

Population Health Vital Statistics Brief:

Communicable Diseases, 2011-2017

The *Population Health Vital Statistics Data Brief* series was created to provide regular updates to the 2016 Community Health Assessment and to provide the community with additional important information about population health. For more information on the Community Health Assessment and to access other reports in the *Vital Statistics Data Brief* series, please visit scph.org/assessments-reports



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Introduction

This publication is the fourth of several brief reports to be released by the Summit County Public Health, Population Health Division's Communicable Disease Brief report series. These reports will provide the citizens of Summit County with regular updates on notifiable infectious diseases as mandated by state of Ohio. For those interested in obtaining detailed communicable disease data and related statistics, please visit our website, www.scphoh.org/PAGES/REPORTS.html. There, visitors can access our monthly and annual summary reports on reportable communicable diseases. Also, visitors can access an interactive communicable disease dashboard by visiting our website, <http://www.scphoh.org/DataDashboards.html>, which allows users to design customized graphics and tables for their own use.

Communicable Diseases Defined

Communicable diseases (CD) are illnesses caused by pathogenic microorganisms, such as bacteria, viruses, parasites or fungi, which can be spread directly or indirectly from one infected person or animal to another. While all of these diseases damage human health, several diseases pose a much greater risk. These risks include diseases that can quickly cause severe disability or death (such as Ebola), or diseases like certain types of Hepatitis, which can become chronic and therefore difficult or impossible to cure), while others are both dangerous and can spread very quickly (such as measles or influenza).

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For this reason, Ohio and other states maintain a list of the most dangerous diseases and require health providers to report cases that come to their attention. According to Ohio Administrative Code 3701-3, it is mandatory for health providers to report all suspected infectious disease cases on its list to the State of Ohio and local public health agencies.¹ These communicable diseases are often referred to as reportable diseases.²

Before moving on to the report itself, two important terms that are talked about in this report need to be defined. The first is the *incidence* of each disease. Incidence refers to the number of new cases of a disease that arise each year. The second is the *prevalence* of each disease in the population. Prevalence is the number of cases of a given disease that already exist in the population before any new cases are counted. Both incidence and prevalence are normally presented as a rate per 100,000 people.

Communicable Disease Trends in Summit County, 2011 - 2017

The incidence rate of all communicable disease cases in Summit County has been rising steadily for much of the past decade. Between 2011 and 2017, the incidence of total infectious disease cases has increased by 78.8%. Figure 1 compares the total number of annual communicable disease incidence rate per 100,000 people from 2011 to 2017.

The five communicable diseases with the highest incidence rates in 2017 were: 1) Chlamydia Infection, 2) Gonococcal infection, 3) Influenza, 4) Hepatitis C-Chronic, and 5) Salmonellosis. Depending on the type of disease, which population is at the highest risk varies. For more details about specific diseases, please check our annual communicable disease reports with details for different diseases. These can be found on our website, <http://www.scphoh.org/PAGES/REPORTS.html>.

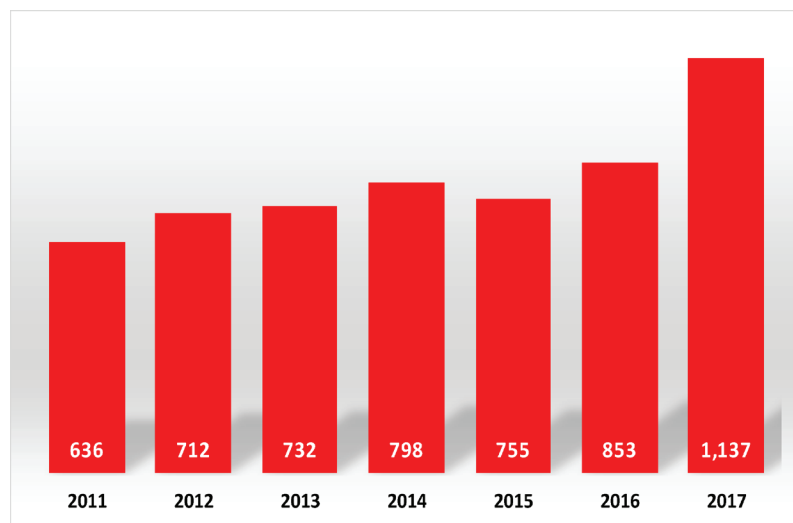


Figure 1: Incidence Rate of Communicable Diseases in Summit County per 100,000 Population, 2011-2017

