

Annual
Communicable
Disease Report

2019



Public Health
Prevent. Promote. Protect.

**Dayton &
Montgomery
County**

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Prepared by:

Public Health - Dayton & Montgomery County

For comments and information requests:

Public Health - Dayton & Montgomery County
Epidemiology Section
117 South Main Street
Dayton, Ohio 45422-1280

Email: epi@phdmc.org

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Introduction

The 2019 Annual Communicable Disease Report presents a five-year (2015-2019) overview of the incidence and rates of confirmed reportable diseases that occurred in Montgomery County. Also included in this report, are the top reportable diseases for all of Montgomery County, 0 to 17-year-olds, and those aged 65 years and older. The final sections of the report contain a summary of group A streptococcal disease, an emerging infectious disease in 2019, as well as demographic characteristics of sexually transmitted diseases.

Refer to the Infectious Disease Control Manual (IDCM) published by the Ohio Department of Health for information on prevention, control, and reporting of communicable diseases. The IDCM is based on the Ohio Administrative Code (OAC) Chapter 3701-3. The OAC designates the diseases to report to the local health department and the time frame to report them.

Data for this report came from the Ohio Disease Reporting System (ODRS).

Public Health - Dayton & Montgomery County's Epidemiology section prepared the 2019 Annual Infectious Disease Report.

Reportable Communicable Diseases Montgomery County, 2015-2019

General Infectious Diseases	2015		2016		2017		2018		2019	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Botulism, infant**	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0
Campylobacteriosis	28	5.3	31	5.8	16	3.0	25	4.7	11	2.1
Carbapenemase-producing carbapenem-resistant Enterobacteriaceae (CP-CRE)	*	NA	*	NA	*	NA	6	1.1	15	2.8
Cryptosporidiosis	6	1.1	31	5.8	19	3.6	11	2.1	25	4.7
<i>E. coli</i> 0157:H7 and other enterohemorrhagic <i>E. coli</i>	11	2.1	8	1.5	4	0.8	8	1.5	6	1.1
Giardiasis	10	1.9	18	3.4	14	2.6	5	0.9	9	1.7
<i>Haemophilus influenzae</i> (invasive disease)	14	2.6	10	1.9	15	2.8	14	2.6	20	3.8
Hemolytic uremic syndrome (HUS)	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0
Legionnaires' disease	50	9.4	27	5.1	24	4.5	59	11.1	45	8.5
Listeriosis	1	0.2	0	0.0	0	0.0	1	0.2	1	0.2
Meningitis, aseptic (viral)	45	8.5	20	3.8	19	3.6	15	2.8	13	2.4
Meningitis, bacterial	9	1.7	9	1.7	14	2.6	16	3.0	8	1.5
Mycobacterial disease, other than tuberculosis (MOTT)	34	6.4	*	NA	*	NA	*	NA	*	NA
Salmonellosis	68	12.8	70	13.2	52	9.8	51	9.6	39	7.3
Shigellosis	23	4.3	88	16.5	32	6.0	12	2.3	7	1.3
<i>Staphylococcus aureus</i>, with resistance or intermediate resistance to vancomycin (VRSA, VISA)	0	0.0	0	0.0	0	0.0	1	0.2	1	0.2
Streptococcal disease, group A, invasive	20	3.8	36	6.8	43	8.1	58	10.9	89	16.7
Streptococcal disease, group B, newborn**	5	0.8	3	0.5	2	0.3	1	0.2	3	0.5
<i>Streptococcus pneumoniae</i>, invasive	49	9.2	61	11.5	62	11.7	81	15.2	71	13.3
Toxic shock syndrome	0	0.0	0	0.0	1	0.2	1	0.2	0	0.0
Tuberculosis	6	1.1	7	1.3	5	0.9	5	0.9	6	1.1
Typhoid fever	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
Yersiniosis	1	0.2	0	0.0	1	0.2	0	0.0	1	0.2

Notes:

*Not reportable this year

**Rates use National Center for Health Statistics population estimates and are per 100,000 population or are per 1,000 live births (infant/newborn).

