HAMILTON COUNTY PUBLIC HEALTH

PREVENT. PROMOTE. PROTECT.

Region 8 Syphilis Quarterly Report

2024 4th Quarter

Hamilton County Public Health

Division of Epidemiology and Assessment

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Syphilis Surveillance Background

Hamilton County Public Health conducts syphilis surveillance and mitigation in seven counties (Brown, Butler, Clermont, Clinton, Hamilton, Highland, and Warren) known as Region 8. This quarterly report was created as a surveillance effort to track and prevent new cases of syphilis within Region 8 counties and provide a basis for syphilis prevention efforts. 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., patient interview, 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 from 2020 through the 4th quarter of 2024.

The purpose of collecting and distributing demographic and risk factor data is 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 do 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 are newly diagnosed infections which can include first time infections or 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.

Data downloaded from Ohio Disease Reporting System (ODRS) on 02/19/2024.

For HIV or other STI testing information please call the HCPH Clinic at 513-946-7610

Email HCPH.ID@HAMILTON-CO.ORG with any questions regarding this report.

Stages of Syphilis

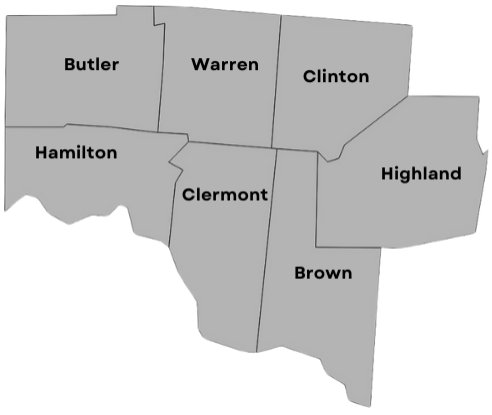
Syphilis infections are categorized into different stages based on the clinical presentation of disease and duration of infection.

Congenital Syphilis: This stage includes, but is not limited to, when syphilis is transferred from mother to infant during pregnancy or delivery, or when the mother of a child had untreated/inadequately treated syphilis at delivery regardless of signs in the infant.

Early Syphilis: This stage is when a person has been infected for less than a year. The stages include Early Latent (no signs or symptoms, but infected for less than a year), Primary (symptoms include a painless sore, called a chancre), and Secondary (symptoms include, but is not limited to, a rash on hands and feet). In particular, primary and secondary infections are considered highly infectious stages.

Late Latent: This stage is when a person has been infected for longer than a year. During this stage, 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.

Region 8 Map



Overview of Syphilis in Region 8

Table 1. Region 8 Total Syphilis by Year				
2020	2021	2022	2023	2024
333	400	754	807	674

Table 1 shows total new syphilis cases in Region 8 from 2020 through the 4th quarter of 2024. The most recent data are highlighted in light green.

Figure 1 is a line graph of syphilis cases from 2020 through the 4th quarter of 2024.