Source: Ohio Disease Reporting System

Sexually Transmitted Infections (STI) in Summit County, 2011 - 2017

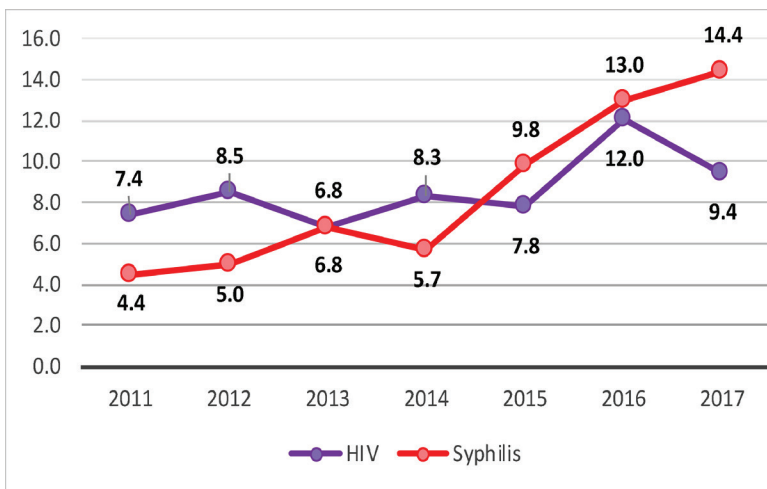
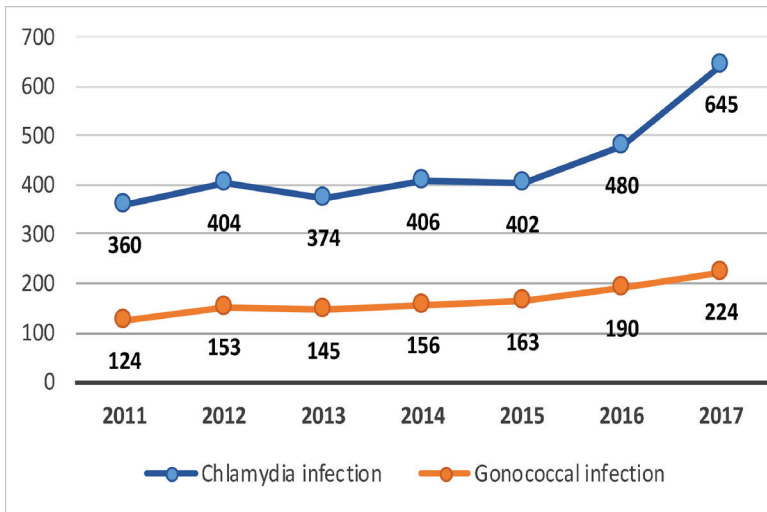
Chlamydia and Gonorrhea – Chlamydia and gonorrhea are the two most prevalent STIs in Summit County. Chlamydia is among the most common of all STIs and the most commonly reported, followed by gonorrhea. Figure 2 demonstrates the continuous growth in the annual incidence of chlamydia and gonorrhea in Summit County from 2011 to 2017. During those 10 years, the incidence rate of chlamydia cases increased by 79%, while the incidence rate of gonorrhea increased by 80%. Combined, the incidence rates for chlamydia and gonorrhea increased by 80% between 2011 and 2017. These diseases were also more prevalent among African-American females than males or members of other races (of either gender).

Syphilis – Unlike chlamydia and gonorrhea, the incidence rate for syphilis has fluctuated a great deal in recent years. Between 2011 and 2014, the county's syphilis incidence rate dropped fluctuated between 4 and 6 cases per 100,000. Since then, cases have risen steadily, and are now more than double 2014's total; a 225% increase [Figure 3]. Nationally, the syphilis incidence rate rose consistently from its low point in 2002. This continuous rise in the national incidence rate was primarily attributed to increased cases among men who have sex with men (MSM).³ Summit County statistics show a similar trend. In 2016, 93% of the reported cases of syphilis were among men; 76% of those cases were associated with MSM.

