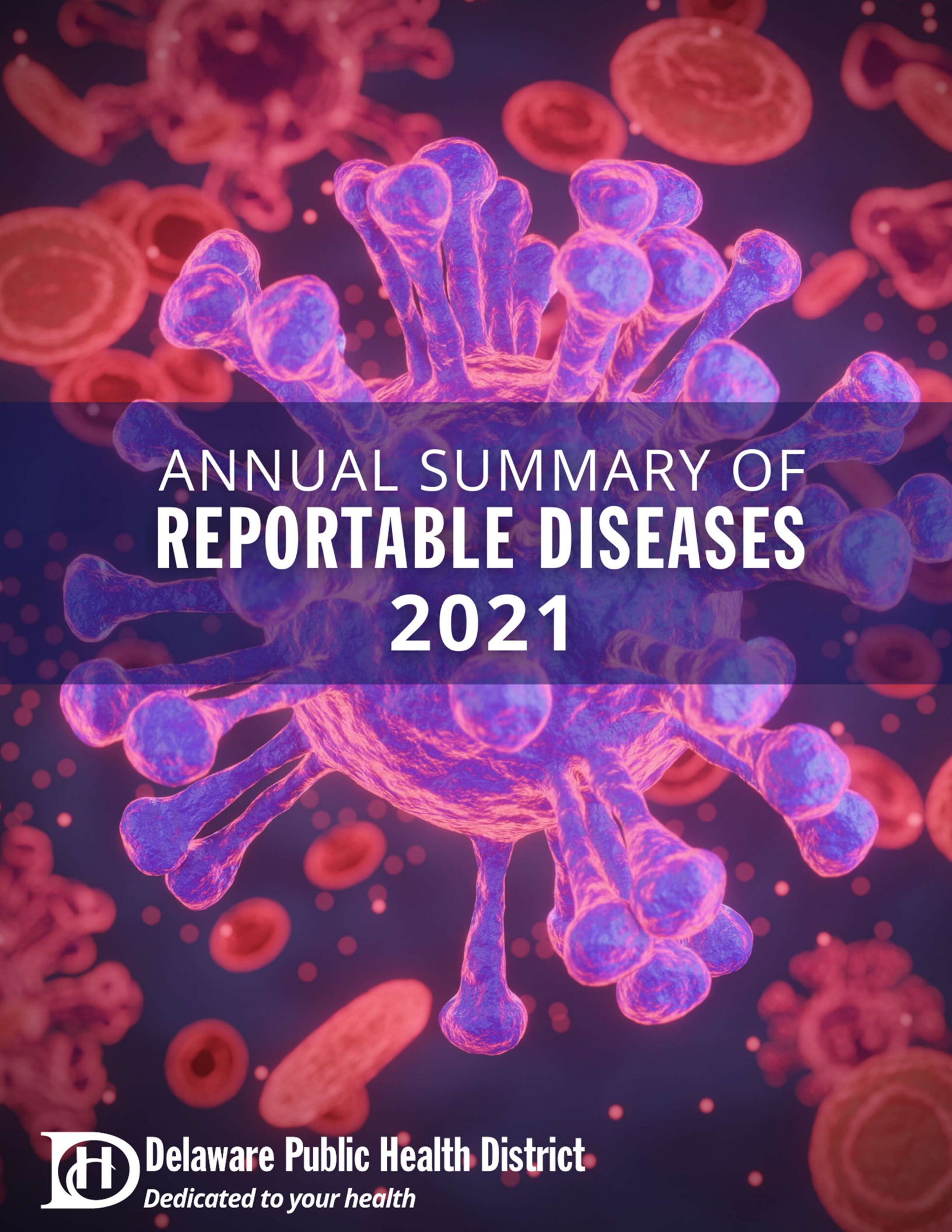

ANNUAL SUMMARY OF REPORTABLE DISEASES 2021

Delaware Public Health District

Dedicated to your health

Delaware Public Health District

DISEASE CONTROL AND RESPONSE UNIT

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The Disease Control and Response Unit, due to new opportunities and promotions, completely changed staff during 2021. This includes the replacements of the Program Manager, Emergency Preparedness Coordinator, two Epidemiologists, a Public Health Nurse 3, and the Disease Investigation Technician. External staff were also hired, two CDC Foundation employees were placed on the team, and supplemental staff were recruited to assist in investigation and response.

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TABLE OF CONTENTS

INTRODUCTION

The 2021 Annual Summary of Reportable Diseases represents an overview of the incidence of suspect, probable, and confirmed reportable disease within the jurisdiction of the Delaware Public Health District (DPHD). This report also includes annual highlights (diseases, outreach and outbreaks), the top 10 reported diseases, historical counts of reportable diseases, outbreaks, and disease trends.

Information pertaining to prevention, control, and reporting of diseases can be found in the Ohio Revised Code Chapter 3701.23, 3707.06 and the Infectious Disease Control Manual (IDCM) published by the Ohio Department of Health. These documents designate which diseases are to be reported to the local health district and the time frame in which reporting must occur. The list of diseases reportable during the 2021 year is on page five.

Data for this report was acquired through Nightingale Notes (electronic record system of DPHD) and the Ohio Disease Reporting System (ODRS).

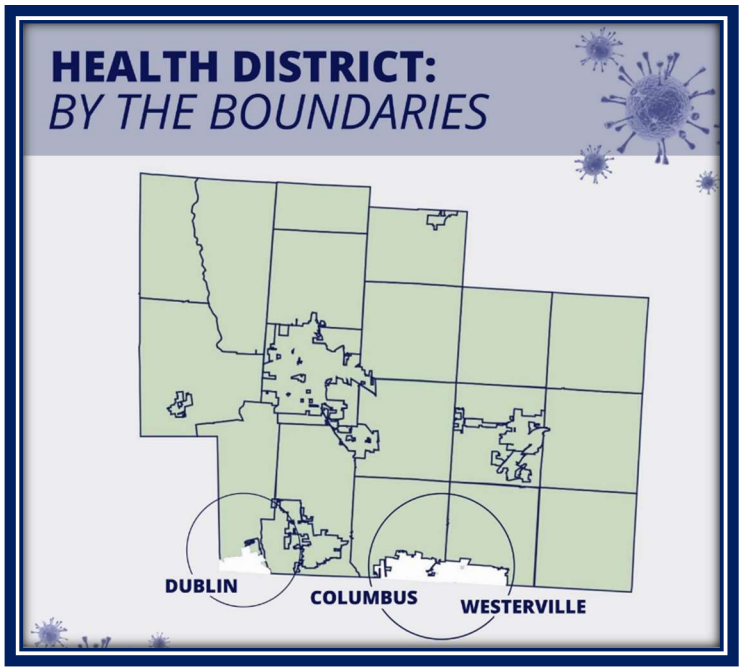
*Due to the COVID-19 pandemic, data may not be representative of actual incidence. More information regarding how the pandemic may affect communicable disease data is described in the conclusions section of this report.

DELAWARE COUNTY DEMOGRAPHICS

Demographics	Delaware County	State of Ohio
Total Population*:	214,124	11,799,448
DPHD Jurisdiction Population**:	200,955	N/A
Number of Households*:	77,713	4,808,773
Median Age*:	39.1	39.6
Percent of Population Below Poverty Level*:	6.1% (+/-1.7%)	13.1% (+/-0.3%)
Individuals without Healthcare Coverage*:	3.7% (+/-1.0%)	6.6% (+/-0.2%)
Disabled Population*:	9.4% (+/-1.2%)	14.0% (+/-0.2%)
White*:	173,231	9,080,688
Asian*:	18,216	298,509
Black or African American*:	7,840	1,478,781
Hispanic or Latino*:	7,012	521,308
Other*:	7,825	420,162

*Based on 2020 Delaware County census information: Census - Geography Profile
**Estimate based off Total Population

Portions of Delaware County are annexed to Columbus Public Health and Franklin County Public Health, including Dublin, Washington Township, Columbus, and Westerville. If a resident is diagnosed with a reportable disease in one of those jurisdictions, that case would not be included in Delaware Public Health District data. When reporting out data, the Ohio Department of Health (ODH), includes the annexed portions of the county.



LIST OF REPORTABLE DISEASES 2021

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.

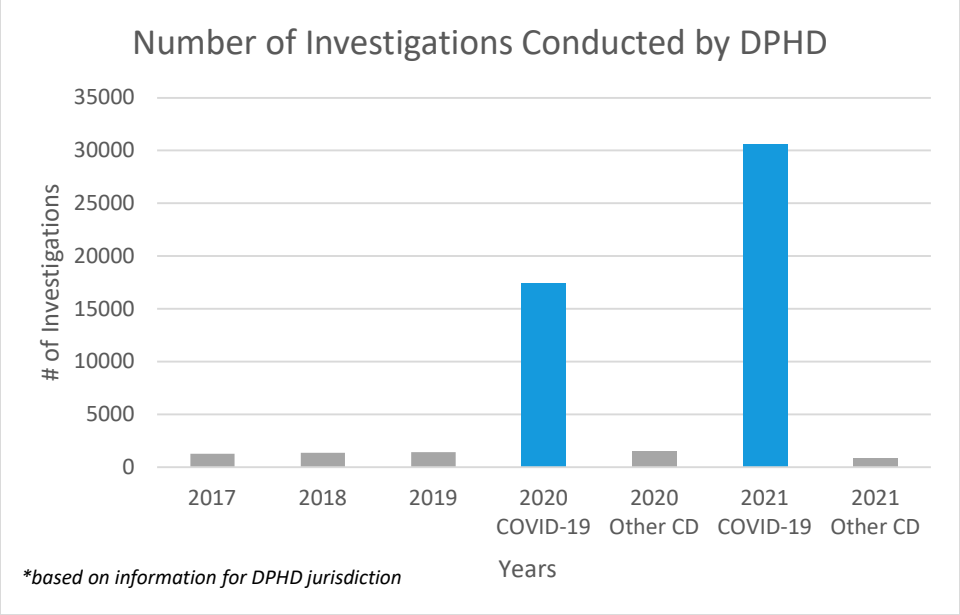
Ohio Department of Health

***COVID-19 falls under the Class A reportable disease, Influenza A- novel virus infection. COVID-19 was declared to be a reportable condition in a Director's Journal Entry on 01/23/20: https://odh.ohio.gov/wps/wcm/connect/gov/d82ea367-a55a-4792-8c2d-f2743f08f8cc/DJE+2019+nCov+1-23-2020.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=ROOTWORKSPACE.Z18_M1HGGIK0N0JO00QO9DDDDM3000-d82ea367-a55a-4792-8c2d-f2743f08f8cc-m.CYwlc**

DELAWARE COUNTY 2021 REPORTABLE DISEASES

OVERVIEW

In 2021 the DPHD's Disease Control and Response Unit conducted 58,025* disease investigations (not including outbreak data), an increase of 206% from the number of investigations conducted in 2020. The increase in investigations between 2017-2020 may be due to a multitude of factors including: Delaware County population growth, better reporting, increases in disease/illness, and/or an increase in laboratory testing. The increase in 2021 was due to the ongoing COVID-19 pandemic.



The numbers of disease reports in this summary include all investigations that were classified as confirmed, probable or suspect. Numbers are subject to change due to jurisdiction changes and when reportable conditions are diagnosed and reported.

