



**HAMILTON COUNTY
PUBLIC HEALTH**

PREVENT. PROMOTE. PROTECT.



Region 8 Syphilis Quarterly Report

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

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Syphilis Surveillance Background

Hamilton County Public Health conducts syphilis operations 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. 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 2/14/2023.

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 late latent and unknown duration syphilis, the patient may no longer be infectious and have no symptoms; however if the patient does not receive treatment the disease can develop into neurological problems, possibly leading to death. Cases of syphilis of unknown duration are grouped together with late syphilis for the purposes of surveillance.

Overview of Syphilis in Region 8

Table 1 shows total syphilis infections in Region 8 from 2018-2022.

Table 2 displays the breakdown of new syphilis cases for Region 8 residents from January 2021 through December 2022 by month. In 2021, the highest number of cases were seen in September (44 cases). In 2022, the highest number of syphilis cases occurred in November (72 cases).

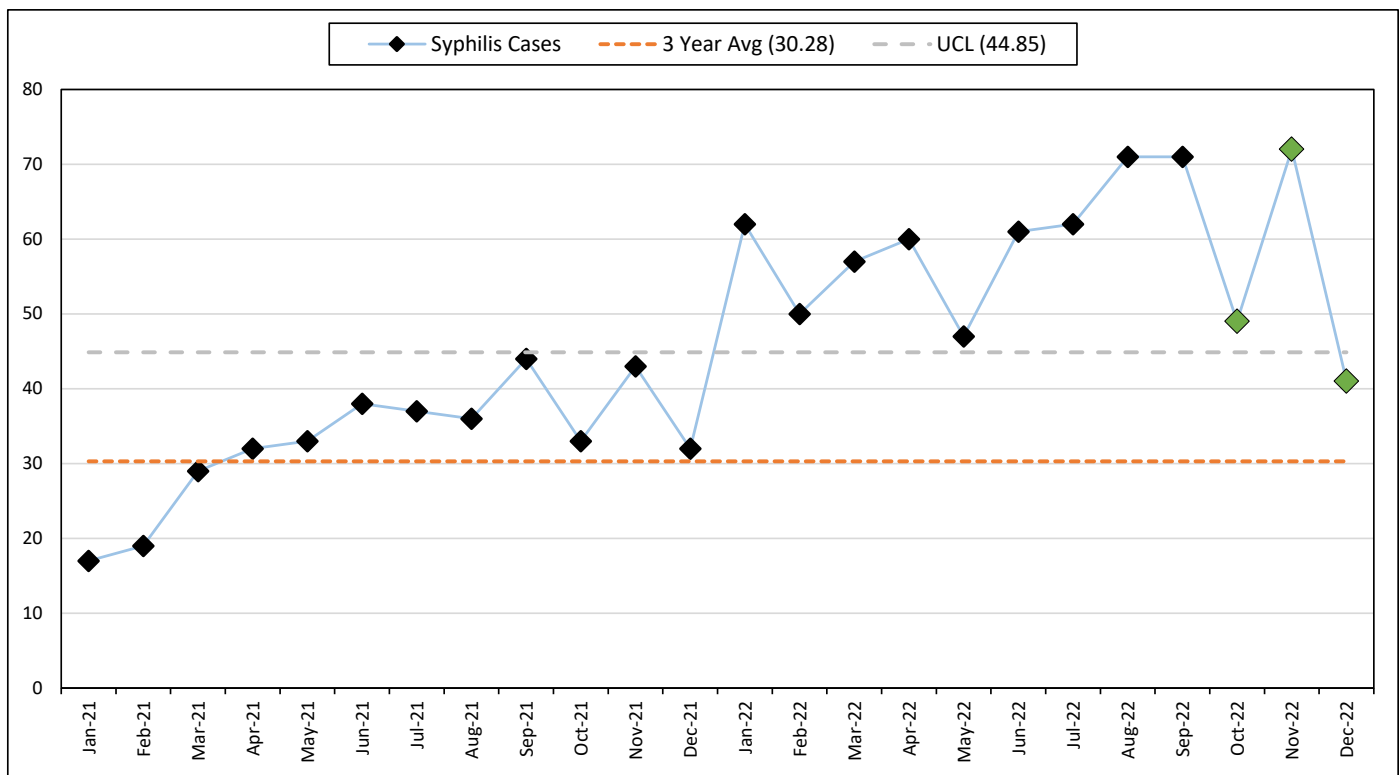
Table 1. Region 8 Total Syphilis by Year				
2018	2019	2020	2021	2022
401	364	333	393	703

Table 2. Region 8 Total Syphilis Infections by Month		
Month	New Cases of Syphilis 2021	New Cases of Syphilis 2022
January	17	62
February	19	50
March	29	57
April	32	60
May	33	47
June	38	61
July	37	62
August	36	71
September	44	71
October	33	49
November	43	72
December	32	41
Total	393	703

These data are provisional and subject to change.

