



Hamilton County Public Health - Epidemiology and Assessment

Syphilis Quarterly Report

David Carlson, MPH, Epidemiologist

Syphilis Prevalence by Month in Hamilton County, Ohio (January 2013 – March 2014)

Table 1. Syphilis Cases by Month for Hamilton County Residents

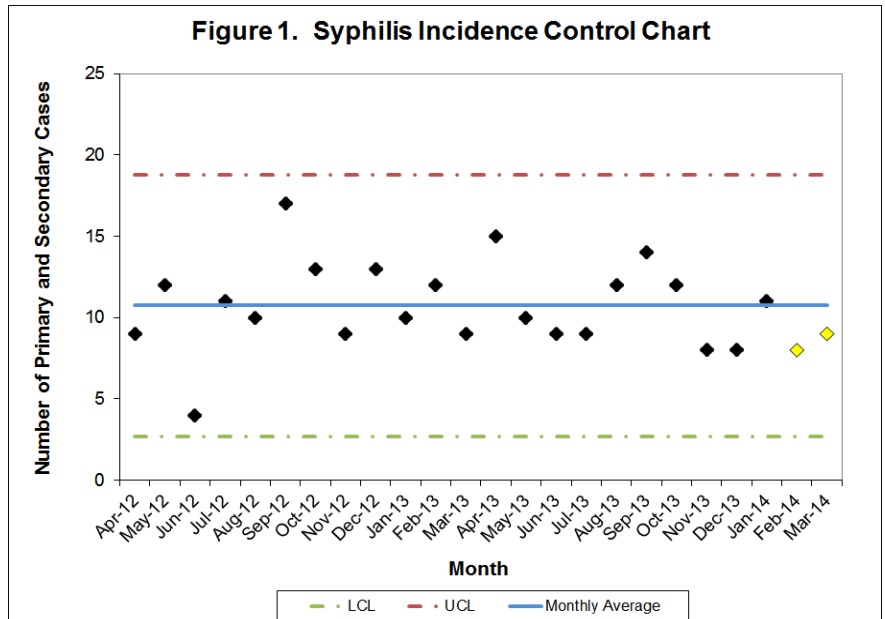
Month	Cases of Syphilis 2013	Cases of Syphilis 2014
January	30	20
February	34	16
March	33	19
April	31	
May	28	
June	23	
July	35	
August	28	
September	30	
October	34	
November	17	
December	27	
Total	350	

This report was created as a surveillance effort to help prevent new cases of syphilis within Hamilton County. Table 1 displays the breakdown of syphilis cases for Hamilton County residents from 2013 and 2014 on a monthly basis. Only syphilis cases that have been reported to the CDC were counted for analysis purposes in this report. In 2013, the highest number of syphilis cases occurred in July (35 cases). In 2014, the highest number of syphilis cases occurred in January (20 cases). The average number of syphilis cases per month were 29.2 and 18.3 for the years 2013 and 2014, respectively. In the first quarter of 2014, there were 42 fewer cases of syphilis compared to the first quarter of 2013. Subsequent reports will allow for a better comparison of 2014 cases as data are subject to change as more information is acquired.

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 are selected based on address at diagnosis. Source: Ohio Department of Health (ODH), STD Surveillance. Data reported as of 5/14/2014.

Syphilis Incidence in Hamilton County, Ohio (April 2012 - March 2014)

One way to monitor syphilis infections within Hamilton County is through the use of surveillance control charts. Factors that this control chart shows are the number of primary and secondary syphilis cases for each month (black diamonds), control limits (red or green dashed lines), and the average number of cases (solid blue line). 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 primary and secondary syphilis infections from April 2012 to March 2014. All of the months in this time frame fell below the upper control limit for number of syphilis infections. Future control charts will give a better understanding of the case counts for 2014. The monthly average number of cases (10.75) was calculated from January 2012-December 2013.



