Hamilton County Public Health - Epidemiology and Assessment

Chlamydia and Gonorrhea Quarterly Report

David Carlson, MPH, Senior Epidemiologist

Chlamydia Infections by Month (2013-2014)

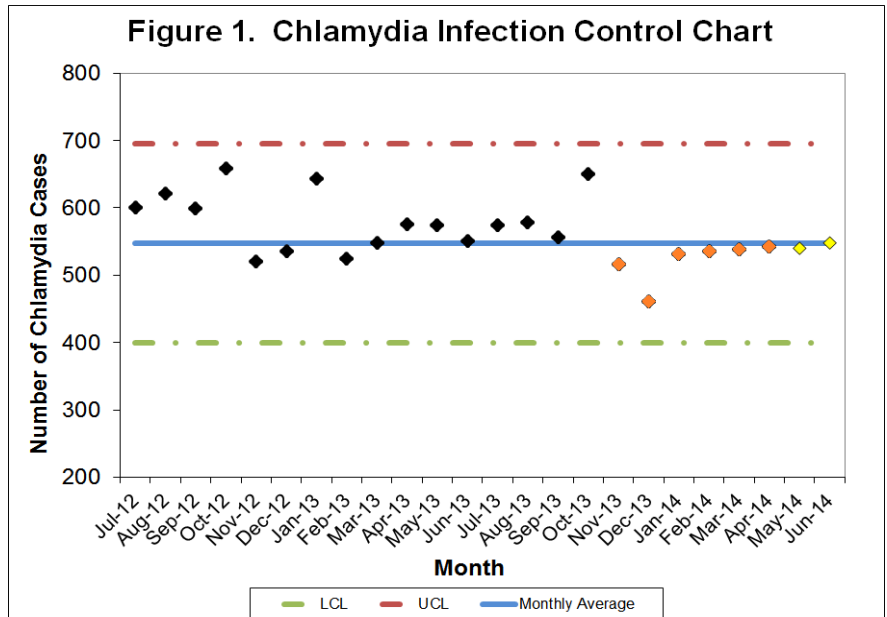**Table 1. Chlamydia Cases by Month for Hamilton County Residents**

Month	Cases of Chlamydia 2013	Cases of Chlamydia 2014
January	644	531
February	524	536
March	548	538
April	576	542
May	575	540
June	551	548
July	574	
August	579	
September	556	
October	651	
November	516	
December	461	
Total	**6,755**	**3,235**

This report was created as a surveillance effort to help prevent new cases of chlamydia and gonorrhea within Hamilton County. Table 1 displays the breakdown of chlamydia cases for Hamilton County residents from 2013 and 2014 on a monthly basis. Only chlamydia cases that have been reported to the CDC were counted for analysis purposes in this report. In 2013, the highest number of chlamydia cases was seen in October (651 cases). In 2014, the highest number of chlamydia cases occurred in June (548 cases). The average number of chlamydia cases per month were 562.9 and 539.2 for January - December 2013 and January - June 2014, respectively. 183 fewer cases of chlamydia were reported in Q2 of 2014 compared to Q2 of 2013. Subsequent reports will allow for a more thorough comparison of 2013 and 2014 cases.

Chlamydia cases are derived from 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 11/17/2014.

Surveillance of Chlamydia Cases in Hamilton County

One way to monitor chlamydia infections within Hamilton County is through the use of surveillance control charts. Factors that these control charts show are the number of chlamydia 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 shows the control chart for chlamydia infections from July 2012 to June 2014. All of the months in this time frame fell below the upper control limit for number of infections. More than 8 consecutive points (orange/yellow) fell below the previous monthly average (574.4), suggesting a possible decrease in disease within the community. The average has been recalculated from July 2013 to June 2014 (547.7) to allow us to track any new changes.