***Figure 1*. Region 8 Syphilis Counts**

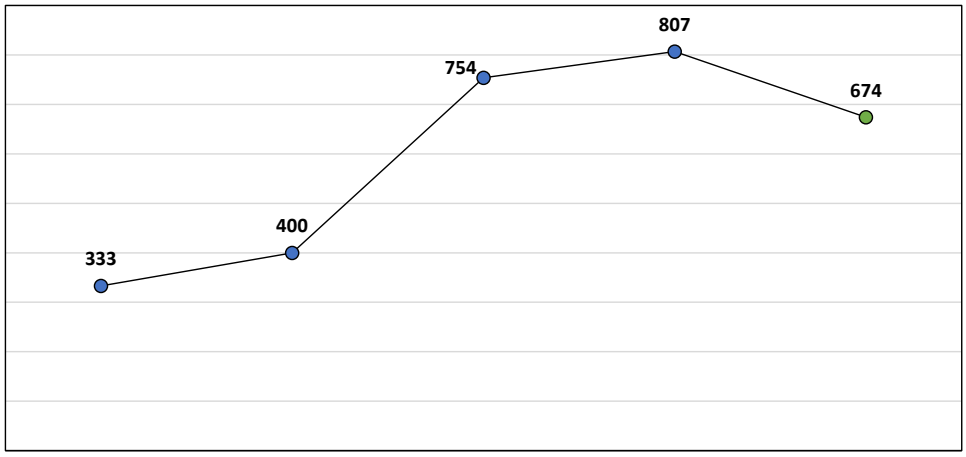


Table 2 is a comparison of the 1st through 4th quarters (Q1 - Q4) of 2023 and 2024. There were **16.5% fewer** new syphilis cases in 2024 compared to 2023 during this time period.

Table 2. Region 8 Year Comparisons		
2023	2024	% Change
807	674	-16.5%↓

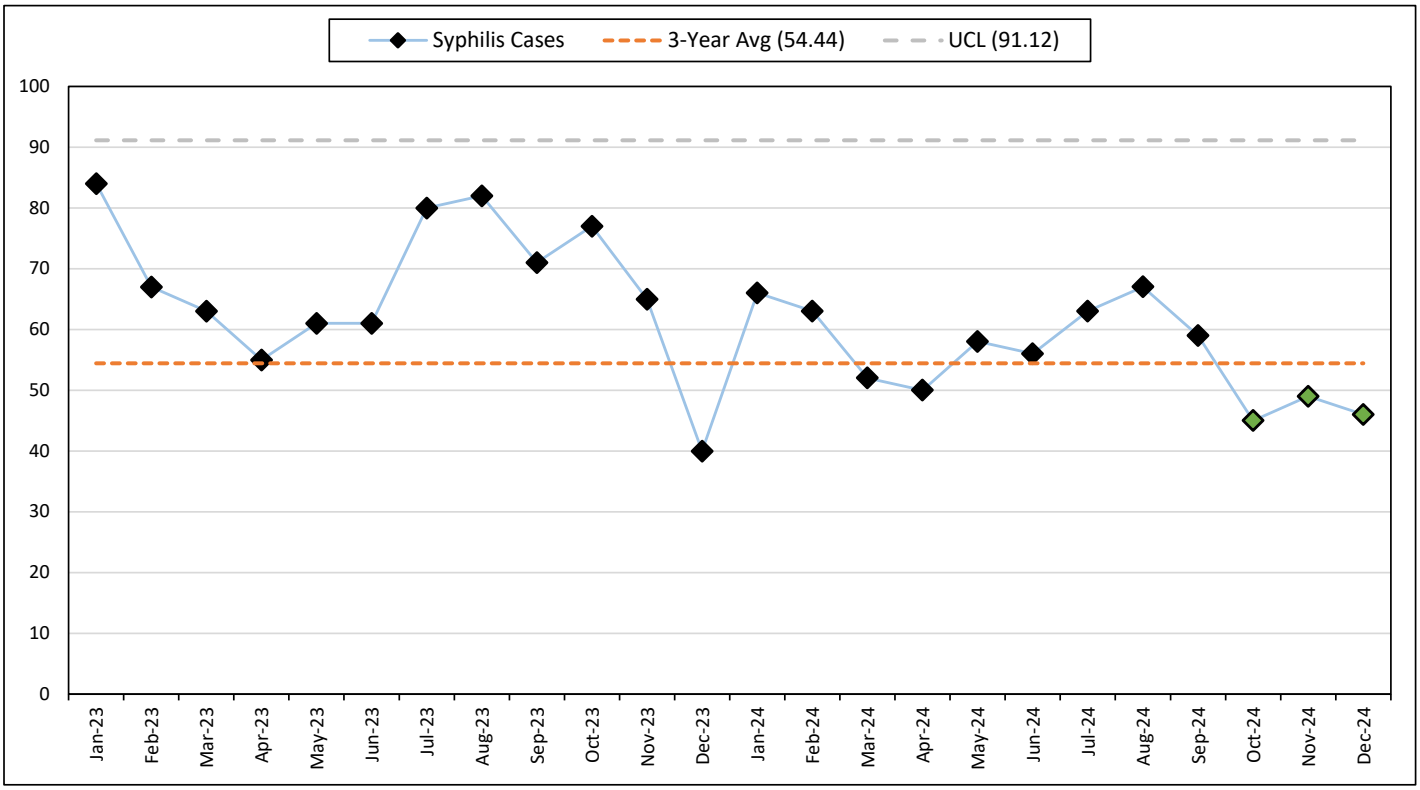
Table 3 displays the breakdown of new syphilis cases for Region 8 from 2023 through the 4th quarter of 2024 by month. In 2023, the highest number of cases was seen in January (84 cases). In 2024, the highest number of syphilis cases have occurred in August (67 cases).

