HAMILTON COUNTY PUBLIC HEALTH

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Region 8 Syphilis Quarterly Report

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Syphilis Quarterly Report: Region 8

New Syphilis Diagnoses by Month, Region 8,Ohio (January 2020 - March 2021)

Table 1. Region 8 New Total Syphilis Infections

Month	Cases of Syphilis 2020	Cases of Syphilis 2021
January	38	13
February	20	16
March	18	24
April	27	0
May	26	0
June	36	0
July	30	0
August	37	0
September	26	0
October	22	0
November	20	0
December	24	0
Total	**324**	**53**

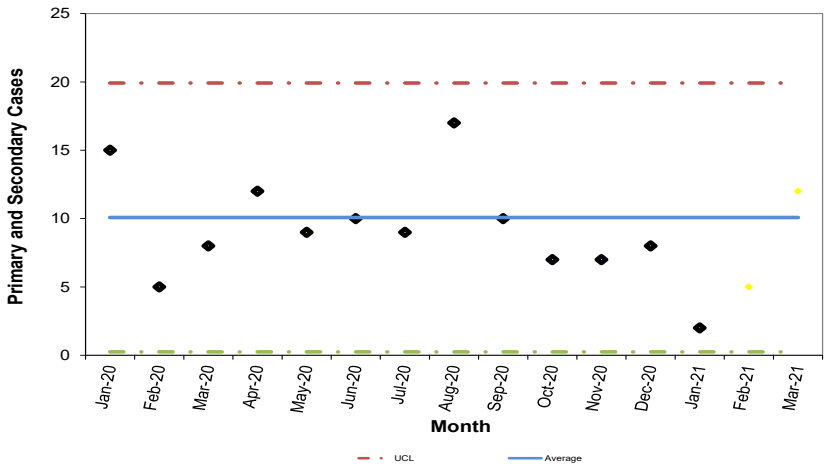
This report was created as a surveillance effort to help prevent new cases of syphilis within Region 8 counties (Brown, Butler, Clermont, Clinton, Hamilton, Highland, and Warren) Table 1 displays the breakdown of total syphilis cases for Region 8 residents from January 2020 through March 2021 on a monthly basis. These include cases at any stage of disease (i.e. primary, secondary, latent, or congenital). Only syphilis cases that have been reported to the CDC were counted for analysis purposes in this report. In 2020, the highest number of syphilis cases occurred in January (38 cases). In 2021, the highest number of syphilis cases occurred in March (24 cases). The average number of syphilis cases per month were 27.0 and 17.7 for the years 2020 and 2021, respectively. In Q1 2021, there were 23 fewer cases than in Q1 2020. Data from more recent months are the most likely to change as investigations are finished.

Syphilis cases are derived from partner services data in the Ohio Disease Reporting System and represent only those cases reported to the CDC. These data are provisional and subject to change when additional data are reported. Cases' residences were determined by address at diagnosis. Source: Ohio Department of Health (ODH), Ohio Disease Reporting System (ODRS). Data reported as of 5/12/2021.

Surveillance of Primary and Secondary Cases Diagnosed in Region 8, Ohio (Jan 2020- Mar 2021)

One way to monitor primary and secondary (P&S) syphilis infections within Region 8 is through the use of surveillance control charts. Factors that this control chart shows are the number of P&S syphilis cases for each month (black diamonds), control limits (red dashed lines), and the average number of cases (solid blue line). Data points most likely to change are marked in yellow. Control charts are used to detect unexpected events, such as a single point outside of the control limit, consecutive points above or below the average line, or two to three consecutive points near a control limit. When anomalies such as these occur, it may be beneficial to examine events surrounding the anomalies in order to devise a strategy to reduce the number of cases in subsequent months or to see which strategies already in place are effective. Figure 1 illustrates the control chart for P&S syphilis infections from January 2020 – March 2021.

Figure 1. P&S Syphilis Control Chart



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Demographics and Social Factors Associated with High Risk for Syphilis Infection

The number of P&S cases is important to monitor as these are the stages in which a person is most likely to transmit the disease to another person. Table 2 and Figure 2 show the demographics and social factors that make up these P&S cases. Table 2 shows the percentage of P&S syphilis cases from 2020 and 2021 based on race, sex, and risk behavior. Over 40 percent of the P&S syphilis cases from 2020 occurred among black Region 8 residents, which has increased in 2021 to 68.4 percent. Additionally, approximately 80 percent of the P&S syphilis cases from 2020-2021 were among male Region 8 residents. Figure 2 displays the shift in age distribution of P&S syphilis cases in Region 8.