Figure 1. Chlamydia Infection Control Chart

Chlamydia cases are derived from 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: Ohio Department of Health, STD Surveillance. Data reported as of 11/17/2014.
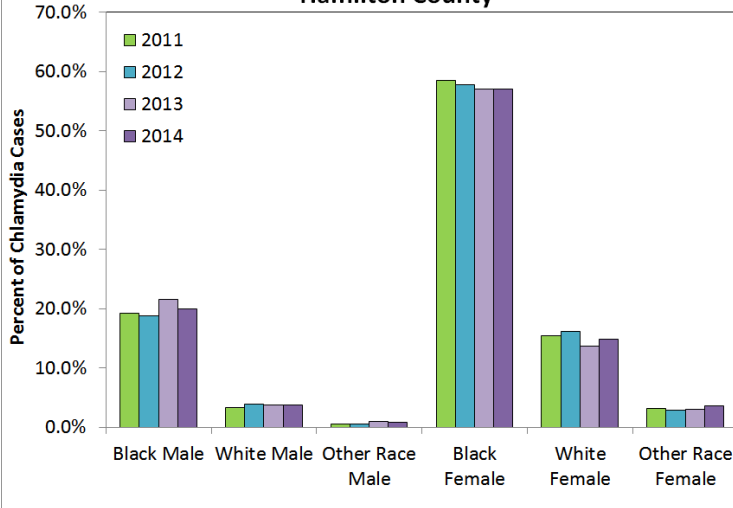
Demographics with High Risk for Chlamydia Infection

Individuals with certain demographics are more likely to be infected with chlamydia. Table 2 shows the percentage of chlamydia cases from 2013 and 2014 based on race, age and sex. Over 75 percent of the chlamydia cases from 2013 and 2014 occurred among black Hamilton County residents. Nearly 7 of 10 chlamydia cases were between the ages of 15-24. The majority of diagnosed cases in 2013 and 2014 were among female Hamilton County residents. Identifying these aforementioned at-risk groups allows public health and health care the opportunity to create specific intervention methods for preventing the spread of chlamydia. Figure 2 further classifies the differences among race/sex groups from 2011 to 2014. The demographics from 2011 to 2014 are very similar with only slight changes in each group.

Table 2. Demographics of Chlamydia Cases

	2013		2014	
	#	%	#	%
Race				
Black	3343	78.5	1544	77.0
White	744	17.5	371	18.5
Other	172	4.0	77	4.4
Age				
<1	27	0.4	2	0.1
1-14	188	2.8	72	2.2
15-24	4730	70.0	2300	71.1
25-34	1428	21.1	675	20.9
35-44	267	4.0	135	4.2
45-54	85	1.3	33	1.0
55-64	27	0.4	16	0.5
>65	3	<0.1	2	0.1
Sex				
Male	1886	27.9	873	27.0
Female	4869	72.1	2362	73.0

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

These data are provisional and subject to change when additional data are reported. Chlamydia cases between January 2013 and June 2014 were used for analysis. Cases were selected based on address at diagnosis. Source: Ohio Department of Health, STD Surveillance. Data reported as of 11/17/2014. Percentages may not total to 100 percent due to rounding. Percentages for demographics are based only on cases that had valid information within the required fields.

Gonorrhea Infections by Month (2013-2014)

Table 3. Gonorrhea Cases by Month for Hamilton County Residents

Month	Cases of Gonorrhea 2013	Cases of Gonorrhea 2014
January	252	203
February	201	154
March	189	148
April	206	169
May	195	151
June	194	176
July	221	
August	195	
September	221	
October	196	
November	176	
December	162	
Total	**2,408**	**1,001**

