

AIDS IN MEN WHO HAVE SEX WITH MEN COUNTY OF SAN DIEGO 2013

County of San Diego
Health and Human Services Agency



LIVE WELL
SAN DIEGO

AIDS IN MEN WHO HAVE SEX WITH MEN SAN DIEGO COUNTY 2013

County of San Diego
Health and Human Services Agency
Public Health Services Division
Epidemiology & Immunization Services Branch



Contact us for more information at:

Epidemiology & Immunization
Services Branch
HIV/AIDS Epidemiology Unit (HAEU)
3851 Rosecrans St, MS P577
San Diego, CA 92110-3115

Office (619) 692-8545
Fax (619) 692-8427

This report is available on the web at:
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(click on 'Reports and Statistics')

Nick Macchione, M.S., M.P.H., F.A.C.H.E., Director
Wilma J. Wooten, M.D., M.P.H.,
Public Health Officer
Karen Waters-Montijo, M.P.H.
Chief, Epidemiology & Immunization Services
Eric McDonald, M.D., M.P.H., FACEP
Medical Director
Epidemiology & Immunization Services

HIV/AIDS Epidemiology Unit Staff:
Michael Bursaw, M.P.H., (619) 692-8414
Ernie Awa, (619) 692-8413
Francisco McGann, (619) 692-8476
Lorri Freitas, M.P.H., (619) 692-8433
Minda Johnson, (619) 692-8463
Sonia Hunter, (619) 692-8540
Samantha Tweeten, Ph.D., (619) 692-8505

In 1981, the first Acquired Immunodeficiency Syndrome (AIDS) cases diagnosed in San Diego County were two homosexual men. Since then “Men who have Sex with Men” (MSM) has been, and continues to be, the most commonly reported mode of transmission for Human Immunodeficiency Virus (HIV) in those diagnosed with AIDS in the county. As of 31 December, 2012, there have been 12,376 cumulative adult or adolescent (over 12 years of age) AIDS cases reported in the county in MSM and MSM who also use injected drugs (MSM+IDU). This MSM Group (MSM and MSM+IDU combined) constitutes almost 90% of all male cases and 83% of all cases reported in the county. There are an additional 1,391 cases reported in males without MSM reported as mode transmission.

Rates are not calculated in this report because the number of persons in the county who are MSM, IDU, or belong to other risk groups is not known. For purposes of this report, other modes of HIV transmission (including IDU; heterosexual contact; receiving blood, blood

products or tissues from another person; maternal transmission; and occupational exposures) are collectively referred to as non-MSM unless otherwise stated. All cases used in the analysis are male and adult or adolescent (over 12 years of age).

MEN WHO HAVE SEX WITH MEN

Because the MSM group is defined by behavior and not self-identification, it is comprised of all male cases reporting male sex partners as a risk for HIV transmission, including non-gay identified men who have male sex partners.

MSM is the most commonly reported transmission category for HIV in San Diego county, both cumulatively and recently (2008-2012), with 75.8% of the total in recently reported male cases, followed by MSM+IDU with 9.0% recently (see Figure 1 and Table 1). The MSM group encompasses the highest proportion of male cases in the county (84.4% recently). This is a significantly ($p>0.001$) greater percent than the Centers for Disease Control and Prevention

FIGURE 1
Recent (2008-2012) and Cumulative (1981-2012) Reported Risks of Transmission in Adult and Adolescent Male AIDS Cases, San Diego County

