



**HAMILTON COUNTY
PUBLIC HEALTH**

PREVENT. PROMOTE. PROTECT.



Region 8 Syphilis Quarterly Report

2023 1st Quarter

January - March



**Hamilton County Public Health
Division of Epidemiology and Assessment**

**250 William Howard Taft Road
Cincinnati, Ohio 45219
513.946.7800**

www.hamiltoncountyhealth.org

Date Reported: June 2023

Syphilis Surveillance Background

Hamilton County Public Health conducts syphilis surveillance and mitigation in 7 counties (Brown, Butler, Clermont, Clinton, Hamilton, Highland, and Warren) known as Region 8. This quarterly report was created as a surveillance effort to help track and prevent new cases of syphilis within Region 8 counties. When a person is determined to have a new syphilis infection in Region 8, disease intervention specialists from Hamilton County Public Health attempt to contact that person and offer partner-services (e.g., interview patient, contact tracing, partner testing, and linkage to treatment). Only new cases of syphilis were counted for analysis purposes in this report. Some syphilis cases are unable to be located for an interview, which may impact data collection. The following report features total new syphilis counts, demographic data, and risk factor data for Region 8 counties. The purpose of collecting and distributing demographic and risk factor data are to inform programming, community partners, and stakeholders so the best effort can be made to diagnose, prevent, and treat syphilis infections in our community. These data can provide a snapshot of syphilis surveillance in the region, but does not always tell the entire story. To fully understand the situation community voices, stakeholders, and other sources should be considered.

Syphilis cases for this report include first time infections and re-infections.

These data are provisional and subject to change as there is a lag time in reporting and cases may be added or removed. Ohio Department of Health specifically disclaims responsibility for analyses, interpretations, or conclusions.

Email Jacob.Henderson@Hamilton-Co.Org with any questions regarding this report.

Data downloaded from Ohio Disease Reporting System (ODRS) on 5/18/2023.

Q1: January 2023 - March 2023

Stages of Syphilis

Syphilis infections are categorized into different stages based on the clinical presentation of disease and duration of infection. Congenital syphilis cases are cases of syphilis in which the infection is transferred from mother to infant during pregnancy or delivery. Transmission of syphilis is possible during primary, secondary, and early latent stage of the disease. In particular, primary and secondary infections are considered highly infectious stages. During the late latent stage of syphilis, the patient may no longer be infectious and have no symptoms; however if the patient does not receive appropriate treatment the disease could develop into neurological problems, possibly leading to death. Syphilis cases staged as “unknown duration” are grouped together with “late syphilis” for the purposes of surveillance.

Overview of Syphilis in Region 8

Table 1. Region 8 Total Syphilis by Year

2019	2020	2021	2022	Jan - March 2023
364	333	393	734	184

Table 1 shows total new Syphilis infections in Region 8 from 2019 to the 1st quarter of 2023. The most recent data is highlighted in light green.

Figure 1 is a line graph of syphilis cases from 2019-2022.

