

ANNUAL REVIEW OF HIV TRENDS IN THE DETROIT METRO AREA (2002 - 2006)

Bureau of Epidemiology, HIV/STD/VH/TB Epidemiology Section
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Overall Trends in New HIV Diagnoses in Metro Detroit

Methods: To evaluate trends over time, we estimated the number of persons newly diagnosed with HIV infection each year by adjusting the number of reported cases diagnosed in 2002 through 2006 to account for those who may not have been reported to the health department by January 1, 2008. These adjustments were calculated by weighting the data.

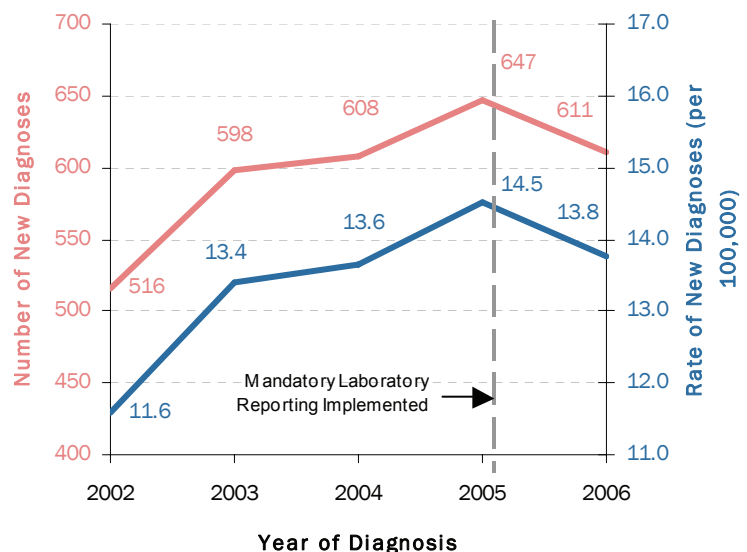
After adjusting the data, we analyzed annual rates of new diagnoses overall and by race, sex, and age to assess statistically significant changes between 2002 and 2006. However, for risk groups, annual counts were analyzed rather than rates since there is no reliable denominator data available to allow rate calculation. This year we used a different technique to assess trends than was used in previous years and, as a result, the type of interpretations discussed in this report differ from previous years. Trends are described using average annual percent changes, and only statistically significant trends and the corresponding percent changes ($p < .05$) are shown. Rates of new diagnoses are all calculated using intercensal annual population estimates released by the Census Bureau in 2006, the most recent year for which demographic breakdowns are available. All rates in this report are rates per 100,000 population.

The date of new HIV *diagnosis* does not tell us when persons were first *infected*, because their HIV diagnosis may take place months or years after infection. However, this is the best current measure of how fast the epidemic is spreading among different populations. The Centers for Disease Control and Prevention (CDC) is finalizing the programming to produce population-based incidence estimates using data collected by the Serologic Testing Algorithm for Recent HIV Seroconversion (STARHS) project. Once finalized, we plan to supplement this report with those incidence data.

Overall: The rate of new HIV diagnoses increased by an average of 4% per year, from 11.6 per 100,000 in 2002 to 13.8 per 100,000 in 2006 (516 cases to 611 cases, average 600 cases), after peaking at 14.5 per 100,000 in 2005 (Fig 1). The increasing trend and peak in 2005 are most likely due to the implementation of mandatory laboratory reporting in 2005. Prior to this, the HIV Surveillance program in Michigan relied on a few laboratories who voluntarily reported positive HIV-related tests and health care providers, who are required by law to report positive cases. The addition of mandatory laboratory reporting has increased the case reports received, and appear to be driving the upward trend described here.

The new HIV diagnoses described in this report include persons diagnosed with HIV, non-AIDS as well as those who learned of their HIV infection status after developing symptoms of AIDS. Each year, there are more new diagnoses of HIV infection than deaths. Therefore, the reported number of persons living with HIV/AIDS in Michigan is increasing. MDCH estimates that 12,370 residents are living with HIV infection in the Detroit Metro Area (including those with AIDS).