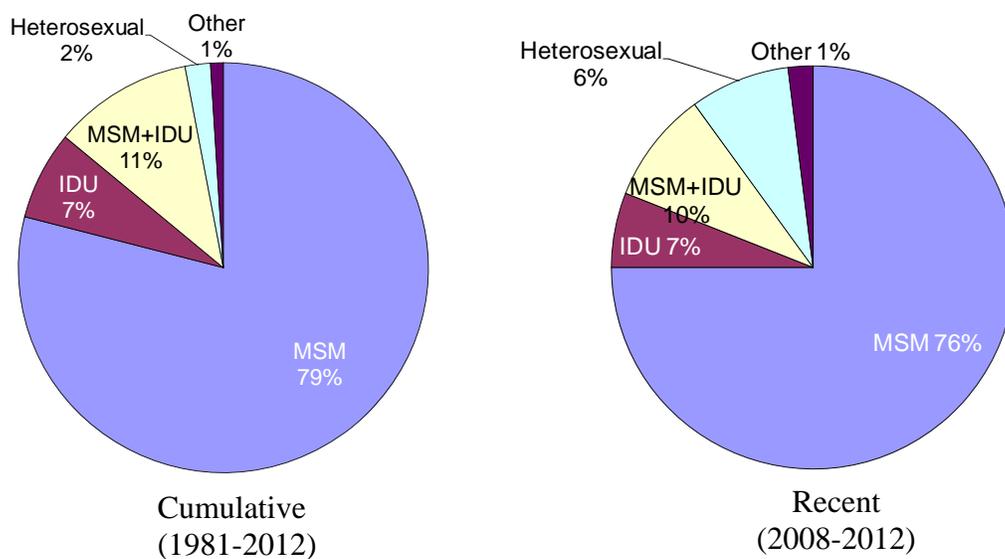


TABLE 1

Reported Modes of HIV Transmission Adult/Adolescent Male AIDS Cases Over 5-year Time Periods, San Diego County

	Time period of diagnosis						cumulative**
	1981-1987	1988-1992	1993-1997	1998-2002	2003-2007	2008-2012	
MSM	82.9%	83.2%	78.4%	73.8%	75.2%	75.3%	78.6%
IDU	2.4%	5.0%	7.0%	9.3%	7.7%	6.0%	6.5%
MSM+IDU	10.9%	9.3%	12.8%	13.0%	11.8%	9.1%	11.3%
Heterosexual	0.2%	0.8%	0.6%	3.1%	5.1%	7.6%	2.3%
Other*	3.6%	1.7%	1.4%	0.8%	0.2%	2.0%	1.3%
Total cases	837	3,728	3,978	2,062	1,829	1,333	13,767

*Includes transfusion, transplantation, hemophilia, maternal transmission, and not specified.

**1981-2012

(CDC) 20011 national estimate of 75.1%, the last year of data available for comparison. MSM is also the most common risk reported across all racial/ethnic and adult/adolescent age groups. Additional modes of transmission, including IDU (6.0% of recent cases), heterosexual contact (7.6% of recent cases), receiving blood, blood products or tissues from other persons, and other exposures (2.0% of recent cases) occur less frequently.

The percent of AIDS cases that are MSM has not changed significantly ($p=0.275$) over five-year intervals during the 1998-2012 time period, while the proportion of heterosexual cases has more than doubled over the same time period ($p<0.001$) (see Table 1). The percent who are MSM+IDU ($p<0.001$) and who are IDU ($p<0.001$) has also declined somewhat over time. The “other” transmission category, including transfusion, transplant, hemophilia, maternal transmission, and risk not specified reflected in figures and tables in this report, has also declined over time primarily because of the reduction in the number of cases with blood or blood product transmission. This decline may be attributed to

an increased capability to test blood, blood products and tissues, and prenatal testing with effective medications to reduce transmission to the fetus.

RACE/ETHNICITY

Significantly more (63%, $p<0.001$) cumulative MSM group AIDS cases in San Diego county are white compared to non-MSM cases (41%), as shown in Figure 2 and Table 2. The MSM group cases are also less likely to be black ($p<0.001$) or Hispanic ($p<0.001$) than non-MSM cases. There is no significant difference in the proportion of Asian/Pacific Islanders between the MSM group cases and the non-MSM cases ($p=0.096$).

The proportion of whites in the MSM group has significantly decreased over five-year time periods ($p=0.009$) (Table 3). The proportion of black cases ($p=0.001$) has also decreased significantly while Hispanic ($p<0.001$) cases have increased significantly over the same five-year time periods.