HIV – Human immunodeficiency virus (HIV) incidence rates in Summit County have fluctuated between 7 and 9 cases per 100,000, with a one-year

Enteric Diseases in Summit County, 2011 - 2017

Enteric infections are diseases of the intestines which are usually spread through contaminated food and water or by contact with vomit or feces. The CDC has reported that 1 in 6 Americans gets sick by consuming contaminated foods or beverages.⁵ Summit County tracks and reports data on the following enteric diseases: campylobacteriosis, cryptosporidiosis, giardia, hepatitis A, salmonellosis, and shigellosis. Figure 4 presents a comparison of the total number of annual reported enteric disease cases and the incidence rate per 100,000 people of all reported enteric cases from 2011 to 2017. From 2006 to 2008, there was a 60% increase in the annual rate of enteric cases. After declining from 34 cases per 100,000 in 2013 to 23.7 cases per 100,000 in 2016, cases increased to nearly 30 per 100,000 in 2017.



peak of 12 cases per 100,000 in 2016. According to the Centers for Disease Control and Prevention (CDC), more than 1.2 million people in the U.S. are living with HIV. Of those 1.2 million, about 1 in 8 do not know they are infected with HIV.⁴ From 2011 to 2017, the incidence of reported HIV cases in Summit County increased by 28%. African American MSM accounted for the largest number of reported HIV cases, followed by white gay and bisexual men.

Among the six enteric diseases, salmonellosis was the most commonly reported in 2017, while campylobacteriosis was the second most-commonly reported.

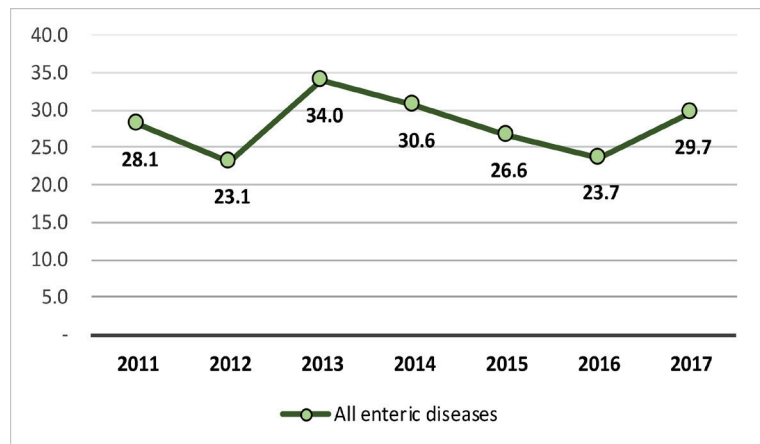


Figure 4: Incidence Rate of Enteric Diseases in Summit County per 100,000 Population, 2011-2017 Source: Ohio Disease Reporting System

As Figure 5 shows, children under 18 years have the highest risk of getting an enteric disease.

People who get either disease are more likely to develop liver failure,

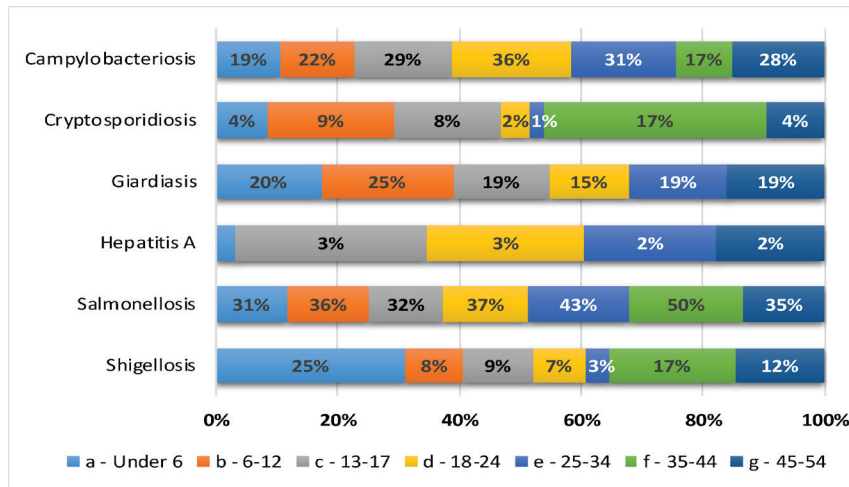


Figure 5: Age Distribution of Enteric Diseases, Summit County 2011-2017
Source: Ohio Disease Reporting System

liver cancer or cirrhosis of the liver.