Figure 2. Syphilis Incidence by Age, Region 8, 2017-2021

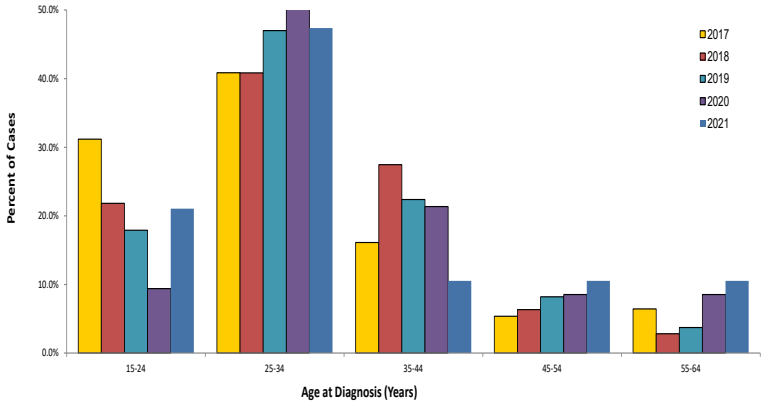


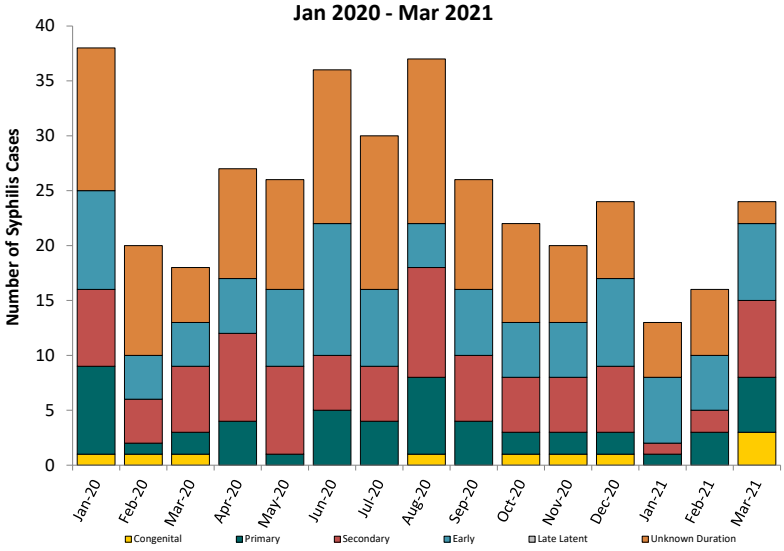
Table 2. Demographics of P&S Syphilis Cases

	Jan - Dec 2020		Jan -Mar 2021	
	#	%	#	%
Race				
Black	53	44.9%	13	68.4%
White	58	49.2%	6	31.6%
Other	7	5.9%	0	0.0%
Sex				
Male	98	83.1%	14	73.7%
Female	20	16.9%	5	26.3%
Risk Groups				
MSM	58	49.6%	7	36.8%
HRH	35	29.9%	7	36.8%
IDU	5	4.3%	0	0.0%

Stages of Syphilis Infection: Region 8

Syphilis infections are organized 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. Congenital syphilis cases serve as key indicators of community health as this stage of infection is easily preventable when proper healthcare is present. Transmission of syphilis is possible during primary, secondary, and early latent stages of 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 .

Figure 3. Stages of Syphilis at Diagnosis, Region 8, Jan 2020 - Mar 2021



These data are provisional and subject to change when additional data are reported. Cases' residences were determined by address at diagnosis. Source: ODH, ODRS. Data reported as of 5/12/2021. Percentages may not total to 100 percent due to rounding. Percentages are based on availability of data for all cases. High risk heterosexuals are residents who are not MSM but participate in risky behaviors such as having sex with men who have sex with men (MSM), HIV+, intravenous drug user (IDU), or anonymous people HRH status is also determined from factors such as having sex while intoxicated, exchanging sex for drugs, or having previous STIs.

