



Physicians' Bulletin

HIV/AIDS Update 2008

In the twenty-seven years since the first AIDS case was reported in San Diego County, much has been learned. With the introduction and widespread use of anti-retroviral therapy (ART), HIV infection has become for most patients, a chronic infection that can be medically managed. As treatment has dramatically lowered HIV mortality, the number of persons living with HIV infection (population prevalence) has increased. The longer, healthier, and sexually active life-span of persons infected with HIV provides more opportunities for HIV transmission, particularly in conjunction with a concurrent STD. This transmission risk is somewhat counterbalanced by ART which markedly lowers HIV viral load, generally lowering the risk of transmission. Most transmission is thought to occur during the first few months after infection when the viral load is high, but continues until such persons are made aware of their infection, start treatment with ART, and use safer sex and injecting practices. The Centers for Disease Control and Prevention (CDC) estimates that 21% of persons infected with HIV are unaware of their infection and has recommended that **HIV screening be included in routinely offered medical care during preventive or other health care visits.** Such screening, if fully implemented, will increase the number of infections identified, which is a major step in HIV prevention efforts.

The Community Epidemiology Branch (CEB), Division of Public Health Services (PHS), conducts HIV/AIDS surveillance to identify groups at risk and in need of prevention services. Currently, the surveillance system collects and analyzes data from HIV infection reporting, HIV counseling and testing, and to some extent AIDS case reporting, to infer incidence and identify trends (direct incidence data are not available). This Bulletin provides an update for physicians and other health care providers on the epidemiologic features of HIV infection in San Diego County, as well as, some guidance for providers to help deliver prevention services to HIV/AIDS patients and those at risk for HIV infection.

HIV Infection Surveillance

HIV Names-Based Case Reporting

The California Department of Public Health (CDPH) implemented regulations, based on legislation signed by the Governor (AB699) for reporting of persons with HIV infection by name, beginning on April 17, 2006. HIV cases were previously reported by non-name code, but this system was inaccurate and cumbersome. **These regulations require that physicians and other health care providers report HIV positive persons to the local health agency,** regardless of when infection occurred, that is, if the provider has not previously reported the person. Laboratories, likewise, are required to report to the local health department all tests indicative of HIV infection, including positive Western blot test, HIV PCR results, all viral load results, and all CD4 counts. **An HIV case report form (and other reporting information) is available at www.sdhivaid.org.** Case reporting by both providers and laboratories helps to ensure that all cases are reported. Epidemiology staff evaluates these reports for duplicate cases and from April 17, 2006 through July 31, 2008, 3607 unique persons with HIV have been entered into the surveillance system.

In San Diego County, males accounted for the majority (90%) of reported HIV cases. African Americans were disproportionately affected (12% vs 5% of county population); 59% of cases were White and 26% Hispanic (county populations 52% and 29%, respectively) and 3% were Asian/Pacific Islander or Native American. Mode of HIV transmission varied by gender: men who have sex with men (MSM) comprised 83% of male cases, while heterosexual contact was the only risk reported for 67% of female cases. Injecting drug use (IDU) was reported by 22% of female cases and 4% of male cases. An additional 8% of male cases reported both MSM and IDU (MSM+IDU). The largest proportion of cases (38%) were reported in 30-39 year olds, closely followed by those in the 20-29 year old age group (33%); 3% were under 20 years of age and 26% were 40

years and older. The mean age at diagnosis was 34 years. The majority of HIV cases (60%) were reported in persons living in the Central region of San Diego County.

Because of HIV reporting system changes (going to names-based reports in April 2006), the system is not yet mature enough to form a complete picture of the epidemiology of HIV cases in the County. Data from this system will be more useful as the system matures and analyses will be more complete in the coming years.

HIV Counseling and Testing (HCT)

About 7,000 anonymous and 4,000 confidential tests per year are provided by HHSA and other community providers in San Diego County through contract funding support from the California Department of Public Health. Locations of testing sites can be found at www.sdshivprevention.org. Because the majority of these tests are anonymous, the data include results from persons who test more than once and are presented as an HIV test positivity rate rather than person positivity rate.