Figure 6 compares the total annual number of cases of blood-borne viral hepatitis (acute and chronic) infections from 2011 to 2017. Other than a one year spike in 2014, incidence rates for blood-borne viral hepatitis have been rising steadily, by about 5% per year. Incidence rates rose from 58.4 per 100,000 in 2011, spiked at nearly 80 per 100,000 in 2014, and stood at 75.4 per 100,000 in 2017.

Blood-borne Viral Hepatitis in Summit County, 2011 - 2017

The word “Hepatitis” means inflammation of the liver. There are several types of Hepatitis, with Hepatitis B and Hepatitis C being the most common type in the U.S. Both Hepatitis B and C have an acute phase (a short-term phase when the effect of the disease is at its height) and a chronic phase where the disease lasts

Hepatitis C is a blood-borne virus. Most people are infected by this virus by sharing needles or equipment to inject drugs. From 2011 to 2017, chronic Hepatitis C increased by 15%, with much of that increase coming between 2013 and 2016. That includes an 85% increase in chronic Hepatitis C between 2015 and 2016. It is perhaps no coincidence that a large increase in the number of opiate-related drug overdoses in Summit County began to develop during these same years. In fact, in 2016 Summit County had almost as many drug overdose-related visits to an emergency room

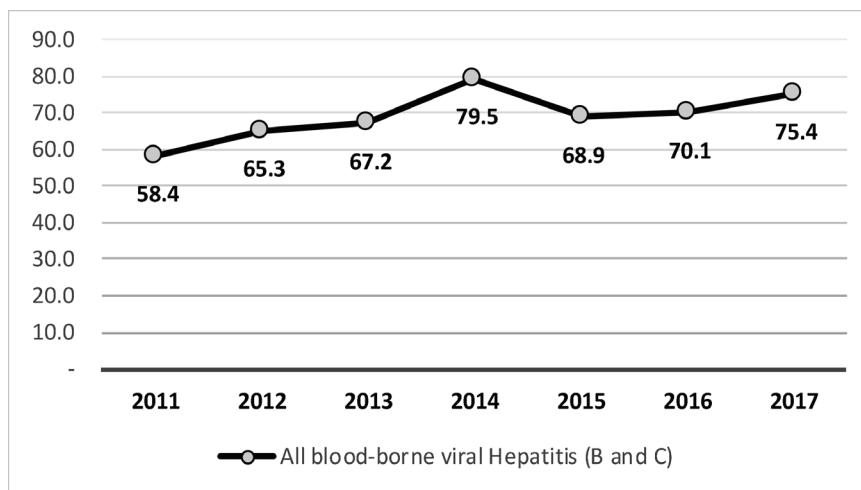


Figure 6: Number and Incidence Rate of Blood-Borne Viral Hepatitis Cases Per 100,000 People, 2011 - 2017
Source: Ohio Disease Reporting System

(2,431) than the previous three years combined. While precise figures are difficult to estimate, it is clear that the vast majority of these overdoses were driven by opiates, which are most often injected into the blood stream by users. Figure 8 displays a monthly comparison of reported chronic hepatitis C cases

and drug overdose cases in Summit County with the average number of cases reported in last four years (2012 to 2015) respectively. Chronic Hepatitis C cases were above the average for all

the months in 2016 except in the month of April. With the spike of drug overdose cases from the month of June, we can see a similar pattern in reported chronic Hepatitis C cases as well.