AGE AT DIAGNOSIS

Cases in the MSM group are significantly

FIGURE 2

Race/Ethnicity of MSM and Non-MSM Cumulative (1981-2012) Adult/Adolescent Male AIDS Cases, San Diego County

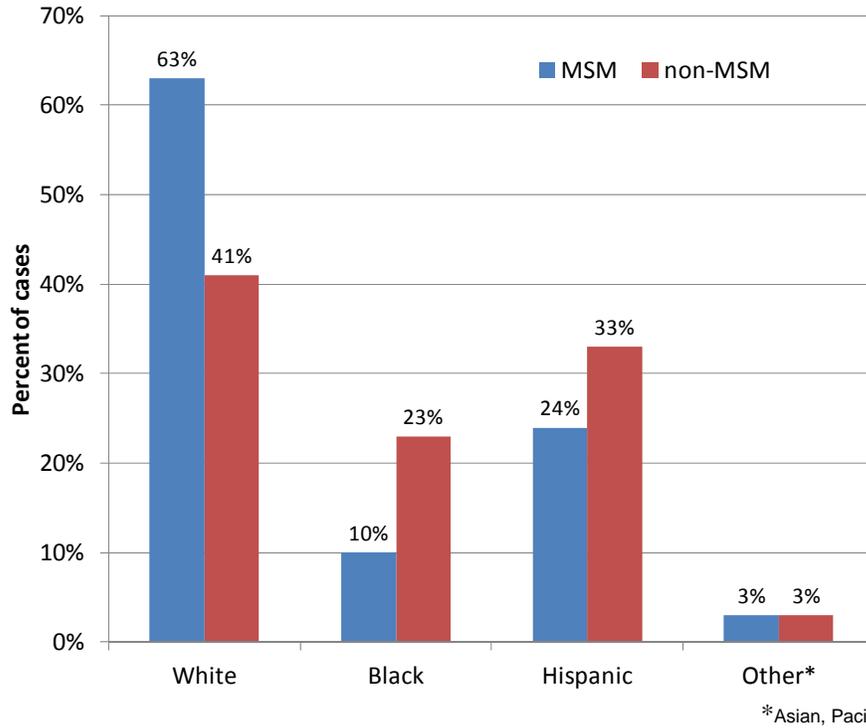


TABLE 2

Race/Ethnicity in Cumulative (1981-2012) MSM and non-MSM Adult/Adolescent AIDS Cases, San Diego County

Race/Ethnicity	Risk Group			
	all MSM	MSM only	MSM + IDU	non-MSM
White	63.0%	63.2%	62.1%	41.2%
Black	10.2%	9.5%	14.6%	23.2%
Hispanic	23.7%	24.2%	20.1%	32.8%
Other*	3.1%	3.1%	3.2%	2.8%
Total cases	12,368	10,817	1,551	1,399

*Includes Asian, Pacific Islander, Native Hawai'in, Native Alaskan.

Note: Percentage may not total 100 due to rounding.

younger than non-MSM cases, both cumulatively, with an average age of 38.1 years vs. 41.2 years; $p < 0.001$, and in recent years with 40.1 years vs. 46.5 years; $p < 0.001$), as shown in Table 4. The difference in age is more pronounced in recent years with MSM cases on average 2.9 years younger than non-MSM cases, compared to 2.6

years younger over the course of the entire epidemic. This is due in part to the increase in age at diagnosis among IDU cases in recent years compared to MSM cases. Although MSM are statistically significantly younger than non-MSM, this difference is unlikely to be clinically significant.

TABLE 3

Race/Ethnicity in MSM Group (MSM and MSM+IDU) Adult/Adolescent AIDS cases by Five-Year Time Periods, San Diego County

	Time period						cumulative**
	1981-1987	1988-1992	1993-1997	1998-2002	2003-2007	2008-2012	
White	81.5%	75.6%	64.8%	51.8%	49.3%	43.2%	63.0%
Black	6.9%	8.4%	10.5%	12.5%	11.8%	10.8%	10.2%
Hispanic	10.7%	14.1%	21.5%	32.6%	34.3%	40.4%	23.7%
Other*	0.9%	1.9%	3.2%	3.1%	4.6%	5.6%	3.1%
Total in group	785	3,448	3,630	1,790	1,590	1,125	12,368

*Includes Asian, Pacific Islander, and Native American.