The overall rate of HIV positivity (rate per 100 tests, or percent) declined from more than 10% found in the late 1980s to 1.6% in 1992 and remained steady through 2000. In 2001, positivity began increasing and reached 2.6% in 2006, and then declined slightly to 1.9% in 2007 (Figure 1). In 2007, the majority of HIV positive tests and the highest positivity were among males (2.4%) with lower positivity in females (0.3%). Most of the increase from 2000 occurred in men, specifically gay, bisexual men, or gay/bisexual injection drug using men (collectively comprising the MSM group) (Figure 2). The HIV positivity rate for the MSM group increased from 3.3% in 2000 to 5.0% in 2003, with a decline to 3.8% in 2007. In 2001, data collected on injection drug use (IDU) changed from asking about ever using to only use in the previous two years or since last test; from 2001-2007, 1.3% of tests among clients reporting IDU were positive. Among females HIV positivity has been less than 1% for many years and no trend is apparent. Among Hispanics, HIV positivity increased from 1.7% in 2002, peaked at 4.7% in 2006, and then declined to 2.7% in 2007 (Figure 3). Similarly, in the South region, in which there is a high Hispanic population, positivity increased from 2.2% in 2002, peaked at 5.3% in 2006, and then declined to 2.9% in 2007.

Between 2001 and 2006, HIV positivity increased for all age groups. However, in 2007 it declined among persons over 35 years of age. In 2007, HIV positivity was highest among 25-34 year olds (2.2%), followed by 35-49 year olds (2.1%), those aged 50 years and older (1.7%), and those aged 20-24 (1.5%). There were too few testers under 20 to calculate a percent accurately in 2007, but from 2001-2007 the percent testing positive

was 0.4%. These primarily anonymous HIV positivity rates must be interpreted with caution because rates are per test (some persons have tested more than once) and persons testing at these sites may be different than those testing at other sites such as physician’s offices, correctional facilities, etc. In addition, factors affecting testing at counseling and testing locations can vary over time.

Figure 1

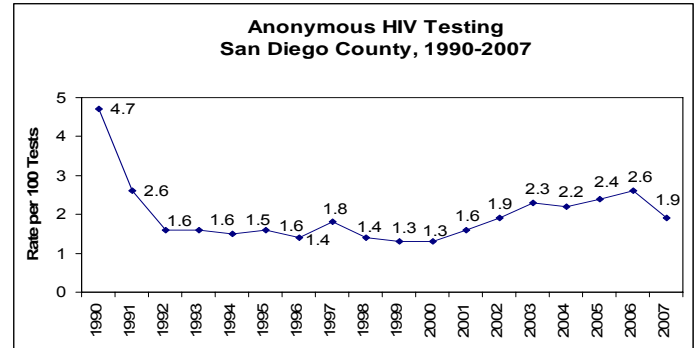


Figure 2

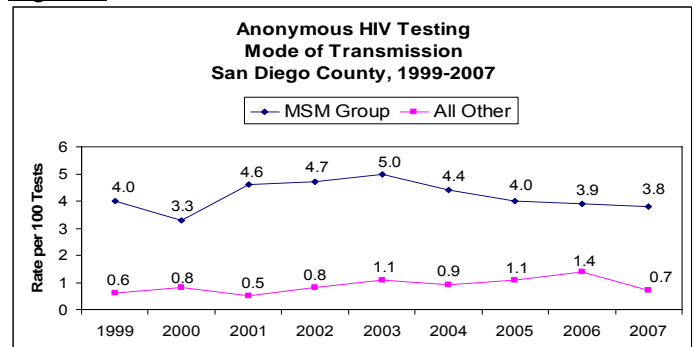
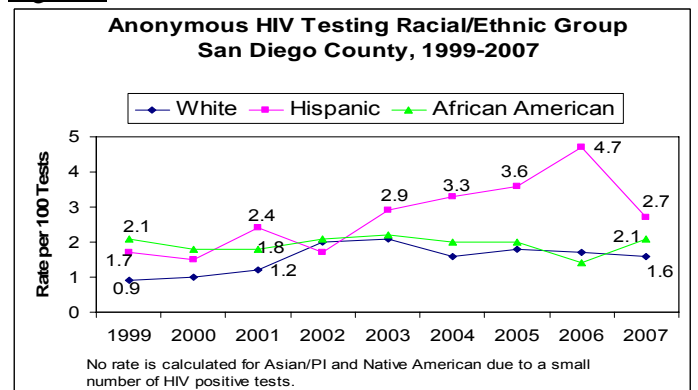