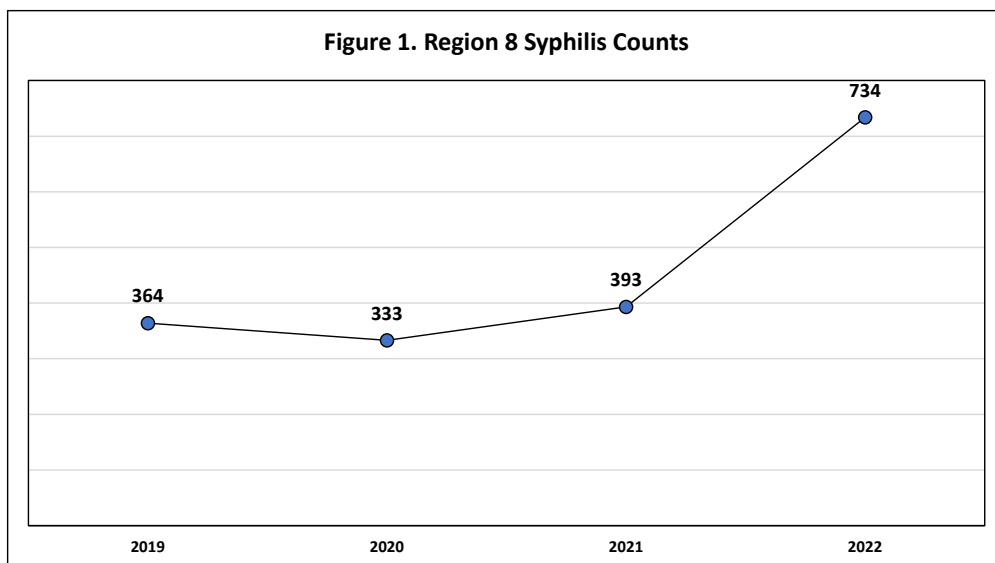


Table 2 displays the breakdown of new Syphilis cases for Region 8 residents from January 2022 through March 2023 by month. In 2022, the highest number of cases were seen in November (81 cases). In 2023 Q1, the highest number of syphilis cases occurred in January (75 cases).

Table 3 is a comparison of the 1st quarters of 2022 and 2023. There has been a **8.9% increase** of new syphilis infections during this time frame.

Table 2. Region 8 Total Syphilis Infections by Month

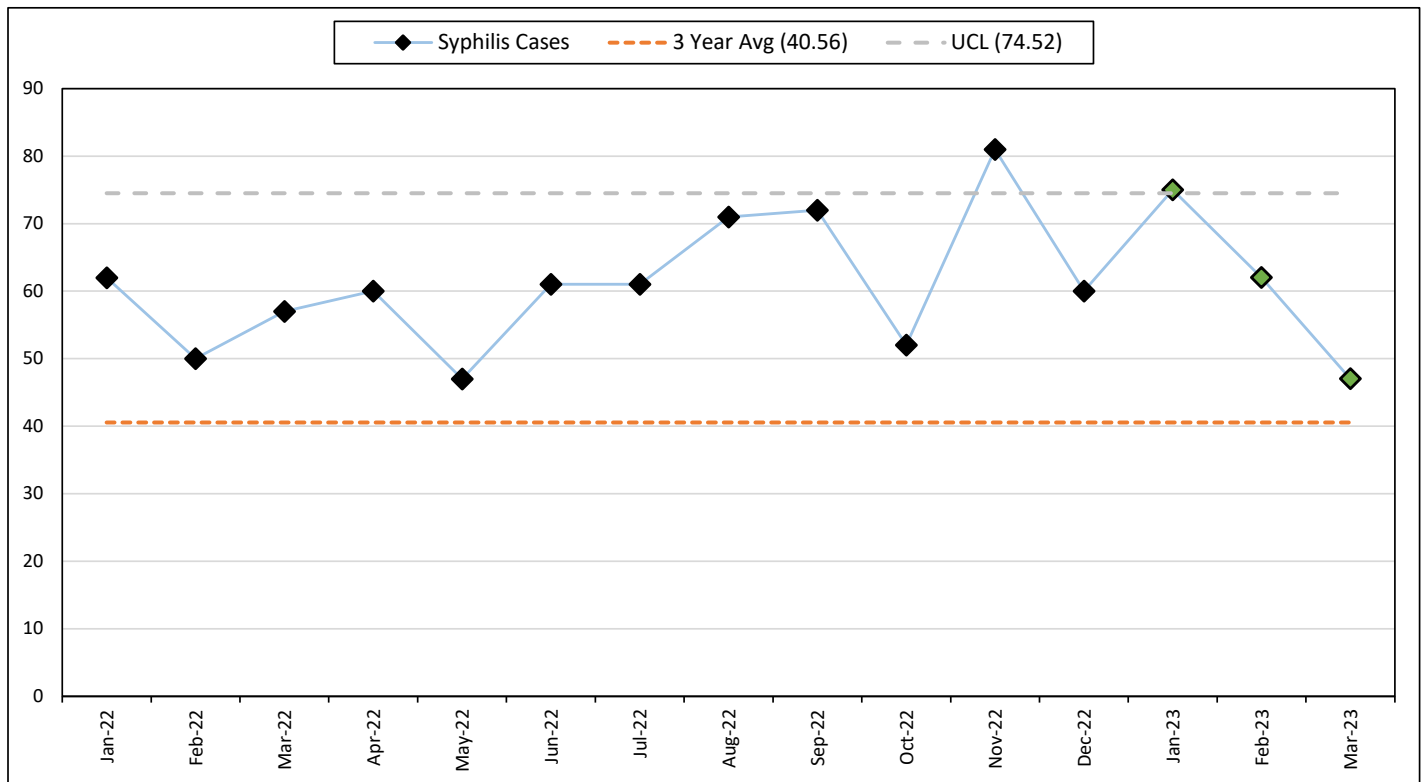
Month	2022	2023
January	62	75
February	50	62
March	57	47
April	60	-
May	47	-
June	61	-
July	61	-
August	71	-
September	72	-
October	52	-
November	81	-
December	60	-
Total	734	184