Overview of Syphilis in Hamilton County

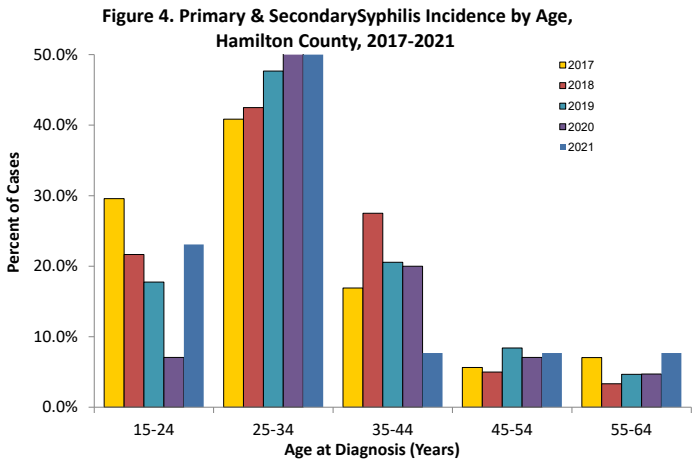
Table 3 displays the breakdown of new total syphilis cases for Hamilton County residents for January 2020 through March 2021 on a monthly basis. Only syphilis cases where the resident was identified as a new syphilis infection by a disease investigation specialist were counted for analysis purposes in this report. Table 4 compares the race, sex, and risk behavior groups for new primary and secondary syphilis infections from January 2020 through March 2021. Figure 4, below, illustrates the distribution of age among new primary and secondary syphilis diagnoses in Hamilton County. From 2017 to 2021, 25-34 year olds made up the largest percentage of cases. Figure 5 displays the stages of syphilis for Hamilton County. Table 5 and 6 displays the breakdown of new syphilis cases for select counties in Region 8 and the demographic makeup of the newly identified syphilis cases. Table 7 displays the stages of syphilis for select counties in Region 8.

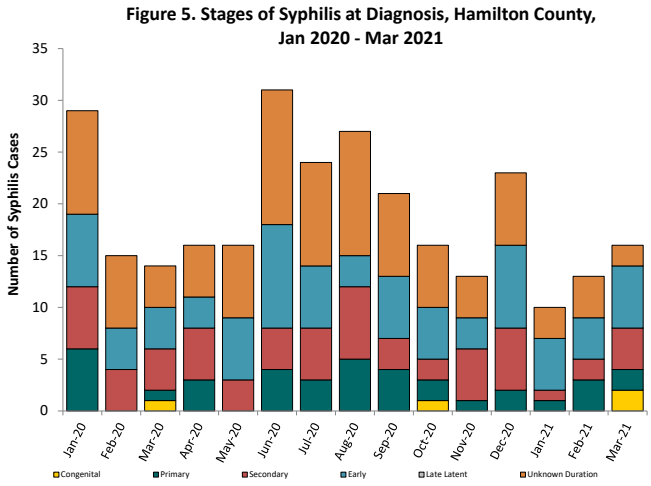
Table 3. Hamilton County New Total Syphilis Infections

Month	New Cases of Syphilis 2020	New Cases of Syphilis 2021
January	29	10
February	15	13
March	14	16
April	16	0
May	16	0
June	31	0
July	24	0
August	27	0
September	21	0
October	16	0
November	13	0
December	23	0
Total	**245**	**39**

Table 4. Demographics of P&S Syphilis Cases

	Jan - Dec 2020		Jan - Mar 2021	
	#	%	#	%
Race				
Black	49	57.6%	9	69.2%
White	30	35.3%	4	30.8%
Other	6	7.1%	0	0.0%
Sex				
Male	69	81.2%	11	84.6%
Female	16	18.8%	2	15.4%
Risk Groups				
MSM	41	48.2%	6	46.2%
HRH	28	32.9%	5	38.5%
IDU	4	4.7%	0	0.0%





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Overview of Syphilis for Select Counties in Region 8

Table 5. Select Counties in Region 8 Total Syphilis Infections by Quarters, 2020-2021						
	Brown	Butler	Clermont	Clinton	Highland	Warren
2020-Q1	0	9	5	0	0	5
2020-Q2	1	13	6	0	0	6
2020-Q3	3	8	3	1	2	5
2020-Q4	0	7	1	0	1	6
2021-Q1	1	11	0	1	0	1
2021-Q2	0	0	0	0	0	0
2021-Q3	0	0	0	0	0	0
2021-Q4	0	0	0	0	0	0

Table 6. Select Counties in Region 8 Primary & Secondary Infections				
	Jan - Dec 2020		Jan - Mar 2021	
	#	%	#	%
Race				
Black	4	12.5%	4	66.7%
White	27	84.4%	2	33.3%
Other	1	3.1%	0	0.0%
Sex				
Male	29	85.3%	3	50.0%
Female	5	14.7%	3	50.0%
Risk Group				
MSM	17	53.1%	1	16.7%
HRH	7	21.9%	2	33.3%
IDU	1	3.1%	0	0.0%

Table 7. Select Counties in Region 8 Stages of Stages of Syphilis				
	Jan - Dec 2020		Jan - Mar 2021	
	#	%	#	%
Stages of Syphilis				
Congenital	5	6.2%	1	7.1%
Early	11	13.6%	3	21.4%
Late Latent	0	0.0%	0	0.0%
Late w/ Clinical	0	0.0%	0	0.0%
Primary	11	13.6%	3	21.4%
Secondary	21	25.9%	3	21.4%
Unknown Duration	33	40.7%	4	28.6%

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