Figure 3

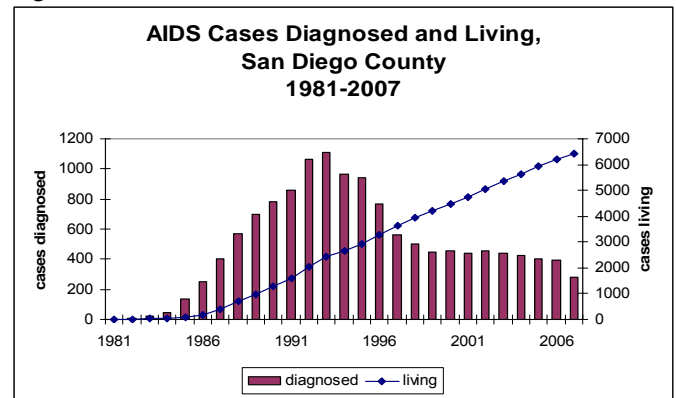


AIDS Surveillance

Since the beginning of the epidemic, 13,436 AIDS cases have been diagnosed in San Diego County as of December 31, 2007 (reported through June 30, 2008).

Currently, AIDS is defined as a person with HIV infection who has an AIDS-defining indicator disease or a person with immunodeficiency based on a CD4 count less than 200 or less than 14% of total lymphocytes. In recent years (2003-2007), the majority (68%) of AIDS cases have been diagnosed based on detection of immunodeficiency (CD4 count less than 200 or 14%) before the onset of an AIDS defining indicator disease. Since the wide-scale use of ART, which began during 1988-1992, AIDS incidence declined from a peak in 1993, reaching a stable level (about 400 cases diagnosed per year) since 1999 (Figure 4).

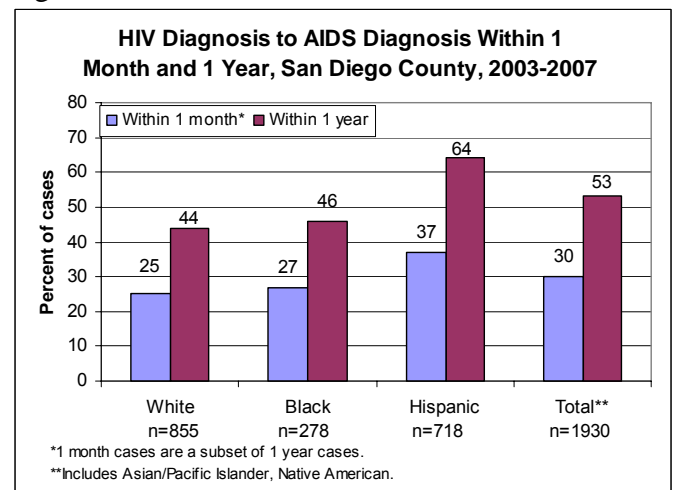
Figure 4



Late Testers

The natural history of AIDS indicates that infection with HIV occurs about 8-10 years before AIDS-defining presentation. For surveillance purposes, the CDC refers to persons who have their first HIV positive test and AIDS diagnosed (immunodeficiency or clinical AIDS) within 12 months as “late testers” which result in a “late diagnosis,” that is a diagnosis late in the infection process. In some instances the HIV positive test and AIDS diagnosis occur at the same time (within 1 month). Before the widespread use of ART (1988-1992), 75% of all AIDS cases were late diagnoses and usually presented with an AIDS defining symptomatic condition, but in more recent years (2003-2007) only 53% were late diagnosis cases with the proportion of those with late diagnosis lower among Whites (44%) and African Americans (46%) compared to Hispanics (64%) (Figure 5). This finding suggests that among all patients with AIDS, HIV testing is not occurring soon enough to provide patients with the best medical care or prevention services. Although Hispanics had the highest percent of late diagnosis (64%), among Hispanic females only 54% were late diagnosis cases in 2003-2007, probably because women are seen in medical care for a greater variety of reasons (e.g., pre- and post-natal care) each of which is a testing opportunity. These data strongly support **the CDC recommendation that fully incorporating HIV testing in medical care is needed to identify all persons with HIV infection, especially persons who may not be perceived as being at risk.**