Table 3. Region 8 1st Quarter Comparisons

2022	2023	% Change
169	184	8.9% ↑

Figure 2 shows a surveillance control chart. The dashed orange line is the previous 3 year average (2020, 2021, and 2022) for new syphilis infections by month. The previous 3 year average is 40.56 new syphilis infections per month. The dashed gray line is the upper control limit (UCL) with a value of 74.52. The diamonds on the blue line graph show the actual number of new syphilis infections by month. The green diamonds are the months from the most recent quarter. A single point above or near the upper control limit or consecutive points above the average may signal anomalies that need to be investigated. When there are only a small number of cases it may be difficult to distinguish random fluctuations in disease/injury incidence from true changes in the underlying risk for the disease/injury.

Figure 2. Region 8 Syphilis Infection Control Chart



The average is found using syphilis counts by month for the previous 3 years. A standard deviation is calculated using the same time frame. The upper control limit is determined by multiplying the standard deviation by 2 and adding the 3 year average.

Syphilis Quarterly Report: Region 8

Table 4 shows syphilis stages, demographics, and risk factor data in Region 8. Highest number percentages are highlighted in blue. For 2023, Male (72.9%), Black (59.2%), and 25-34 year olds (33.2%) made up the highest percentage of new syphilis infections. For risk factors, high risk heterosexuals (HRH) had the highest percentage of new syphilis infections at 35.9%. The “Unknown” risk factor category could be due to a disease intervention specialist not being able to determine the risk factors of the patient. See the risk factor definitions below the table.

Table 4. Region 8 Syphilis Morbidity				
	2022		Jan - March 2023	
	#	%	#	%
Syphilis Stages				
Early Latent	181	24.7%	50	27.2%
Primary	126	17.2%	20	10.9%
Secondary	171	23.3%	46	25.0%
Late/Unknown	246	33.5%	67	36.4%
Congenital	10	1.4%	1	0.5%
Gender				
Male	556	75.7%	134	72.9%
Female	178	24.3%	50	27.1%
Race				
Black	346	47.1%	109	59.2%
White	281	38.3%	56	30.4%
Multi	57	7.8%	5	2.7%
Other	49	6.7%	11	6.0%
Unknown/Null	1	0.1%	3	1.6%
Age Group				
<1	9	1.2%	1	0.5%
1-14	2	0.3%	0	0.0%
15-24	101	13.8%	27	14.7%
25-34	266	36.2%	61	33.2%
35-44	166	22.6%	45	24.5%
45-54	99	13.5%	28	15.2%
55-64	69	9.4%	16	8.7%
65+	22	3.0%	6	3.3%
Risk Factor				
MSM	275	37.5%	55	29.9%
HRH	209	28.5%	66	35.9%
PWID	36	4.9%	13	7.1%
Unknown/Null	214	29.2%	50	27.2%

Percentages may not total to 100 due to rounding. Percentages are based on availability of data for all cases. MSM are men who have sex with men. High risk heterosexuals (HRH) are determined by factors including but not limited to having a previous STI, sex while intoxicated, exchanging sex for drugs, or having anonymous sexual partners. PWID is a person who injects drugs.

Overview of Syphilis in Hamilton County

Table 5. Hamilton County Total Syphilis by Year

2019	2020	2021	2022	Jan - March 2023
301	248	280	551	138

Table 5 shows total new Syphilis infections in Hamilton County from 2019 through March 2023. The most recent data is highlighted in light green.