Table 3. Region 8 Total Syphilis by Month		
Month	2023	2024
January	84	66
February	67	63
March	63	52
April	55	50
May	61	58
June	61	56
July	80	63
August	82	67
September	71	59
October	77	45
November	66	49
December	40	46
Total	**807**	**674**

Figure 2 shows a surveillance control chart. The dashed orange line shows the average number of new syphilis cases per month for the past 3 years (2021, 2022, and 2023). The previous 3-year average is 54.44 new syphilis cases per month. The dashed gray line is the upper control limit (UCL) with a value of 91.12. A single point above or near the UCL may signal anomalies that need to be investigated. 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.

Analysis: For Q1 - Q4 2024, January, February, May, June, July, August, and September were above the 3-year average. Consecutive points above the average may signal anomalies that need to be investigated. All points have been below the UCL which indicates no anomalies related to the UCL for this time frame. When there are only a small number of cases, it may be difficult to distinguish random fluctuations in disease incidence from true changes in the underlying risk for the disease.

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.

Table 4 shows syphilis stages, demographics, and risk factor data in Region 8. The category showing the highest percentage of new syphilis cases is highlighted in blue. For Q1 - Q4 2024, Male (67.5%), Black (49.4%), and 25-34 year old (31.5%) individuals made up the highest percentage of new syphilis cases. For risk factors, high risk heterosexual (HRH) had the highest percentage of new syphilis cases (35.3%). 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 additional information below the table.

Table 4. Region 8 Syphilis Morbidity

	2023		2024	
	#	%	#	%
Syphilis Stages				
Early Latent	202	25.0%	161	23.9%
Primary	121	15.0%	74	11.0%
Secondary	166	20.6%	114	16.9%
Late/Unknown	303	37.5%	310	46.0%
Congenital	15	1.9%	15	2.2%
Gender				
Male	562	69.6%	455	67.5%
Female	245	30.4%	219	32.5%
Race				
Black	423	52.4%	333	49.4%
White	285	35.3%	285	42.3%
Multi	28	3.5%	5	0.7%
Other	66	8.2%	47	7.0%
Unknown	5	0.6%	4	0.6%
Age Group				
<1	15	1.9%	15	2.2%
1-14	1	0.1%	0	0.0%
15-24	111	13.8%	86	12.8%
25-34	259	32.1%	212	31.5%
35-44	198	24.5%	188	27.9%
45-54	112	13.9%	106	15.7%
55-64	77	9.5%	49	7.3%
65+	34	4.2%	18	2.7%
Risk Factor				
MSM	219	27.1%	182	27.0%
HRH	309	38.3%	238	35.3%
PWID	59	7.3%	42	6.2%
Unknown	220	27.3%	212	31.5%

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. Early syphilis cases include early latent, primary, and secondary stages. Early syphilis cases are cases where a person has been infected for less than a year.

Overview of Syphilis in Hamilton County

Table 5. Hamilton County Total Syphilis by Year				
2020	2021	2022	2023	2024
248	283	562	591	496

Table 5 shows total new syphilis cases in Hamilton County from 2020 through the 4th quarter of 2024. The most recent data are highlighted in light green.