**1981-2012

Note: Percent may not total 100 due to rounding.

TABLE 4

Age at Diagnosis in Cumulative (1981-2012) MSM and Non-MSM AIDS Adult/Adolescent AIDS Cases, San Diego County

	All MSM		Non-MSM	
	2008-2012	cumulative*	2008-2012	cumulative*
Mean age (years)	40.5	38.1	45.3	41.3
Median age (years)	40	37	44.5	40
Range (years)	18-84	16-92	16-88	14-88
Total cases	1,125	12368	208	1,399

*1981-2012

Over the course of the epidemic, the 30-39 year age group at diagnosis has been the most common in both the MSM group and non-MSM cases with 44.5% and 35.0% respectively, although the non-MSM group has more cases in older age groups. In recent years there has been a shift in age groups with both the MSM group and non-MSM group having their greatest proportion of cases in the 40-49-year age group with 34.4% and 38.4%, respectively (see Table 5).

CURRENT AGE (2012)

The average age of adult/adolescent male AIDS cases in San Diego County who are alive in 2012 is approximately 50 years (see Table 6).

Those in the non-MSM group are significantly older than either MSM (50.9 years vs. 49.8 years; $p=0.021$), and MSM+IDU (50.9 years vs. 49.6 years; $p=0.041$) cases. There is no significant difference in age between MSM and MSM+IDU cases ($p=0.999$). These differences are not likely to be clinically significant.

TIME FROM HIV TO AIDS

The mean time from reported HIV diagnosis to AIDS diagnosis is longer in cumulative MSM group cases than in non-MSM cases. The distribution of these times however, is highly skewed (see Figure 3). Cumulatively, 56% of male AIDS cases in San Diego County had less than a year

TABLE 5

Age Group at Diagnosis in Recent (2008-2012) and Cumulative (1981-2012) Adult and Adolescent MSM and Non-MSM AIDS Cases, San Diego County

Age group (years)	All MSM		Non-MSM	
	2008- 2012	cumulative*	2008- 2012	cumulative*
13-19	0.5%	0.2%	1.0%	1.9%
20-29	17.7%	16.7%	5.8%	11.4%
30-39	28.0%	44.5%	24.0%	35.0%
40-49	34.4%	27.5%	38.9%	31.9%
50+	19.4%	11.0%	30.3%	19.8%
Total cases	1,125	12,368	208	1,399

*1981-2012

Note: Percentages may not total 100 due to rounding.

TABLE 6

Age in 2012 of Living MSM and Non-MSM Adult/Adolescent Male AIDS Cases, San Diego County

Age in 2012	All MSM	MSM only	MSM+IDU	Non-MSM
Mean age (years)	49.8	49.8	49.6	50.9
Median age (years)	50	50	50	51
Range (years)	20-91	20-91	22-80	21-88
Total cases	5,939	5,239	700	685

between HIV diagnosis and AIDS diagnosis. Seven percent of AIDS cases had more than ten years between HIV and AIDS diagnoses.

In 1993 the AIDS case definition was changed by the CDC to include patients in whom the absolute CD₄ count dropped below 200 or the proportion of CD₄ cells was below 14%. It was expected that this change would lead to AIDS diagnoses earlier in the disease progression. Earlier diagnosis should mean earlier treatment to slow progression of AIDS. Increased treatment options for patients with HIV disease should lengthen the time from HIV diagnosis to AIDS diagnosis. This assumes that those with HIV infection are tested for HIV early enough in the course of infection for treatment options to impact progression.