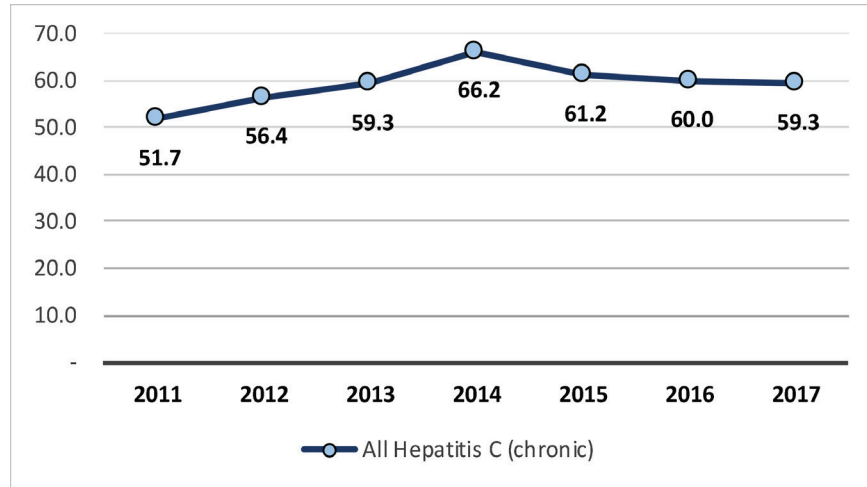


Figure 7: Number and Incidence Rate of Hepatitis C Per 100,000 People, 2011 - 2017 Source: Ohio Disease Reporting System

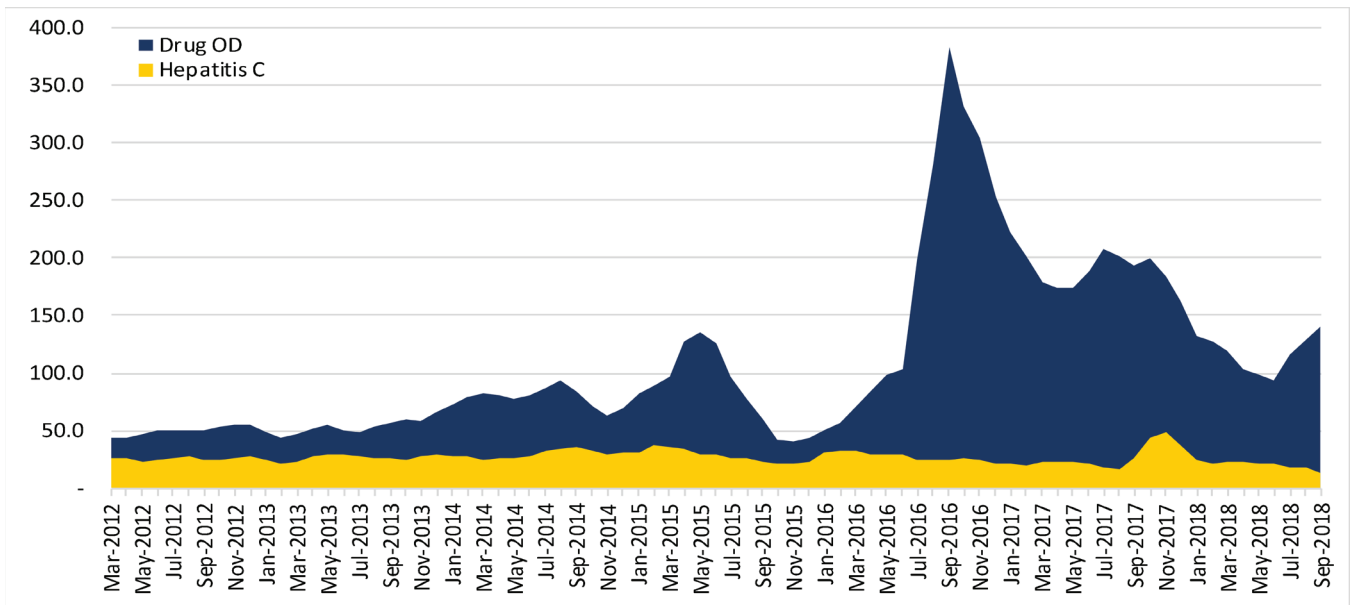


Figure 8: Monthly Chronic Hepatitis C and Drug Overdose Cases, 2012-2016 Source: Ohio Disease Reporting System

Seasonal Influenza in Summit County, 2011 -2017

Influenza (flu) is a contagious respiratory illness caused by one of several influenza viruses that circulate through the population (H1N1, H3N2, etc.). Flu is normally transmitted by the airborne spread of droplets or direct contact with mucous membranes of infected individuals. Influenza can cause a variety of symptoms that run from mild to severe. The most serious infections can result in hospitalization or death. CDC recommends a yearly flu vaccine for everyone 6 months and older.