Table 3 displays the breakdown of gonorrhea cases for Hamilton County residents from 2013 and 2014 on a monthly basis. Only gonorrhea cases that have been reported to the CDC were counted for analysis purposes in this report. In 2013, the highest number of gonorrhea cases was seen in January (252 cases). In 2014, the highest number of gonorrhea cases occurred in January (203 cases). The average number of gonorrhea cases per month were 200.7 and 166.8 for January - December 2013 and January - June 2014, respectively. An additional 236 cases of gonorrhea were reported in Q2 of 2013 compared to Q2 of 2014. Subsequent reports will allow for a more thorough comparison of 2013 and 2014 cases as data are subject to change as more information is gained.
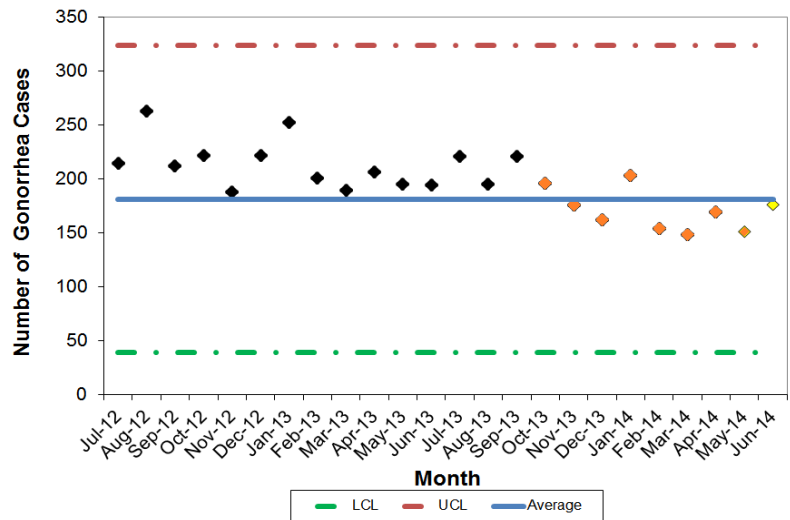
Gonorrhea cases are derived from data in the Ohio Disease Reporting System and represent only those cases reported to the CDC. These data are provisional and subject to change when additional data are reported. Cases are selected based on address at diagnosis. Source: Ohio Department of Health (ODH), STD Surveillance. Data reported as of 11/17/2014.

Surveillance of Gonorrhea Cases

One way to monitor gonorrhea infections within Hamilton County is through the use of surveillance control charts. Factors that these control charts show are the number of gonorrhea 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 3 illustrates the control chart for gonorrhea infections from July 2012 to June 2014. All of the months within this time frame fell below the upper control limit for number of gonorrhea infections. More than 8 consecutive points (orange/yellow) fell below the previous monthly average (217.3), suggesting a possible decrease in number of cases. The average has been recalculated from July 2013 to June 2014 (181.0) to allow us to track any new changes.

Figure 3. Gonorrhea Infection Control Chart

Gonorrhea cases are derived from 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: Ohio Department of Health, STD Surveillance. Data reported as of 11/17/2014.

Demographics with High Risk for Gonorrhea Infection

Individuals with certain demographics are more likely to be infected with gonorrhea. Table 4 shows the percentage of gonorrhea cases from 2013 and 2014 based on race, age and sex. Over 80 percent of the gonorrhea cases from 2013 and 2014 occurred among black Hamilton County residents. Nearly 6 of 10 gonorrhea cases were between the ages of 15-24. Identifying these aforementioned at-risk groups allows public health and health care the opportunity to create specific intervention methods for preventing the spread of gonorrhea. Figure 4 further classifies the differences among race/sex groups from 2011 to 2014. The percent of cases attributed to black female residents has decreased while the percent attributed to white residents has increased since 2011.

Figure 4. Race/Sex Distribution of Gonorrhea Cases, Hamilton County

Table 4. Demographics of Gonorrhea Cases

	2013 #	2013 %	2014 #	2014 %
Race				
Black	1395	83.6	559	81.1
White	228	13.7	112	16.3
Other	46	2.7	11	2.6
Age				
<1	18	0.7	0	0.0
1-14	38	1.6	17	1.7
15-24	1408	58.5	632	63.1
25-34	651	27.0	219	21.9
35-44	176	7.3	78	7.8
45-54	76	3.2	32	3.2
55-64	37	1.5	20	2.0
>65	4	0.2	3	0.3
Sex				
Male	991	41.2	434	43.4
Female	1417	58.8	567	56.6

These data are provisional and subject to change when additional data are reported. Gonorrhea cases between January 2013 and April 2014 were used for analysis. Cases were selected based on address at diagnosis. Source: Ohio Department of Health, STD Surveillance. Data reported as of 11/17/2014. Percentages may not total to 100 percent due to rounding. Percentages for demographics are based only on cases that had valid information within the required fields.