When cases with less than a year between

HIV and AIDS diagnosis are looked at by five-year time periods of diagnosis, it is apparent that, although there was a decrease in cases with less than a year between diagnoses before the 1993 case definition change, there is still a significant number of cases with less than a year between HIV and AIDS diagnoses. This proportion has been increasing over five-year time periods for both MSM ($p < 0.001$) and non-MSM ($p < 0.001$) cases since the case definition change (see Figure 4). Non-MSM cases consistently have had a significantly greater proportion than MSM cases with less than 1 year between diagnoses across all time periods ($p < 0.001$). Because the non-MSM cases primarily consist of IDU, it is possible that part of this difference is due to a lack of healthcare seeking behaviors exhibited by IDU. For example, an IDU may be less likely to be

FIGURE 3

Years from HIV Diagnosis to AIDS Diagnosis in Cumulative (1981-2012) Adult/Adolescent MSM and Non-MSM AIDS Cases, San Diego County

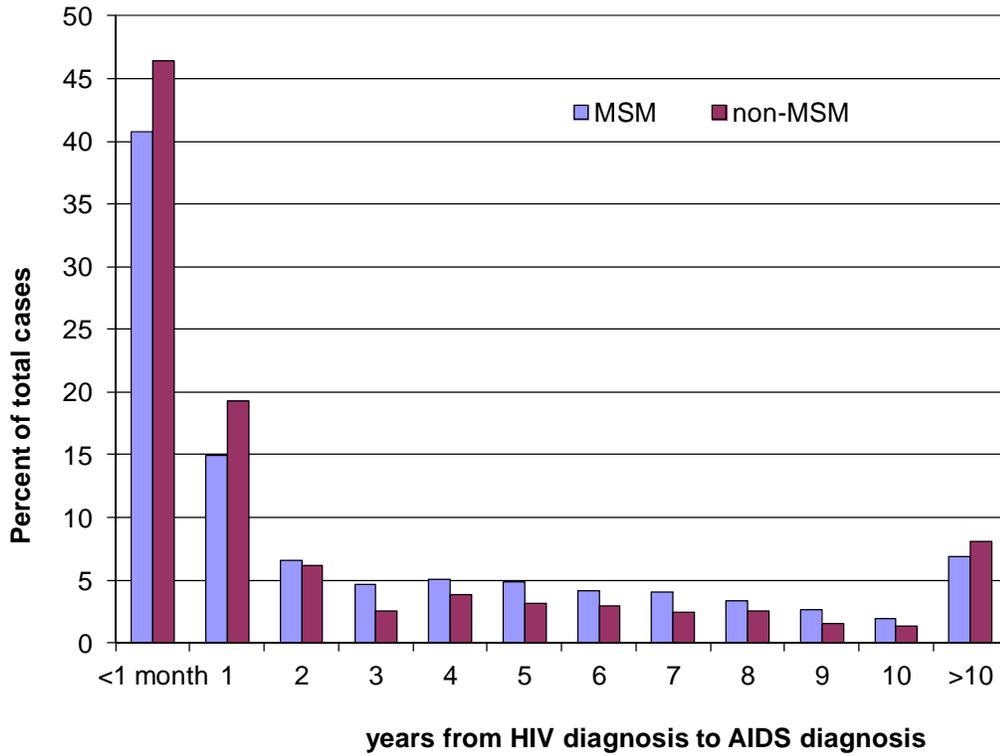
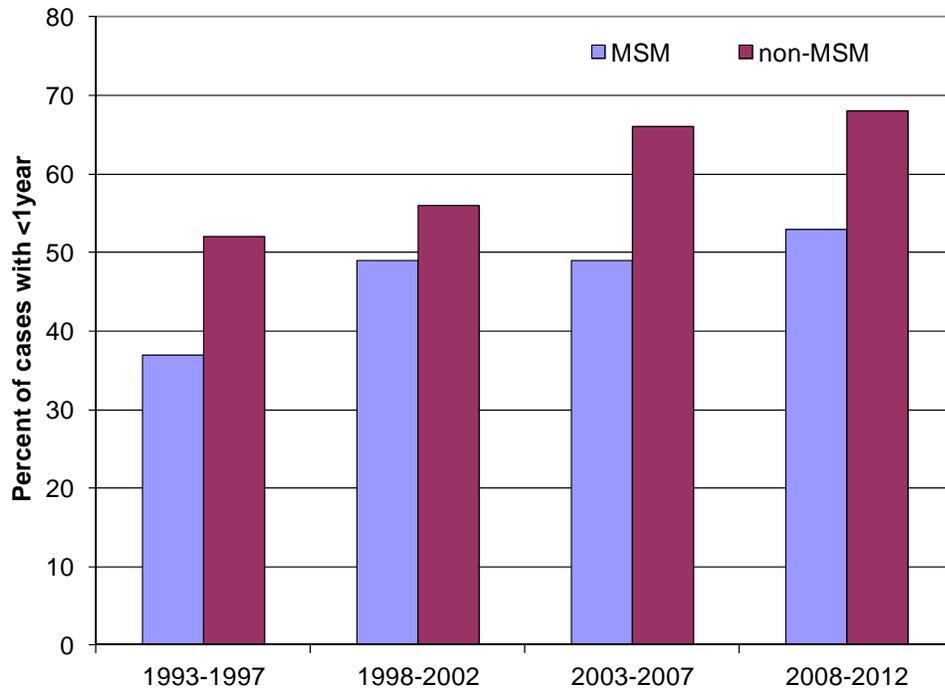