Figure 3 is a line graph of syphilis cases from 2019-2022.

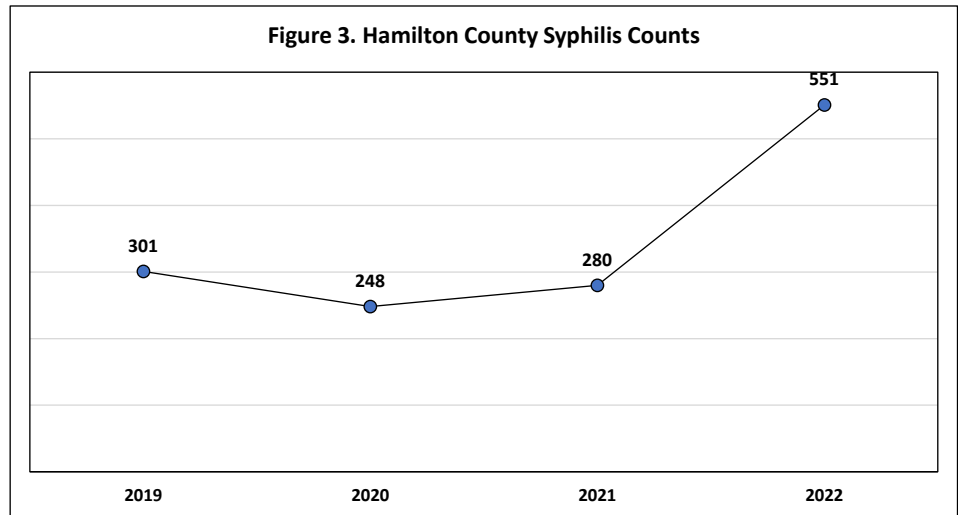


Table 6. Hamilton County Total Syphilis

Month	2022	2023
January	46	53
February	35	49
March	42	36
April	43	-
May	40	-
June	47	-
July	48	-
August	55	-
September	53	-
October	38	-
November	66	-
December	38	-
Total	551	138

Table 6 displays the breakdown of new Syphilis cases for Hamilton County residents from January 2022 through March 2023 by month. In 2022, the highest number of cases were seen in November (66 cases). In 2023 Q1, the highest number of syphilis cases occurred in January (53 cases).

Table 7 is a comparison of the 1st quarters of 2022 and 2023. There has been a **12.2% increase** of new syphilis infections during this time frame.