Figure 5



Currently, males, and among them MSM, account for most AIDS case (89% compared to 11% females) (Table 1). AIDS rates have remained level overall since 2004 at about 13 per 100,000 population with the highest being in African Americans (30 per 100,000), which is 2.7 times higher than Whites, followed by Hispanics (17 per 100,000), which is 1.5 times higher than Whites who have a rate of 11 per 100,000.

Table 1

Demographics of Adult/Adolescent AIDS Cases, San Diego County, 2006-2007

		Male			Female		
		n	%	rate*	n	%	rate*
Age group	13-19	1	<1	¥	3	4	¥
	20-29	86	14	35	13	17	6
	30-39	215	36	91	23	30	10
	40-49	197	33	86	18	23	8
	50+	97	16	26	20	26	5
Race/Ethnicity	White	252	42	31	19	25	2
	Afr. Amer.	77	13	89	17	22	22
	Hispanic	240	40	55	37	48	9
	Other	27	5	14	4	5	¥
Risk group	MSM	462	78	#	NA	NA	#
	IDU	38	6	#	10	13	#
	MSM+IDU	53	9	#	NA	NA	#
	Heterosexual	39	7	#	62	81	#
	Other**	4	<1	#	5	6	#
Total Cases †		596	89	47	77	11	6

*Per 100,000 population. **Includes maternal transmission.
 #Not able to calculate. †Percent of total cases.
 NA: Not applicable. ¥Rate not calculated for fewer than 5 events.

Prevention and the Health Care Provider

Testing as Routine Care

In September 2006, CDC recommended that HIV testing become part of routine medical care, similar to screening for other treatable conditions. **This includes screening in all pregnant women, as screening is more cost effective than risk-based testing for finding unsuspected infections and preventing maternal transmission.**

In California, AB 682 (implemented on January 1, 2008), **allows providers to test patients without written consent if they inform the patient that an HIV test is planned and provide information about 1) the test, 2) treatment options for those who test positive, and 3) recommendations for testing at regular intervals for those who test negative.** In addition, the provider must advise the patient that he or she has the right to decline the test, and if declined, note such in the patient's medical record. Educational materials about HIV testing are available for patients and providers through the California Office of AIDS website:

www.cdph.ca.gov/pubsforms/forms/Pages/AIDS.aspx.

Also signed was AB1894 (effective January 1, 2009) which requires insurance carriers operating in California to pay for HIV tests ordered by a patient's care provider, thus reducing out of pocket expenses for testing.

Although HIV testing is recommended for all adolescents and adults, some persons are at higher risk and a priority for testing. Patients presenting with an STD (or a history of STDs), a history of IDU, and/or are MSM are at increased risk and should be tested. MSM patients may be gay identified or non-gay identified; anecdotally, there are a substantial number of non-gay identified MSM. Each of these groups presents different challenges in prevention and should be encouraged to test. **Asking specific questions about sexual and social history designed to elicit information on type of partners and extent of risk, rather than just sexual orientation, may help providers in decisions about prioritizing HIV testing in their patients.**

In addition to the standard HIV antibody test, which may require several months to become positive after infection, patients in San Diego County now have the option to take an "Early Test", which tests directly for the presence of HIV nucleic acid, and becomes detectable within one week of infection. To find locations and times the Early Test is offered, your patient may call (877) 323-5050. **Consider recommending this Early Test option for any patient who has a NEGATIVE HIV antibody test, but who has had recent high-risk exposure or has an**