FIGURE 4

Percent of Adult/Adolescent MSM and Non-MSM AIDS Cases with Less Than One Year Between HIV Diagnosis and AIDS Diagnosis Over 5-Year Time Periods, San Diego County



tested for HIV early in the course of disease, but rather, get tested when presenting with an AIDS defining condition. Or, a healthcare provider may be less likely to order an HIV test for a heterosexual regardless of IDU status, erroneously perceiving the patient's risk of HIV acquisition as low. There also may be some healthcare providers who use the date of HIV positive testing in their facility as the date of first HIV positive if the results of previous tests are not known or reported to the provider. It is probable that some cases had earlier, but unreported HIV positive results. This would shorten the length of time from HIV diagnosis to AIDS diagnosis as reported.

SURVIVAL

For AIDS cases in the MSM group diagnosed in 2003-2007, as MSM and MSM+IDU, there are few significant differences in survival between San Diego county and nationally reported (CDC) cases (see Table 7). The non-MSM San

Diego county cases have a significantly greater proportion surviving more than 24 ($p=0.017$) or 36 ($p=0.023$) months than that reported by the CDC.

Differences between MSM, MSM+IDU, and non-MSM cases in the county are seen only in survival greater than 24 and 36 months. Both non-MSM and MSM+IDU cases have less survival than MSM-only cases at >24 months ($p=0.035$ and $p=0.019$ respectively) and >36 months ($p=0.035$ and $p=0.014$ respectively).

COUNTRY OF ORIGIN

The majority of AIDS cases diagnosed in San Diego County, regardless of mode of transmission, were born in the United States (see Table 8). A significantly ($p<0.001$) higher proportion of the cumulative MSM group (83.1%) were born in the U.S. than the non-MSM cases (73.9%). This is not unexpected, as the MSM group has a higher proportion of whites, more than 97% of whom were born in the U.S. Those in the cumulative

TABLE 7:
Proportion of Adult/Adolescent MSM and Non-MSM AIDS Cases Diagnosed in 2003-2007 in San Diego County Surviving More Than 12, 24, and 36 Months, Compared to National Survival Data

		Survival from AIDS Diagnosis		
		>12 months	>24 months	>36 months
MSM only	SD County	0.93	0.91	0.90
	CDC	0.92	0.90	0.88
MSM+IDU	SD County	0.91	0.87	0.85
	CDC	0.92	0.88	0.85
all MSM	SD County	0.92	0.90	0.89
	CDC	0.92	0.90	0.88
non-MSM	SD County	0.89	0.86*	0.84*
	CDC	0.85	0.80	0.78

CDC=Centers for Disease Control and Prevention

SD County=San Diego County

*Significant at $p<0.005$.

non-MSM group are more likely to be Hispanic, and Hispanic cases are less likely to be born in the U.S. This significant difference is maintained when controlling for race/ethnicity ($p=0.001$). In more recent (2008-2012) cases, MSM cases are also more likely to be born in the U.S. ($p=0.020$), and the difference is maintained when race/ethnicity is controlled for ($p=0.001$).

