



# Hamilton County Public Health - Epidemiology and Assessment

## Syphilis Quarterly Report

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### Syphilis Prevalence by Month in Hamilton County, Ohio (Jan 2015 – Sep 2016)

**Table 1. Syphilis Cases by Month for Hamilton County Residents**

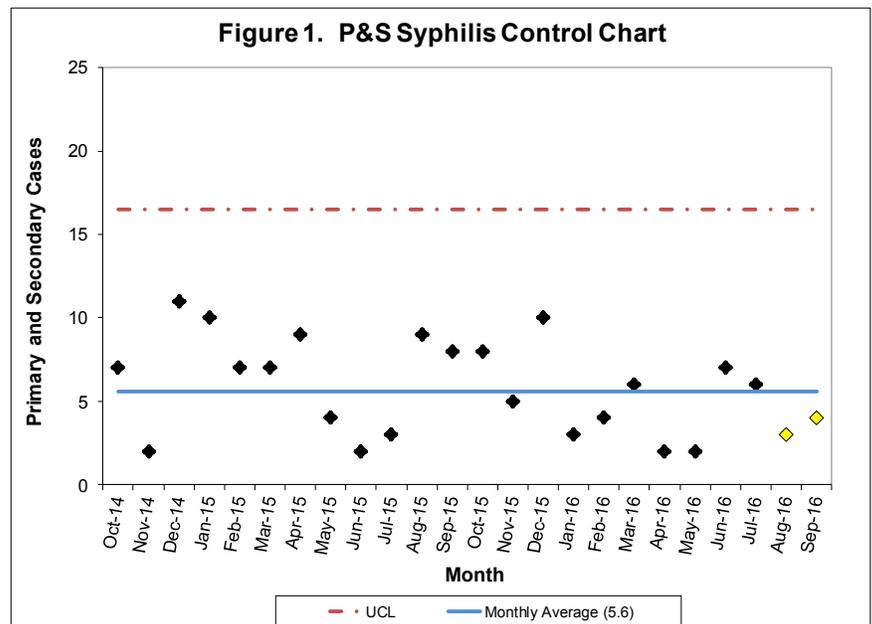
Month	Cases of Syphilis 2015	Cases of Syphilis 2016
January	20	14
February	17	17
March	18	20
April	26	18
May	19	17
June	15	21
July	17	15
August	28	14
September	26	15
October	19	
November	18	
December	21	
<b>Total</b>	<b>244</b>	<b>151</b>

This report was created as a surveillance effort to help prevent new cases of syphilis within Hamilton County. Table 1 displays the breakdown of total syphilis cases for Hamilton County residents from January 2015 through September 2016 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 2015, the highest number of syphilis cases occurred in August (28 cases). In 2016, the highest number of syphilis cases occurred in June (21 cases). The average number of syphilis cases per month were 20.3 and 16.8 for the years 2015 and 2016, respectively. 35 fewer cases of syphilis were reported through September of 2016 when compared to the same time in 2015. 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), STD Surveillance. Data reported as of 11/21/2016.

### Primary and Secondary Syphilis in Hamilton County, Ohio (Oct 2014 - Sep 2016)

One way to monitor primary and secondary (P&S) syphilis infections within Hamilton County 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 October 2014 to September 2016. The current control chart detected eight consecutive points below the average, possibly indicating a decrease in disease transmission. The new monthly average number of cases (5.6) was calculated using data from July 2015-June 2016 and is reflected in the chart.



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' residences were determined by address at diagnosis. Source: ODH, STD Surveillance. Data reported as of 11/21/2016.

## Demographics and Social Factors 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 2015 and 2016 based on race, sex, and risk behavior. Over 65 percent of the P&S syphilis cases from 2015 and 2016 occurred among black Hamilton County residents. Additionally, 4 out of 5 P&S syphilis cases from 2015-2016 were among male Hamilton County residents. Figure 2 displays the shift in age distribution of P&S syphilis cases in Hamilton County. Percentages for 2016 are based on small numbers and should be interpreted with caution. Future reports will provide a better estimate at the age distribution of cases in 2016.

