Michigan Department of Community Health

MDCH

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ANNUAL REVIEW OF HIV TRENDS IN SE MICHIGAN (2001 - 2005)

Bureau of Epidemiology, HIV/STD & Other Bloodborne Infections Section
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Overall Trends in New HIV Diagnoses

Methods—Trends Over Time: 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 2001 through 2005 to account for those who may not have been reported to the health department by January 1, 2007. These adjustments were calculated by weighting the data. We then analyzed these data to assess statistically significant changes between 2001 and 2005.

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. In the future, we plan to supplement the data in this report with data from Serologic Testing Algorithm for Recent HIV Seroconversion (STARHS) , which will allow us to estimate the proportion of newly reported diagnoses that are recent infections.

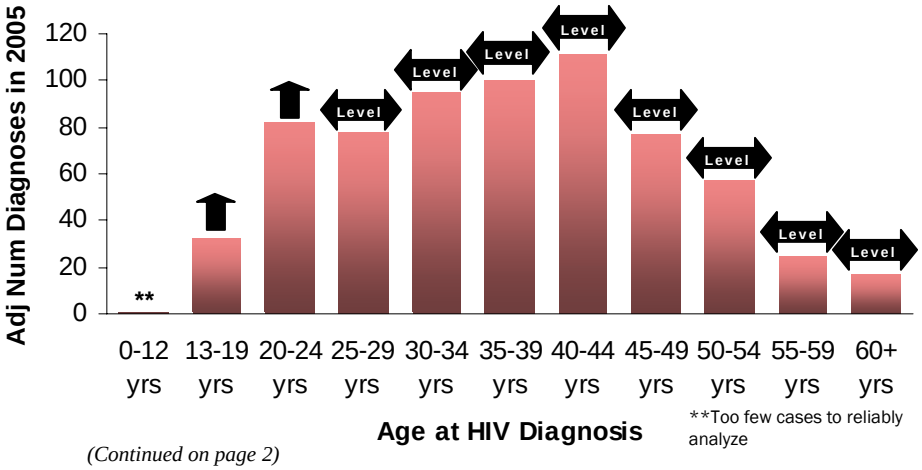
Methods—Risk calculations: This report differs from previous *Annual Review of Trends* reports with respect to risk calculations. Previously, cases reported with No Identified Risk (NIR) were redistributed to other risk categories based on past patterns of NIR reclassification. Risk factor redistribution was calculated based on two assumptions: 1) the distribution of risk factors initially reported without risk factors (NIRs) does not change over time and 2) reclassified NIR cases are representative of all NIR cases. These assumptions are no longer valid. The pattern of risk factors has changed since the beginning of the epidemic and reclassified cases usually represent cases on which risk factors are easiest to find. As a result, this year's report does not include NIR risk redistribution, but does maintain the weighting described above to account for reporting delay.

Overall: The number of HIV diagnoses from 2001 to 2005 is stable at around 600 cases per year. These new diagnoses include persons 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 Southeast Michigan (Lapeer, Macomb, Monroe, Oakland, St. Clair, and Wayne counties) is increasing. MDCH estimates that 11,690 residents are living with HIV infection in Southeast Michigan (including those with AIDS).

New HIV Diagnoses by Age at Diagnosis

The proportion of persons diagnosed each year with HIV infection increased significantly among those diagnosed at 13-19 years from 2% in 2001 to 5% in 2005 (13 cases to 33 cases). There was also a significant increase among those diagnosed at 20-24 years of age from 11% to 12%, after reaching a high of 15% in 2004 (63 cases to 82 cases). While the trends we are seeing may partially be attributed to heightened HIV testing efforts aimed at young persons, the data

Figure 1. Trends in New HIV Diagnoses by Age at Diagnosis, 2001-2005



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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 the number of diagnoses in these age groups; however, further investigation is necessary to ascertain the reason for the increases.

In all other age groups, the trends in new diagnoses are level (Figure 1). In 2005, the majority of persons were diagnosed at 30-44 years of age—see Table 1.

Alarmingly, of all teens and young adults diagnosed in the last five years, 84% are black whereas 69% of persons diagnosed at other ages are black. This underscores a need for prevention campaigns tailored to this group, as the race differences we are now seeing in this young group will likely widen the already large racial gap among persons living with HIV in the future.