Data reported through February 10, 2020

Class A Diseases:

Class A	2015	2016	2017	2018	2019
	#	#	#	#	#
Meningococcal disease	0	1	0	1	1

Note:

Data reported through February 10, 2020

Hepatitis:

Hepatitis	2015		2016		2017		2018		2019	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Hepatitis A*	1	0.2	0	0.0	1	0.2	213	40.0	65	12.2
Hepatitis B	86	16.2	85	16.0	104	19.6	77	14.5	49	9.2
Hepatitis C	966	181.6	757	142.3	793	149.2	496	93.2	446	83.8

Notes:

*Vaccine-preventable

Rates use National Center for Health Statistics population estimates and are per 100,000 population

Data reported through February 10, 2020

Vaccine-preventable:

Vaccine-preventable	2015		2016		2017		2018		2019	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Influenza-associated hospitalization	251	47.2	255	47.9	914	171.9	733	137.7	852	160.1
Influenza-associated pediatric mortality	0	0.0	0	0.0	1	0.8	0	0.0	0	0.0
Mumps	0	0.0	22	4.1	4	0.8	1	0.2	0	0.0
Pertussis	49	9.2	45	8.5	92	17.3	77	14.5	75	13.7
Varicella	5	0.9	3	0.6	6	1.1	10	1.9	6	1.1

Notes:

Rates use National Center for Health Statistics population estimates and are per 100,000 population

Data reported through February 10, 2020

Zoonotic Diseases:

Zoonotic	2015		2016		2017		2018		2019	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Lyme disease	4	0.8	5	0.9	2	0.4	3	0.6	2	0.4
Malaria	2	0.4	5	0.9	7	1.3	2	0.4	5	0.9
West Nile virus	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0
Zika virus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Notes:

Rates use National Center for Health Statistics population estimates and are per 100,000 population

Data reported through February 10, 2020

HIV:

HIV*	2015	2016	2017	2018	2019
	#	#	#	#	#
Female	7	12	10	4	16
Male	42	41	54	60	76
Total	49	53	64	64	92

Notes:

*Number of cases may be adjusted depending on data received from ODH.

Data reported through February 10, 2020

Sexually Transmitted Diseases (STDs):

Sexually Transmitted*	2015		2016		2017		2018		2019	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Chlamydia	3,102	583.3	3,504	658.8	3,156	593.6	3,360	631.2	3,390	636.8
Gonorrhea	1,080	203.1	1,419	266.8	1,346	253.2	1,620	304.3	2,014	378.3
Syphilis										
Congenital**	0	0.0	1	0.2	2	0.3	4	0.6	4	0.6
Primary	8	1.5	11	2.1	7	1.3	17	3.2	26	4.9
Secondary	10	1.9	23	4.3	27	5.1	43	8.1	43	8.1
Early Latent (< 1 year)	19	3.6	20	3.8	33	6.2	41	7.7	34	6.4
Unknown Duration or Late	21	3.9	19	3.6	25	4.7	44	8.3	40	7.5
Total Syphilis	58	10.9	74	13.9	94	17.7	149	28.0	147	27.6

Notes:

*Number of cases may be adjusted depending on data received from ODH.

**Rates use National Center for Health Statistics population estimates and are per 100,000 population or are per 1,000 live births (congenital).

Data reported through February 10, 2020

Outbreaks:

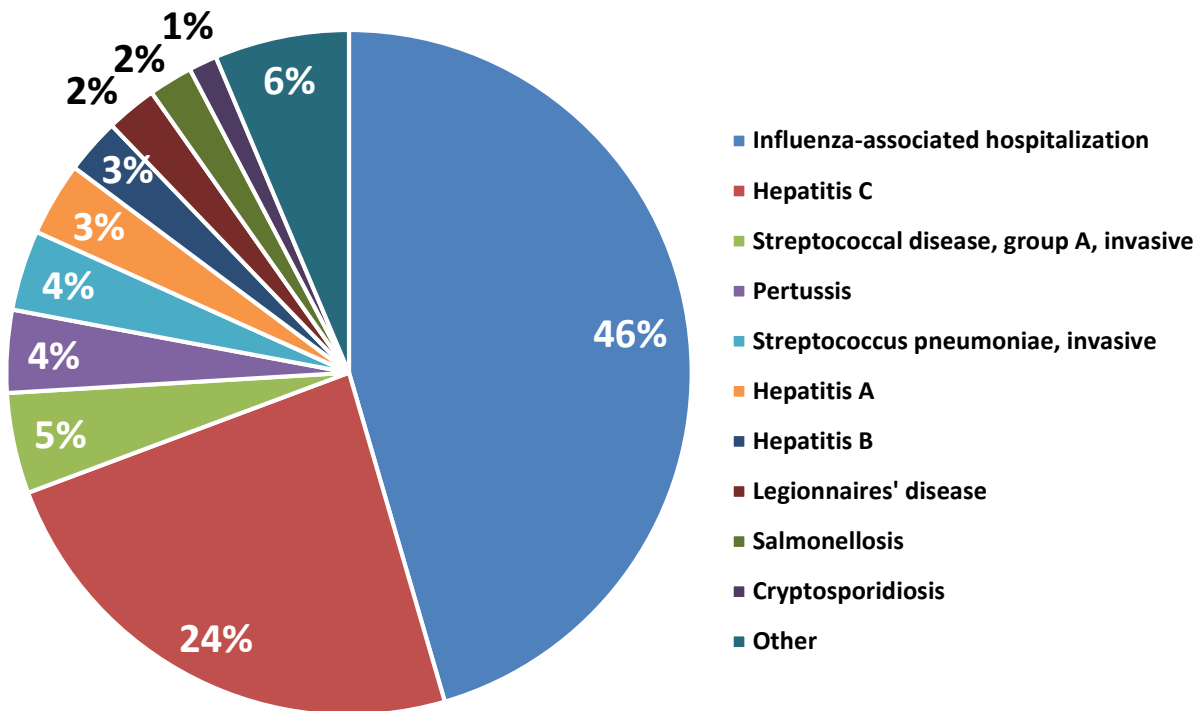
Outbreaks	2015	2016	2017	2018	2019
	#	#	#	#	#
Foodborne	0	1	0	0	2
Healthcare-associated	4	0	0	2	1
Institutional	1	0	0	0	0

Note:

Data reported through February 10, 2020

Top 10 Most Common Reportable Diseases Montgomery County, 2019

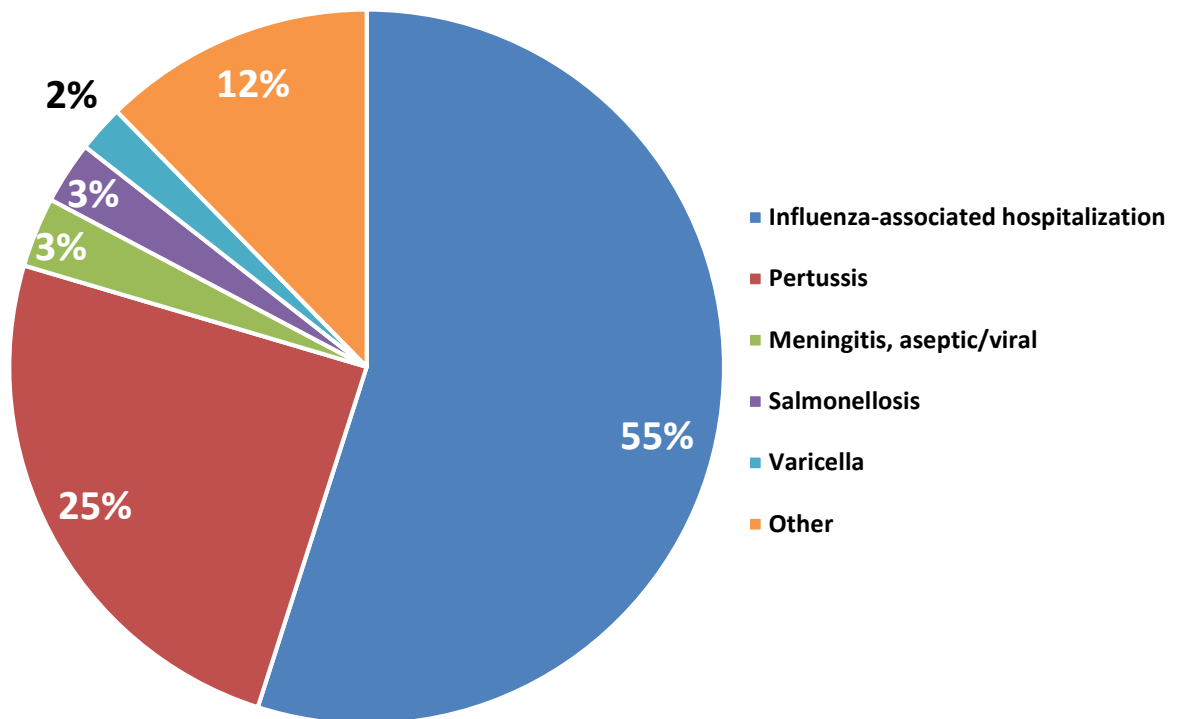
Reportable Condition (Class B)	Cases	Percent
Influenza-associated hospitalization	852	45.5%
Hepatitis C	446	23.8%
Streptococcal disease, group A, invasive	89	4.8%
Pertussis	73	3.9%
<i>Streptococcus pneumoniae</i> , invasive	71	3.8%
Hepatitis A	65	3.5%
Hepatitis B	49	2.6%
Legionnaires' disease	45	2.4%
Salmonellosis	39	2.1%
Cryptosporidiosis	25	1.3%
Other	119	6.4%
Total Cases for 2019	1,873	100%