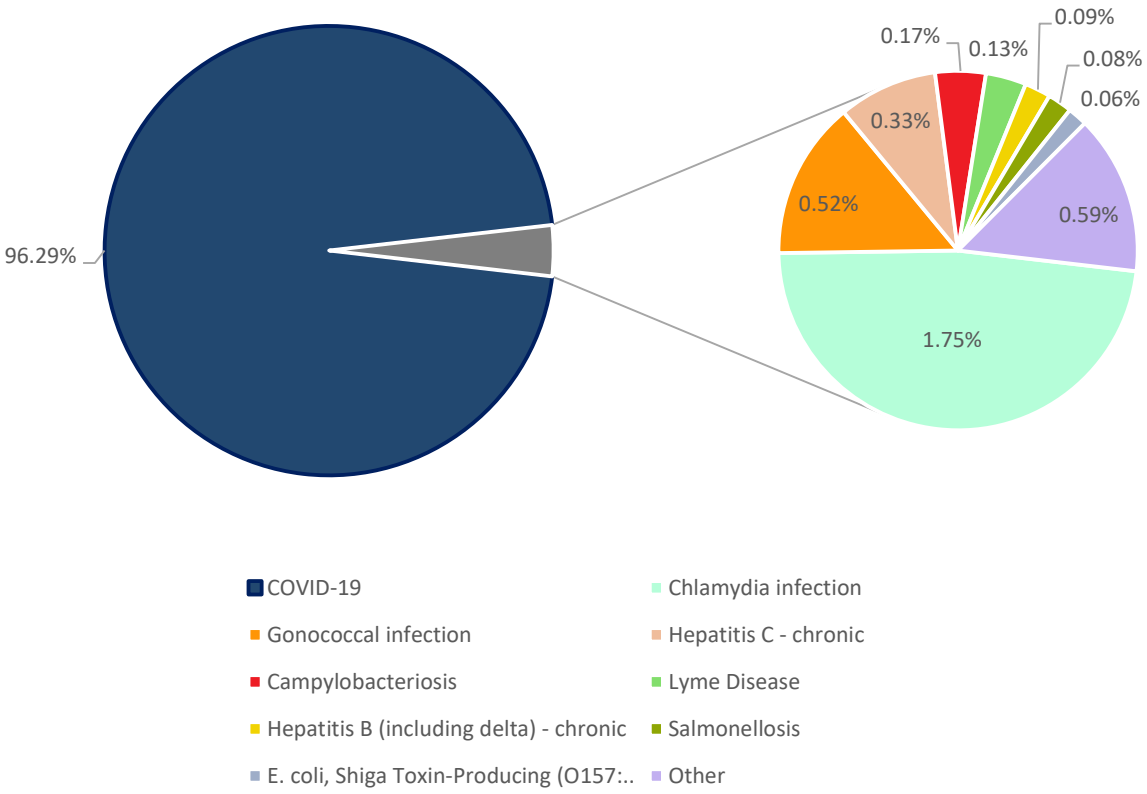
*Number of investigations may be underreported in 2021 as charting/documentation is being carried over into 2022.

Top 10 Most Reported Diseases
All Ages
Delaware County in 2021

(Only lists diseases designated as reportable in the State of Ohio)

Reportable Disease	Number of Cases	Percent
COVID-19	17,943	96.29
Chlamydia	327	1.75
Gonococcal infection	97	0.52
Hepatitis C-Chronic	61	0.33
Campylobacteriosis	31	0.17
Lyme Disease	25	0.13
Hepatitis B- chronic (non-perinatal) (including delta)	16	0.09
Salmonellosis	15	0.08
E. coli, Shiga Toxin-Producing	12	0.06
Other	98	0.59

**Percent is based on the total number of diseases reported for all ages*
**Based on information for DPHD jurisdiction*

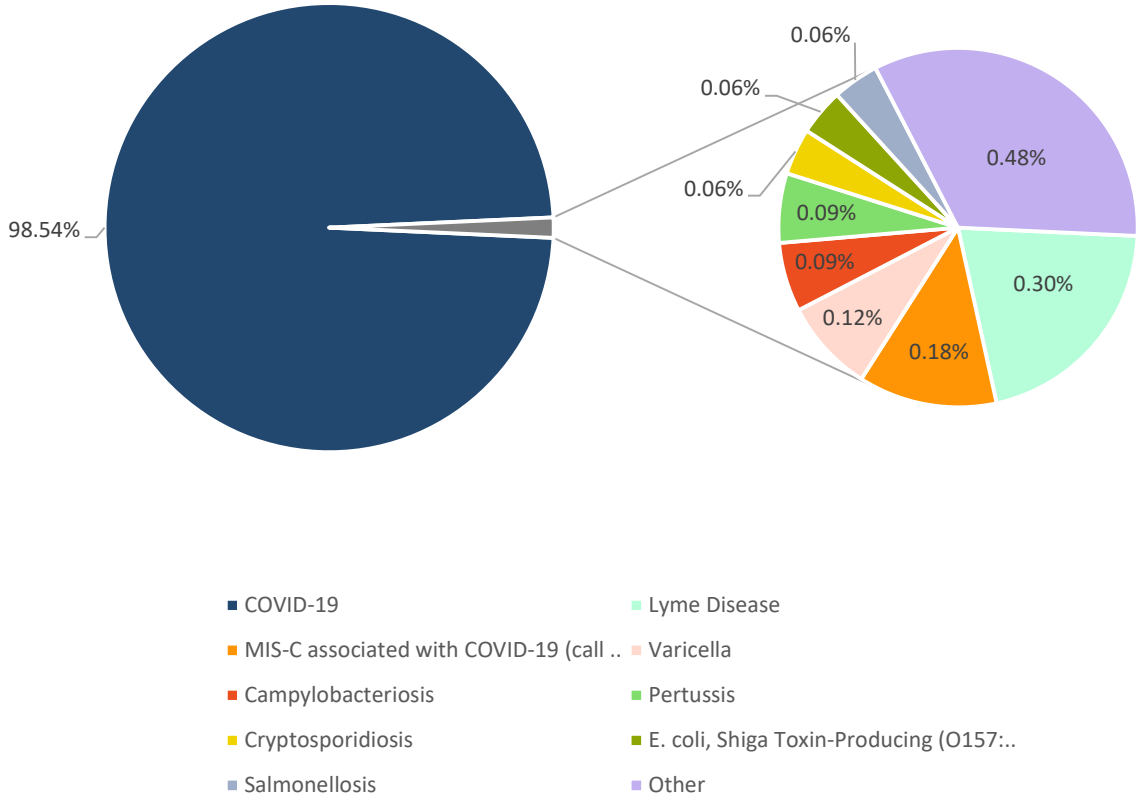


Top 10 Most Reported Diseases
0-14 years of age
Delaware County in 2021

(Only lists diseases designated as reportable in the State of Ohio)

Reportable Disease	Number of Cases	Percent*
COVID-19	3,247	98.54
Lyme Disease	10	0.3
MIS-C associated with COVID-19	6	0.18
Varicella	4	0.12
Campylobacteriosis	3	0.09
Pertussis	3	0.09
Cryptosporidiosis	2	0.06
E. coli, Shiga Toxin-Producing	2	0.06
Salmonellosis	2	0.06
Other	16	0.48

**Percent is based on the total number of diseases reported in 0–14-year-olds*
**Based on information for DPHD jurisdiction*

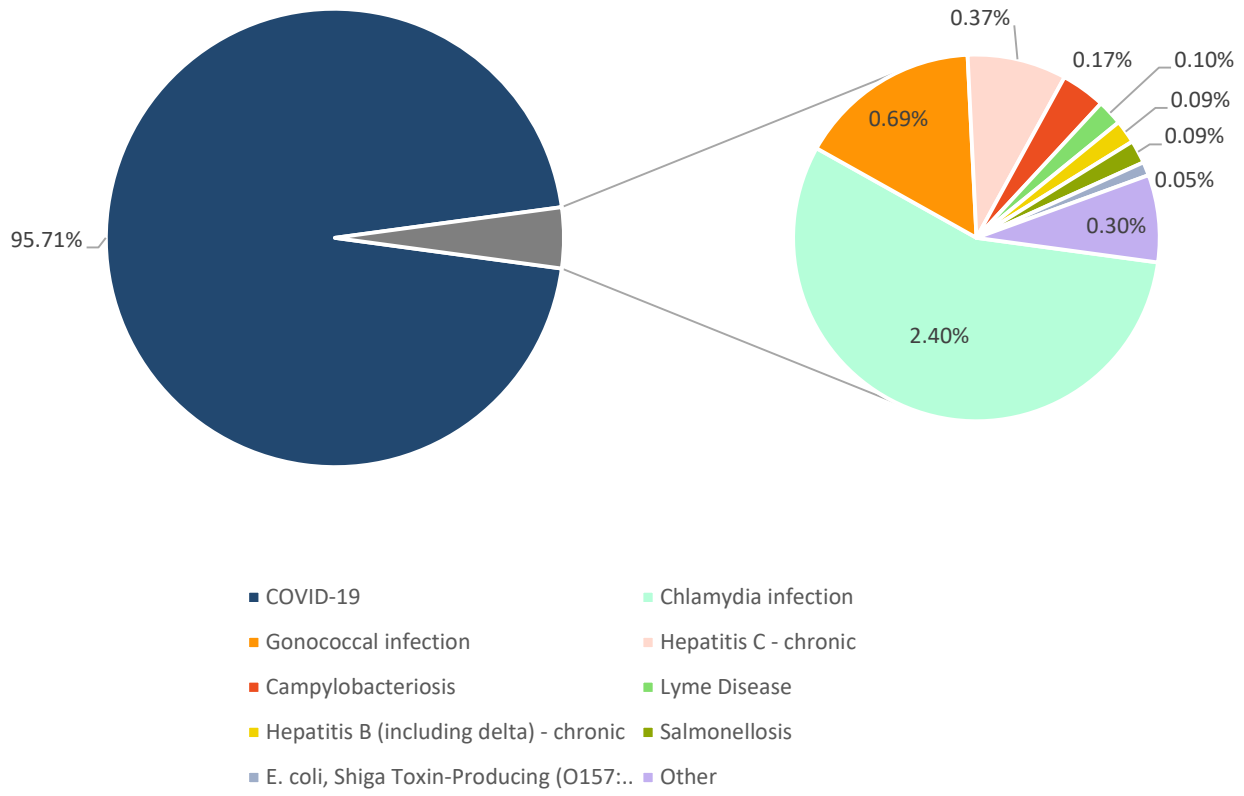


Top 10 Most Reported Diseases
15-64 years of age
Delaware County in 2021

(Only lists diseases designated as reportable in the State of Ohio)

Reportable Disease	Number of Cases	Percent*
COVID-19	13,018	95.71
Chlamydia infection	327	2.4
Gonococcal infection	94	0.69
Hepatitis C - chronic	51	0.37
Campylobacteriosis	23	0.17
Lyme Disease	13	0.1
Hepatitis B (including delta) - chronic	12	0.09
Salmonellosis	12	0.09
E. coli, Shiga Toxin-Producing	7	0.05
Other	45	0.3

**Percent is based on the total number of diseases reported in 15–64-year-olds*
**Based on information for DPHD jurisdiction*

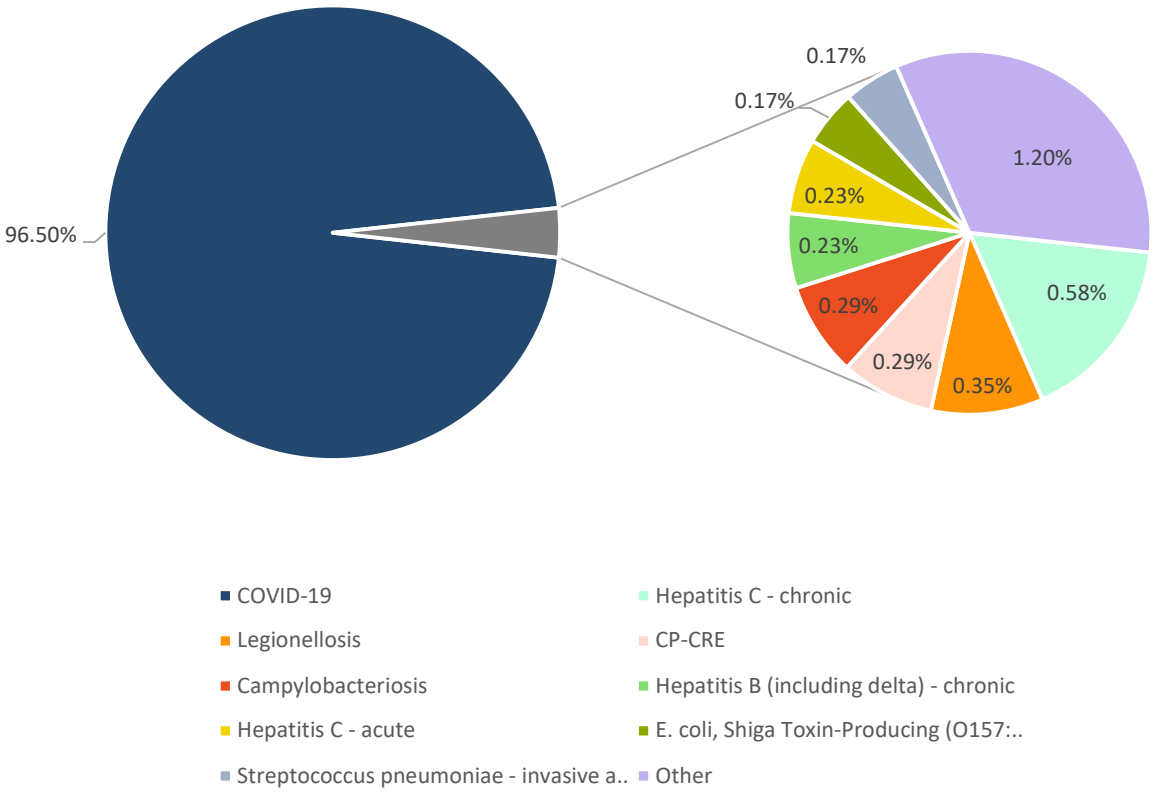


Top 10 Most Reported Diseases
65+ years of age
Delaware County in 2021

(Only lists diseases designated as reportable in the State of Ohio)