Figure 1. Number and Rate of New HIV Diagnoses in the Detroit Metro Area, 2002–2006



New HIV Diagnoses by Age at Diagnosis

Between 2002 and 2006, the rate of new diagnoses increased among 13-24 year olds, among persons 40-49 years, and among persons 60 years and over (Table 1). Rates in all other ages groups were stable.

This is the third annual report in which we have described increases among 13-24 year olds. While the trends we are seeing may partially be attributed to heightened HIV testing efforts aimed at young persons, public testing data suggest that additional testing is not the sole explanation for the increases seen among teens and young adults. In fact, there appears to be a true increase in this group.

Alarming, of all teens and young adults diagnosed in the last five years, 84% are black compared to 68% of persons diagnosed at older ages. Furthermore, teens and young adults are much more likely to be black MSM compared to adults 25 years and older (57% vs. 24%). This continues to underscore a need for prevention campaigns tailored to these groups, as the differences we are now seeing in this young group will likely widen the already large racial gap among persons living with HIV.

This is the first time that increases have been seen among 40-49 year olds and persons 60 years and older. Like overall rates of new HIV diagnoses, these trends appear to be related to the implementation of mandatory laboratory reporting.

Table 1.† New HIV Diagnoses by Age at Diagnosis

	2002		2003		2004		2005		2006		
	Num (Pct)	Rate	Num (Pct)	Rate	Num (Pct)	Rate	Num (Pct)	Rate	Num (Pct)	Rate	
0-12 y	3 (1%)	0.4	5 (1%)	0.6	2 (<1%)	0.2	1 (<1%)	0.1	4 (1%)	0.5	
13-19 y	20 (4%)	4.7	24 (4%)	5.5	28 (5%)	6.3	31 (5%)	6.8	37 (6%)	8.1	↑ 14%
20-24 y	46 (9%)	17.7	70 (12%)	26.7	91 (15%)	35.1	77 (12%)	29.7	79 (13%)	30.4	↑ 11%
25-29 y	63 (12%)	22.7	72 (12%)	26.8	78 (13%)	29.2	73 (11%)	27.9	80 (13%)	31.1	
30-34 y	87 (17%)	25.8	81 (13%)	24.3	78 (13%)	24.3	91 (14%)	29.9	70 (11%)	24.3	
35-39 y	95 (18%)	27.4	106 (18%)	31.1	95 (16%)	28.6	92 (14%)	28.0	102 (17%)	30.8	
40-44 y	78 (15%)	21.3	85 (14%)	23.2	92 (15%)	25.4	108 (17%)	30.3	92 (15%)	26.4	↑ 7%
45-49 y	57 (11%)	16.4	62 (10%)	17.5	60 (10%)	16.6	75 (12%)	20.7	69 (11%)	18.9	↑ 5%
50-54 y	40 (8%)	13.3	49 (8%)	16.1	47 (8%)	14.9	55 (8%)	17.2	38 (6%)	11.7	
55-59 y	15 (3%)	6.3	33 (6%)	13.4	20 (3%)	7.8	26 (4%)	9.4	25 (4%)	8.6	
60+ y	11 (2%)	1.6	11 (2%)	1.5	17 (3%)	2.4	18 (3%)	2.4	16 (3%)	2.2	↑ 9%
Total	516 (100%)	11.6	598 (100%)	13.4	608 (100%)	13.6	647 (100%)	14.5	611 (100%)	13.8	

New HIV Diagnoses by Race/Sex

The rate of new diagnoses increased significantly among white and black males between 2002 and 2006 (average increase 7% and 3% per year, respectively; Table 2). As a result, the overall rate among males increased an

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Table 2.† New HIV Diagnoses by Race/Sex