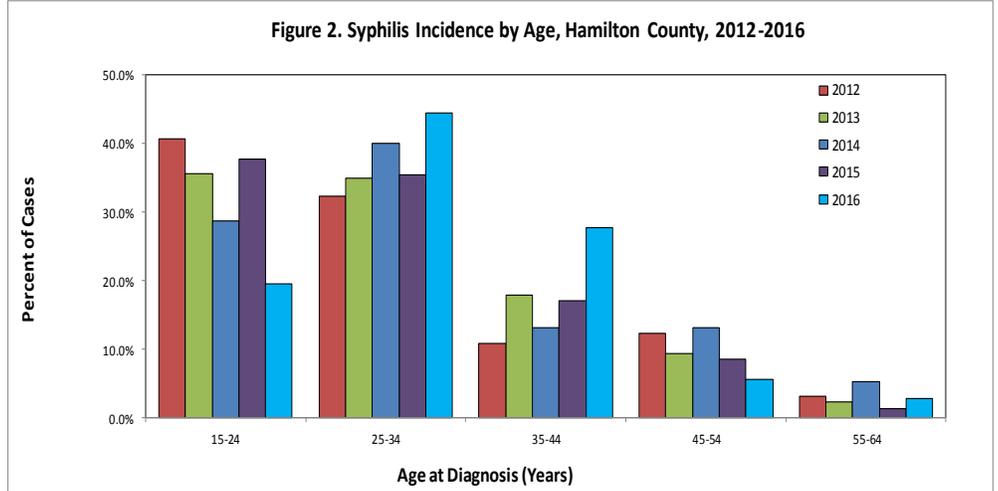
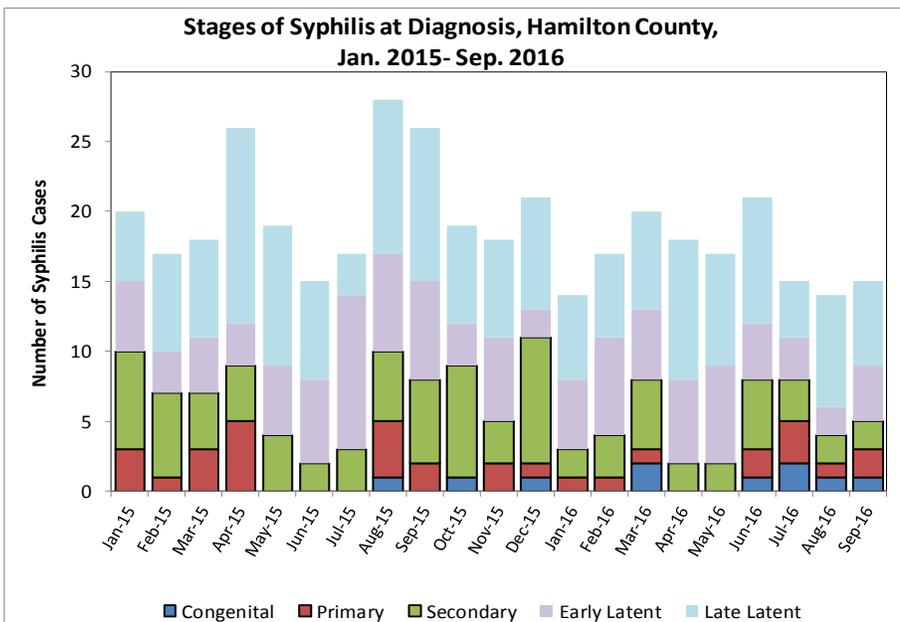


Table 2. Demographics of P&S Syphilis Cases

	Jan. - Dec. 2015		Jan. - Sep. 2016	
	#	%	#	%
<b>Race</b>				
Black	64	78.0	21	58.3
White	16	19.5	12	33.3
Other	2	2.4	3	8.3
<b>Sex</b>				
Male	63	76.8	31	86.1
Female	19	23.2	5	13.9
<b>Behavior</b>				
MSM	24 of 82	29.3	25 of 37	67.6
HRH	36 of 82	43.9	7 of 37	18.9

These data are provisional and subject to change when additional data are reported. Cases' residences were determined by address at diagnosis. Source: ODH, STD Surveillance. Data reported as of 11/21/2016. Percentages may not total to 100 percent due to rounding. Percentages for behavior are sex-specific and based only on cases that had valid information within the required fields. 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. **Note: Table 2 MSM is now measured out of all cases.**

## 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.