Figure 1 shows a surveillance control chart. The dashed orange line is the previous 3 year average (2019, 2020, and 2021) for new syphilis infections by month. The previous 3 year average is 30.28 new syphilis infections per month. The dashed gray line is the upper control limit (UCL) with a value of 44.85. 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 1. Region 8 Syphilis Infection Control Chart



The average is found using syphilis counts by month for the previous 3 years (2019, 2020, and 2021). 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. These data are provisional and subject to change.

Syphilis Quarterly Report: Region 8

Table 3 shows syphilis stages, demographics and risk factor data in Region 8. Early (25%), Primary (18%), and Secondary (24%) are the stages where a person is most infectious. For 2022, there were 9 congenital cases in Region 8. Male (76%), Black (48%), and 25-34 year olds (36%) were the demographics that made up the highest percentages of new syphilis infections. For risk factors, MSM (38%) had the highest percentage of new syphilis infections. The “Unknown” risk factor category could be due to an individual not providing the disease interventionist with any information about risk factors. See the risk factor definitions below the table.

Table 3. Syphilis Morbidity Region 8				
	2021		2022	
	#	%	#	%
Syphilis Stages				
Early	101	26%	174	25%
Primary	62	16%	124	18%
Secondary	93	24%	166	24%
Late/Unknown Duration	130	33%	230	33%
Congenital	7	2%	9	1%
Gender				
Male	306	78%	533	76%
Female	87	22%	170	24%
Race				
Black	174	44%	334	48%
White	154	39%	266	38%
Multi	21	5%	45	6%
Other	32	8%	54	8%
Unknown/Null	12	3%	4	1%
Age Group				
<1	7	2%	8	1%
1-14	1	0%	2	0%
15-24	62	16%	97	14%
25-34	142	36%	254	36%
35-44	97	25%	158	22%
45-54	53	13%	95	14%
55-64	26	7%	68	10%
65+	5	1%	21	3%
Risk Factor				
MSM	147	37%	267	38%
HRH	115	29%	201	29%
PWID	17	4%	35	5%
Unknown/Null	114	29%	200	28%

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 categorized by a person who injects drugs. These data are provisional and subject to change.

Overview of Syphilis in Hamilton County

Table 4 shows total syphilis infections in Hamilton County from 2018-2022.

Table 5 displays the breakdown of new syphilis cases for Hamilton County residents from January 2021 through December 2022 by month. In 2021, the highest number of cases were seen in November (31 cases). In 2022, the highest number of syphilis cases occurred in November (59 cases).

Table 4. Hamilton County Total Syphilis by Year				
2018	2019	2020	2021	2022
323	301	248	280	531