	2002		2003		2004		2005		2006		
	Num (Pct)	Rate	Num (Pct)	Rate	Num (Pct)	Rate	Num (Pct)	Rate	Num (Pct)	Rate	
Males											
Black	264 (51%)	55.8	304 (51%)	64.2	292 (48%)	61.7	327 (51%)	69.0	302 (49%)	63.9	↑ 3%
White	98 (19%)	6.4	133 (22%)	8.7	127 (21%)	8.3	136 (21%)	9.0	139 (23%)	9.2	↑ 7%
Other	28 (5%)	16.8	16 (3%)	9.3	23 (4%)	13.0	23 (4%)	12.3	21 (3%)	11.3	
All Males	391 (76%)	18.0	453 (76%)	20.9	442 (73%)	20.3	485 (75%)	22.3	462 (76%)	21.3	↑ 4%
Females											
Black	110 (21%)	20.0	118 (20%)	21.4	147 (24%)	26.6	128 (20%)	23.1	124 (20%)	22.6	
White	12 (2%)	0.8	15 (3%)	1.0	12 (2%)	0.8	30 (5%)	1.9	16 (3%)	1.0	
Other	3 (1%)	1.9	12 (2%)	7.2	7 (1%)	4.1	4 (1%)	2.3	10 (2%)	5.3	
All Females	125 (24%)	5.5	145 (24%)	6.3	166 (27%)	7.3	162 (25%)	7.1	150 (24%)	6.6	
All											
Black	375 (73%)	36.6	422 (71%)	41.2	439 (72%)	42.8	454 (70%)	44.3	426 (70%)	41.7	↑ 3%
White	110 (21%)	3.5	148 (25%)	4.8	139 (23%)	4.5	166 (26%)	5.4	154 (25%)	5.1	↑ 8%
Other	31 (6%)	9.5	28 (5%)	8.3	30 (5%)	8.7	27 (4%)	7.4	31 (5%)	8.4	
Total	516 (100%)	11.6	598 (100%)	13.4	608 (100%)	13.6	647 (100%)	14.5	611 (100%)	13.8	

†TABLE FOOTNOTES:

- The number of new diagnoses shown are not reported case counts. Rather, these are estimates based on the number of reported cases that are adjusted to account for reporting delay. As a result, summed counts will not always match the column total shown due to rounding error.
- Bold/colored text indicates that significant trends occurred in that group.
- Rates are per 100,000 population.

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average of 4% per year. In addition, the increases seen among white and black males contributed in large part to the significant 3% and 8% increases among all white and black persons, respectively.

On the whole, the high rates of new HIV diagnoses among black males and black females are quite troubling even though the trend among black females is stable. In 2006, the rate among black females (22.6 per 100,000) was 2.5 times higher than the rate among white males (9.2 per 100,000), and the rate among black males (an astounding 63.9 per 100,000) was nearly 7.0 times higher than the rate among white men.

New HIV Diagnoses by Risk

Between 2002 and 2006, there were no significant changes in number of new diagnoses according to risk for known risk groups. The number of new diagnoses with no identified risk, on the other hand, is an average of 14% higher each year than the year before. This is to be expected because there has been less time to investigate cases diagnosed more recently for risk information.

Table 3.† New HIV Diagnoses by Risk

	2002 Num (Pct)	2003 Num (Pct)	2004 Num (Pct)	2005 Num (Pct)	2006 Num (Pct)
MSM	243 (47%)	275 (46%)	260 (43%)	276 (43%)	280 (46%)
IDU	49 (10%)	53 (9%)	53 (9%)	51 (8%)	35 (6%)
MSM/IDU	11 (2%)	9 (2%)	13 (2%)	12 (2%)	11 (2%)
Hetero	99 (19%)	89 (15%)	104 (17%)	106 (16%)	85 (14%)
Other Known	4 (1%)	7 (1%)	2 (0%)	2 (0%)	2 (0%)
No Identified Risk	109 (21%)	165 (28%)	176 (29%)	199 (31%)	198 (32%)
Total	516 (100%)	598 (100%)	608 (100%)	647 (100%)	611 (100%)

↑ 14%

New HIV Diagnoses by Residence at Diagnosis

The rate of new HIV diagnoses increased by 11% in Oakland County and by 8% in Wayne County, excluding Detroit (Table 4). Because the patterns of increase mirror the pattern in overall diagnoses, the county increases are likely due to the

implementation of laboratory reporting, as discussed in the introduction. Overall, 60% of Metro Detroit's and 40% of the state's new HIV cases were residents of Detroit.