- The top 10 most commonly reported diseases accounted for 94% of all reported class B diseases in 2019.

Top 5 Most Common Reportable Diseases for ages 0-17 years Montgomery County, 2019

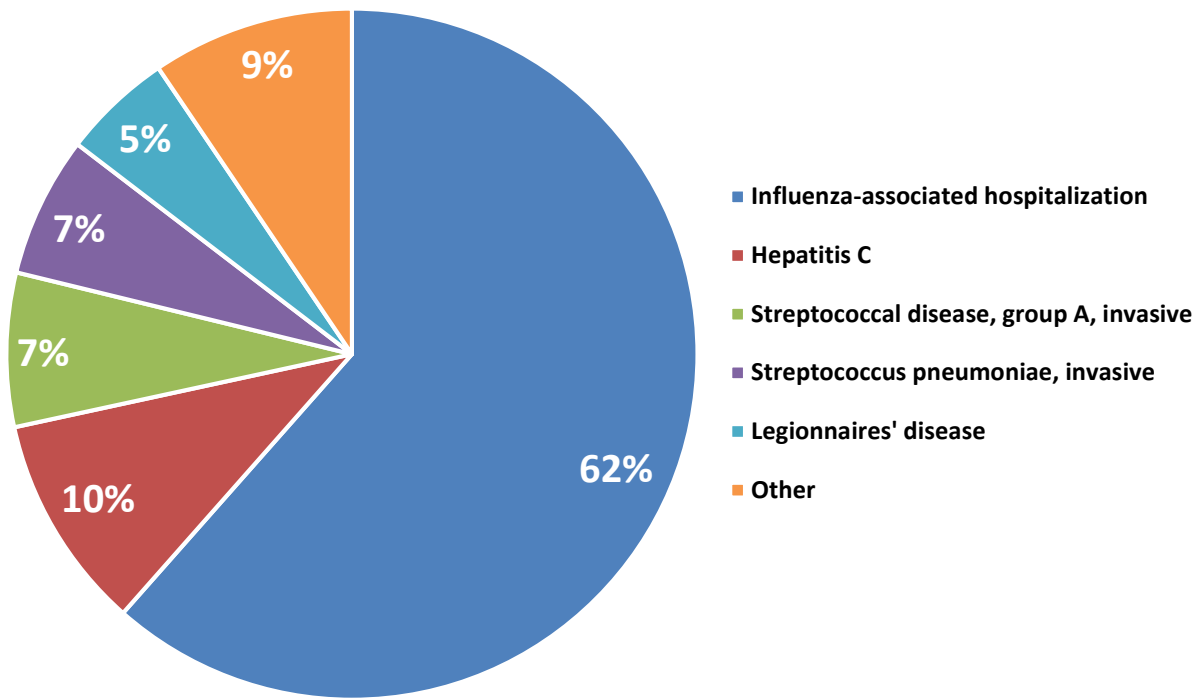
Reportable Condition (Class B)	Cases	Percent
Influenza-associated hospitalization	156	54.9%
Pertussis	70	24.6%
Meningitis, aseptic/viral	9	3.2%
Salmonellosis	8	2.8%
Varicella	6	2.1%
Other	35	12.3%
Total Cases for 2019	284	100%



- Influenza-associated hospitalizations accounted for 55% of class B reportable disease for those 0-17 years.