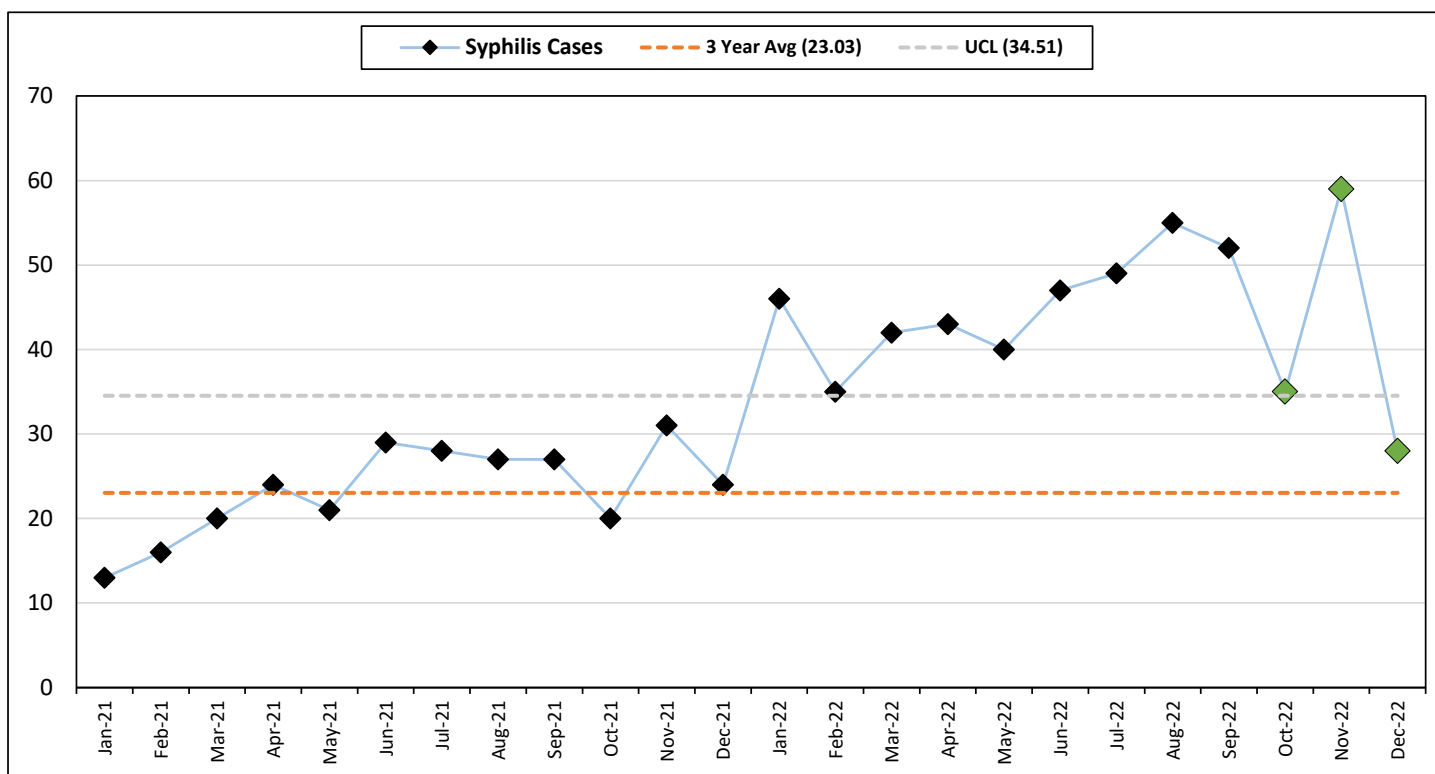
Table 5. Hamilton County Total Syphilis Infections by Month		
Month	New Cases of Syphilis 2021	New Cases of Syphilis 2022
January	13	46
February	16	35
March	20	42
April	24	43
May	21	40
June	29	47
July	28	49
August	27	55
September	27	52
October	20	35
November	31	59
December	24	28
Total	280	531

These data are provisional and subject to change.

Syphilis Quarterly Report: Hamilton County

Figure 2 shows a surveillance control chart. The dashed orange line is the previous 3 year average (2019, 2020, and 2021) for new syphilis infections by month. The previous 3 year average is 23.03 new syphilis infections per month. The dashed gray line is the upper control limit (UCL) with a value of 34.51. 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. Hamilton County Syphilis Infection Control Chart



The average is found using syphilis counts by month for the previous 3 years (2019, 2020, and 2021). 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. These data are provisional and subject to change..

Syphilis Quarterly Report: Hamilton County

Table 6 shows syphilis stages, demographic, and risk factor data. Early (27%), Primary (16%), and Secondary (23%) are the stages where a person is most infectious. For 2022, there were 5 congenital cases for Hamilton County. Male (79%), Black (59%), and 25-24 year olds (39%), made up the largest demographics for syphilis infections for 2022. MSM (41%) was the risk factor most attributed to syphilis infections. The “Unknown” risk factor category could be due to an individual not providing the disease interventionist with any information about risk factors See risk factor definitions below the table.

Table 6. Syphilis Morbidity Hamilton County

	2021		2022	
	#	%	#	%
Syphilis Stages				
Early	78	28%	143	27%
Primary	46	16%	86	16%
Secondary	60	21%	121	23%
Late/Unknown Duration	92	33%	176	33%
Congenital	4	1%	5	1%
Gender				
Male	225	80%	420	79%
Female	55	20%	111	21%
Race				
Black	157	56%	315	59%
White	76	27%	136	26%
Multi	16	6%	40	8%
Other	23	8%	37	7%
Unknown/Null	8	3%	3	1%
Age Group				
<1	4	1%	5	1%
1-14	0	0%	1	0%
15-24	48	17%	75	14%
25-34	106	38%	206	39%
35-44	72	26%	116	22%
45-54	29	10%	61	11%
55-64	18	6%	49	9%
65+	3	1%	18	3%
Risk Factor				
MSM	114	41%	220	41%
HRH	85	30%	152	29%
PWID	9	3%	14	3%
Unknown/Null	72	26%	145	27%

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 categorized by a person who injects drugs. These data are provisional and subject to change.