Figure 3 is a line graph of syphilis cases from 2020 through the 4th quarter of 2024.

Figure 3. **Hamilton County Syphilis Counts**

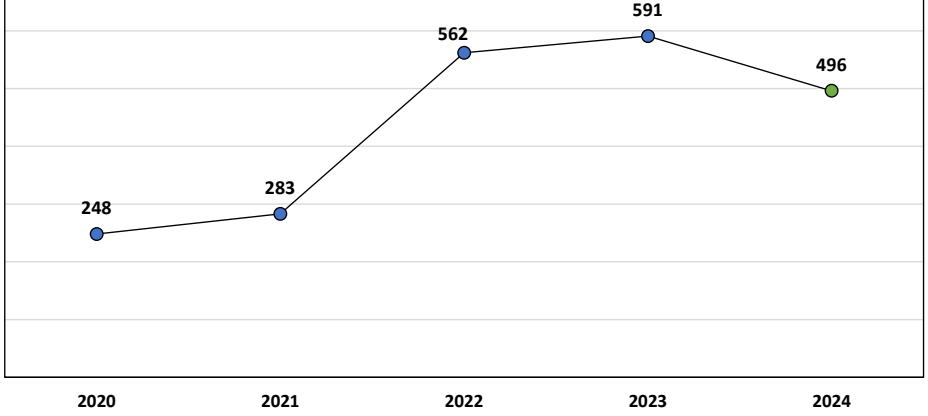


Table 6 is a comparison of the 1st through 4th quarters (Q1 - Q4) of 2023 and 2024. There were **16.1% fewer** new syphilis cases in 2024 compared to 2023 during this time period.

Table 6. Hamilton County Year Comparisons		
2023	2024	% Change
591	496	**-16.1%↓**

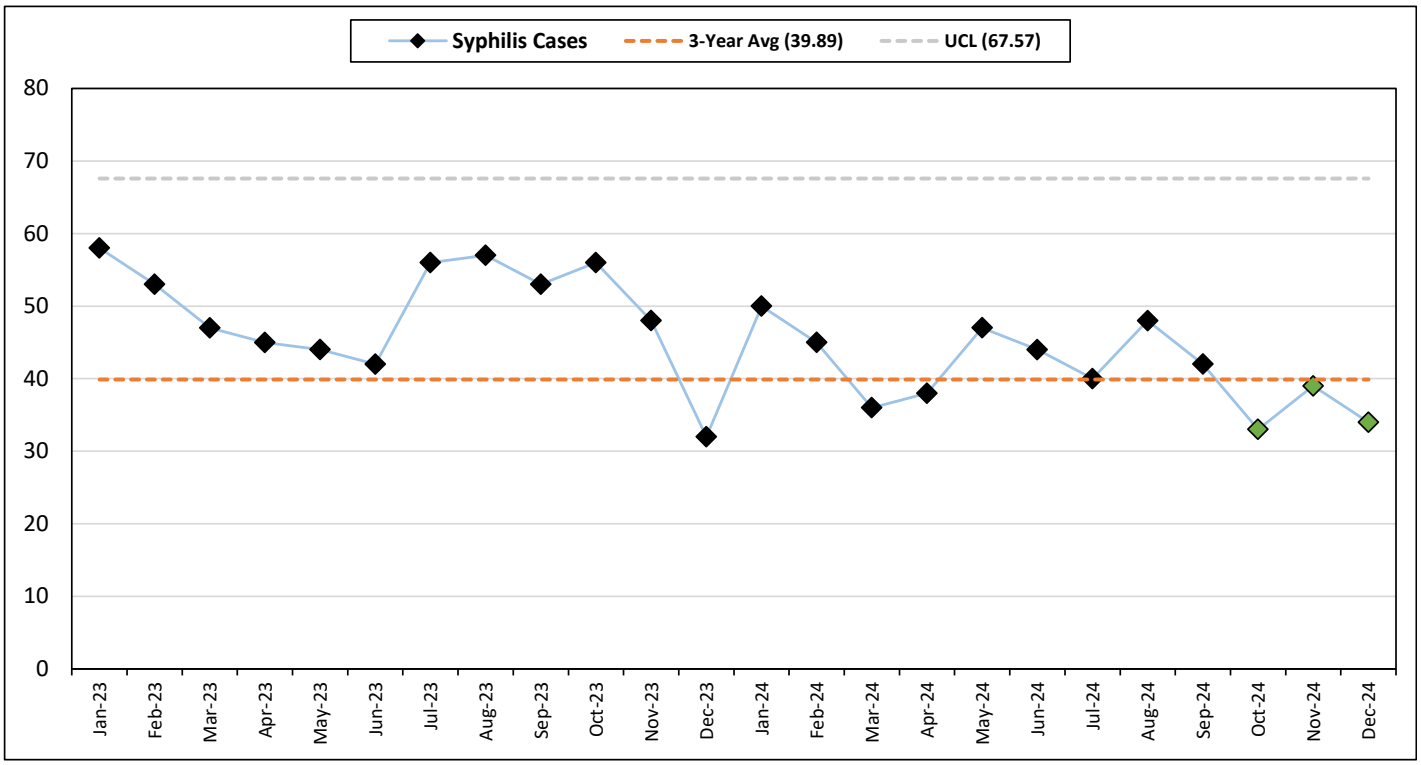
Table 7 displays the breakdown of new syphilis cases for Hamilton County from 2023 through the 4th quarter of 2024 by month. In 2023, the highest number of cases was seen in January (58 cases). In 2024, the highest number of syphilis cases have occurred in January (50 cases).

