



# Hamilton County Public Health - Epidemiology and Assessment

## Syphilis Quarterly Report

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### Syphilis Prevalence by Month in Hamilton County, Ohio (January 2014 – June 2015)

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

Month	Cases of Syphilis 2014	Cases of Syphilis 2015
January	20	20
February	16	16
March	22	17
April	25	27
May	21	17
June	28	13
July	30	
August	24	
September	33	
October	25	
November	16	
December	22	
<b>Total</b>	<b>282</b>	<b>110</b>

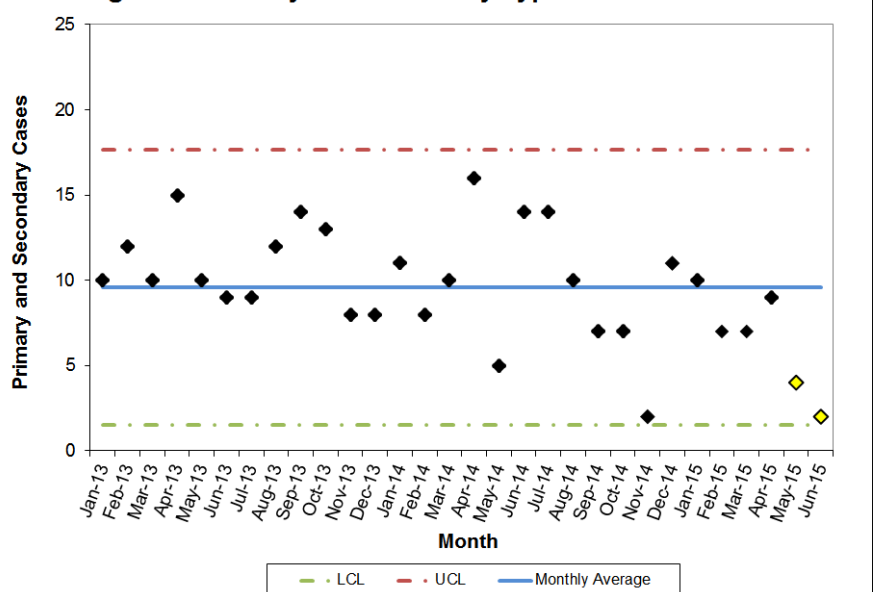
This report was created as a surveillance effort to help prevent new cases of syphilis within Hamilton County. Table 1 displays the breakdown of total syphilis cases for Hamilton County residents from 2014 and 2015 on a monthly basis. Only syphilis cases that have been reported to the CDC were counted for analysis purposes in this report. In 2014, the highest number of syphilis cases occurred in September (33 cases). In 2015, the highest number of syphilis cases occurred in April (27 cases). The average number of syphilis cases per month were 23.5 and 18.3 for the years 2014 and 2015, respectively. In the first half of 2015, there were 22 fewer cases of syphilis compared to the first quarter of 2014. The most recently reported months' data are the most subject to change in future reports.

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 7/27/2015.

### P&S Syphilis in Hamilton County, Ohio (January 2013 - June 2015)

One way to monitor primary and secondary 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 January 2013 to June 2015. The monthly average number of cases (9.6) was re-calculated using data from January 2014-December 2014 as the November 2014 and June 2014 were below the previous lower threshold. A downward trend in primary and secondary cases can be seen from 2013 to 2015.

**Figure 1. Primary and Secondary Syphilis Control 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 are selected based on address at diagnosis. Source: ODH, STD Surveillance. Data reported as of 7/27/2015.



## Demographics and Social Factors with High Risk for Syphilis Infection

The number of primary and secondary (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 2014 and 2015 based on race, sex, and behavior. Over 60 percent of the P&S syphilis cases from 2014 and 2015 occurred among black Hamilton County residents. Additionally, 4 out of 5 P&S syphilis cases from 2014-2015 were among male Hamilton County residents. Figure 2 displays the shift in age distribution of P&S syphilis cases in Hamilton County. In 2012, the 15-24 year old group was responsible for the most cases of P&S syphilis out of any other group; however in 2013 and 2014 the age distribution shifted towards Hamilton County residents 25-34 years old. So far in 2015, both the 15-24 and 25-34 year olds have the highest percentage of cases.