Overview of Syphilis in Butler County

Table 7 shows total syphilis infections in Butler County from 2018-2022.

Table 8 displays the breakdown of new syphilis cases for Butler County residents for January 2021 through December 2022 by month. In 2021, the highest number of cases were seen in September (10 cases). In 2022, the highest number of syphilis cases occurred in April (14 cases).

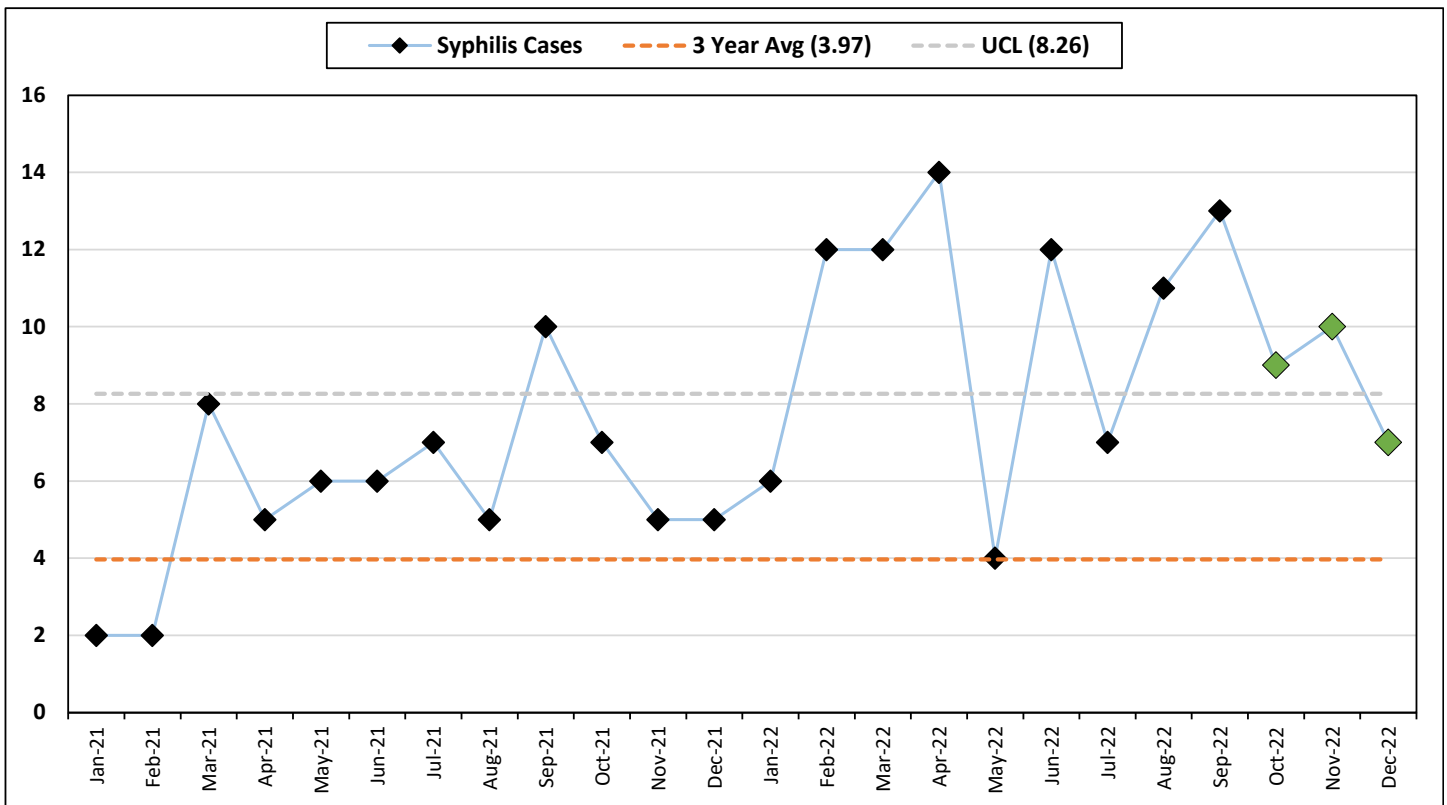
2018	2019	2020	2021	2022
47	37	38	68	117

Month	New Cases of Syphilis 2021	New Cases of Syphilis 2022
January	2	6
February	2	12
March	8	12
April	5	14
May	6	4
June	6	12
July	7	7
August	5	11
September	10	13
October	7	9
November	5	10
December	5	7
Total	68	117

These data are provisional and subject to change.