Top 5 Most Common Reportable Diseases for ages 65 + years Montgomery County, 2019

Reportable Condition (Class B)	Cases	Percent
Influenza-associated hospitalization	299	61.5%
Hepatitis C	49	10.1%
Streptococcal disease, group A, invasive	35	7.2%
<i>Streptococcus pneumoniae</i> , invasive	32	6.6%
Legionnaires' disease	25	5.1%
Other	46	9.5%
Total Cases for 2019	486	100%

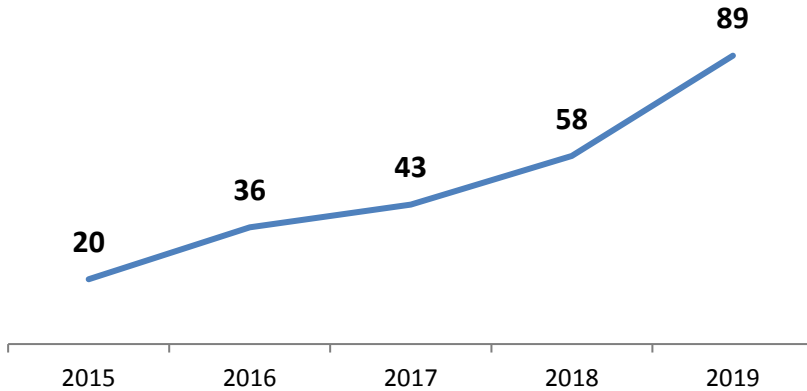


- Influenza-associated hospitalizations accounted for 62% of class B reportable diseases for those 65 years and older.

Streptococcal Disease Group A

Bacteria called group A *Streptococcus pyogenes* (streptococcal disease, group A, invasive or group A strep) are commonly found in the throat and on skin. These bacteria can cause many different infections that range from mild illnesses to difficult-to-treat and deadly diseases. Infections caused by group A strep become life-threatening when the bacteria invade parts of the body where they are not usually found, including blood, cerebral spinal fluid, lungs, wounds, deep muscle, and fat tissue. Some diseases include necrotizing fasciitis, rheumatic fever, and post-streptococcal glomerulonephritis. Most commonly, outbreaks of group A strep are due to clusters of strep throat in school-aged children or post-surgical, healthcare-associated infections, which sometimes occur in long-term care facilities (Centers for Disease Control and Prevention, CDC, 2018).

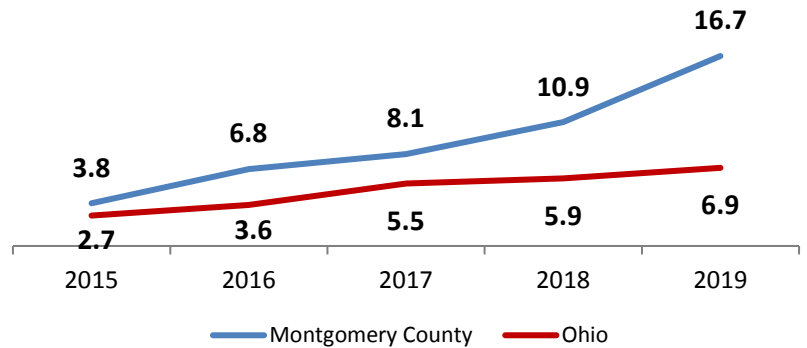
Group A Strep Cases by Year, 2015-2019



Key point:

- The number of group A strep cases has increased by nearly 350% since 2015 (20 cases in 2015 vs 89 cases in 2019).

Rate (per 100,000) of Group A Strep Cases by Year, Montgomery and Ohio, 2015-2019



Key point:

- The rate of increase in Montgomery County has outpaced the rate of increase in Ohio (340% increase in Montgomery County since 2015; 150% increase in Ohio).

Key points:

- Men made up the majority of cases of group A strep; the number of male cases has increased by 500% since 2015 (9 male cases in 2015; 54 in 2019).
 - Whites accounted for more than 75% of all cases in 2019.

Sex	#	%
Female	35	39.3%
Male	54	60.7%
Total	89	100%
Race	#	%
American Indian/Alaskan Native	1	1.1%
Black	11	12.4%
White	68	76.4%
Unknown	9	10.1%
Total	89	100%

Streptococcal Disease Group A

Age Group	#	%
20-24 years	3	3.4%
25-29 years	4	4.5%
30-34 years	6	6.7%
35-39 years	6	6.7%
40-44 years	3	3.4%
45-49 years	3	3.4%
50-54 years	8	9.0%
55-59 years	12	13.5%
60-64 years	9	10.1%
65+ years	35	39.3%
Total	89	100%
Age Range		
Average Age	58.3 years	
Median Age	59.5 years	
Min age	22 years	
Max Age	94 years	

Key points:

- The age group 65 years and older accounted for nearly 40% of cases in 2019 – there was a 218% increase in cases in this age group compared to 2015 (11 cases in 2015; 35 cases in 2019).
- There was a 1,100% increase in cases in the age group 55-59 years from 2015 (1 case) to 2019 (12 cases).