Table 7. Hamilton County Total Syphilis by Month		
Month	2023	2024
January	58	50
February	53	45
March	47	36
April	45	38
May	44	47
June	42	44
July	56	40
August	57	48
September	53	42
October	56	33
November	48	39
December	32	34
Total	**591**	**496**

Figure 4 shows a surveillance control chart. The dashed orange line shows the average number of new syphilis cases per month for the past 3 years (2021, 2022, and 2023). The 3-year average is 39.89 new syphilis cases per month. The dashed gray line is the upper control limit (UCL) with a value of 67.57. A single point above or near the UCL may signal anomalies that need to be investigated. The diamonds on the blue line graph show the actual number of new syphilis cases by month. The green diamonds are the months from the most recent quarter.

Analysis: For Q1 - Q4 2024, January, February, May, June, August, and September were above the 3-year average. Consecutive points above the average may signal anomalies that need to be investigated. All points have been below the UCL which indicates no anomalies related to the UCL for this time frame. When there are only a small number of cases, it may be difficult to distinguish random fluctuations in disease incidence from true changes in the underlying risk for the disease.

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.

Table 8 shows syphilis stages, demographic, and risk factor data. The category showing the highest percentage of new syphilis cases is highlighted in blue. For Q1 - Q4 2024, Male (68.1%), Black (63.7%), and 25-34 year old (33.7%) individuals made up the highest percentage of new syphilis cases. For risk factors, high risk heterosexual (HRH) had the highest percentage of new syphilis infections (39.3%). 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 additional information below the

Table 8. Hamilton County Syphilis Morbidity

	2023		2024	
	#	%	#	%
Syphilis Stages				
Early Latent	156	26.4%	122	24.6%
Primary	90	15.2%	54	10.9%
Secondary	126	21.3%	81	16.3%
Late/Unknown	211	35.7%	228	46.0%
Congenital	8	1.4%	11	2.2%
Gender				
Male	428	72.4%	338	68.1%
Female	163	27.6%	158	31.9%
Race				
Black	388	59.1%	316	63.7%
White	152	27.0%	137	27.6%
Multi	19	6.2%	4	0.8%
Other	30	7.5%	37	7.5%
Unknown	2	0.2%	2	0.4%
Age Group				
<1	8	1.4%	11	2.2%
1-14	1	0.2%	0	0.0%
15-24	71	12.0%	61	12.3%
25-34	204	34.5%	167	33.7%
35-44	151	25.5%	141	28.4%
45-54	76	12.9%	70	14.1%
55-64	52	8.8%	33	6.7%
65+	28	4.7%	13	2.6%
Risk Factor				
MSM	180	30.5%	140	28.2%
HRH	241	40.8%	195	39.3%
PWID	25	4.2%	21	4.2%
Unknown	145	24.5%	140	28.2%

