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Hamilton County Public Health - Epidemiology and Assessment

Syphilis Quarterly Report

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Syphilis Infections by Month (2011-2012)

Table 1. Syphilis Cases by Month for Hamilton County Residents

Month	Cases of Syphilis 2011	Cases of Syphilis 2012
January	23	19
February	26	32
March	27	39
April	29	51
May	25	41
June	39	30
July	40	30
August	41	37
September	29	35
October	24	
November	21	
December	38	
Total	**362**	**314**

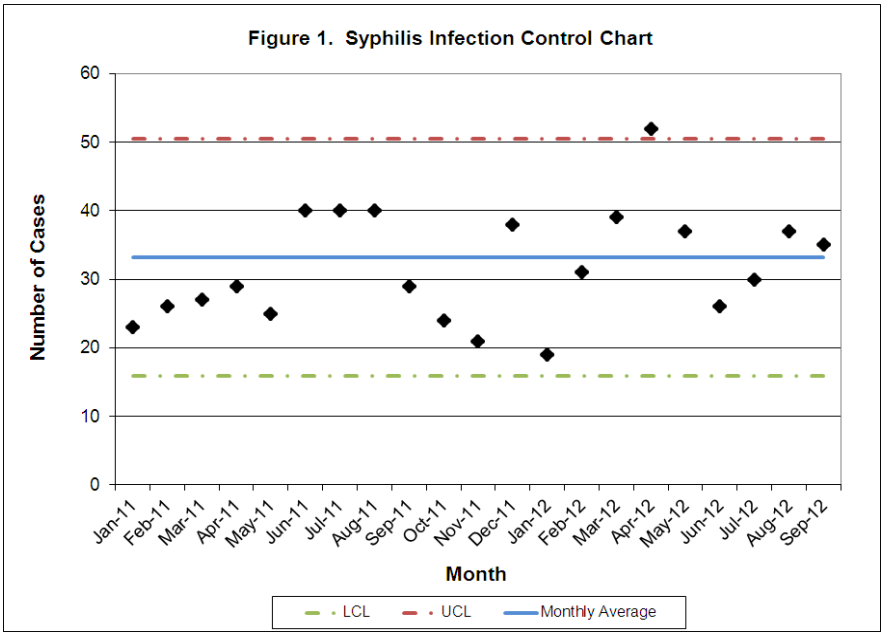
This report was created as a surveillance effort to help prevent new cases of syphilis within Hamilton County. Table 1 displays the breakdown of syphilis cases for Hamilton County residents from 2011 and 2012 on a monthly basis. Only syphilis cases that have been reported to the CDC were counted for analysis purposes in this report. In 2011, the highest number of syphilis cases was seen in August (41 cases per month). In 2012, the highest number of syphilis cases occurred in April (51 cases). The average number of syphilis cases per month were 30.2 and 34.9 for the years 2011 and 2012, respectively. An additional 35 cases of syphilis were reported for the first three quarters (Q1-Q3) in 2012 compared to 2011; which may be due to enhanced surveillance efforts started in 2012. Subsequent reports will allow for a better comparison of 2011 and 2012 cases as data are subject to change as more information is gained.

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 11/25/2012.

Surveillance of Syphilis Cases Diagnosed in Hamilton County

One way to monitor syphilis infections within Hamilton County is through the use of surveillance control charts. Factors that these control charts show are the number of 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 or 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 see which strategies already in place are working. Figure 1 illustrates the control chart for syphilis infections from January 2011 to September 2012. All of the months in this time frame fell below the upper control limit for number of syphilis infections, except for April 2012. Future control charts will give a better understanding of the case counts for 2011 and 2012. The monthly average number of cases (33.2) was calculated from January 2010-September 2012.

Figure 1. Syphilis Infection 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 11/25/2012.

Demographics and Social Factors with High Risk for Syphilis Infection

Individuals with certain demographics and social factors are more likely to be infected with syphilis. Table 2 shows the percentage of syphilis cases from 2011 and 2012 based on race, age, sex, and some additional demographics. Over 80 percent of the syphilis cases from 2011 and 2012 occurred among black Hamilton County residents. Nearly half of the syphilis cases were between the ages of 15-24. Of those cases diagnosed in 2012, a higher percentage of cases were female as opposed to male. 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 2011 to 2012. The largest changes from 2011 to 2012 are that black females make up a large percentage of the cases in 2012, while the percentage of cases composed of black males has declined in 2012.

Figure 2. Race/Sex Distribution of Syphilis Cases, Hamilton County

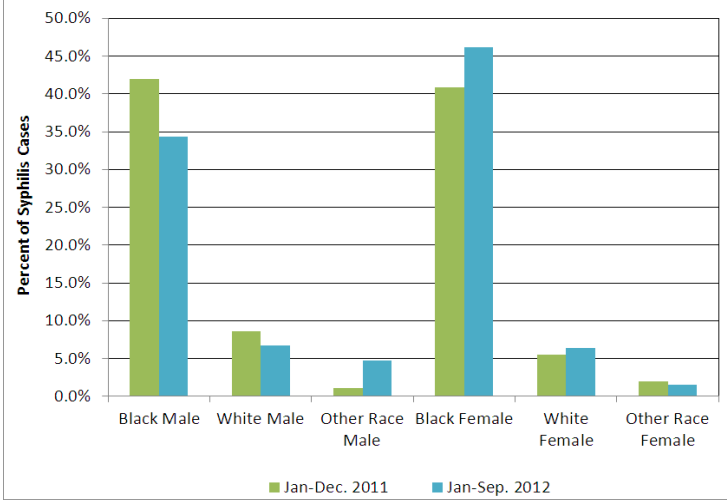


Table 2. Demographics of Syphilis Cases

	Jan. - Dec. 2011		Jan. - Sep. 2012	
	#	%	#	%
Race				
Black	300	82.9	253	80.6
White	51	14.1	41	13.1
Other	11	3.0	20	6.4
Age				
<1	8	2.2	2	0.6
1-14	3	0.8	1	0.3
15-24	172	47.5	126	40.1
25-34	106	29.3	90	28.7
35-44	39	10.8	45	14.3
45-54	20	5.5	41	13.1
55-64	13	3.6	9	2.9
>65	1	0.3	0	0.0
Sex				
Male	187	51.7	144	45.9
Female	175	48.3	170	54.1
Additional Demographics*				
MSM	53 of 317	16.7	36 of 286	12.6
HRHF	96 of 343	28.0	91 of 311	29.3

These data are provisional and subject to change when additional data are reported. Syphilis cases between January 2011 and September 2012 were used for analysis. Cases were selected based on address at diagnosis. Source: ODH, STD Surveillance. Data reported as of 11/25/2012. Percentages may not total to 100 percent due to rounding. *Cases were missing information from fields used to determine additional demographic status. Percentages for additional demographics are based on all syphilis cases, regardless of sex, 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 diagnosed into different stages based on the clinical presentation of disease and duration of infection. Congenital syphilis cases are cases of syphilis in which the syphilis 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 health care is present. Transmission of the disease is possible during primary, secondary, and early latent syphilis. In particular, primary and secondary infections are considered highly infectious stages. During late latent syphilis the patient is no longer infectious and has 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, the majority of the monthly cases in 2012 are late latent cases.

Figure 3. Stages of Syphilis at Diagnosis, Hamilton County, 2011-2012