

# Integrated Epidemiologic Profile of HIV/AIDS in California, 2001-2005 with 2007 Update

February 2010



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# **Integrated Epidemiologic Profile of HIV/AIDS in California, 2001-2005 with 2007 Update**

February 2010

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## Acknowledgements

The California Department of Public Health (CDPH), Center for Infectious Diseases, Office of AIDS (OA) would like to thank the many individuals and programs that contributed to the creation of this profile. First and foremost, we wish to thank Ann Nakamura, M.P.H., for the countless hours she devoted to the organization, coordination, analyses and writing that lead to the final report. We wish to recognize program staff throughout California who have collected most of the data presented in this report, particularly individuals working in the California HIV/AIDS case surveillance system, the HIV counseling and testing system, California's HIV/AIDS and sexually transmitted diseases surveillance units, HIV counseling and testing sites, and programs funded through the Ryan White HIV/AIDS Treatment Modernization Act of 2006 (Care Act). A special thanks goes to past and present staff in OA's Research Section, who provided much of the information on behavioral risk.

The quality of this document ultimately hinges on the quality of the data. OA is grateful to the following individuals for their assistance with data preparation, analysis, and interpretation:

Elizabeth Brannon-Patel  
Brian Bannister  
Dixie Chan  
Christine Dahlgren, M.A.  
Winnie Dysle  
Valorie Eckert, M.P.H.  
Denise Gilson  
Shulan He, M.D., M.S.  
Roy McCandless, M.A., M.P.A., Dr.P.H.  
Vanessa Miguelino, M.P.H.  
Atsuko Nonoyama, Ph.D.  
Juan Ruiz, M.D., Dr.P.H.  
Michael C. Samuel, Dr.P.H.  
Thomas J. Stopka, M.H.S.  
Dennis Wong, Ph.D.  
Qiang Xia, M.D., M.P.H

OA wishes to acknowledge the Epidemiologic Profile Workgroup participants for their guidance and assistance with the development of this profile. A special thanks is extended to members of the California HIV Planning Group (CHPG), who provided feedback, editorial assistance, and guidance that improved the utility of this document for prevention planning decisions. OA also wishes to recognize the thoughtful review and insights provided by Jennifer Baham, M.P.H., Thomas Stopka, M.H.S., and Michael Donahue.

Finally, OA would like to thank the following individuals for their hard work and contribution to the writing, organization, and general oversight of the document's development: Ann Nakamura, M.P.H., Matt Facer, Ph.D., Denise Absher, and Thomas Stopka, M.H.S.

## Executive Summary

By the end of 2005, at least 181,187 Californians had been diagnosed with HIV infection. Though the annual rate of newly reported California cases decreased between 2001 and 2005, the number of persons living with HIV/AIDS (PLWH/A) increased steadily in this period. By the end of 2005, a total of 58,235 Californians were known to be living with AIDS and 39,687 were known to be living with HIV.

The Californian HIV epidemic has had a greater impact on men than women with men representing 91.1 percent of AIDS<sup>1</sup> and 84.9 percent of HIV diagnoses reported as of 2005. However, females represented a larger proportion of HIV (14.2 percent) than AIDS (8.4 percent) diagnoses, suggesting increasing rates of HIV infection among women relative to men. Substantiating the growing impact of HIV disease on women, between 2001 and 2005, the number of males and females living with AIDS rose by approximately 18.0 and 23.0 percent, respectively.

Although HIV disease impacts people of all races and ethnicities, the racial and ethnic composition of reported cases in California has shifted since the beginning of the epidemic. Since the beginning of the epidemic, Whites have represented a decreasing proportion of California's AIDS case reports while the proportion from African Americans and Hispanics has increased. Though African Americans make up roughly 6.0 percent of the general population, they account for 17.0 percent of male and 36.0 percent of female AIDS cases reported cumulatively through 2005. Thus as of December, 2005, the rate of AIDS diagnoses among African American men was over three times the statewide average and the rate for African American women over six times the statewide average. Similarly, as of 2005, reported HIV diagnoses among African Americans were about three times that of the general population. The impact of HIV/AIDS in California's large and growing Hispanic community has also grown since the earlier days of the epidemic, though not to the disproportionate extent as has been observed in African Americans. In 2005, over one-third of new HIV and AIDS case were reported among Hispanic men and women who represented 33.0 percent of the California population in 2005.