unexplained fever/lymphadenopathy syndrome and is at high risk for HIV infection

Early Identification = Prevention

For many years the prevention focus (and funding) was for services to reduce risk behaviors to prevent HIV negative persons from acquiring HIV. Over the years it became apparent that, with the advent of ART, persons with HIV were feeling well and may be engaging in high-risk sexual activity that could lead to increased risk of transmission. Those who are **recently infected are at very high risk of transmitting HIV because of high viral loads early in the infection** process. Studies have shown that when a person learns he or she is HIV infected, behaviors are modified to reduce the risk of transmission to partners. In light of these findings, the prevention focus has shifted towards the development of collaborative relationships between clinicians and programs serving HIV infected persons. Thus, HIV prevention is currently promoting a broad biomedical and behavioral approach for persons with HIV and for those at risk of acquiring HIV.

County Services

The County of San Diego Health and Human Services Agency provides a number of HIV prevention services, programs, and funding. Prevention efforts by the County are wide ranging, targeting individuals and groups at risk of transmitting or contracting HIV, providing counseling, partner services, information, and encouragement for prevention activities. Information on referrals to County prevention services may be found at www.sdhivprevention.org.

Partner Services

Since everyone with HIV should know his or her status, it is important that partners of HIV positive persons be tested. **The prevalence of HIV infection among recent sex or needle-sharing partners of newly identified HIV positive persons is approximately 15%, compared to less than 2% in general testing.** The County of San Diego offers Partner Counseling and Referral Services (PCRS) support for HIV positive persons for partner disclosure and notification. Providers can help by encouraging their patients to work with counselors in disclosing to their partners their risks and, as needed, providing disclosure notification. These services are confidential and the partners can be notified without knowing who referred them. For information on PCRS or to refer your patient for this service, please call (619) 692-8501.

The HIV/STD Connection

Sexually transmitted diseases (STDs) continue to be linked to HIV infection, due to both behavioral factors (unsafe sex) and biological mechanisms

caused by an active infection. Inflammation from gonorrhea, chlamydia, and trichomonas, and ulcerations caused by syphilis and herpes (HSV), provide a portal of HIV entry (and exit), thus enhancing transmission and acquisition of HIV.

Syphilis, in particular, has been associated with 2-4 fold increased risk of HIV infection worldwide. A recent study of over 43,000 patient encounters at the Chicago Public Health clinics found that patients with syphilis had an eleven times higher risk of a newly diagnosed HIV infection than persons without syphilis. Gonorrhea (GC) and chlamydia have been associated with a 2-fold increased risk of transmission of HIV; preliminary data from a recent study in San Francisco suggests that 10% of HIV transmission was attributable to increased susceptibility or transmissibility caused by rectal GC or chlamydia. STD infections can also affect HIV viral load control. Both syphilis and HSV active infections can cause an increase in viral load, which by itself makes a person more infectious, since HIV virus concentration increases in urethral and probably cervical secretions.

In San Diego County, syphilis has been increasing since 2002. Between 2006 and 2007, primary and secondary syphilis cases rose by 47%, with 84% of cases occurring in MSM (Figure 6). Among MSM with syphilis, 56% were HIV positive, and among women and heterosexual men, 18% and 19% were HIV positive, respectively.

Since all STDs may be asymptomatic at times, an individualized, risk-based STD screening interval should be determined for each patient. The sexual risk history should include the number and gender of sex partners as well as types of sexual activity. **Patients with new or multiple partners, substance abuse issues, and past history of STDs require more frequent screening. In particular, sexually active MSM who are not in a mutually monogamous relationship should have syphilis screening with an RPR or VDRL test every 3 to 6 months.** HIV positive persons can be screened for syphilis during routine HIV follow-up visits. Syphilis and/or HSV infection should be considered in the differential diagnosis when an HIV patient's CD4 count drops and/or the viral load rises unexpectedly, especially if the patient has been adherent to medication. MSM patients who report unprotected anal receptive sex in the past 3 months should have a GC and chlamydia rectal test done (preferably using nucleic acid amplification testing (NAAT)).