Reportable Disease	Number of Cases	Percent*
COVID-19	1,655	96.5
Hepatitis C - chronic	10	1.58
Legionellosis	6	0.35
CP-CRE**	5	0.29
Campylobacteriosis	5	0.29
Hepatitis B (including delta) - chronic	4	0.23
Hepatitis C - acute	4	0.23
E. coli, Shiga Toxin-Producing	3	0.17
Streptococcus pneumoniae	3	0.17
Other	20	1.2

**Percent is based on the total number of diseases reported in 65+ year-olds*
***Carbapenemase-producing carbapenem-resistant Enterobacteriaceae*



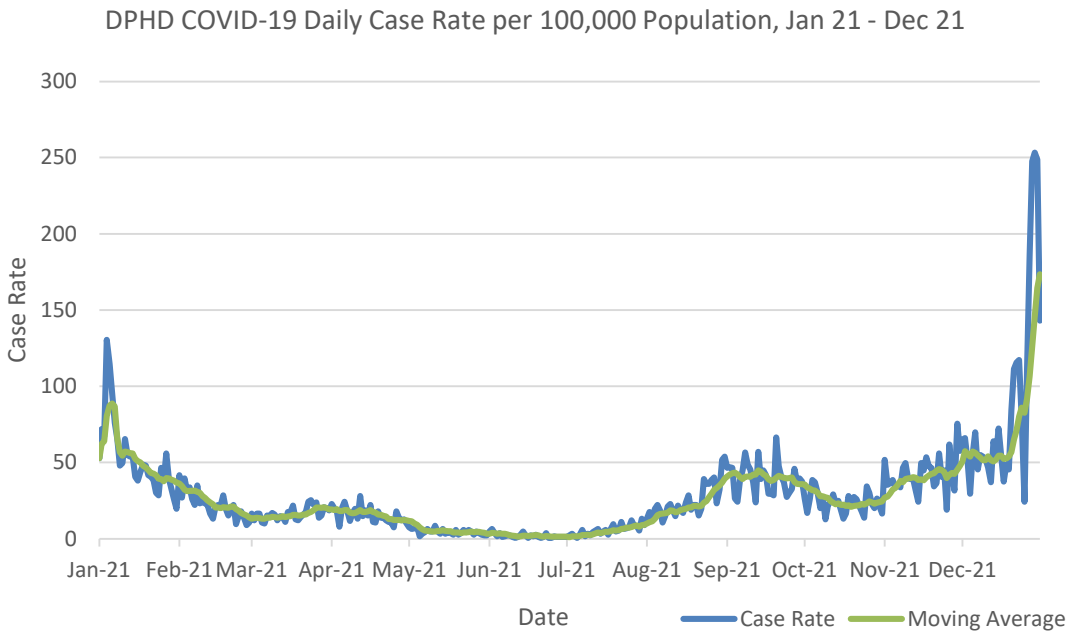
2021 DISEASE HIGHLIGHT

COVID-19

Coronavirus disease 2019 (COVID-19) is a viral respiratory illness caused by a new coronavirus. Coronaviruses are a large family of viruses that are common in people and many different species of animals, including camels, cattle, cats, and bats. Although most people who have COVID-19 have mild symptoms, COVID-19 can also cause severe illness and even death. Many viruses like COVID-19, as they replicate in the human body, undergo mutations as a result of change in the genome, or genetic code, of the virus. These variants of the virus, containing one or multiple of these mutations, can then spread throughout the population. This can lead to new or unforeseen public health concerns.

Genetic sequencing is done to population samples of the virus in order to determine variants of concern that may pose additional risks to the population. Variants of concern (VOC) are variants of the virus that have increased risk for disease, increase in transmissibility, increase in morbidity and/or mortality of the disease, and reduction in effectiveness of vaccines or other efforts to treat or control the spread of the virus.

Since the beginning of the pandemic in March 2020, new variants of COVID-19 have been discovered in the world population, with several variants becoming dominant at different periods during the pandemic. Alpha, Beta, and Gamma are early VOCs that were identified late December 2020. The Delta variant was first discovered in October of 2020 and became a VOC in May of 2021. Omicron, the latest variant, which is currently the dominant variant in the United States, was first discovered in November of 2021 and was classified as a VOC in late November 2021. By monitoring variants as they emerge, public health officials can make necessary changes to responsive measures to control the impact of COVID-19. More information about COVID-19 and its variants can be found here: https://www.cdc.gov/coronavirus/2019-ncov/variants/index.html

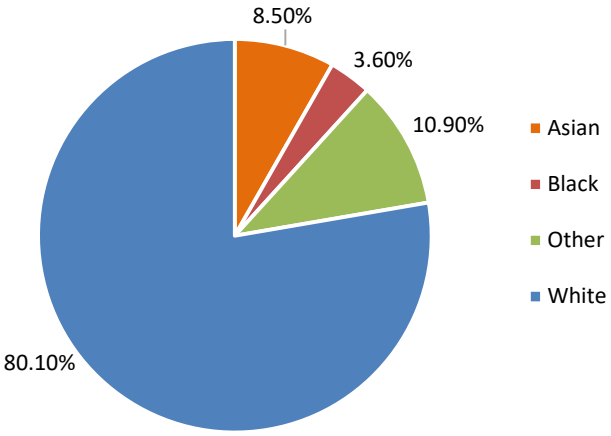


2021 DISEASE HIGHLIGHT

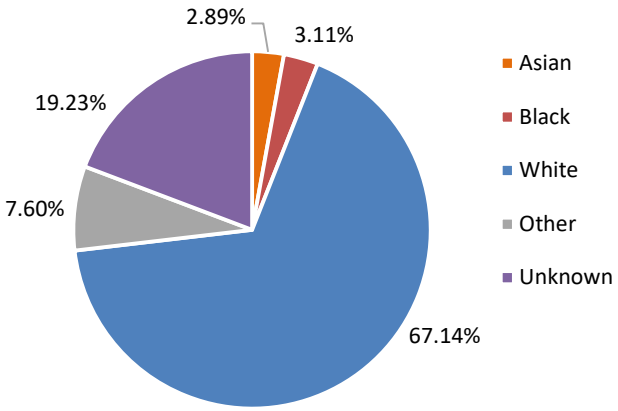
COVID-19

*Based on data for DPHD jurisdiction

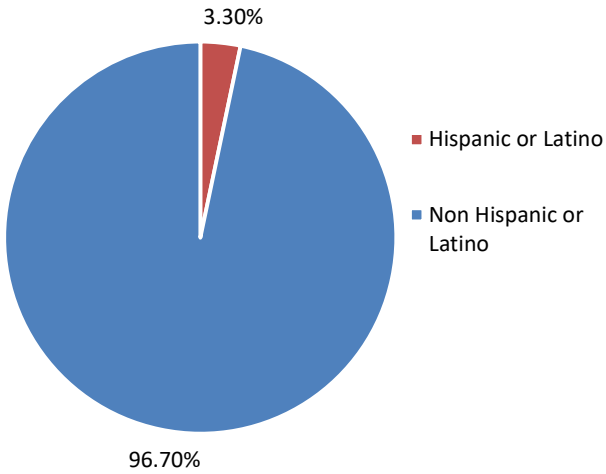
Population by Race



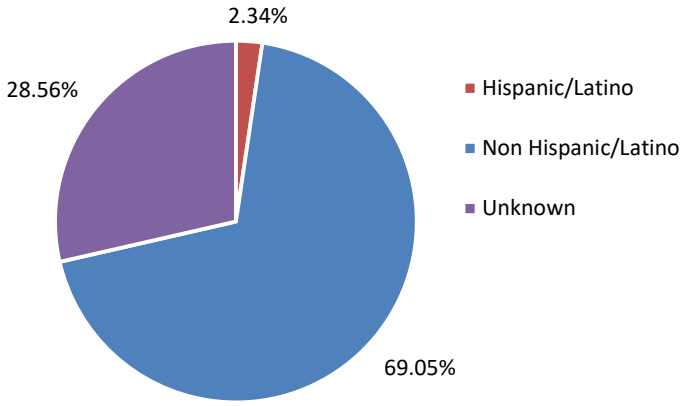
COVID-19 Cases by Race, Jan 21- Dec 21



Population by Ethnicity

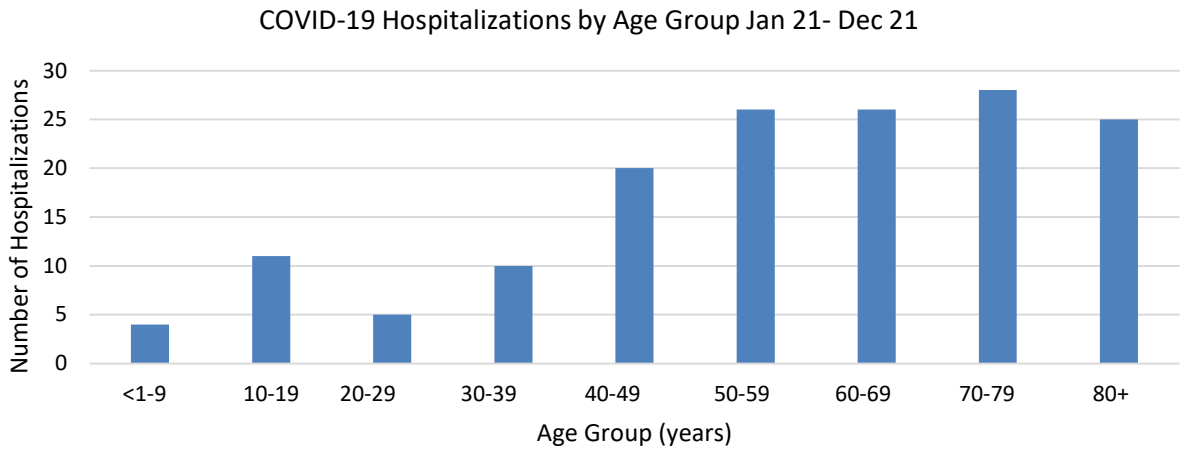


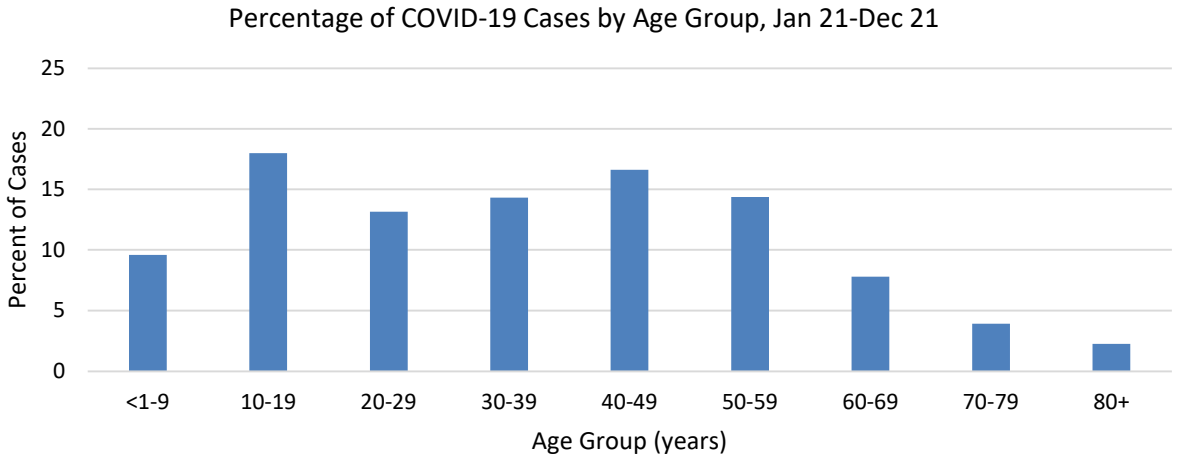
COVID-19 Cases by Ethnicity, Jan 21- Dec 21