Table 4.† New HIV Diagnoses by Residence at Diagnosis

	2002		2003		2004		2005		2006	
	Num (Pct)	Rate	Num (Pct)	Rate	Num (Pct)	Rate	Num (Pct)	Rate	Num (Pct)	Rate
Detroit	330 (64%)	35.8	367 (61%)	40.4	372 (61%)	41.5	377 (58%)	42.7	328 (54%)	37.7
Lapeer Co.	2 (0%)	2.2	3 (1%)	3.3	3 (1%)	3.3	2 (0%)	2.3	4 (1%)	4.5
Macomb Co.	30 (6%)	3.7	33 (6%)	4.1	35 (6%)	4.3	36 (6%)	4.3	49 (8%)	5.9
Monroe Co.	3 (1%)	2.0	3 (1%)	2.0	3 (0%)	2.0	3 (0%)	2.0	4 (1%)	2.7
Oakland Co.	79 (15%)	6.6	105 (18%)	8.7	97 (16%)	8.0	131 (20%)	10.8	123 (20%)	10.1
St. Clair Co.	4 (1%)	2.4	4 (1%)	2.4	3 (1%)	1.8	11 (2%)	6.6	6 (1%)	3.7
Wayne Co. (excl. Detroit)	67 (13%)	6.0	83 (14%)	7.4	94 (15%)	8.5	86 (13%)	7.8	97 (16%)	8.8
Total	516 (100%)	11.6	598 (100%)	13.4	608 (100%)	13.6	647 (100%)	14.5	611 (100%)	13.8

↑ 11%

↑ 8%

†TABLE FOOTNOTES:

- The number of new diagnoses shown are not reported case counts. Rather, these are estimates based on the number of reported cases that are adjusted to account for reporting delay. As a result, summed counts will not always match the column total shown due to rounding error.
- Bold/colored text indicates that significant trends occurred in that group.
- TABLE 3: The heterosexual category includes males and females categorized as "high-risk" heterosexuals (persons who knew they had one or more partners that were an IDU, bisexual for females, a recipient of HIV infected blood, or a person infected with HIV) as well as females who reported sex with males of unknown risk/HIV status as their only risk. The NIR category includes males who reported sex with females of unknown risk/HIV status as their only risk and males and females for whom no risk has yet been reported.

Concurrent HIV and AIDS Diagnoses

Between 2002 and 2006, the rate of persons diagnosed with HIV and AIDS concurrently (within the same month) remained stable overall (Table 5). However, the rate among white males did increase by 11%. This increase mirrors the pattern of increase among all white males. There were no statistically significant increases or

Table 5.+ Concurrent HIV Diagnoses in Each Race/Sex Group

	2002		2003		2004		2005		2006	
	Num (Pct)	Rate	Num (Pct)	Rate	Num (Pct)	Rate	Num (Pct)	Rate	Num (Pct)	Rate
Males										
Black	75 (28%)	15.9	82 (27%)	17.4	81 (28%)	17.1	86 (26%)	18.1	80 (26%)	16.9
White	28 (29%)	1.8	39 (29%)	2.6	34 (27%)	2.3	38 (28%)	2.5	38 (27%)	2.5
Other	8 (29%)	4.8	7 (44%)	4.0	5 (22%)	2.8	10 (46%)	5.6	7 (31%)	3.5
All Males	111 (28%)	5.1	128 (28%)	5.9	121 (27%)	5.5	134 (28%)	6.2	124 (27%)	5.7
Females										
Black	22 (20%)	4.0	36 (31%)	6.6	27 (19%)	5.0	31 (24%)	5.6	27 (22%)	4.9
White	5 (42%)	0.3	2 (13%)	0.1	2 (17%)	0.1	9 (31%)	0.6	1 (7%)	0.1
Other	1 (33%)	0.6	2 (17%)	1.2	1 (14%)	0.6	2 (50%)	1.2	2 (23%)	1.2
All Females	28 (22%)	1.2	40 (28%)	1.8	30 (18%)	1.3	42 (26%)	1.9	30 (20%)	1.3
Total	139 (27%)	3.1	169 (28%)	3.8	151 (25%)	3.4	177 (27%)	4.0	154 (25%)	3.5

↑ 11%

decreases in the rates of concurrent diagnoses by any other race/sex groups between 2002 and 2006.