Rates of reported HIV/AIDS cases through 2005 varied markedly by age, with the majority of first HIV/AIDS diagnoses (73.0 percent) occurring in the age group 25-44. Comparing sexes, the younger age group (25-34) contributed a larger proportion of cases in women than in men. Between 2001 and 2005 decreasing trends in diagnosis of newly reported cases were observed for all age groups and both sexes. Due to the availability of effective antiretroviral therapy and decreasing new case reports, the number of PLWH/A increased in older (35 and over) age groups, but decreased or

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<sup>1</sup> California surveillance data for 2001-2005 is substantially more reliable and complete for AIDS than HIV because AIDS has been reportable by name since 1983. HIV did not become reportable in California until 2002 (code-based only) after which a new reporting effort was launched when names-based HIV reporting was legislated in 2006. The HIV surveillance system was not mature in 2005.

remained stable in those under 35 years of age. This relationship was similar for men and women.

Male-to-male sexual contact was the most common risk reported among men with HIV disease through 2005, representing 65.1 percent of new AIDS diagnoses and 66.4 percent of HIV diagnoses reported between 2001 and 2005. Injection drug use either alone or in combination with male-to-male sexual contact was the second most commonly reported risk among men, representing 17.8 percent and 11.0 percent of AIDS and HIV cases, respectively. Injection drug use in the absence of male-to-male sexual contact was also reported more often among men with an AIDS diagnosis than men diagnosed with HIV alone (9.3 percent versus 5.5 percent, respectively). High-risk heterosexual contact, defined as heterosexual contact with a person with HIV/AIDS or an individual at high-risk of HIV infection, was the third most commonly reported risk factor among men, representing 5.8 percent of AIDS and 3.6 percent of HIV diagnoses ( $P < 0.0001$ ). Other or unreported/unidentified risk was assigned to 10.7 percent of AIDS and 18.4 percent of HIV cases in the reporting period.

In females, between 2001 and 2005, high-risk heterosexual contact, characterized by individuals who reported heterosexual contact with a partner known to have or be at risk for HIV, was the most common risk reported, representing 48.8 percent of AIDS cases and 36.9 percent of HIV cases. Injection of nonprescription drugs was the second most commonly reported risk factor representing 25.8 percent of AIDS and 17.6 percent of HIV cases. Heterosexual relations with a male partner for whom risk was unknown or unreported was the third most common risk assigned to females, representing 10.9 percent and 16.7 percent of AIDS and HIV diagnoses, respectively. The proportion of HIV and AIDS cases reported with each risk factor was significantly different for the three most common risk factors.

Examining cumulative data through 2005, the regions most impacted by HIV disease were Los Angeles County, the Greater San Francisco Bay Area, and Other Southern California. Comparing the seven California Regions by their proportionate contribution to HIV versus AIDS cases, three regions contributed a significantly larger number of HIV than AIDS cases: Los Angeles County, Other Southern California, and the San Joaquin Valley.

## **2007 Update**

The 2007 update only includes HIV/AIDS Reporting System (HARS) information as this represents the key data source informing the epidemiologic profile. This update is limited to HARS information available through December 31, 2007, as it takes approximately 12 months for case reporting information to be complete and only complete calendar years were included.

The adoption of names based HIV reporting as a replacement to the code-based HIV reporting system in April 2006 impacted HIV comparison between the 2001-2005 and 2007 data. As directed by Senate Bill 699 (Soto), HIV reporting by name replaced the

former code-based system as of April 17, 2006. As of December 31, 2008, 35,012 name-based HIV cases had been reported to OA. In comparison, 41,155 code-based HIV cases had been reported as of April 16, 2006; thus suggesting that not all HIV code-based cases had yet been captured in the named system by the end of 2008. Due to the immature HIV reporting system, comparisons between 2007 and 2005 are limited to AIDS data.

Cumulative California AIDS cases rose from 140,246 at the end of 2005 to 149,971 through 2007, an increase of 10.7 percent. At the end of 2007, males were still more likely to be infected than females, with males representing 90.7 percent of cumulative AIDS and 85.5 percent of cumulative HIV cases. Comparing the distribution of cases by race-ethnicity at the end of 2007, White/non-Hispanics represented 55.7 percent of AIDS cases and 49.3 percent of HIV cases; Hispanics represented 23.2 percent of AIDS and 27.3 percent of cumulative HIV cases and African Americans represented 17.9 percent of AIDS and 18.5 percent of HIV cases. Asian/Pacific Islanders represented 2.5 percent of AIDS cases and 3.2 percent of HIV cases through 2007 while American Indians/Alaska Natives represented 0.5 percent of both AIDS and HIV cases. It is notable that Hispanics, African Americans, and Asian/Pacific Islanders represented a greater proportion of HIV than AIDS cases while Whites represented a smaller proportion of HIV than AIDS cases, suggesting Whites continue to represent a decreasing proportion of those affected by the epidemic.