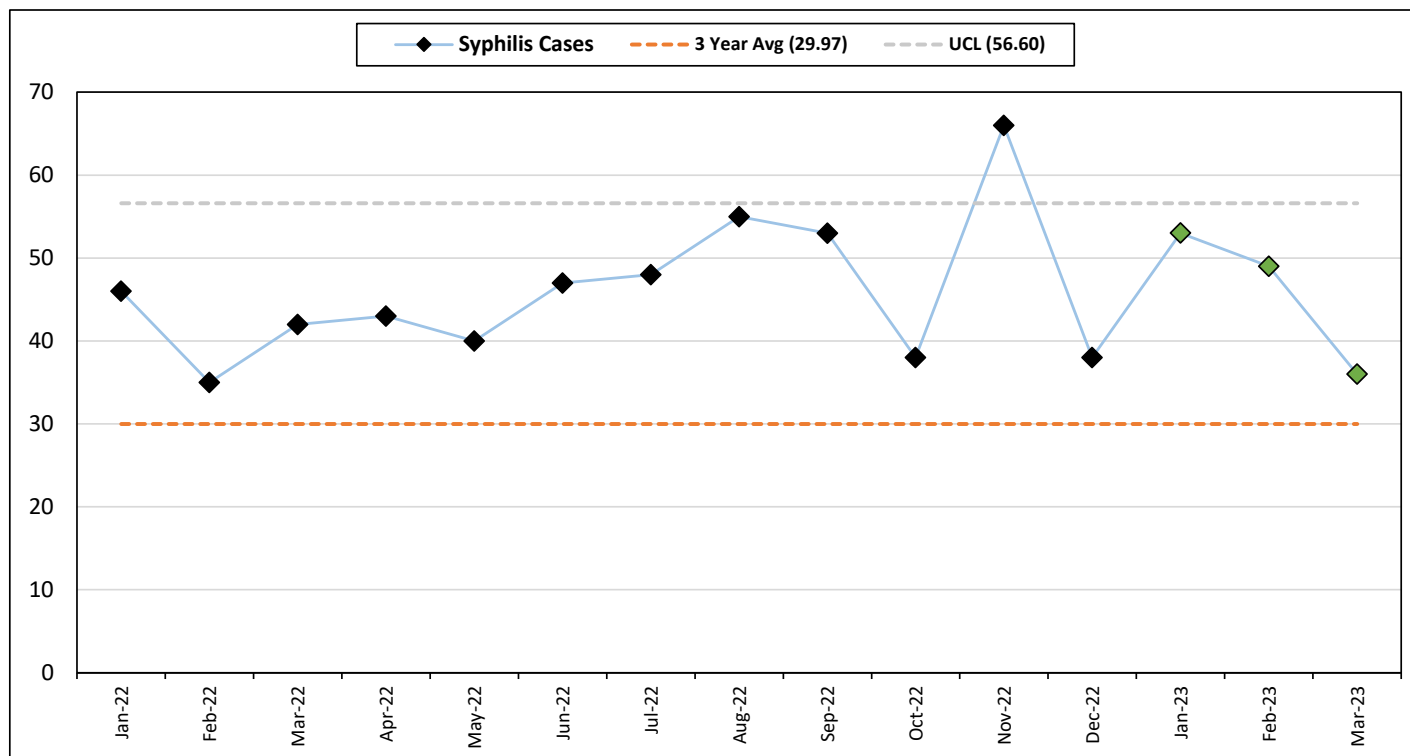
Table 7. Hamilton County 1st Quarter Comparisons

2022	2023	% Change
123	138	12.2% ↑

Syphilis Quarterly Report: Hamilton County

Figure 4 shows a surveillance control chart. The dashed orange line is the previous 3 year average (2020, 2021, and 2022) for new syphilis infections by month. The previous 3 year average is 29.97 new syphilis infections per month. The dashed gray line is the upper control limit (UCL) with a value of 56.60. The diamonds on the blue line graph show the actual number of new syphilis infections by month. The green diamonds are the months from the most recent quarter. A single point above or near the upper control limit or consecutive points above the average may signal anomalies that need to be investigated. When there are only a small number of cases it may be difficult to distinguish random fluctuations in disease/injury incidence from true changes in the underlying risk for the disease/injury.

Figure 4. Hamilton County Syphilis Infection Control Chart



The average is found using syphilis counts by month for the previous 3 years. A standard deviation is calculated using the same time frame. The upper control limit is determined by multiplying the standard deviation by 2 and adding the 3 year average.

Syphilis Quarterly Report: Hamilton County

Table 8 shows syphilis stages, demographic, and risk factor data. Highest number percentages are highlighted in blue. For 2023, Male (75.4%), Black (73.2%), and 25-34 year olds (37%) made up the highest percentage of new syphilis infections. For risk factors, high risk heterosexuals (HRH) had the highest percentage of new syphilis infections at 39.9%. The “Unknown” risk factor category could be due to a disease intervention specialist not being able to determine the risk factors of the patient. See risk factor definitions below the table.

Table 8. Hamilton County Syphilis Morbidity				
	2022		Jan - March 2023	
	#	%	#	%
Syphilis Stages				
Early Latent	148	26.9%	39	28.3%
Primary	86	15.6%	14	10.1%
Secondary	124	22.5%	34	24.6%
Late/Unknown	187	33.9%	50	36.2%
Congenital	6	1.1%	1	0.7%
Gender				
Male	433	78.5%	104	75.4%
Female	118	21.5%	34	24.6%
Race				
Black	326	59.2%	101	73.2%
White	142	25.8%	26	18.8%
Multi	51	9.3%	3	2.2%
Other	31	5.6%	7	5.1%
Unknown/Null	1	0.2%	1	0.7%
Age Group				
<1	6	1.1%	1	0.7%
1-14	1	0.2%	0	0.0%
15-24	78	14.2%	14	10.1%
25-34	213	38.7%	51	37.0%
35-44	122	22.1%	38	27.5%
45-54	63	11.4%	17	12.3%
55-64	50	9.1%	12	8.7%
65+	18	3.3%	5	3.6%
Risk Factor				
MSM	224	40.7%	47	34.1%
HRH	158	28.7%	55	39.9%
PWID	15	2.7%	4	2.9%
Unknown/Null	154	27.9%	32	23.2%