Highest percentage of cases in 2019	
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Determining how much group A strep disease is normal for a jurisdiction can be difficult. The Centers for Disease Control and Prevention (CDC) developed a Group A Strep Calculator to help local jurisdictions determine if the number of group A strep cases are greater than expected. Below is a summary of the results from the CDC calculator for Montgomery County during 2019. The calculator accessible via: <https://www.cdc.gov/groupastrep/outbreaks/calculator/index.html>

CDC Group A Strep Calculator Results, Montgomery County, 2019				
Month	Observed Cases	Expected Cases	Difference	P-value*
January	8	2.9	5.1	0.0192
February	10	3.5	6.5	0.0088
March	5	3.7	1.3	0.3232
April	12	2.2	9.8	0.0000
May	8	3.1	4.9	0.0261
June	5	2.0	3.0	0.0604
July	8	1.4	6.6	0.0003
August	8	1.6	6.4	0.0007
September	5	1.7	3.3	0.0362
October	6	1.6	4.4	0.0087
November	11	2.0	9.0	0.0001
December	3	3.4	-0.4	0.6430

Observed cases significantly higher than expected	p-value < 0.05
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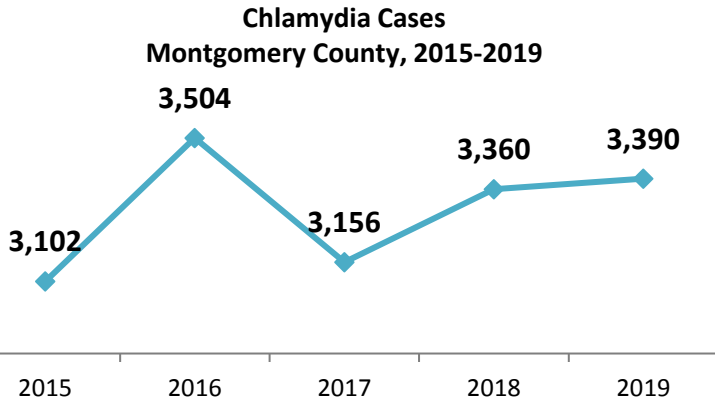
Key point:

- The observed number of cases was significantly higher than the expected number of cases for all but three months (March, June, December).

*The p-value gives the probability of the observed number of cases occurring due to chance; the likelihood that the observed number would occur under normal conditions (not due to contamination - improper hygiene practices).

Demographic Characteristics of Sexually Transmitted Diseases Montgomery County, 2019

Chlamydia



Key points:

- Total chlamydia cases (3,390) were the second-highest since reporting began in 2009 (the highest number reported was in 2016 [3,504]).
- The highest number of reported male chlamydia cases occurred in 2019 (1,160); the highest number of reported female cases occurred in 2016 (2,377).

Key points:

- Eighty-two percent (82%) of chlamydia cases were among individuals between the ages of 15 and 29 years.
- The age group 20-24 years had the highest percentage of cases (35%).
- Women made up 67% of chlamydia cases in 2019.

Age Range	Total		Female		Male	
	Cases	Percent	Cases	Percent	Cases	Percent
< 13	5	0.1%	4	0.2%	1	0.1%
13 - 14	27	0.8%	26	1.2%	1	0.1%
15 - 19	937	27.6%	714	31.7%	223	19.6%
20 - 24	1,170	34.5%	782	34.7%	388	34.2%
25 - 29	665	19.6%	424	18.8%	241	21.2%
30 - 34	311	9.2%	178	8.0%	133	11.5%
35 - 39	124	3.7%	54	2.4%	70	6.0%
40 - 49	99	2.9%	62	2.7%	37	3.3%
50 - 64	47	1.4%	11	0.5%	36	3.2%
65+	5	0.1%	0	0.0%	5	0.4%
Total	3,390	100%	2,230	66.5%	1,160	33.5%