Table 1. New HIV Diagnoses‡ by Age at Diagnosis

	2001		2002		2003		2004		2005	
0-12 yrs	6	1%	3	1%	5	1%	2	<1%	1	<1%
13-19 yrs	13	2%	20	4%	24	4%	29	5%	33	5%
20-24 yrs	63	11%	45	9%	70	12%	93	15%	82	12%
25-29 yrs	54	9%	64	12%	74	12%	80	13%	78	12%
30-34 yrs	99	17%	88	17%	80	13%	81	13%	95	14%
35-39 yrs	105	18%	96	19%	107	18%	95	15%	100	15%
40-44 yrs	101	17%	78	15%	85	14%	93	15%	111	16%
45-49 yrs	75	13%	59	11%	62	10%	61	10%	77	11%
50-54 yrs	43	7%	40	8%	50	8%	47	8%	58	8%
55-59 yrs	19	3%	14	3%	33	5%	21	3%	25	4%
60+ yrs	19	3%	11	2%	11	2%	18	3%	17	3%
Total	598	100%	517	100%	601	100%	619	100%	677	100%

‡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 .

New HIV Diagnoses by Race/Sex

The proportion of persons diagnosed each year with HIV infection between 2001 and 2005 was stable across race/sex groups (Figure 2). In 2005, 50% of new HIV diagnoses were black men, 21% were white men, 4% were men of other race/ethnicity, 20% were black women, 5% were white women, and 1% were women of other race/ethnicity (Table 2). Although the trends in new HIV diagnoses among black males and females are level, they are still impacted disproportionate to their numbers in the population. Black persons make up 23 percent of the general population of Southeast Michigan, but account for 70 percent of new HIV diagnoses in 2005 and 68 percent of persons living with HIV/AIDS.

Figure 2. New HIV Diagnoses in 2005 by Race/Sex

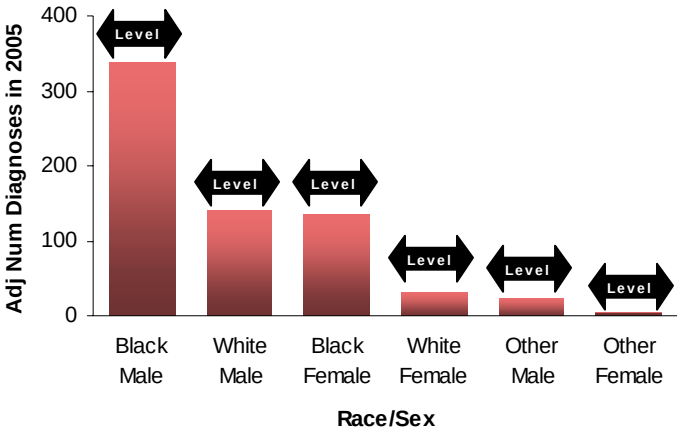


Table 2. New HIV Diagnoses‡ by Race/Sex

	2001		2002		2003		2004		2005	
Males										
Black	301	50%	263	51%	305	51%	298	48%	339	50%
White	123	21%	101	19%	134	22%	126	20%	142	21%
Other	17	3%	27	5%	16	3%	25	4%	24	4%
Females										
Black	132	22%	111	21%	119	20%	149	24%	136	20%
White	20	3%	12	2%	14	2%	14	2%	32	5%
Other	5	1%	3	1%	12	2%	7	1%	4	1%
Total	598	100%	517	100%	601	100%	619	100%	677	100%

‡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 .

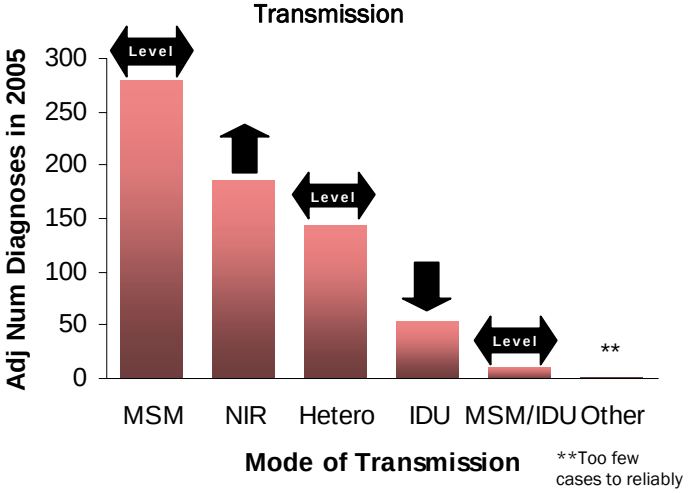
New HIV Diagnoses by Mode of Transmission

Between 2001 and 2005, there was a significant increase in proportion of new diagnoses with no identified risk, from 15% to 28%. However, this is expected because there has been less time to investigate cases diagnosed more recently for risk information. There was a significant decrease in IDU, from 13% to 8%.