Percentages may not total to 100 due to rounding. Percentages are based on availability of data for all cases. MSM are men who have sex with men. High risk heterosexuals (HRH) are determined by factors including but not limited to having a previous STI, sex while intoxicated, exchanging sex for drugs, or having anonymous sexual partners. PWID is a person who injects drugs.

Overview of Syphilis in Butler County

Table 9. Butler County Total Syphilis by Year

2019	2020	2021	2022	Jan - March 2023
37	38	68	126	26

Table 9 shows total new Syphilis infections in Butler County from 2019 through March of 2023. The most recent data is highlighted in light green.

Figure 5 is a line graph of syphilis cases from 2019-2022.

Figure 5. Butler County Syphilis Counts

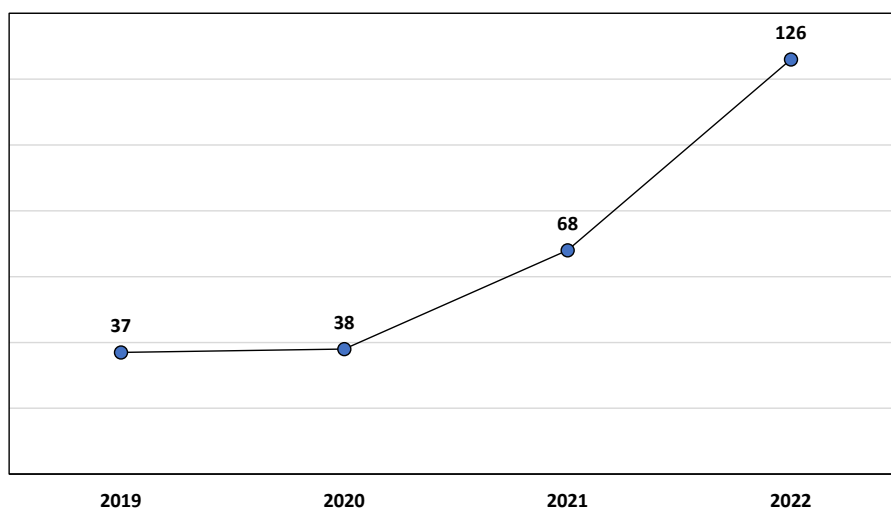


Table 10 displays the breakdown of new Syphilis cases for Butler County residents from January 2022 through March 2023 by month. In 2022, the highest number of cases were seen in April and December (14 cases). In 2023 Q1, the highest number of new cases occurred in January (14 cases).

Table 11 is a comparison of the 1st quarters of 2022 and 2023. There has been a **13.3% decrease** of new syphilis infections during this time frame