Influenza A viruses is the most commonly reported influenza virus seen in Summit County, followed by the influenza B virus. Figure 9 shows the annual number of influenza-associated hospitalization cases in Summit County from 2006 to 2016. Reported cases of influenza-associated hospitalization cases spiked in 2009, rising from just two cases in 2008 to 149 cases in 2009.⁶ influenza-associated hospitalization cases declined sharply in 2010, then began an even sharper rise since then, hitting 202 cases in 2014; the highest reported number of cases in seen in the previous 11 years. From 2014 to 2016, influenza-

associated hospitalization again dropped by 41%.

Figure 10 and Figure 11 show the number of monthly emergency room (ER) visits related to flu and influenza like illness (ILI) symptoms in 2016, broken out by both age and gender. Children age 10 years or younger were at higher risk for flu compared to other age groups.

As with other communicable diseases, Summit County Public Health conducts county-wide yearly seasonal influenza surveillance. It begins from the month of October and ends in May. Depending on the timing of the influenza cases, the surveillance may last longer. For detailed weekly reports on flu activity in Summit County, please visit our website.

Notes:

1 Ohio Laws and Rules, 2010 Census. (2017). 3701-3-12 AIDS, ARC, and HIV test reporting. Retrieved from <http://codes.ohio.gov/oac/3701-3-12>

2 Ohio Department of Health (ODH).(2016), Ohio’s Reportable Infectious Diseases . Retrieved from <http://www.odh.ohio.gov/odhprograms/bid/orbitdis/repid1.aspx>

3 Centers for Disease Control and Prevention (CDC). (2016). 2015 Sexually Transmitted Disease Surveillance. Retrieved from <https://www.cdc.gov/std/stats15/default.htm>

4 Centers for Disease Control and Prevention (CDC). (2016). HIV in the United States: At a Glance. Retrieved from <https://www.cdc.gov/hiv/statistics/overview/ataglance.html>

5 U.S. Centers for Disease and Prevention. (2016). Foodborne Germs and Illnesses. Retrieved from <http://www.cdc.gov/foodsafety/foodborne-germs.html>

6 The 2009 spike was caused by a multi-national outbreak of the H1N1 influenza virus. The H1N1 influenza virus circulating in 2009 was genetically similar to the H1N1 virus that caused a massive world-wide outbreak in 1918 that infected an estimated 500 million and killed at least 20 million people.

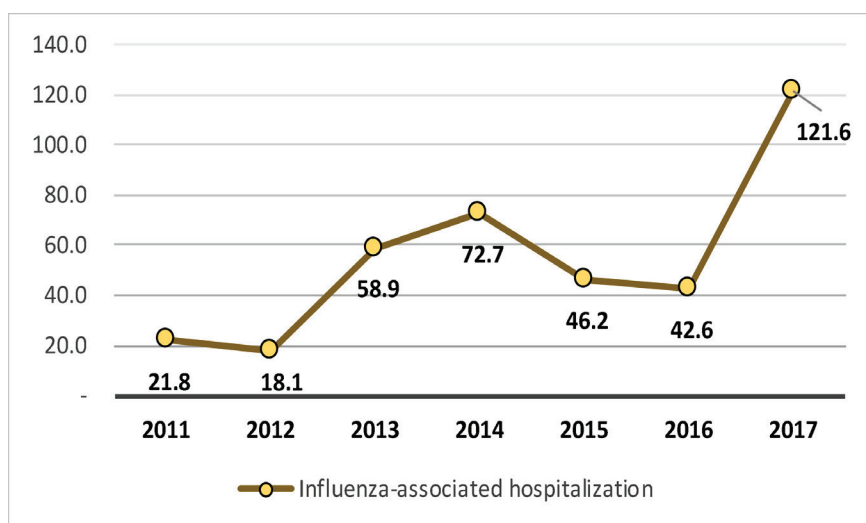


Figure 9: Influenza-Associated Hospitalizations, 2011 - 2017
Source: Ohio Disease Reporting System