Race	Cases	Percent	Rate*
African American/Black	1,307	38.6%	1,085.9
American Indian/Alaska Native	15	0.4%	698.3
Asian/Pacific Islander	6	0.2%	42.2
Other	72	2.1%	NA
White	674	19.9%	170.3
Unknown	1,316	38.8%	NA
Total	3,390	100%	636.8

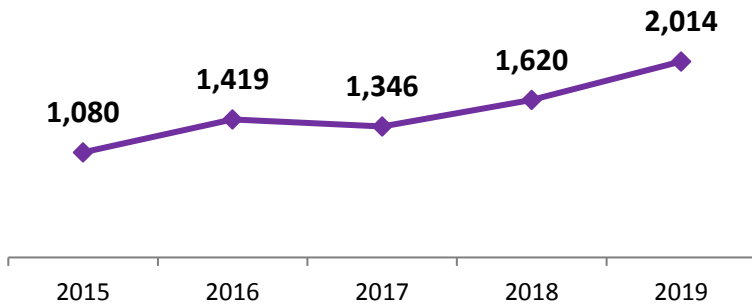
Key point:

- African American/Blacks accounted for nearly 40% of cases and had the highest rate of cases (1,085.9).

*Rates use National Center for Health Statistics population estimates and are per 100,000 population
Data reported through February 10, 2020

Gonorrhea

**Gonorrhea Cases
Montgomery County, 2015-2019**



Key point:

- Gonorrhea cases increased by 24% from 2018 to 2019 and have increased by 86% since 2015.

Age Range	Total		Female		Male	
	Cases	Percent	Cases	Percent	Cases	Percent
< 13	1	0.1%	1	0.1%	0	0.0%
13 - 14	8	0.4%	7	0.8%	1	0.1%
15 - 19	388	19.3%	239	27.0%	149	13.2%
20 - 24	600	29.8%	280	31.7%	320	28.3%
25 - 29	387	19.2%	167	18.9%	220	19.5%
30 - 34	272	13.5%	99	11.2%	173	15.3%
35 - 39	150	7.4%	53	6.0%	97	8.6%
40 - 49	124	16.2%	32	3.6%	92	8.1%
50 - 64	71	3.5%	6	0.7%	65	5.8%
65+	13	0.7%	0	0.0%	13	1.2%
Total	2,014	100%	884	43.9%	1,130	56.1%

Key points:

- More than two-thirds of diagnosed cases of gonorrhea were between the ages 15 and 29 years (68%).
- Gonorrhea was diagnosed in more men (56%) compared to women (44%).

Key points:

- Nearly half (48%) of gonorrhea cases were African American/Black.
- The rate of African American/Black (800.9) gonorrhea cases is more than double the rate for the county (378.3).

Race	Cases	Percent	Rate*
African American/Black	964	47.9%	800.9
American Indian/Alaska Native	7	0.4%	325.9
Asian/Pacific Islander	6	0.3%	42.2
Other	34	1.7%	NA
White	483	24.0%	122.1
Unknown	520	25.8%	NA
Total	2,014	100%	378.3

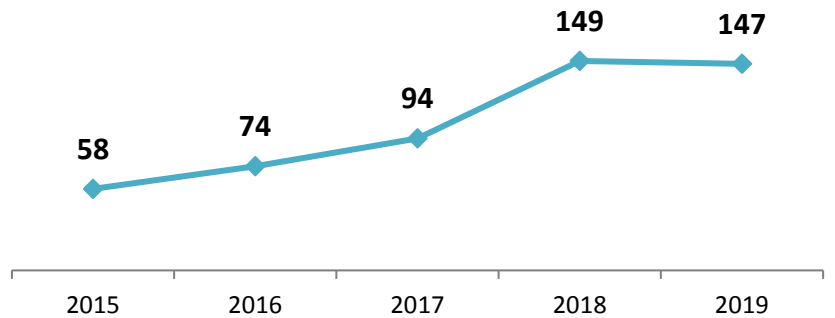
*Rates use National Center for Health Statistics population estimates and are per 100,000 population Data reported through February 10, 2020

Syphilis

**Total Syphilis Cases
Montgomery County, 2015-2019**

Key point:

- Syphilis counts have increased by 150% since 2015.



Key point:

- Females accounted for 25% of cases in 2019, the highest proportion of female syphilis cases in the past 5 years.