Table 10. Butler County Total Syphilis

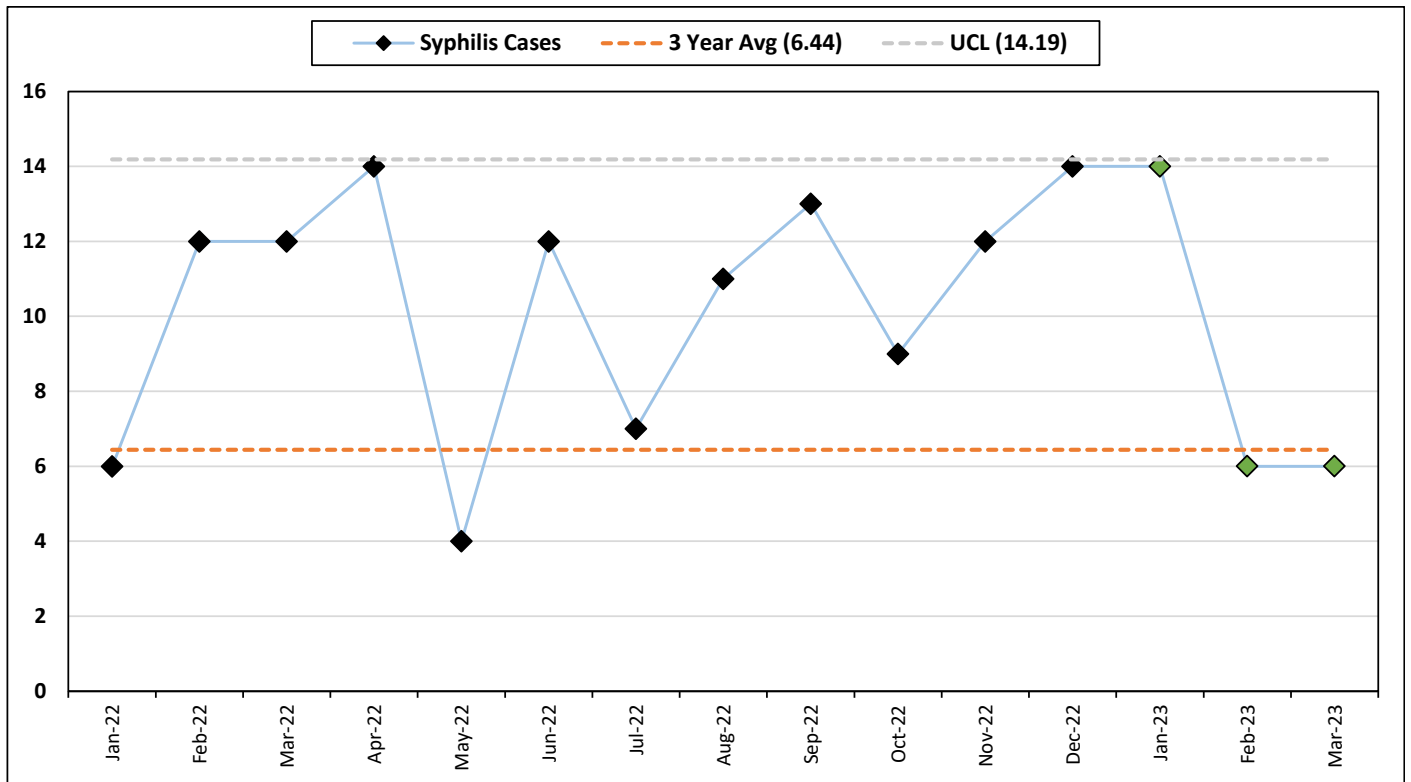
Month	2022	2023
January	6	14
February	12	6
March	12	6
April	14	-
May	4	-
June	12	-
July	7	-
August	11	-
September	13	-
October	9	-
November	12	-
December	14	-
Total	126	26

Table 11. Butler County 1st Quarter Comparisons

2022	2023	% Change
30	26	-13.3%↓

Figure 6 shows a surveillance control chart. The dashed orange line is the previous 3 year average (2020, 2021, and 2022) for new syphilis infections by month. The previous 3 year average is 6.44 new syphilis infections per month. The dashed gray line is the upper control limit (UCL) with a value of 14.19. The diamonds on the blue line graph show the actual number of new syphilis infections by month. The green diamonds are the months from the most recent quarter. A single point above or near the upper control limit or consecutive points above the average may signal anomalies that need to be investigated. When there are only a small number of cases it may be difficult to distinguish random fluctuations in disease/injury incidence from true changes in the underlying risk for the disease/injury.

Figure 6. Butler County Syphilis Infection Control Chart



The average is found using syphilis counts by month for the previous 3 years. A standard deviation is calculated using the same time frame. The upper control limit is determined by multiplying the standard deviation by 2 and adding the 3 year average.

Syphilis Quarterly Report: Butler County

Table 12 shows syphilis stages, demographic, and risk factor data. Highest number percentages are highlighted in blue. For 2023, Male (61.6%), Black (57.7%), 15 to 24 year olds and 25-34 year olds (30.8%) made up the highest percentage of new syphilis infections. For risk factors, high risk heterosexuals (HRH) had the highest percentage of new syphilis infections at 23.1%. The “Unknown” risk factor category could be due to a disease intervention specialist not being able to determine the risk factors of the patient. See risk factor definitions below the table.