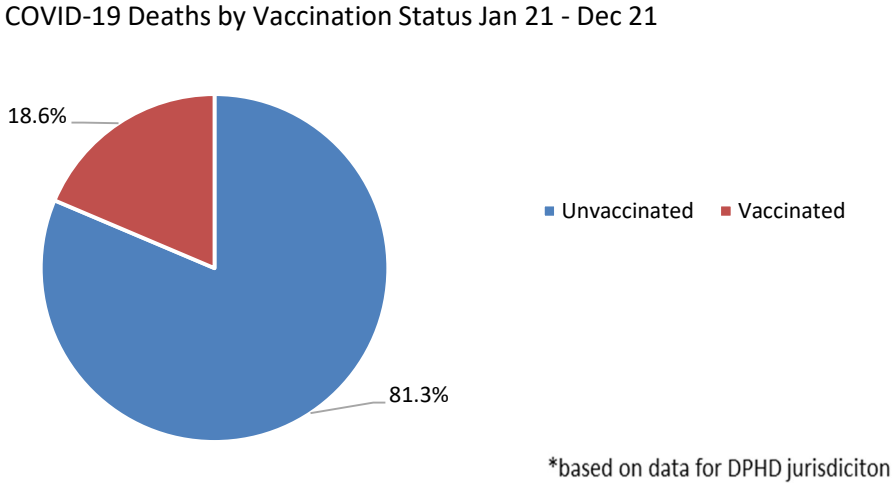


2021 DISEASE HIGHLIGHT

COVID-19







COVID-19 Pandemic: 2021

Overview of actions taken by DPHD during the second year of the COVID-19 pandemic

January 2021

Preventative Health Division reorganizes the Incident Command System (ICS) branches to improve efficiency in response; Delaware county public library assists DPHD with routine calls and questions

March 2021

With vaccines available, cases declining, and new science, DPHD reduced quarantine for contacts (regardless of vaccination status) from 14 days to 10 days, unless they begin displaying symptoms

May 2021

Ohio Department of Health allows local health departments to accept verified at-home test results; DPHD cases continue to decline

August 2021

DPHD works with schools on pandemic protocols as they prepare for students returning; DPHD cases begin to increase due to the emergence of Delta in June

October 2021

DPHD allows schools to implement "Essential Students", which allows students under quarantine to attend school so long as they are asymptomatic and wear a mask

December 2021

DPHD cases begin to drastically increase due to Omicron variant and holidays; clinical services team continue vaccination clinics at schools and other locations

2021 DISEASE HIGHLIGHT

LYME DISEASE

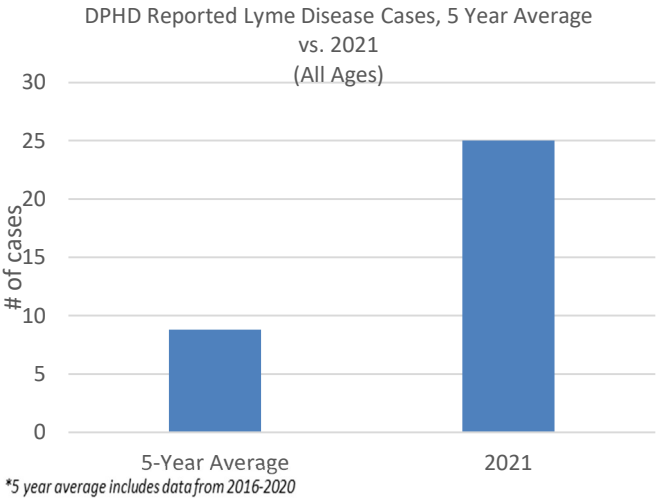
Lyme disease is a disease caused by the bacteria borrelia burgdorferi, and causes symptoms such as muscle and joint aches, fatigue, fever, headache, and chills. The most common symptom is a rash that occurs at the bite location and then spreads across the affected area and may take on the appearance of a "bull's eye." Lyme disease is transmitted to humans via the bite of an infected black legged tick.

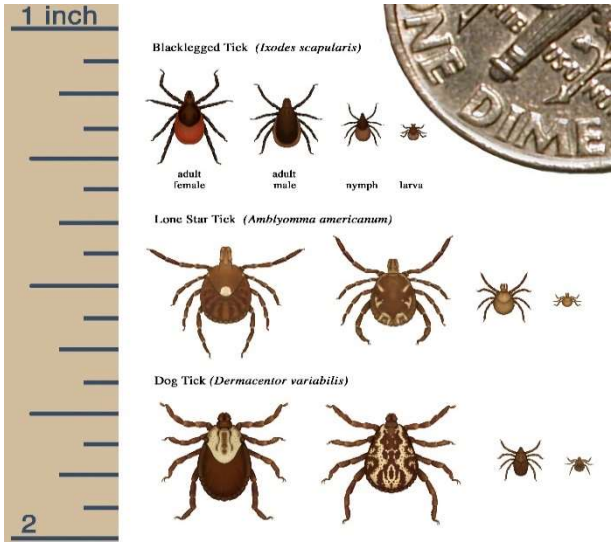
Lyme disease had a marked increase in the Delaware Public Health District in 2021 compared to 2020 and has been steadily trending upwards over the last decade. In 2020, 8 cases of Lyme disease were reported to the DPHD. In 2021, this number jumped to 25, with 10 of those cases being in children 0-14 years of age.

To prevent tick-borne disease, the Delaware Public Health District provides education, surveillance, and responds to human disease occurrence. To aid residents in protection from ticks, the Health District provides the following advice in the acronym: TICKS- **T**reat clothing or skin with repellants; **I**nspect yourself, clothing and gear for ticks; **C**lean and disinfect any area where a tick was removed; **K**eep record of the date the tick was removed; and **S**hower or wash off as soon as possible after coming indoors.

Other preventative measures include wearing light colored clothing, walking in the center of trails to avoid vegetation, frequently mowing areas of high grass, checking pets after being outdoors, and avoiding heavy vegetation areas that likely harbor ticks.

For more information on vector-borne diseases, visit https://www.delawarehealth.org/pest-disease-control





*Tick image taken from the Centers for Disease Control and Prevention website
Tichttps://www.cdc.gov/ticks/gallery/index.html#anchor_1592234998991ks Image Gallery | Ticks | CDC

2021 DISEASE HIGHLIGHT

CHLAMYDIA AND GONORRHEA INFECTIONS

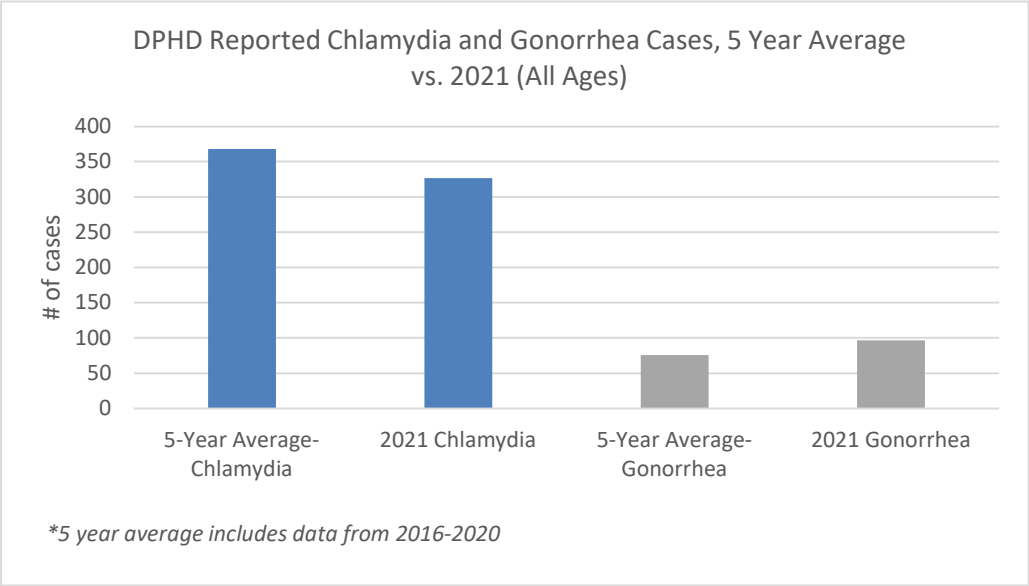
Sexually transmitted infections (STIs) are illnesses or disease that are transmitted from person to person through vaginal, oral, or anal sexual intercourse. According to the Centers for Disease Control and Prevention (CDC), one in five people in the United States has an STI. The most common STIs are chlamydia, gonorrhea, herpes, hepatitis-B and HIV.

In the Health District, chlamydia was the second most prevalent reportable disease in people of all ages and 15-64 years of age, following COVID-19. In 2021, DPHD reported 327 cases of chlamydia. Chlamydia cases have been steadily trending upwards in the Delaware Public Health District in the last decade. DPHD has also reported a steady increase in cases of gonorrhea. For 2021, 94 cases were reported to DPHD for ages 15-64, making it the third most reportable condition for that age group in 2021.

STIs, such as chlamydia and gonorrhea, are very preventable and treatable. The only way to completely avoid STIs is to practice abstinence. Fewer partners and routine testing can also reduce STI risk. For sexually active individuals, DPHD advises the correct use of latex condoms and dental dams every time you have sex as measures to reduce the risk of contracting STIs.

Open communication about sexual health status between partners and routine testing are also effective ways to mitigate the spread of STIs. It is recommended to seek treatment from a medical provider if symptoms of an STI occur, so that proper treatment and medications can be prescribed. Women who are pregnant or plan to become pregnant should speak with their doctor if they feel they are at risk for having or contracting an STI.