Total Syphilis Cases

Sex	2015		2016		2017		2018		2019	
	#	%	#	%	#	%	#	%	#	%
Female	12	20.7%	11	14.9%	14	14.9%	31	20.8%	36	24.5%
Male	46	79.3%	63	85.1%	80	85.1%	118	79.2%	111	75.5%
Total	58	100%	74	100%	94	100%	149	100%	147	100%

Age Range	Primary	Secondary	Early Latent	Unknown Duration or Late	Total
< 13	0	0	0	0	0
13 - 14	0	0	0	0	0
15 - 19	1	2	2	0	5
20 - 24	2	9	9	10	30
25 - 29	9	4	5	5	23
30 - 34	5	10	7	2	24
35 - 39	2	5	2	7	16
40 - 49	2	4	2	9	17
50 - 64	5	7	5	5	22
65+	0	2	2	2	6
Total	26	43	34	40	143*

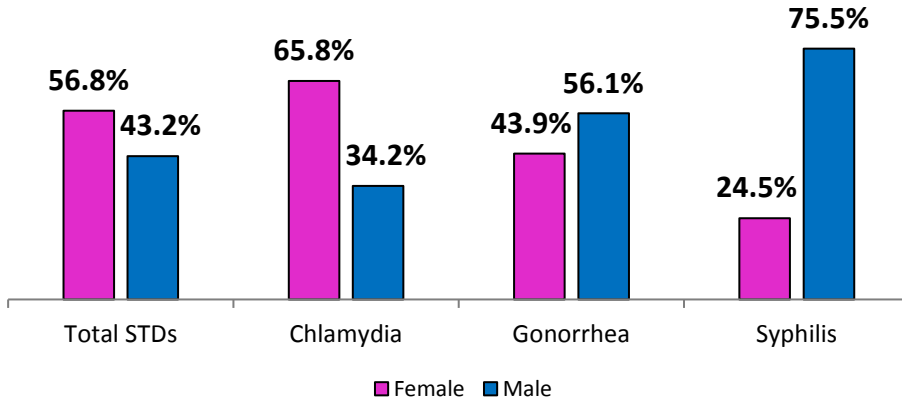
*This table does not include counts of congenital cases, which is why the total is 143 vs 147.

Key points:

- The age group of 20-24 years had the highest number of cases (30 cases; 21%).
- Sixty-five percent (65%) of cases were in the age range 20-39 years.

Summary of Sexually Transmitted Diseases Montgomery County, 2019

**Percentage of STDs by Sex
Montgomery County, 2019**



Key points:

- Women (3,150 cases; 56.8%) accounted for a majority of total STD cases compared to men (2,401; 43.2%). This difference is due to chlamydia accounting for 61% of total STDs and women making up nearly two-thirds of those cases.
- There was a higher percentage of male gonorrhea and syphilis cases (56.1% and 75.5%, respectively) compared to women (43.9% and 24.5%, respectively).

Key point:

- The age group 20-24 years had the highest percentage of cases for each STD.

Age Group	Total STDs	Chlamydia	Gonorrhea	Syphilis
< 13	0.2%	0.1%	0.0%	2.7%
13 - 14	0.6%	0.8%	0.4%	0.0%
15 - 19	24.0%	27.6%	19.3%	3.4%
20 - 24	32.4%	34.5%	29.8%	20.4%
25 - 29	19.4%	19.6%	19.2%	15.6%
30 - 34	10.9%	9.2%	13.5%	16.3%
35 - 39	5.2%	3.7%	7.4%	10.9%
40 - 49	4.3%	2.9%	6.2%	11.6%
50 - 64	2.5%	1.4%	3.5%	15.0%
65+	0.4%	0.1%	0.6%	4.1%
Total	100%	100%	100%	100%

Key point:

- African American/Blacks had the highest percentage of cases for each STD compared to the other racial groups.

Highest percentage of cases in 2019	
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Race	Total STDs	Chlamydia	Gonorrhea	Syphilis
African American/Black	42.3%	38.6%	47.9%	53.7%
American Indian/Alaska Native	0.4%	0.4%	0.4%	0.7%
Asian/Pacific Islander	0.2%	0.2%	0.3%	0.0%
Other	2.0%	2.1%	1.7%	2.0%
White	22.0%	19.9%	24.0%	43.5%
Unknown	33.1%	38.8%	25.8%	0.0%
Total	100%	100%	100%	100%