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. Early syphilis cases include early latent, primary, and secondary stages. Early syphilis cases are cases where a person has been infected for less than a year.

Overview of Syphilis in Butler County

Table 9. Butler County Total Syphilis by Year				
2020	2021	2022	2023	2024
38	71	133	135	134

Table 9 shows total new syphilis cases in Butler County from 2020 through the 4th quarter of 2024. The most recent data are highlighted in light green.

Figure 5 is a line graph of syphilis cases from 2020 through the 4th quarter of 2024.

***Figure 5*. Butler County Syphilis Counts**

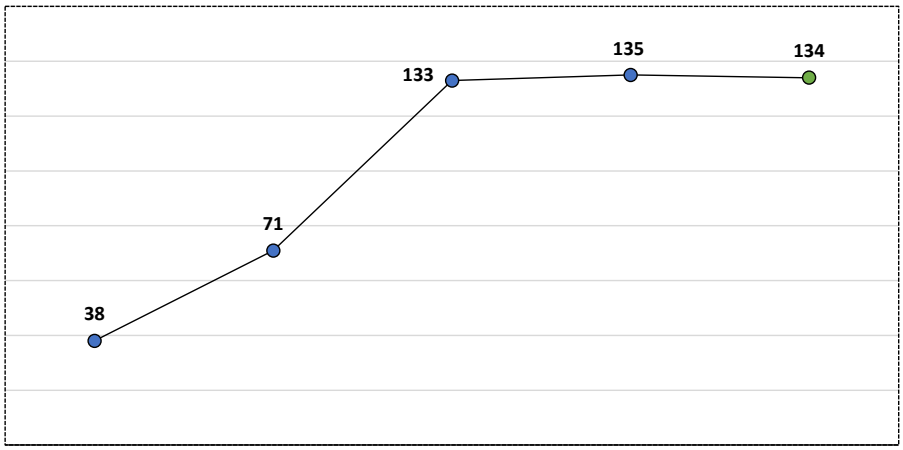


Table 10 is a comparison of the 1st through 4th quarters (Q1 - Q4) of 2023 and 2024. There was a **0.7% decrease** of new syphilis cases in 2024 compared to 2023 during this time period.