Members of the MSM group are significantly less likely to come from Africa ($p<0.001$) or Mexico ($p<0.001$) than non-MSM cases. There are no significant differences in the proportion of cases from Asia, Europe, and Latin America.

RESIDENCE AT DIAGNOSIS

The vast majority (73.7%) of AIDS cases in the county lived in the city of San Diego at the time of their diagnoses. More than 75% of MSM group cases were living in the city at the time of diagnosis, significantly ($p<0.001$) greater than the 59.6% of non-MSM cases who were San Diego residents. Other than San Diego, only Chula Vista had more than 3% of the MSM group cases (3.5%). Chula Vista, Oceanside, El Cajon, and Escondido each had more than 4% of non-MSM cases. This reflects, in part, the racial/ethnic differences between the MSM group and non-MSM cases and between areas of the county outside of

the city of San Diego.

Most AIDS cases diagnosed in San Diego County were residing in the HHSA Central region at the time of diagnosis (see Table 9). A significantly greater ($p<0.001$) proportion of MSM group cases than non-MSM cases were living in this region at the time of diagnosis while a significantly greater ($p<0.001$) proportion of non-MSM cases were living in the South, East, North Coastal, and North Inland regions. The proportion of MSM ($p<0.001$) and non-MSM ($p=0.007$) cases in the Central region has declined significantly over 5-year time periods from the 1993-1997 time period. The proportion of MSM cases has also declined significantly in the North Central region ($p=0.009$). In the South region, the proportions of both MSM ($p<0.001$) and non-MSM ($p=0.010$) cases have increased significantly, but only the MSM cases have increased significantly in the East region ($p=0.021$).

The location of diagnosis does not necessarily represent the location of current residence or the area in which health or social services are sought or obtained. It is not unusual for a case to move to a different zip code, city, or region after diagnosis. A case who does not move may still seek medical care elsewhere within the county or in another county.

TABLE 8
Country of Origin of Cumulative (1981-2012) and Recent (2008-2012) Adult/Adolescent Male AIDS Cases, San Diego County

Origin.	All MSM		Non-MSM	
	cumulative*	2008-2012	cumulative*	2008-2012
USA	83.1%	76.4%	73.9%	68.8%
US Dependency	0.4%	0.4%	1.9%	0.5%
Mexico	12.5%	19.0%	17.8%	19.2%
Other	4.0%	4.2%	6.4%	11.5%
total in group	12,369	1,125	1,399	208

*1981-2012

TABLE 9

Adult/ Adolescent Male AIDS Cases by Region Over Five-Year Time Periods, San Diego County

Region	1993-1997		1998-2002		2003-2007		2008-2012	
	All MSM	Non-MSM						
Central	61.9%	40.5%	56.8%	44.0%	55.9%	33.9%	52.1%	32.7%
East	5.7%	10.8%	6.9%	6.6%	6.9%	10.5%	7.4%	10.1%
South	8.2%	14.2%	13.5%	22.0%	15.6%	24.7%	17.2%	26.0%
North Coastal	7.3%	14.0%	7.3%	9.9%	6.9%	12.1%	8.4%	10.1%
North Inland	4.0%	9.1%	4.3%	7.7%	4.3%	5.9%	4.2%	6.2%
North Central	12.9%	11.4%	11.2%	9.9%	10.4%	13.0%	10.8%	14.9%
Total cases	3,631	351	1,790	273	1,590	239	1,125	208

Note: Percentages may not total 100 due to rounding.