Overall between 2002 and 2006, over a quarter of new HIV diagnoses in any given year were concurrent diagnoses (average 158 (27%)). Twenty-eight percent of males were diagnosed concurrently compared to 23% of females. This difference between males and females is significant. Every concurrent diagnosis represents a failure to diagnose HIV early in the course of the person's infection as well as to start treatment early. Persons who are unaware of their HIV infection cannot benefit from antiretroviral therapy and have a poorer prognosis than those diagnosed early in the disease course. They are also not accessible for secondary prevention (preventing transmission to uninfected individuals). Expanding routine testing for HIV can improve outcomes for those who are infected.

*TABLE FOOTNOTES:

- The number of new diagnoses shown are not reported case counts. Rather, these are estimates based on the number of reported cases that are adjusted to account for reporting delay. As a result, summed counts will not always match the column total shown due to rounding error.
- Bold/colored text indicates that significant trends occurred in that group.
- Rates are per 100,000 population.

Summary

- Between 2002–2006, an average of 600 new HIV diagnoses (13.4 per 100,000) occurred each year.
- The rate of new HIV diagnoses increased by an average of 4% per year. This increase appears to be related to the implementation of mandatory HIV laboratory reporting in Michigan in 2005.
- The highest rates of new HIV diagnoses occurred among:
 - 20 - 44 year olds
 - Black men and black women
 - Males who have sex with males (MSM)*
 - Detroit residents
- INCREASES in rates occurred among:
 - 13 - 24 year olds
 - 40 - 49 year olds
 - 60+ year olds
 - Black men and white men
 - Oakland County and Wayne County (excluding Detroit) residents
- This is the third annual report in which we have described increases among 13 - 24 year olds. This appears to be a true increase in the number of teens and young adults becoming infected with HIV in Michigan not attributable solely to enhanced testing efforts among young persons.
- 84% of new 13 - 24 year old cases are black whereas only 68% of those of other ages are black. This finding suggests that black teens and young adults, in particular, should be the focus of aggressive prevention messages.
- 27% of persons newly diagnosed with HIV infection were also diagnosed with AIDS at the same time, indicating a detrimental delay in providing timely diagnosis and valuable medical treatment.

*Annual counts were analyzed for risk groups since there is no reliable denominator data available to allow rate calculation

For More Information:

Michigan Department of Community Health HIV/AIDS Surveillance Program

(313) 876-0353
(517) 335-8165

(www.michigan.gov/hivstd → HIV/AIDS → Statistics and Reports)
State of Michigan HIV/AIDS Statistics and Reports

MI Counseling, Testing, & Referral Sites

http://www.michigan.gov/documents/resourceguide_6921_7.pdf

Centers for Disease Control & Prevention

<http://www.cdc.gov/hiv>
CDC HIV/AIDS Resources

AIDSInfo

<http://www.aidsinfo.nih.gov/>
HIV/AIDS Treatment and Clinical Trial Resources

Michigan Department of Community Health HIV/AIDS Prevention and Intervention Services

(517) 241-5900

(www.michigan.gov/hivstd → HIV/AIDS → Prevention and Care)
State of Michigan HIV/AIDS Programmatic Information

Michigan AIDS Hotline

1-800-872-2437

CDC National Statistics & Surveillance

<http://www.cdc.gov/hiv/topics/surveillance/index.htm>
CDC HIV/AIDS Statistics and Reports

World Health Organization

http://www.who.int/topics/hiv_infections/en/
HIV/AIDS Global Resources