Table 10. Butler County Year Comparisons		
2023	2024	% Change
135	134	-0.7%↓

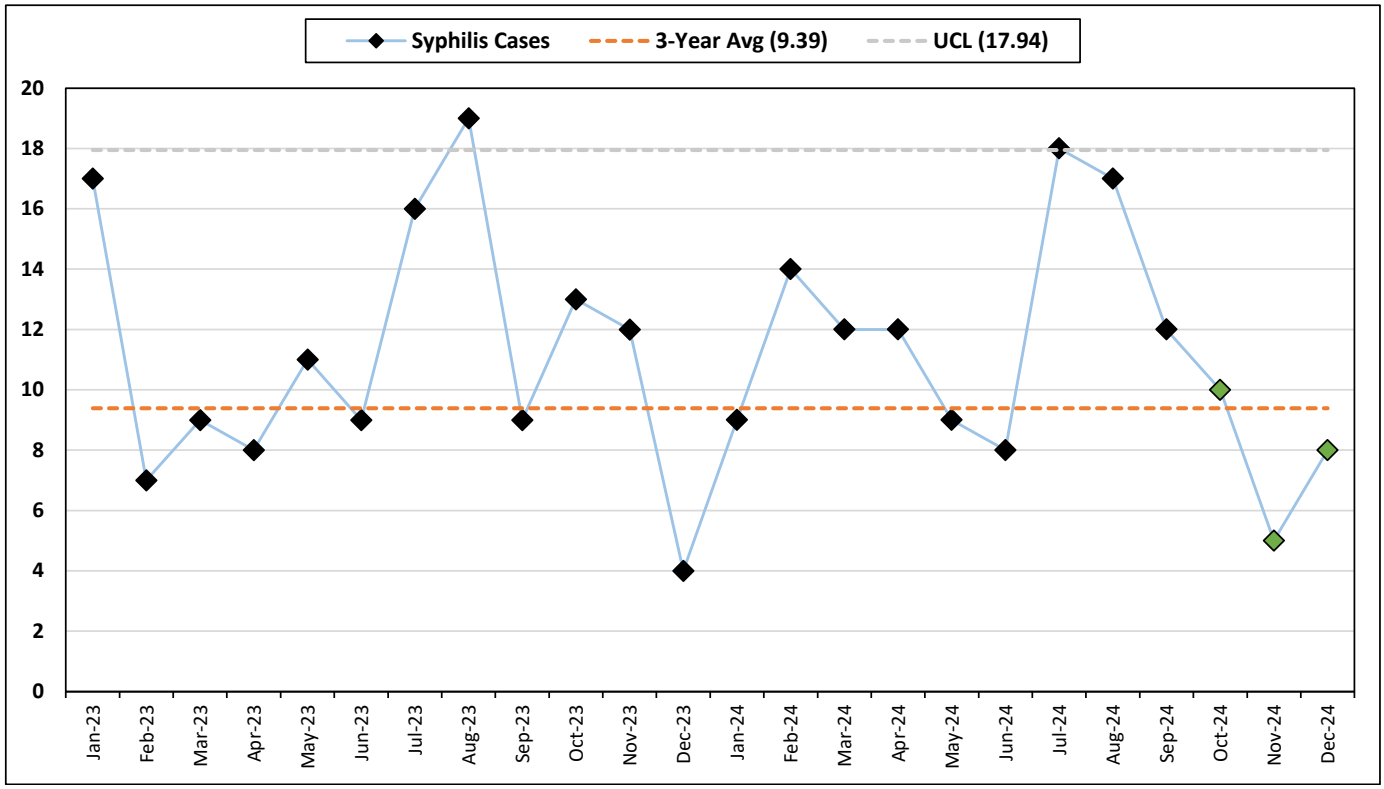
Table 11 displays the breakdown of new syphilis cases for Butler County from 2023 through the 4th quarter of 2024 by month. In 2023, the highest number of cases were seen in August (19 cases). In 2024, the highest number of new cases have occurred in July (18 cases).

Table 11. Butler County Total Syphilis by Month		
Month	2023	2024
January	17	9
February	7	14
March	9	12
April	8	12
May	11	9
June	9	8
July	16	18
August	19	17
September	9	12
October	13	10
November	13	5
December	4	8
Total	**135**	**134**

Figure 6 shows a surveillance control chart. The dashed orange line shows the average number of new syphilis cases per month for the past 3 years (2021, 2022, and 2023). The 3-year average is 9.39 new syphilis cases per month. The dashed gray line is the upper control limit (UCL) with a value of 17.94. A single point above or near the UCL may signal anomalies that need to be investigated. 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.

Analysis: For Q1 - Q4 2024, February, March , April, July, August, September, and October were above the 3-year average. August was above the UCL. Consecutive points above the average or a point above the UCL 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 incidence from true changes in the underlying risk for the disease.

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.

Table 12 shows syphilis stages, demographic, and risk factor data. The category showing the highest percentage of new syphilis cases is highlighted in blue. For Q1 - Q4 2024, Male (64.3%), White (81.3%), and 25 -34 year old (26.1%) individuals made up the highest percentage of new syphilis cases. For risk factors (excluding the "Unknown" category), men who have sex with men (MSM) had the highest percentage of new syphilis cases (23.9%). 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 additional information below the table.