MSM AND INJECTING DRUG USE

Of those in the MSM group, 12.5% report injection drug use. The term “injection drug use” should not be interpreted to mean only illicit drug use, nor does the injection have to be intravenous. Any injected material, including illicit drugs, vitamins, hormones, silicone, or others, is included in this category. The risk of transmission is not derived from the material injected, but from the sharing of needles and syringes. Needles that are shared may contain blood from those who have used it previously. Syringes may also be contaminated with the fluids of previous users if the practice involves drawing up blood into the barrel before injection.

Members of the MSM group were less likely to be IDU than non-MSM cases, even when controlling for race/ethnicity and age group (12.5% vs 36.2%; $p < 0.001$ data not shown). Like injection drug using non-MSM cases, those in the MSM group who are also injecting drug users are more likely to be African American ($p < 0.001$) than other race/ethnicities (data not shown).

LIMITATIONS

The data presented in this report are depend-

ent on accurate reporting from healthcare providers, laboratories, and patients. Patients, for many reasons, may not wish to provide accurate current or historical information to their healthcare providers for reporting. Healthcare providers may not report complete information because it is not available to them, or they wish to protect their patients' privacy, or other reasons. Each of these situations, and others, result in data that may not be accurate and these inaccuracies may impact analysis.

Caution should be exercised in the analysis of the most recent time period (2008-2012) because additional cases are likely to be reported over time. Retrospective case finding will continue and it is expected that cases diagnosed in 2012 will be reported in 2013. Case reports are also updated as new information becomes available. When, for example, more information on risks is obtained, the database is updated and this may impact proportions and rates used in this and future analyses.

Some of the variables under study do not have sufficient numbers of occurrences to make statistical inferences. When small numbers are presented, caution should be exercised in the in-

terpretation of data presented.

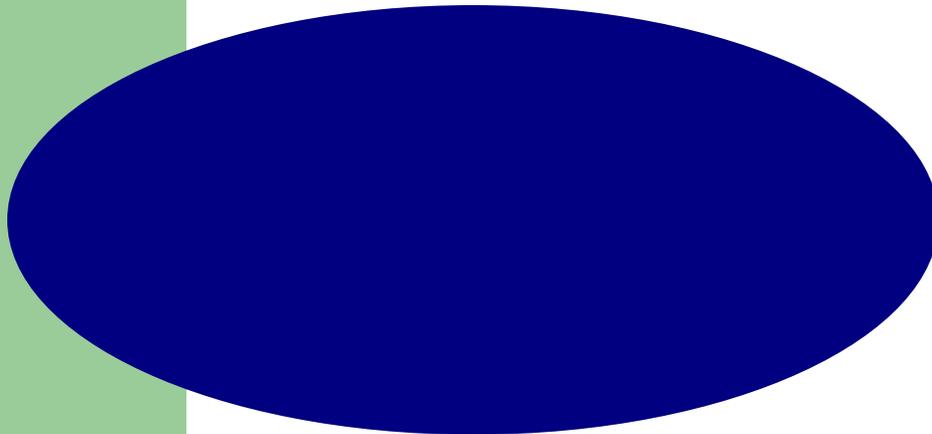
Whenever possible, case information is updated to reflect vital status of cases. However, it is possible that some cases may have died out of the county and report of the death to the Epidemiology Program is delayed. This may result in inaccurate assumptions and survival calculations.

The county has a higher proportion of Hispanics and a lower proportion of blacks than do many states, the United States, and even some other counties within California. These racial/ethnic demographic differences make comparisons of San Diego County to the nation as a whole, and to other counties and states, difficult. These factors must be taken into account when discussing the impact of the AIDS epidemic on San Diego County.

DATA SOURCES:

County of San Diego, HIV/AIDS Epidemiology Unit database and Annual Report,
SANDAG population estimates,

HIV/AIDS Surveillance Report, 2011 (Vol. 23), Centers for Disease Control and Prevention
Profiles of General Demographic Characteristics, 2000, US Dept of Commerce



HIV/AIDS EPIDEMIOLOGY UNIT
EPIDEMIOLOGY AND IMMUNIZATION
SERVICES BRANCH
3851 ROSECRANS ST, MS P577
SAN DIEGO CA 92110