For more information on STIs, visit https://www.cdc.gov/std/general/default.htm

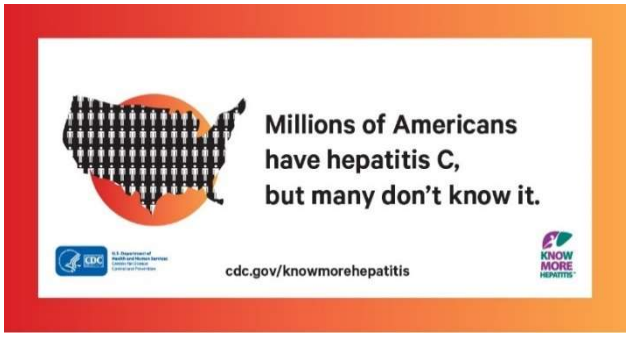


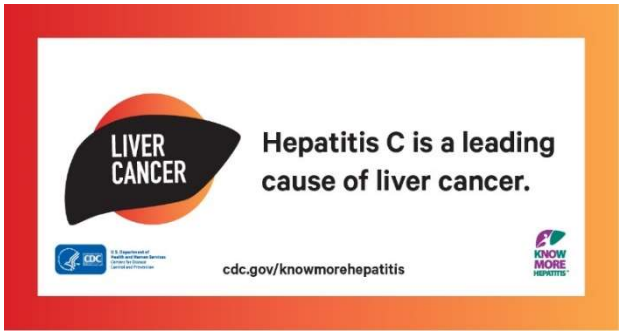
2021 DISEASE HIGHLIGHT

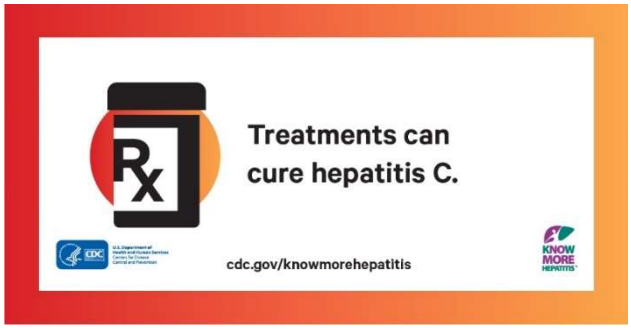
HEPATITIS C

Hepatitis C is an infection of the liver that occurs when the hepatitis-C virus enters the body. The hepatitis C virus is transmitted when a person comes in contact with blood from an infected person. This happens most often when needles or other medical devices used to administer medications or draw blood are shared between individuals. Due to the nature of the virus, many hepatitis C infections become chronic.

Often, chronic infections are asymptomatic, and when symptoms do present, they result in severe liver disease that can be life threatening. Currently, no vaccination is available for hepatitis C, and treatment for the disease is done through direct acting antiviral therapy. Prevention of the disease is best achieved through avoiding activities such as sharing needles while injecting illegal drugs and seeking testing if involved in risky behaviors. In 2021, the Delaware Public Health District identified chronic hepatitis C as the second most reportable disease in the Delaware Public Health District, following COVID-19, in residents 65+ years of age. 10 cases were reported for 2021, and the case rate has been on a steady trend upwards over the last decade.







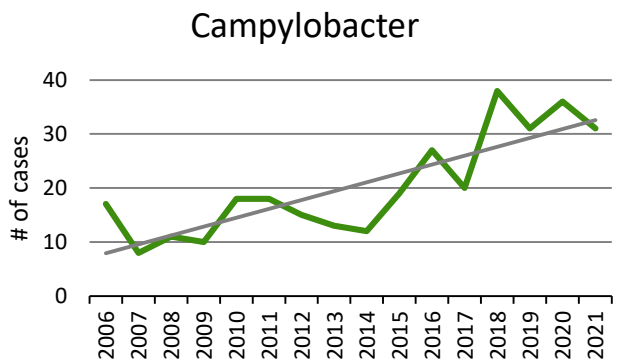
Images taken from the Centers for Disease Control and Prevention- Promotion mat https://www.cdc.gov/knowmorehepatitis/materials.htm#anchor_Posterserials for 'Know More Hepatitis™' campaign | CDC

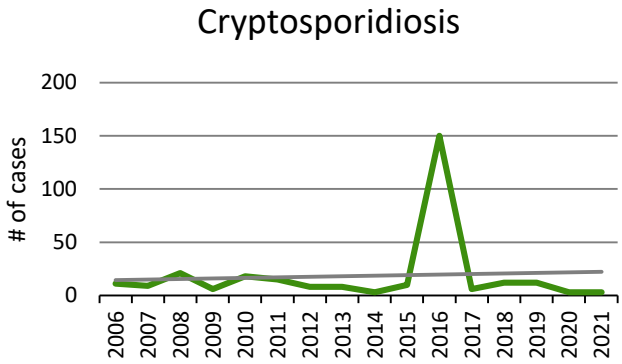
2021 DISEASE TRENDS

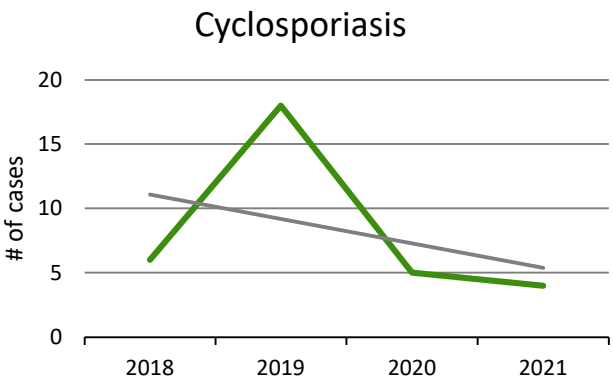
The following graphs show selected reportable diseases that have been positively or negatively trending over the past several years.

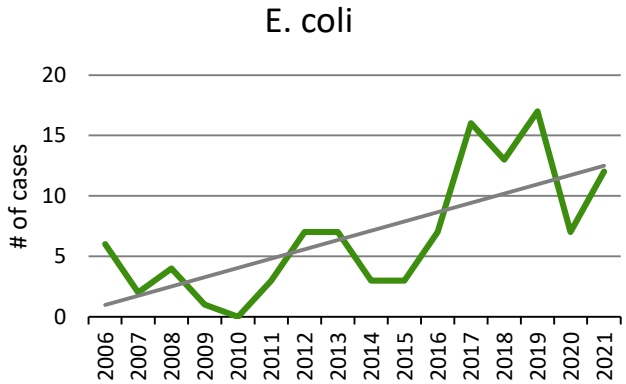
ENTERIC DISEASES

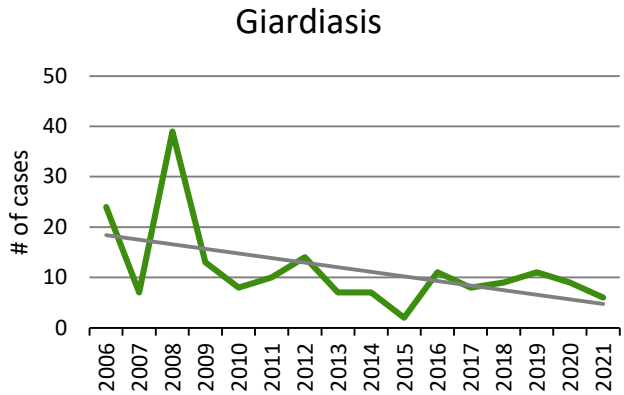
*Some reportable diseases may not be included as they have been reportable for less than 3 years or if there was insufficient data to indicate a trend.