Figure 3 shows a surveillance control chart. The dashed orange line is the previous 3 year average (2019, 2020, and 2021) for new syphilis infections by month. The previous 3 year average is 3.97 new syphilis infections per month. The dashed gray line is the upper control limit (UCL) with a value of 8.26. 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 3. Butler County Syphilis Infection Control Chart



The average is found using syphilis counts by month for the previous 3 years (2019, 2020, and 2021). 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. These data are provisional and subject to change.

Syphilis Quarterly Report: Butler County

Table 9 shows syphilis stages, demographic, and risk factor data. Early (18%), Primary (24%), and Secondary (24%) are the stages where a person is most infectious. For 2022, there were 3 congenital cases in Butler County. Male (62%), White (74%), and 25-24 year olds (29%), made up the largest demographics for syphilis infections for 2022. Excluding “Unknown,” HRH (30%) was the risk factor most attributed to syphilis infections. See risk factor definitions below the table.

Table 9. Butler County Syphilis Morbidity				
	2021		2022	
	#	%	#	%
Syphilis Stages				
Early	15	22%	21	18%
Primary	10	15%	28	24%
Secondary	17	25%	28	24%
Late/Unknown Duration	23	34%	37	32%
Congenital	3	4%	3	3%
Gender				
Male	48	71%	72	62%
Female	20	29%	45	38%
Race				
Black	13	19%	14	12%
White	43	63%	86	74%
Multi	3	4%	3	3%
Other	6	9%	13	11%
Unknown/Null	3	4%	1	1%
Age Group				
<1	3	4%	2	2%
1-14	1	1%	1	1%
15-24	9	13%	15	13%
25-34	20	29%	34	29%
35-44	16	24%	31	26%
45-54	12	18%	19	16%
55-64	5	7%	13	11%
65+	2	3%	2	2%
Risk Factor				
MSM	20	29%	23	20%
HRH	18	26%	35	30%
PWID	5	7%	19	16%
Unknown/Null	25	37%	40	34%

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 categorized by a person who injects drugs. These data are provisional and subject to change.

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

Table 10: Select Region 8 Counties Syphilis Infections by Quarter					
	Brown	Clermont	Clinton	Highland	Warren
2021					
Q1	1	0	1	1	1
Q2	2	5	3	0	2
Q3	1	5	0	0	7
Q4	0	8	1	1	6
Total	4	18	5	2	16
2022					
Q1	1	3	3	1	8
Q2	1	2	0	1	4
Q3	2	4	4	1	6
Q4	1	7	3	0	3
Total	5	16	10	3	21

Table 10 shows total new syphilis infections in select Region 8 counties by quarter from 2021 and 2022. For 2022, Warren County had the most new syphilis infections (21 cases).

Table 11. Select Region 8 Counties Syphilis Morbidity				
	2021		2022	
	#	%	#	%
Syphilis Stages				
Early	8	18%	10	18%
Primary	6	13%	10	18%
Secondary	16	36%	17	31%
Late/Unknown Duration	15	33%	17	31%
Congenital	0	0%	1	2%
Gender				
Male	33	73%	41	75%
Female	12	27%	14	25%
Race				
Black	4	9%	5	9%
White	35	78%	44	80%
Multi	2	4%	2	4%
Other	3	7%	4	7%
Unknown/Null	1	2%	0	0%
Age Group				
<1	0	0%	1	2%
15-24	5	11%	7	13%
25-34	16	36%	14	25%
35-44	9	20%	11	20%
45-54	12	27%	15	27%
55-64	3	7%	6	11%
65+	0	0%	1	2%
Risk Factor				
MSM	13	29%	24	44%
HRH	12	27%	14	25%
PWID	3	7%	2	4%
Unknown/Null	17	38%	15	27%

Table 11 shows syphilis stages, demographic, and risk factor data for the aggregate of the select Region 8 counties. Early (18%), Primary (18%), and Secondary (31%) are the stages where a person is most infectious. For 2022, there was 1 congenital case. Male (75%), White (80%), and 45-54 year olds (27%) made up the largest percentage of total new syphilis infections for select Region 8 counties. MSM (44%) made up the most prevalent risk factor. Risk factor definitions are on previous pages.

These data are provisional and subject to change.