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 information is reported. Cases are selected based on address at diagnosis. Source: ODH, STD Surveillance. Data reported as of 5/14/2014.



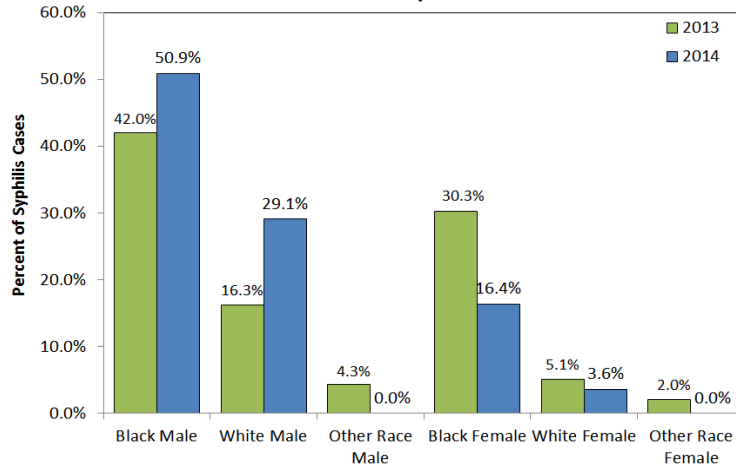
Demographics and Social Factors with High Risk for Syphilis Infection

Individuals with certain demographics and social factors are more likely to become infected with syphilis. Table 2 shows the percentage of syphilis cases from 2013 and 2014 based on race, age, sex, and additional demographics. Approximately 70 percent of the syphilis cases from 2013 and 2014 occurred among black Hamilton County residents. From January to March 2014, nearly 40 percent of cases were among 15-24 year olds; compared to 30 percent of cases in 2013. Identifying these aforementioned at-risk groups allows public health and health care the opportunity to create specific intervention methods for preventing the spread of syphilis. Figure 2 further classifies the differences in race/sex groups from 2013 to 2014. The largest changes occurred among the percentage of black male, white male, and black female cases. The demographics for 2014 are subject to change as more cases are identified in 2014.

Table 2. Demographics of Syphilis Cases

	Jan. - Dec. 2013		Jan. - Mar. 2014	
	#	%	#	%
Race				
Black	253	72.3	37	67.3
White	75	21.4	18	32.7
Other	22	6.3	0	0.0
Age				
<1	7	2.0	0	0.0
1-14	1	0.3	0	0.0
15-24	105	30.0	21	38.2
25-34	121	34.6	19	34.5
35-44	73	20.9	9	16.4
45-54	37	10.6	4	7.3
55-64	6	1.7	2	3.6
>65	0	0.0	0	0.0
Sex				
Male	219	62.6	44	80.0
Female	131	37.4	11	20.0
Behavior*				
MSM	84 of 198	42.4	20 of 41	48.8
HRHF	65 of 121	53.7	6 of 10	60.0

Figure 2. Percent of Total Syphilis Cases by Race/Sex, Hamilton County, 2013-2014



These data are provisional and subject to change when additional data are reported. Syphilis cases between January 2013 and March 2014 were used for analysis. Cases were selected based on address at diagnosis. Source: ODH, STD Surveillance. Data reported as of 5/14/2014. Percentages may not total to 100 percent due to rounding. *Cases were missing information from fields used to determine transmission. Percentages for behavior are sex-specific and based only on cases that had valid information within the required fields. High risk heterosexual females (HRHF) are women who self-identified as participating in sex with a known MSM, HIV+, IDU, or anonymous person. HRHF status is also determined from factors such as having sex while intoxicated, exchanging sex for drugs, or having previous STIs.

Stages of Syphilis Infection: Hamilton County

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 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. As seen in Figure 3, a decline in latent cases has occurred.

Figure 3. Stages of Syphilis at Diagnosis, Hamilton County, Apr. 2012- Mar. 2014