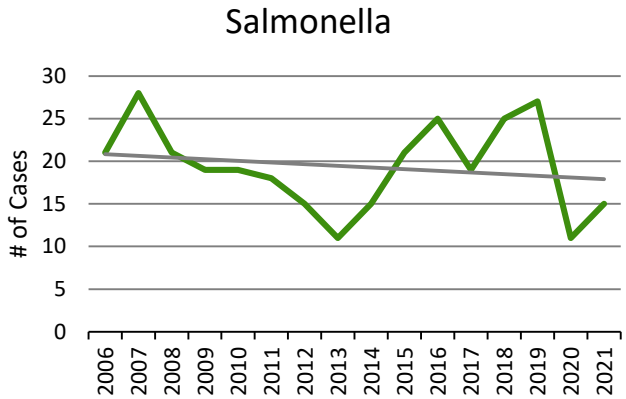


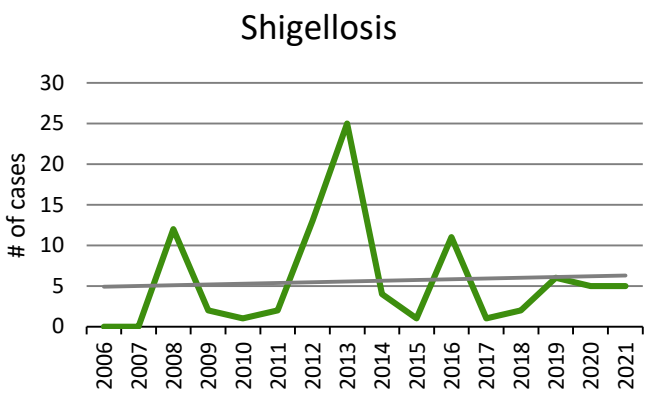


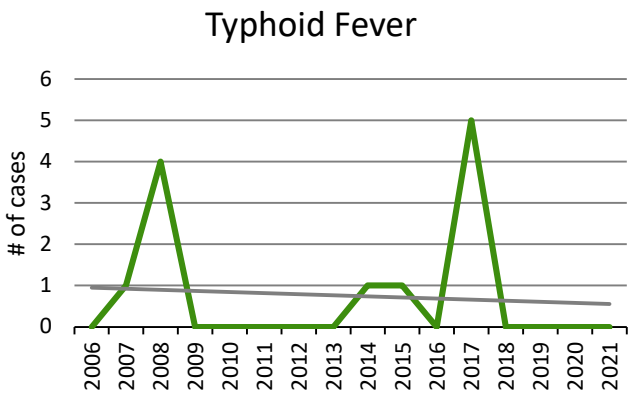


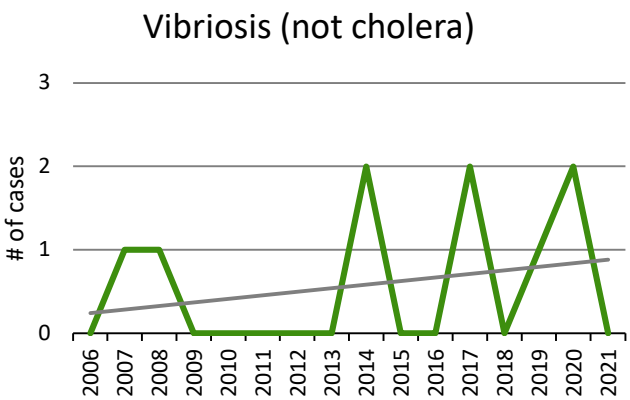


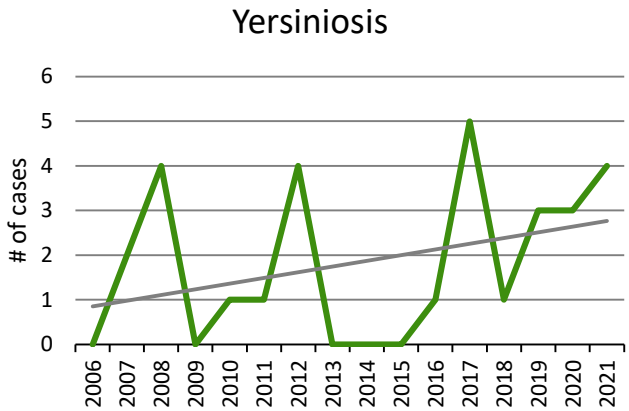




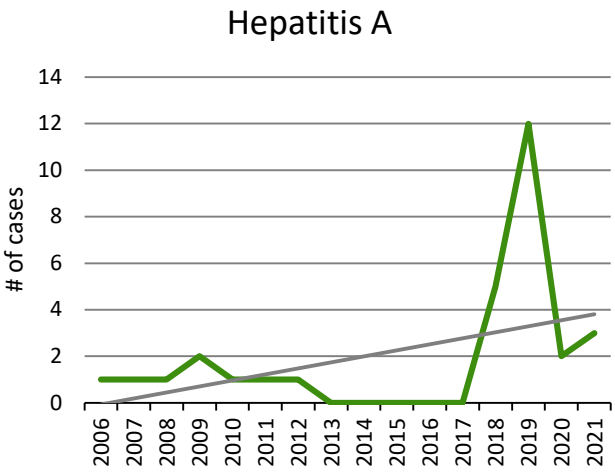


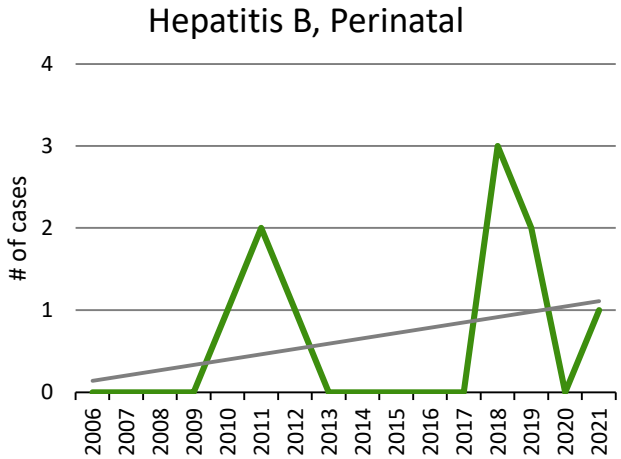


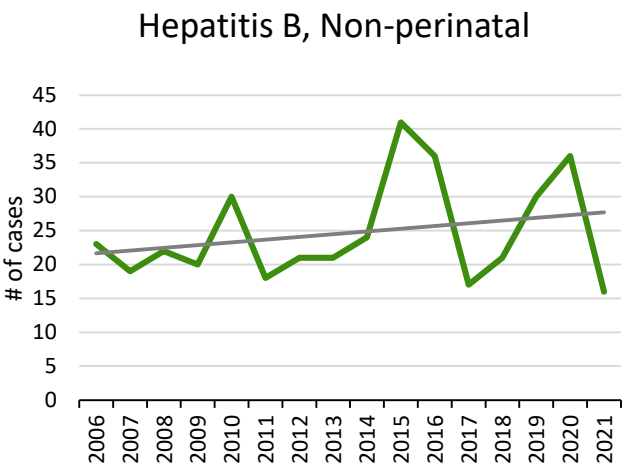


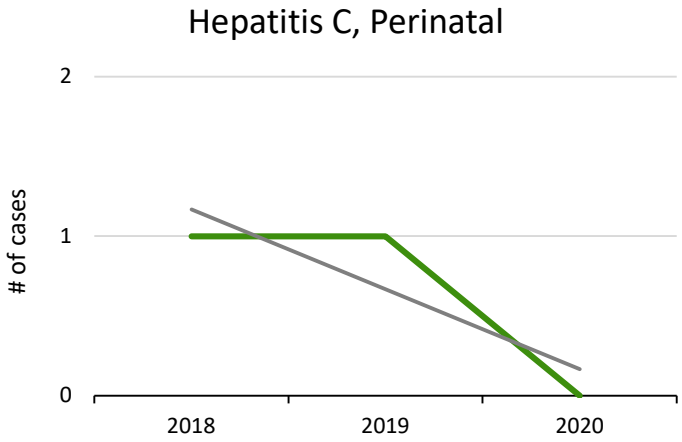


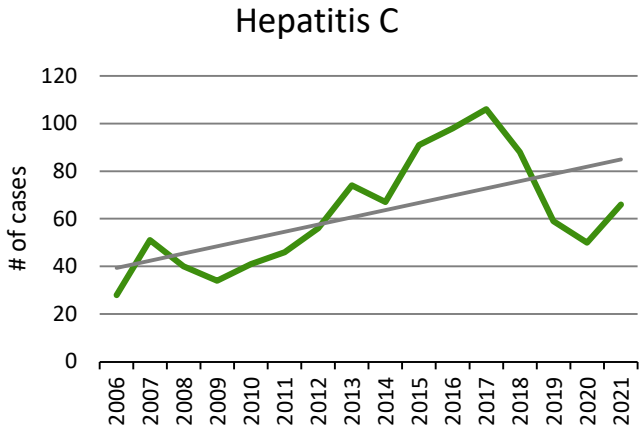
HEPATITIS DISEASES



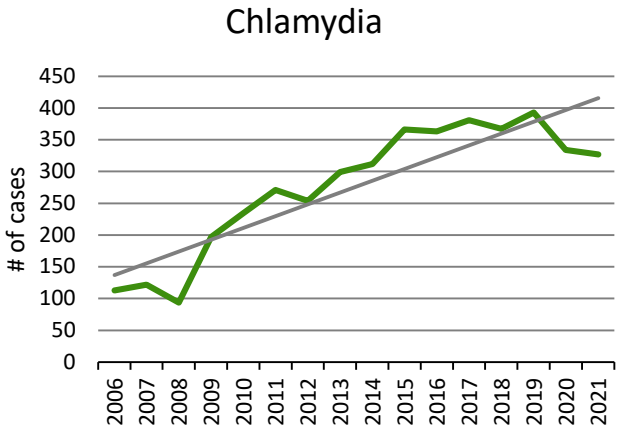


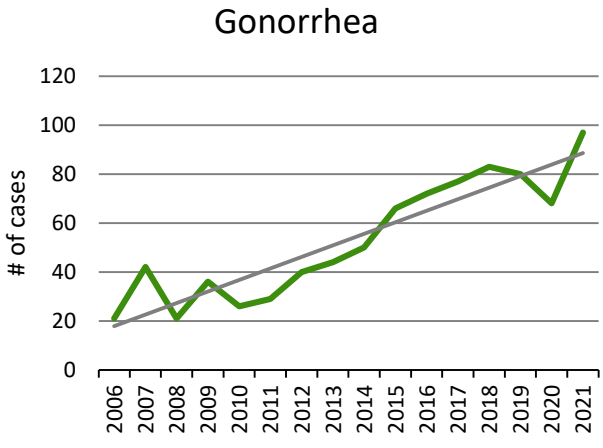


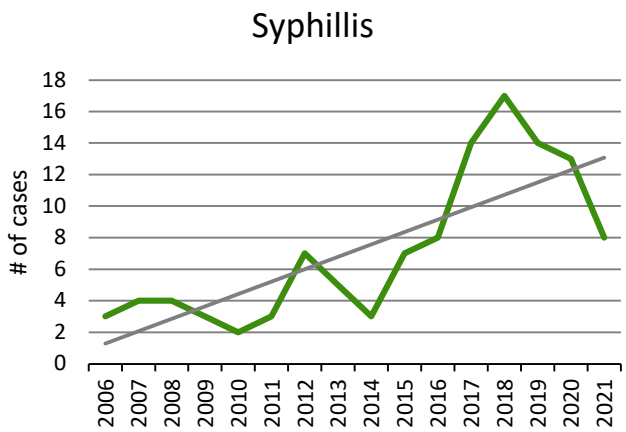




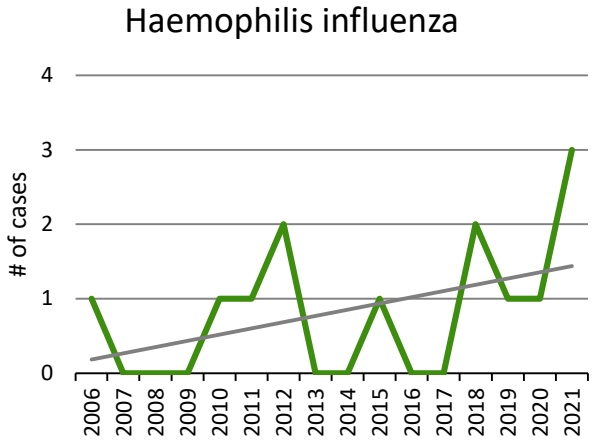
SEXUALLY TRANSMITTED DISEASES

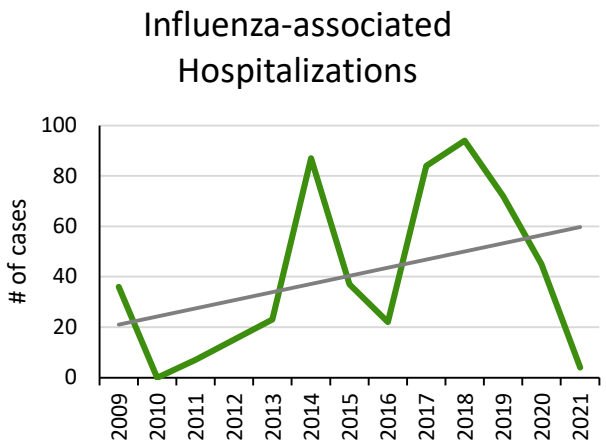


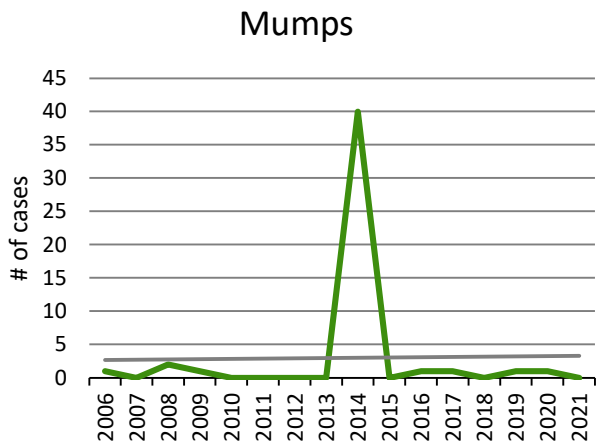


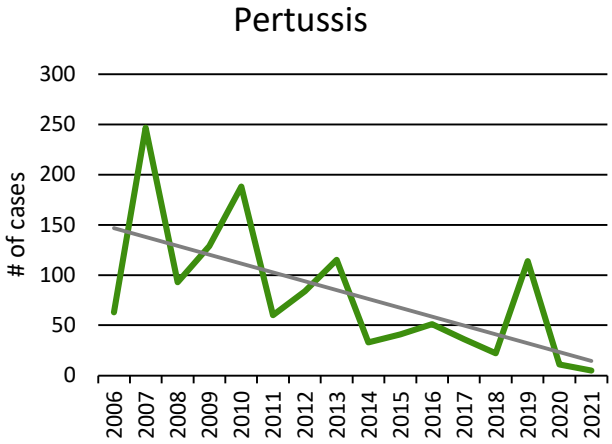


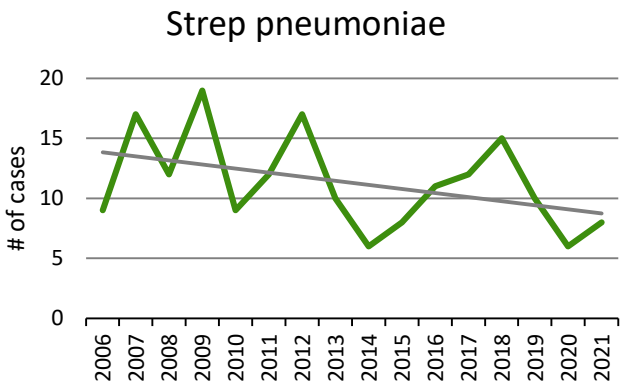
VACCINE PREVENTABLE DISEASES

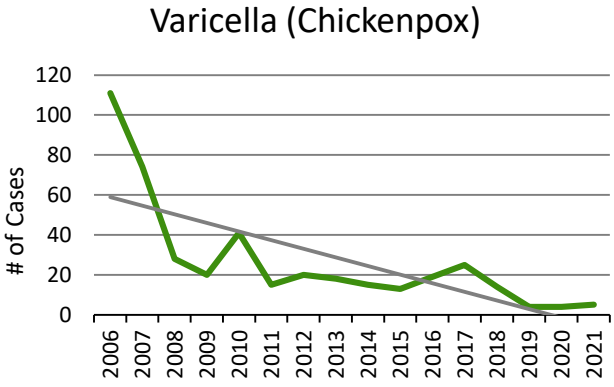




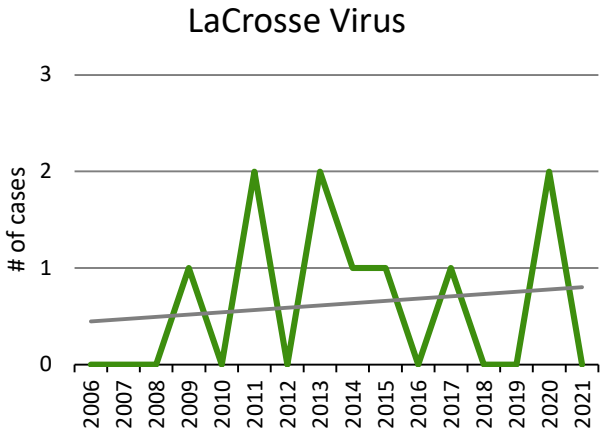


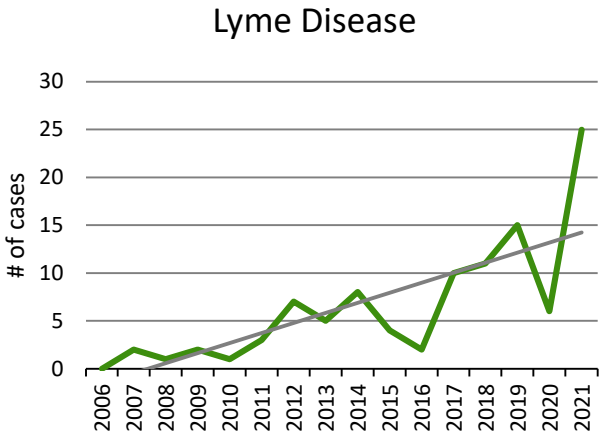


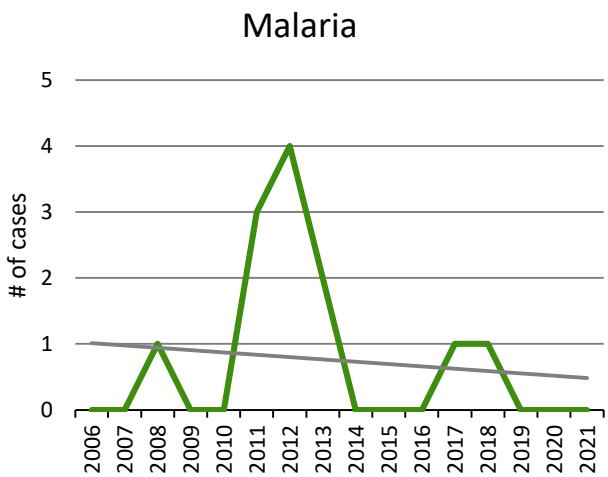


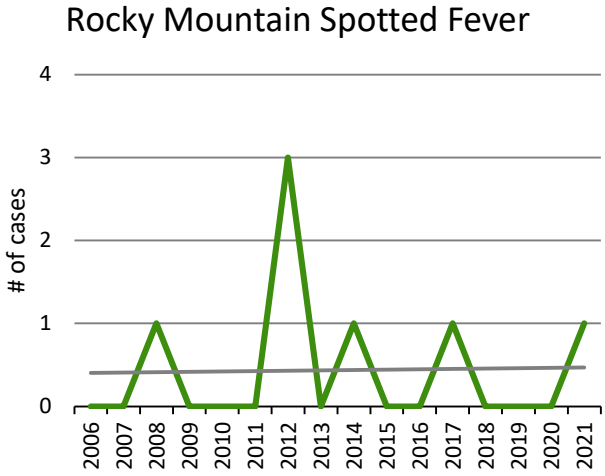


ZOONOTIC DISEASES



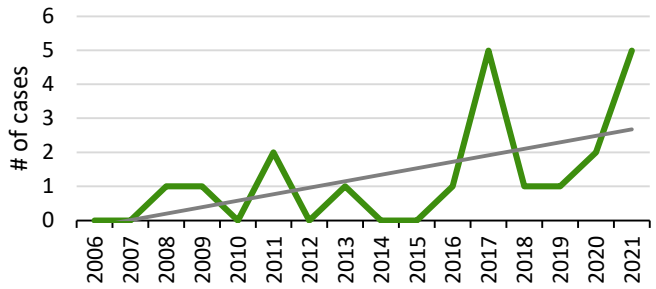




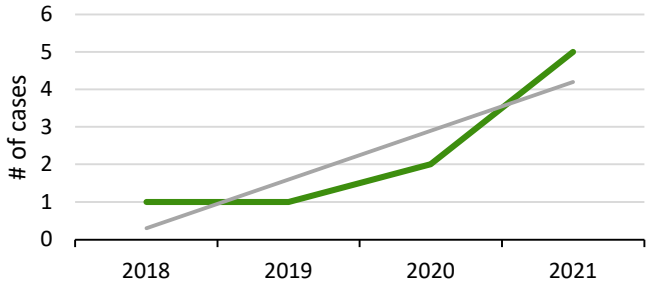


OTHER DISEASE TRENDS

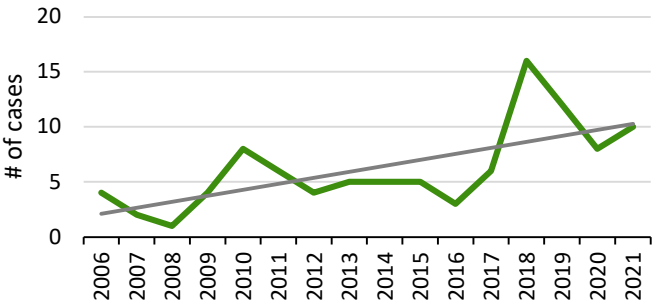
Coccidioidomycosis



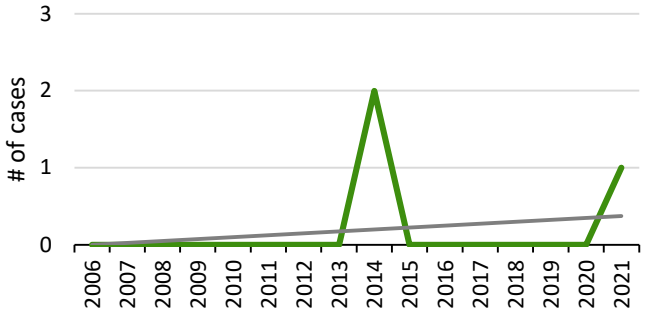
CP-CRE



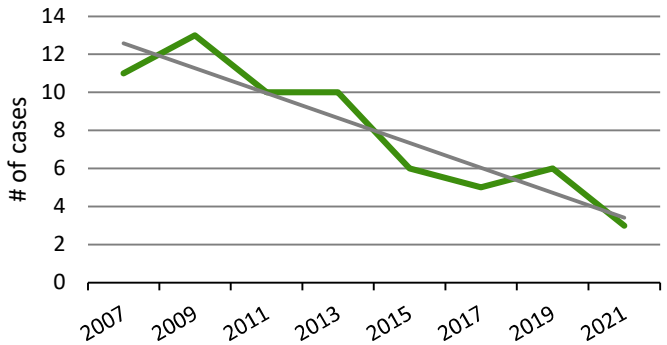
Legionellosis



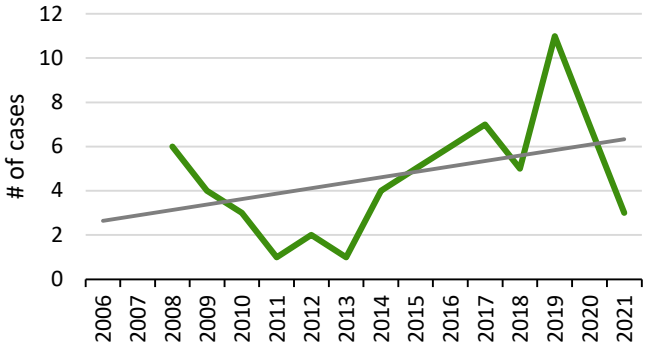
Leptospirosis



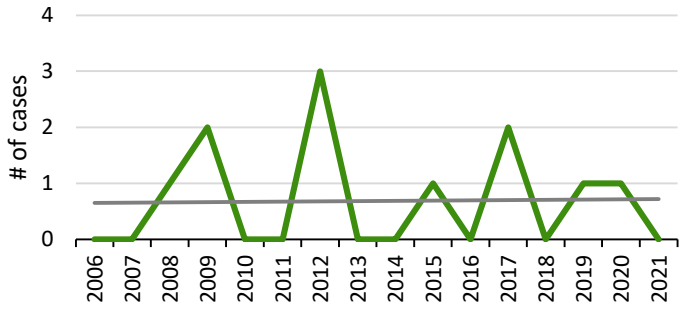
Meningitis - Aseptic/Viral



Strep - Group A - invasive



Strep - Group B - in newborn



2021 OUTBREAKS