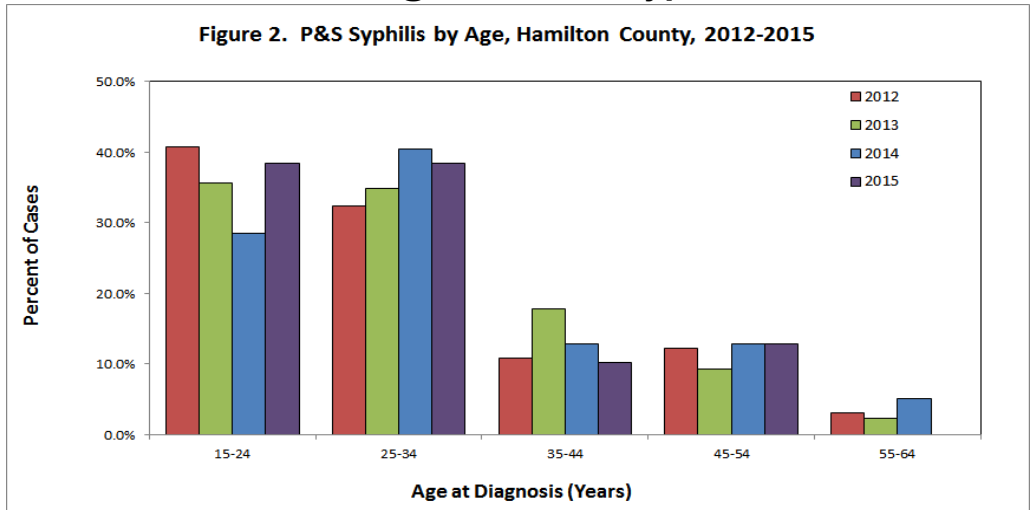
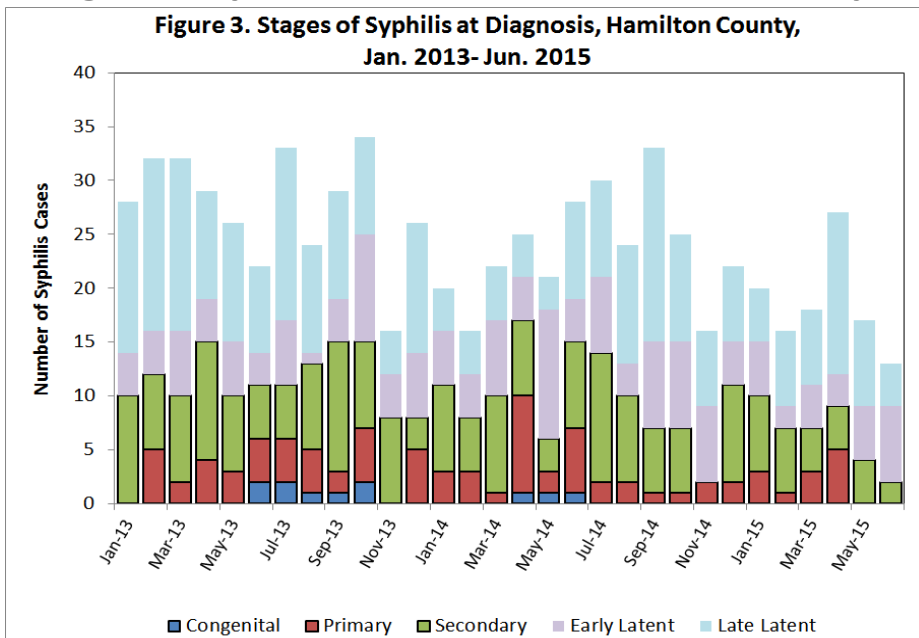


Table 2. Demographics of P&S Syphilis Cases

	Jan. - Dec. 2014		Jan. - Jun. 2015	
	#	%	#	%
<b>Race</b>				
Black	72	62.1	30	76.9
White	38	32.8	8	20.5
Other	6	5.2	1	2.6
<b>Sex</b>				
Male	90	77.6	31	79.5
Female	26	22.4	8	20.5
<b>Behavior*</b>				
MSM	43 of 89	48.3	9 of 31	29.0
HRHF	16 of 26	61.5	3 of 8	37.5

These data are provisional and subject to change when additional data are reported. Cases were selected based on address at diagnosis. Source: ODH, STD Surveillance. Data reported as of 7/27/2015. 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.