Hamilton County Public Health - Epidemiology and Assessment

HIV Quarterly Report

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New HIV Infections by Month, Hamilton County, Ohio (January 2012 - September 2013)

Table 1. Hamilton County New HIV Infections

Month	New Cases of HIV 2012	New Cases of HIV 2013
January	8	14
February	12	9
March	11	7
April	18	14
May	4	19
June	7	10
July	12	13
August	6	11
September	14	12
October	7	
November	9	
December	14	
Total	**122**	**109**

This report was created as a surveillance effort to help prevent new cases of HIV within Hamilton County. Table 1 displays the breakdown of new, confirmed HIV cases for Hamilton County residents for 2012 and 2013 on a monthly basis. Only HIV cases where the resident was identified as a new HIV infection by a disease investigation specialist, were counted for analysis purposes in this report. In 2012, the highest number of confirmed cases was seen in April (18 cases). In 2013, the highest number of new confirmed HIV cases occurred in May (19 cases). The average number of new HIV cases per month were 10.2 and 12.1 for the years 2012 and 2013, respectively. The 2013 monthly counts are likely to change in future reports, as lag times in disposition of cases directly affect the case counts presented. Some HIV cases are unable to be located for follow-up and partner services, which may impact total number of cases. For 2012 and 2013 respectively, there were a total of 24 and 18 cases each year that were unable to be located.

New HIV cases are derived from partner services data in the Ohio Disease Reporting System and do not fully represent all new HIV infections. These data are provisional and subject to change when additional information is gained. Cases are selected based on address at diagnosis. Source: Ohio Department of Health (ODH), STD Surveillance. Data reported as of 11/3/2013.

Surveillance of New HIV Cases Diagnosed in Hamilton County, Ohio (2011 - 2013)

One way to monitor HIV infections within Hamilton County is through the use of surveillance control charts. Factors that these control charts show are the number of new HIV cases for each month (green triangles), control limits (red dashed lines) and the average number of cases (solid blue line). Yellow triangles indicate data that are most likely to change in future reports. 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 new HIV infections from October 2011 to September 2013. As there were 8 consecutive months with a number of cases above the average, the average and control limit were recalculated for Figure 1. All of the monthly counts in this time frame fell below the new upper control limit for number of new HIV infections. The new average was calculated from Oct. 2011-Sept. 2013.
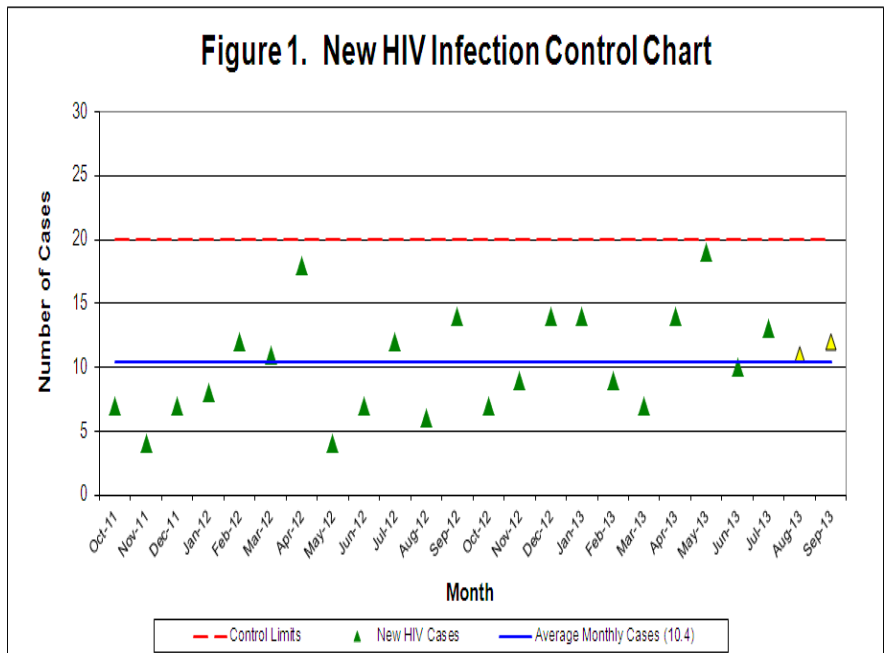
Figure 1. New HIV Infection Control Chart

New HIV cases are derived from partner services data in the Ohio Disease Reporting System and may not fully represent all new cases of HIV. These data are provisional and subject to change when additional information is gained. Cases are selected based on address at diagnosis. Source: ODH, STD Surveillance. Data reported as of 11/3/2013.