Table 12. Butler County Syphilis Morbidity

	2023		2024	
	#	%	#	%
Syphilis Stages				
Early Latent	24	17.8%	31	23.1%
Primary	20	14.8%	14	10.4%
Secondary	24	17.8%	23	17.2%
Late/Unknown	62	45.9%	62	46.3%
Congenital	5	3.7%	4	3.0%
Gender				
Male	80	59.3%	86	64.3%
Female	55	40.7%	48	35.7%
Race				
Black	27	20.0%	14	10.4%
White	81	60.0%	109	81.3%
Multi	5	3.7%	1	0.7%
Other	20	14.8%	8	6.0%
Unknown	2	1.5%	2	1.5%
Age Group				
<1	5	3.7%	4	3.0%
1-14	0	0.0%	0	0.0%
15-24	27	20.0%	20	14.9%
25-34	35	25.9%	35	26.1%
35-44	28	20.7%	34	25.4%
45-54	21	15.6%	25	18.7%
55-64	15	11.1%	13	9.7%
65+	4	3.0%	3	2.2%
Risk Factor				
MSM	20	14.8%	32	23.9%
HRH	39	28.9%	31	23.1%
PWID	24	17.8%	19	14.2%
Unknown	52	38.5%	52	38.8%

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. Early syphilis cases include early latent, primary, and secondary stages. Early syphilis cases are cases where a person has been infected for less than a year.

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

Table 13: Select Region 8 Counties Syphilis Cases by Quarter					
	Brown	Clermont	Clinton	Highland	Warren
2023					
Q1	2	10	2	1	8
Q2	2	7	0	3	6
Q3	2	9	3	2	7
Q4	0	6	2	0	9
Total	**6**	**32**	**7**	**6**	**30**
2024					
Q1	0	6	3	1	5
Q2	1	1	1	0	3
Q3	1	5	0	0	6
Q4	1	4	0	2	4
Total	**3**	**16**	**4**	**3**	**18**

Table 13 shows total new syphilis cases in select Region 8 counties by quarter for 2023 and 2024. For Q1 - Q4 2024, Warren County has seen the most new syphilis cases (18 cases).

Table 14. Select Region 8 Counties Syphilis Morbidity				
	2023		2024	
	#	%	#	%
Syphilis Stages				
Early Latent	22	27.2%	8	18.2%
Primary	11	13.6%	6	13.6%
Secondary	16	19.8%	10	22.7%
Late/Unknown	30	37.0%	20	45.5%
Congenital	2	2.5%	0	0.0%
Gender				
Male	54	66.6%	31	70.2%
Female	27	33.4%	13	29.8%
Race				
Black	8	9.9%	3	6.8%
White	55	67.9%	39	88.6%
Multi	4	4.9%	0	0.0%
Other	13	16.0%	2	4.5%
Unknown	1	1.2%	0	0.0%
Age Group				
<1	2	2.5%	0	0.0%
15-24	13	16.0%	5	11.4%
25-34	20	24.7%	10	22.7%
35-44	19	23.5%	13	29.5%
45-54	15	18.5%	11	25.0%
55-64	10	12.3%	3	6.8%
65+	2	2.5%	2	4.5%
Risk Factor				
MSM	19	23.5%	10	22.7%
HRH	29	35.8%	12	27.3%
PWID	10	12.3%	2	4.5%
Unknown	23	28.4%	20	45.5%

Table 14 shows demographic and risk factor data for the aggregate of the select Region 8 counties. The category showing the highest percentage of new syphilis cases is highlighted in blue. For Q1 - Q4 2024, Male (70.2%), White (88.6%), and 35-44 year old (29.5%) individuals made up the highest percentage of new syphilis infections. For risk factors (excluding "Unknown"), high risk heterosexuals (HRH) had the highest percentage of new syphilis cases (27.3%). Risk factor definitions are on previous pages.