The DPHD routinely conducts follow up on reported illnesses. An outbreak is determined based on circumstances and the agent involved or suspected to be involved. Only one case of a Class A disease is needed to be considered an outbreak. Otherwise, the definition of an outbreak is typically the occurrence of two or more cases of a similar illness with a common link. If an outbreak is determined, the DPHD initiates an outbreak investigation to confirm the agent (if possible), collect information to better define the outbreak and recommend prevention/control measures. The DPHD investigated 41 outbreaks in 2021, this is a 19.6% decrease from 2020. Suspect, probable, and confirmed outbreaks are included in the data below. If the outbreak occurred in Delaware County, all individuals linked to the outbreak are reflected in the 'Number of people ill' column below- even if an individual does not reside in Delaware County.

YEAR	2017	2018	2019	2020	2021
NUMBER OF OUTBREAKS INVESTIGATED	16	22	19	51	41

2021 Outbreak type	Agent	Number of people ill*
Gastrointestinal	Unknown	6
	Norovirus	24
Respiratory	COVID-19	6
	COVID-19	9
	COVID-19	5
	COVID-19	8
	COVID-19	16
	COVID-19	4
	COVID-19	6
	COVID-19	5
	COVID-19	2
	Respiratory Syncytial virus (RSV)	4
	COVID-19	3
	COVID-19	23
	COVID-19	7
	COVID-19	14
	COVID-19	3
	COVID-19	4
	COVID-19	4
	COVID-19	6
	COVID-19	7
	COVID-19	3

	COVID-19	6
	COVID-19	29
	COVID-19	9
	COVID-19	18
	COVID-19	18
	COVID-19	8
	COVID-19	6
	COVID-19	6
	COVID-19	11
	COVID-19	10
	COVID-19	8
	COVID-19	4
	COVID-19	11
	COVID-19	6
	COVID-19	11
	COVID-19	6
	COVID-19	11
	COVID-19	13
	COVID-19	34

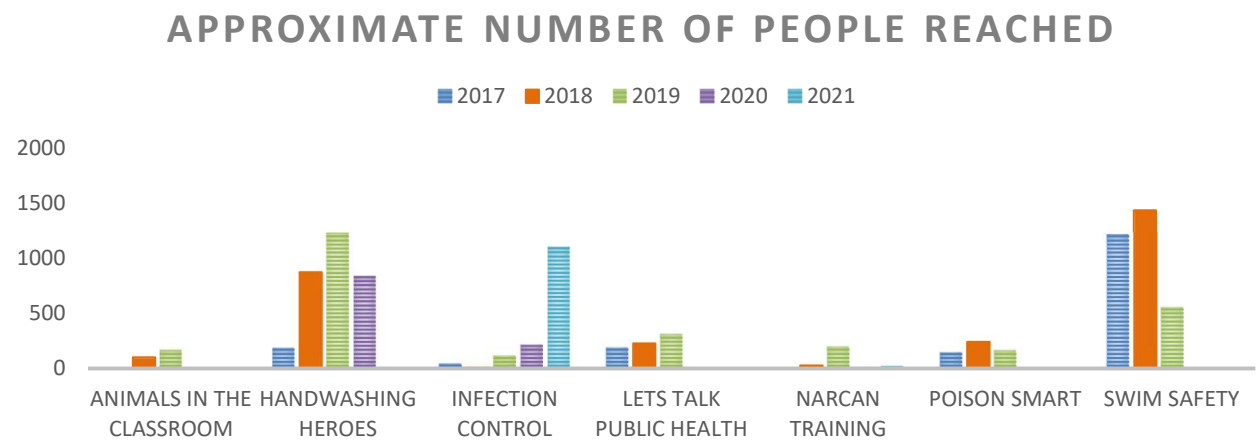
*Number of people ill are subject to change as some outbreaks have carried over into 2022 or have pending information.