Demographics and Social Factors with High Risk for HIV Infection

Table 2 compares the race, age, sex and route of transmission for new HIV infection cases from 2012 to 2013. The data reflect confirmed HIV cases that have been designated as newly testing positive and residing in Hamilton County. When race was examined, a decrease in percentage of cases among black Hamilton County residents can be seen in 2013 (56.9 percent) compared to 2012 (70.5 percent). A large disparity in the sex of cases was apparent in both 2012 and 2013 as males contributed to nearly 80 percent of cases in both years. Figure 2, below, illustrates the contribution of race and sex to new HIV diagnoses in Hamilton County. Age is an additional key factor in new cases, as youth between the ages of 15 - 24 made up the highest percentage of new HIV cases for 2012 (36.9 percent) and 2013 (35.8 percent). As Table 2 illustrates, MSM transmission accounted for 50.6 percent and 63.5 percent of male transmission in 2012 and 2013 respectively. 61 of the 100 (61 percent) MSMs newly diagnosed from January 2012 to September 2013 were black Hamilton County residents. High Risk Heterosexual Females (HRHF) accounted for nearly 45 percent of new infections among females in 2012-2013. By understanding these demographics and high-risk factors that contribute most to new HIV infections, it is possible to create a specific and effective prevention strategy. As data for 2013 is collected and updated, demographic percentages will become more reliable.

Table 2. Demographics of New HIV Cases

	Jan. - Dec. 2012		Jan. - Sept. 2013	
	#	%	#	%
Race				
Black	86	70.5	62	56.9
White	29	23.8	42	38.5
Other	7	5.7	5	4.6
Age				
<15	1	0.8	0	0.0
15-24	45	36.9	39	35.8
25-34	32	26.2	34	31.2
35-44	14	11.5	11	10.1
45-54	22	18.0	16	14.7
55-64	6	4.9	7	6.4
>65	2	1.7	2	1.8
Sex				
Male	98	80.3	87	79.8
Female	24	19.7	22	20.2
Transmission*				
MSM	45 of 89	50.6	54 of 85	63.5
HRHF	12 of 24	50.0	8 of 22	36.4

Figure 2. Percentage of New HIV Diagnoses by Race/Sex, Hamilton County
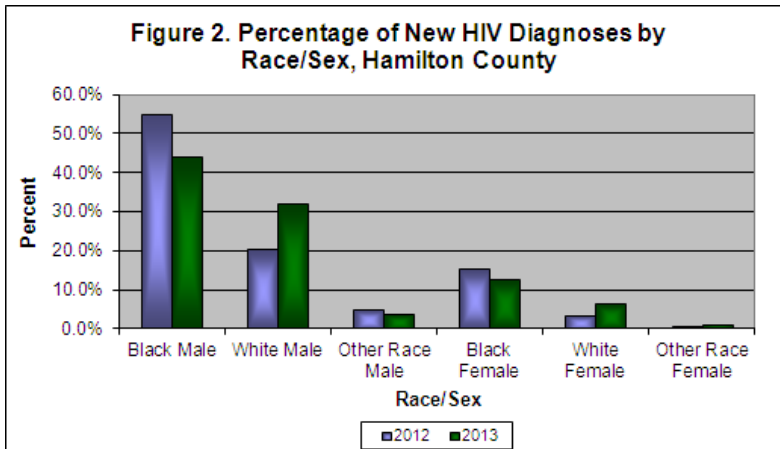
These data are provisional and subject to change when additional information is gained. New HIV positive cases between January 2012 and September 2013 were used for analysis. Cases were selected based on address at diagnosis. Source: ODH, STD Surveillance. Data reported as of 11/3/2013. Percentages may not total to 100 due to rounding. *Cases were missing information from fields used to determine transmission. Percentages for transmission 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.

Table 3. HIV Testing History of New HIV Infected Persons January 2012 – September 2013

	Black Residents	White Residents	All Residents
Previously Tested for HIV	96 of 123 (78.0%) (16.9%)	46 of 63 (73.0%) (11.3%)	150 of 195 (76.9%) (15.6%)

These data are provisional and subject to change when additional information is gained. Cases represent new confirmed HIV infections. Percentages and numbers are reflective of only completed data fields. Percentages given in red indicate the percent of cases with missing information for the previously tested for HIV variable. Source: ODH, STD Surveillance. Data reported as of 11/3/2013.

It is also important to evaluate the prevention and education processes being used to reduce the number of new HIV infections. As there was no direct way to evaluate HIV prevention education and compliance, using the Ohio Disease Reporting System, an alternative measure utilizing the number of new HIV infected individuals who were previously tested for HIV was used. During HIV testing, patients received education on HIV prevention practices. Ideally, this education would have 100 percent compliance resulting in no new HIV infections from individuals who had a previous HIV test. However, data from January 2012 - September 2013 show that over 75 percent of new HIV infections were previously tested at least once before the current positive HIV result. This suggests there was a lack of education or compliance regarding HIV prevention within certain parts of the community. Interventions developed for the high-risk demographics shown above may benefit by focusing on improving HIV prevention education and compliance.