Table 12. Butler County Syphilis Morbidity				
	2022		Jan - March 2023	
	#	%	#	%
Syphilis Stages				
Early Latent	22	17.5%	6	23.1%
Primary	30	23.8%	4	15.4%
Secondary	29	23.0%	6	23.1%
Late/Unknown	42	33.3%	10	38.5%
Congenital	3	2.4%	0	0.0%
Gender				
Male	80	63.7%	16	61.6%
Female	46	36.3%	10	38.4%
Race				
Black	14	11.1%	6	23.1%
White	95	75.4%	15	57.7%
Multi	4	3.2%	1	3.8%
Other	13	10.3%	3	11.5%
Unknown/Null	0	0.0%	1	3.8%
Age Group				
<1	2	1.6%	0	0.0%
1-14	1	0.8%	0	0.0%
15-24	16	12.7%	8	30.8%
25-34	37	29.4%	8	30.8%
35-44	33	26.2%	1	3.8%
45-54	21	16.7%	6	23.1%
55-64	13	10.3%	3	11.5%
65+	3	2.4%	0	0.0%
Risk Factor				
MSM	26	20.6%	4	15.4%
HRH	36	28.6%	6	23.1%
PWID	19	15.1%	5	19.2%
Unknown/Null	45	35.7%	11	42.3%

Percentages may not total to 100 due to rounding. Percentages are based on availability of data for all cases. MSM are men who have sex with men. High risk heterosexuals (HRH) are determined by factors including but not limited to having a previous STI, sex while intoxicated, exchanging sex for drugs, or having anonymous sexual partners. PWID is a person who injects drugs.

Overview of Syphilis in Brown, Clermont, Clinton, Highland, and Warren

Table 13: Select Region 8 Counties Syphilis Infections by Quarter					
	Brown	Clermont	Clinton	Highland	Warren
2022					
Q1	1	3	3	1	8
Q2	1	2	0	1	4
Q3	2	4	4	1	6
Q4	1	8	3	0	4
Total	5	17	10	3	22
2023					
Q1	1	8	2	1	8
Total	1	8	2	1	8

Table 13 shows total new syphilis infections in select Region 8 counties by quarter for 2022 and 2023. For 2023 Q1, Clermont and Warren County had the most new syphilis infections (8 cases).

Table 14 shows demographic and risk factor data for the aggregate of the select Region 8 counties. The highest number of percentages are highlighted in blue. For 2023, Male (70%), White (75%), and 35 to 44 year olds (30%) made up the highest percentage of new syphilis infections. For risk factors, high risk heterosexuals (HRH) had the highest percentage of new syphilis infections at 25%. Risk factor definitions are on previous pages.

Table 14. Select Region 8 Counties Syphilis Morbidity				
	2022		Jan - March 2023	
	#	%	#	%
Syphilis Stages				
Early Latent	11	19.3%	5	25.0%
Primary	10	17.5%	2	10.0%
Secondary	18	31.6%	6	30.0%
Late/Unknown	17	29.8%	7	35.0%
Congenital	1	1.8%	0	0.0%
Gender				
Male	43	75.7%	14	70.0%
Female	14	24.3%	6	30.0%
Race				
Black	6	10.5%	2	10.0%
White	44	77.2%	15	75.0%
Multi	2	3.5%	1	5.0%
Other	5	8.8%	1	5.0%
Unknown/Null	0	0.0%	1	5.0%
Age Group				
<1	1	180.0%	0	0.0%
15-24	7	12.3%	5	25.0%
25-34	16	28.1%	2	10.0%
35-44	11	19.3%	6	30.0%
45-54	15	26.3%	5	25.0%
55-64	6	10.5%	1	5.0%
65+	1	1.8%	1	5.0%
Risk Factor				
MSM	25	43.9%	4	20.0%
HRH	15	26.3%	5	25.0%
PWID	2	3.5%	4	20.0%
Unknown/Null	15	26.3%	7	35.0%