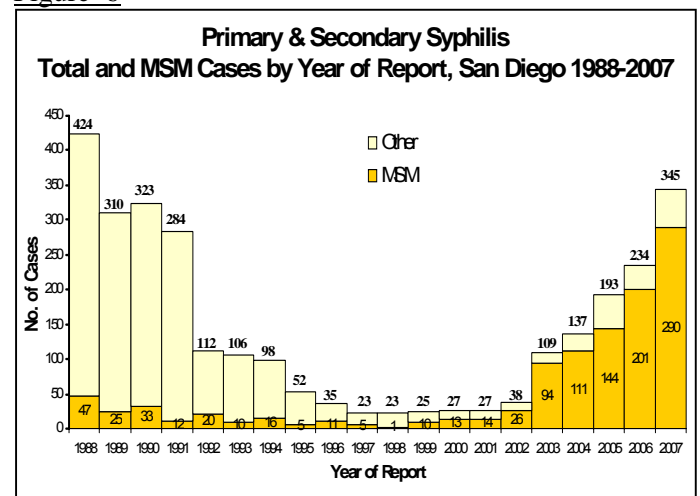
Some patients with HIV have adopted the practice of unprotected sex with other persons who are also HIV infected (called sero-sorting). This practice may have an effect on preventing HIV transmission, but has no effect on STD transmission. In addition, among those practicing sero-sorting, there is the possibility, albeit small, of one person passing a drug resistant HIV strain

to another. All HIV positive persons should be strongly encouraged to use safe sex practices with all partners and should know that HIV positive persons who acquire syphilis have a 1-2% risk of developing **acute symptomatic neurosyphilis which can have serious consequences. Symptoms include partial blindness, decreased hearing, meningitis, and stroke. About half of the persons with acute neurosyphilis symptoms will have residual effects at six month follow-up, and some may never resolve.**

California law mandates the report of suspect or confirmed cases of syphilis within 24 hours by clinicians, as well as all positive serological tests by laboratories. Chlamydia and gonorrhea must be reported within 7 working days. Prompt reporting and encouraging your patient to cooperate with County Communicable Disease Investigators in syphilis and HIV partner services interviews will help prevent your patient from being re-infected with an STD and prevent infections in others. **Unfortunately, because of the large number of GC and chlamydia cases, investigators usually will not contact persons with these infections, and therefore, your assistance in helping your patient inform their partners of the need to be treated preventively and tested, if possible, is essential. California law also allows providers to write a prescription or provide an appropriate medication dose for delivery to the partner(s) even without examining or discussing the issue with the partner(s).** More information about this procedure is available from the STD program (619-692-6652). Since re-infection is common (about 15% for chlamydia,) re-screening at 3 months is recommended for all persons who have been diagnosed with chlamydia or gonorrhea.

To report an STD case, call (619) 692-8520 or fax the CMR to (619) 692-8541. For locations and hours of County STD clinics, call (619) 692-8550.

Figure 6



Reporting Assistance

- HIV or AIDS:
 - San Diego County HIV/AIDS Surveillance Unit of Community Epidemiology Branch
 - (619) 515-6675
 - www.sdhivaids.org
- STD
 - HIV, STD, and Hepatitis Branch
 - <http://www2.sdcounty.ca.gov/hhsa/ServiceDetails.asp?ServiceID=1732>
 - <http://www.stdcheckup.org/>
 - (619) 692-8501

HIV/AIDS Resources

- San Diego County HIV/AIDS Surveillance Unit of Community Epidemiology Branch (619) 515-6675 www.sdhivaids.org
- HIV, STD, and Hepatitis Branch, HHSa, San Diego County (619) 293-4700 www.sdaisinfo.org
- HIV Prevention information www.sdhivprevention.org
- HIV Counseling and Testing Info Line (619) 692-8501
- STD Clinic, County Health Services Complex, Info Line (619) 692-8550
- California State Office of AIDS www.dhs.ca.gov/AIDS/
- Centers for Disease Control and Prevention (Division of HIV/AIDS Prevention) www.cdc.gov/hiv/
- Centers for Disease Control and Prevention (MMWR listing) www.cdc.gov/hiv/pubs/mmwr.htm
- STD partner notification by email www.inspot.org

The *Physicians' Bulletin* is published on an as-needed basis by the County of San Diego Health and Human Services Agency to provide updated information on health issues of concern to San Diego County's medical community

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