Of the 677 new HIV diagnoses in 2005, Male-Male Sex (MSM) accounted for 41%, NIR accounted for 28%, Heterosexual accounted for 21%, Injection Drug Use (IDU) accounted for 8%, MSM/IDU accounted for 2%, and other modes of transmission accounted for <1% (Table 3).

The "Other Known Risk" category includes perinatal and blood product transmission. 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.

Figure 3. New HIV Diagnoses in 2005 by Mode of Transmission



**Too few cases to reliably analyze

Table 3. New HIV Diagnoses‡ by Mode of Transmission

	2001		2002		2003		2004		2005	
MSM	261	44%	243	47%	276	46%	264	43%	280	41%
NIR	92	15%	93	18%	137	23%	145	23%	186	28%
Heterosexual	143	24%	117	23%	118	20%	141	23%	144	21%
IDU	75	13%	50	10%	54	9%	54	9%	54	8%
MSM/IDU	20	3%	10	2%	9	2%	12	2%	11	2%
Other Known Risk	7	1%	4	1%	7	1%	2	<1%	2	<1%
Total	598	100%	517	100%	601	100%	619	100%	677	100%

‡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 .

Concurrent HIV and AIDS Diagnoses

Among persons who were diagnosed with HIV between 2001 and 2005, the percentage diagnosed concurrently (within the same month) with AIDS remained stable at 27% (average 161 cases per year) overall. Trends in the proportion of concurrent diagnoses among each of the race/sex groups are level.

Twenty-six percent (177 cases) of the new diagnoses in 2005 were concurrent. The following are proportions of concurrent diagnoses within each race/sex group: 26% of black male diagnoses (86 of 339), 25% of white male

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diagnoses (36 of 142), 46% of male diagnoses of other race/ethnicity (11 of 24), 24% of black female diagnoses (32 of 136), 31% of white female diagnoses (10 of 32), and 27% of female diagnoses of other race/ethnicity (1 of 4).

Overall between 2001 and 2005, 28 percent of males were diagnosed concurrently compared to 24 percent of females. This difference between males and females is significant. Aggregate five-year differences between race/ethnic groups, however, were not 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 screening for HIV can improve outcomes for those who are infected.

New AIDS Diagnoses

New AIDS cases were statistically level at about 420 persons annually between 2001 and 2005. In order to decrease the number of new AIDS cases, we need to continue efforts to get infected persons tested and into early care. In addition, treatments will need to become more effective and work for longer periods of time.

Conclusions

Over the last five years, HIV mortality declined but the number of new HIV diagnoses remained stable. There continue to be more new HIV diagnoses each year than deaths among HIV-infected persons, so the total number of persons living with HIV infection is increasing. The Michigan Department of Community Health estimates that there are currently 11,690 persons in Southeast Michigan living with HIV/AIDS.

New HIV infections in Southeast Michigan predominantly occur among males who have sex with males (MSM), persons who are black, and persons who are age 30 through 44 years at the time of HIV diagnosis. Between 2001 and 2005, there was a significant increase in the proportion of HIV infections reported with No Identified Risk (NIR); however, this is expected because there has been less time to investigate cases diagnosed more recently for risk information. Conversely, there was a significant decrease in the proportion of new cases reported with Injection Drug Use (IDU) mode of transmission. There were no changes in proportion of new diagnoses according to race/sex group.

This report does indicate changes in new diagnoses according to age at HIV diagnosis, namely that there were significant increases in proportion of new diagnoses among 13-19 and 20-24 year olds. This is the second consecutive year that we have seen increases in the adolescent and young adult age groups, suggesting a need to more aggressively target prevention efforts to this group. While the trends in teens and young adults may partially be explained by enhanced testing efforts among young persons, additional testing is unlikely to be the main explanation for what appears to be a true increase in the number of teens and young adults becoming infected with HIV in Michigan.

Although adolescent and young adult diagnoses only comprise 17% of the total number of diagnoses in 2005, diagnoses at younger ages expands the lifetime probability of transmitting the virus to others. In addition, while persons with HIV are fortunately living longer, diagnosis at younger ages equates to greater societal costs related to longer lifetime medical care, much of it publicly funded. Another important finding is that 84% of adolescent and young adult diagnoses are black whereas only 69% 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.

From 2001-2005, approximately 27 percent of persons newly diagnosed with HIV infection were also diagnosed with AIDS at the same time. As mentioned above, each concurrent diagnosis represents a failure of the medical and public health system to provide timely diagnosis and accompanying medical treatment.