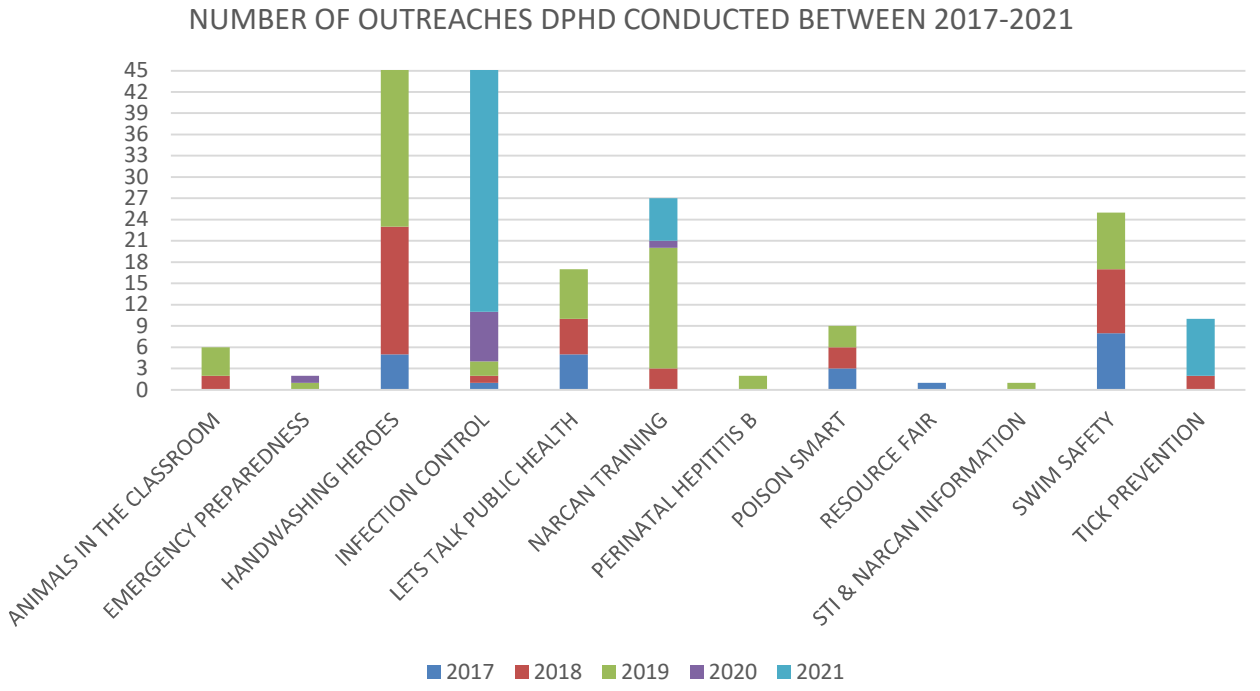
**The number of COVID-19 outbreaks may be underreported due to wide community spread making smaller outbreaks undetectable.

2021 DISEASE PREVENTION OUTREACH

In 2021, the Disease Control and Response Unit conducted 53 outreach events reaching 1,157 people in order to reduce the incidence of communicable disease and promote healthy behaviors. All these outreaches were conducted in a short five-months as in-person outreaches were suspended due to the pandemic. As a result, DPHD's outreach and education efforts concentrated on mass messaging via verbal and written education.

Additionally, the DPHD conducted Infection Control Assessment and Response [ICAR] Programs with eight long-term care facilities. These assessments systematically assess a healthcare facility's infection prevention and control (IPC) practices and guide quality improvement activities. Fit testing and ICAR data are not included in the charts below. Over the last three years, outreach events have increased throughout the county. Infection control outreach nearly doubled as the interest and need for this type of education in the community increased.





CONCLUSIONS

This report serves to describe communicable disease data and trends from 2021. The data from this report is used to drive future communicable disease investigations, planning of resources, policy development, training, and education. The number of disease investigations has increased over the past five years; this has mainly been due to the continuation and increase in the number of COVID-19 related cases reported to the Health District throughout 2020 and 2021. Additional factors may also include Delaware County population growth, better reporting, increases in disease/illness, changes in case definitions, and/or an increase in laboratory testing.

The COVID-19 pandemic has consequentially affected incidence and reporting for other communicable disease conditions. More research on how COVID-19 has impacted the field of infectious disease is needed to better understand the cause of certain increases and decreases in disease. It is important to note that correlation does not mean causation.

In 2021,

- Sexually transmitted infections decreased by 5.5% when compared to the five-year average.
- Enteric diseases decreased 36.2% when compared to the five-year average.
- Hepatitis infections decreased 22.32% when compared to the five-year average.
- Vaccine-preventable diseases decreased 81.67% when compared to the five-year average (excluding COVID-19).

COVID-19 continued to be the number one reported communicable disease for the year of 2021 across all age groups. Case numbers were up from the previous year where COVID-19 was also seen as the number one communicable disease reported; this rise could have been influenced by multiple factors. These factors could include: the reporting timeframe (in 2021 COVID-19 cases were reported for twelve months while in 2020 cases were reported for nine); increased availability of testing; changes to case definitions; changes to public health restrictions; and changes to the viruses' characteristics.

In addition, reduction in federal and state mandates continued throughout the year, and there were increased rates of transmission and spread among top emerging variants throughout 2021.With the continuation of the pandemic, individuals may have been less likely to seek medical care for non-COVID-19 conditions. The increased demand for COVID-19 related care may have delayed or decreased patient demand for non-COVID-19 related care.

While adherence to stay-at-home orders and social distancing guidelines may have partly motivated this decrease, fear of contracting COVID-19 in health care settings continued to be an important and pervasive factor. The increased use of tele-medicine may have motivated healthcare providers to diagnose clinically so the patient did not have to complete testing in person, which for some diseases is a mandatory step in the classification and follow up of the disease. Without a test, those instances are unable to be given status as a case.

Another factor to consider is the pandemic may have led to incidences of unemployment which could lead to losses of employer-sponsored insurance coverage or income reductions, exacerbating

concerns over the affordability of care for some. In addition, more individuals may have stayed home more often leading to less exposure to disease in the community. Closing of restaurants, schools, daycares, and other mass gatherings could have contributed to this decrease in certain diseases. Furthermore, continued use of masks and other PPE, an increase in number of people working from home, and social distancing may have contributed to a decrease in non-COVID-19 diseases.

In response to the COVID-19 pandemic, the Delaware Public Health District continued an Incident Command Structure until it ended in July of 2021. Due to the increase in cases brought about by the Omicron variant, the Delaware Public Health District re-initiated an Incident Command Structure in December of 2021.

APPENDIX A:

DPHD REPORTABLE DISEASE COUNTS 2017-2021

ENTERIC DISEASES

Reportable disease	2017	2018	2019	2020	2021
Campylobacteriosis	20	38	31	36	31
Cryptosporidiosis	6	12	13	3	3
Cyclosporiasis	0	6	18	7	4
E. coli, Shiga toxin-producing	16	13	17	7	12
Giardiasis	8	9	12	9	6
Salmonellosis	19	25	28	11	15
Salmonella Typhi	-	-	1	0	1
Shigellosis	1	2	5	5	5
Typhoid fever	5	0	0	0	0
Vibriosis (not cholera)	2	0	1	2	0
Yersiniosis	5	1	4	3	4
TOTAL	**82**	**106**	**130**	**83**	**81**

HEPATITIS

Reportable disease	2017	2018	2019	2020	2021
Hepatitis A	0	5	12	2	3
Hepatitis B, Perinatal	0	3	2	0	1
Hepatitis B Non-Perinatal	17	21	30	36	16
Hepatitis C Perinatal	-	1	1	0	0
Hepatitis C Non-Perinatal	106	87	58	49	49
TOTAL	**123**	**117**	**103**	**87**	**69**

SEXUALLY TRANSMITTED INFECTIONS

Reportable disease	2017	2018	2019	2020	2021
Chlamydia infection	381	367	396	334	327
Gonococcal infection	77	83	80	68	97
Syphilis	14	17	14	13	8
TOTAL	**472**	**467**	**490**	**415**	**432**

HIV/AIDS information can be found at ODH HIV/AIDS Surveillance Data

TUBERCULOSIS

Reportable disease	2017	2018	2019	2020	2021
Tuberculosis	2	2	2	0	1

VACCINE PREVENTABLE

Reportable disease	2017	2018	2019	2020	2021
COVID-19	-	-	-	10,522	18,381
Haemophilis influenza	0	2	1	1	1
Influenza-associated hospitalization	84	94	73	45	3
Influenza-associated pediatric deaths	0	0	0	0	0
Measles	0	0	1	0	0
Meningococcal disease	0	0	0	0	0
Mumps	1	0	1	1	0
Pertussis	36	22	115	11	5
Strep pneumoniae, invasive	12	15	10	6	8
Varicella	25	14	4	4	5
TOTAL	**158**	**144**	**205**	**68***	**22***

*Totals do not include COVID-19 cases

ZOONOTIC

Reportable disease	2017	2018	2019	2020	2021
Anaplasmosis	0	0	1	0	0
Babesiosis	0	0	2	0	0
Chikungunya	0	0	1	0	0
LaCrosse virus	1	0	0	2	0
Lyme disease	10	11	15	6	25
Malaria	1	1	0	0	0
Rocky Mountain Spotted Fever	1	0	0	0	1
St Louis encephalitis	0	1	0	0	0
West Nile	0	0	0	0	0
Zika	0	0	0	0	0
Other Arthropod-borne Disease	-	-	1	1	0
TOTAL	**13**	**13**	**19**	**9**	**26**

OTHER REPORTABLE CONDITIONS

Reportable Disease	2017	2018	2019	2020	2021
Botulism – infant	0	0	0	0	0
Brucellosis	0	0	1	0	0
Coccidioidomycosis	5	1	1	2	5
CP-CRE*	-	1	1	2	2
Hemolytic Uremic Syndrome (HUS)	0	0	0	0	0
Legionellosis - Legionnaires' Disease	6	16	12	8	10
Leptospirosis	0	0	0	0	1
Listeriosis	0	1	0	0	0
Meningitis (aseptic/viral)	5	7	6	4	3

OTHER REPORTABLE CONDITIONS CONT.	2017	2018	2019	2020	2021
Meningitis (bacterial)	1	1	0	0	2
Streptococcal - Group A -invasive	7	5	11	7	3
Streptococcal - Group B - in newborn	2	0	1	1	0
Streptococcal Toxic Shock Syndrome (STSS)	0	0	0	0	0
Tularemia	0	1	0	0	0
TOTAL	**26**	**33**	**33**	**24**	**26**

- Indicates that disease was not reportable during coinciding year

**Carbapenemase-producing carbapenem-resistant Enterobacteriaceae*

REPORTABLE DISEASES: 0 CASES IN DELAWARE COUNTY 2021

Amebiasis
Anaplasmosis
Anthrax
Babesiosis
Botulism- foodborne
Botulism- wound or infant
Candida Auris
Chancroid
Chikungunya
Cholera
Creutzfeldt-Jakob disease
Dengue
Diphtheria
Eastern equine encephalitis
Ehrlichiosis/anaplasmosis
Hantavirus
Hemolytic uremic syndrome
Hepatitis D (delta hepatitis)
Hepatitis E
Influenza - associated pediatric mortality
LaCrosse virus
Leprosy (Hansen's disease)
Listeriosis
Malaria
Meningococcal disease
Middle East respiratory syndrome (MERS)
Plague
Poliomyelitis
Powassan virus disease
Psittacosis
Q fever
Rabies (human)
Rubella (congenital)
Rubella (not congenital)
Salmonella Paratyphi
Severe acute respiratory syndrome (SARS)
Smallpox
St Louis Encephalitis
Staphylococcus aureus (with resistance or intermediate resistance to vancomycin)
Streptococcal toxic shock syndrome
Tetanus
Toxic shock syndrome
Trichinellosis
Tuberculosis
Tularemia
Typhoid fever
Vibriosis (not cholera)
Viral hemorrhagic fevers
West Nile virus infection
Western equine encephalitis virus
Yellow fever
Zika virus