The exposure group with the highest number and proportion of cumulative AIDS and HIV cases reported through 2007 in California was White men who had sex with men (MSM). Cumulative AIDS and HIV cases reported totaled 100,593 and 21,320, respectively, among White MSM and the proportion of AIDS and HIV in this group was equal to 67.1 percent and 66.2 percent of all cases, respectively. The second most prevalent exposure category in California includes injection drug use, with 18.8 percent of cumulative HIV/AIDS cases reported among injection drug users and injection drug users who also report male-to-male sexual contact. By age group, seven out of ten (71.3 percent) cumulative HIV/AIDS cases in California were among 30-49 year olds through 2007 compared to 72 percent through 2005.

The largest numbers of cumulative AIDS cases have been reported in the most populous California counties. Through December 31, 2007, 47,621 (33.3 percent) cases were reported in Los Angeles County, followed by 27,805 (19.5 percent) in San Francisco, 13,538 (9.5 percent) in San Diego and 7,233 (5.1 percent) in Orange Counties. The highest rates of AIDS per 100,000 population were also found in the major metropolitan areas of the state (San Francisco Bay Area, Greater Los Angeles area, and the San Diego area). In addition, counties along the central coast recorded higher AIDS rates than those inland. HIV case rates were also higher in the major metropolitan areas.

## STRENGTHS AND LIMITATIONS

This report represents a synthesis of information from a number of different data sources in an effort to present a comprehensive profile. However, the data representativeness and completeness are not without limitations. This profile relies to a great extent on data from California's HIV/AIDS surveillance system and HIV Counseling and Testing (C&T) Program. Although both programs provide high-quality information from locations across the state, the data may not be representative of all Californians infected with HIV/AIDS. Not all persons infected with HIV are tested, those seeking testing may differ epidemiologically from those who do not seek testing, and individuals seek testing at different stages of infection. Further, although AIDS, a late-stage manifestation of HIV disease, has been reportable in California since 1983, reporting of HIV infection was only recently implemented by non-name code in 2002 and vigilance to the completeness of this system waned as the imminent shift to names-based reporting became clear in 2005. Therefore, case counts from routine HIV/AIDS reporting in this document provide only a minimum estimate of the HIV disease burden and, using the information available from case reporting, it is not possible to determine if unreported cases may differ epidemiologically from those reported. HIV C&T data also provide a valuable source of standardized, local level information on individuals testing for HIV and offers additional insights into HIV infection rates for high-risk populations. However, HIV C&T data only represents persons who access publicly funded HIV C&T sites (a minority of tests performed state-wide) and thus are not representative of all Californians receiving HIV counseling and testing services. Further, HIV C&T data do not represent unduplicated counts for individuals who repeatedly test.

It should also be considered that data presented in this report alone may have limited ability to inform prevention and care planning efforts for some populations at high risk for HIV. The data in this report were prepared specifically for the purpose of providing a detailed source of information that can be used to identify and prioritize California's HIV prevention and care needs. Where data were available, estimates have been broken down by geographic location and demographic categories to help identify disparities. Where possible, results from behavioral and epidemiologic studies are also presented to provide a more in-depth portrayal of HIV risk and impact. However, the data did not permit evaluation related to some key groups of interest. For example, information on all gender categories (male, female, male-to-female transgender, and female-to-male transgender) was either unavailable or incomplete in many of the data sets. As a result, the majority of tabulations on gender exclude the transgendered population.

Other important information sources that could illuminate aspects of the HIV epidemic, including data from HIV incidence surveillance, were not yet available when this report was developed. Further, changes in the manner in which race and ethnicity were reported in response to Office of Management and Budget Guidelines<sup>2</sup> make trend

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<sup>2</sup> Executive Office of the President, Office of Management and Budget, Office of Information and Regulatory Affairs. Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity. October 1997. Available at: [www.whitehouse.gov/omb/fedreg/1997standards.html](http://www.whitehouse.gov/omb/fedreg/1997standards.html).

analysis difficult as it would require comparisons of data collected under more than one racial/ethnic classification system.

In an effort to aid in regional planning efforts, some regional or county-level data are presented in this report. The distribution of HIV disease is not uniform across jurisdictions, however, and data were not released for small area estimates due to confidentiality concerns. Therefore, readers seeking more detailed information about specific jurisdictions may wish to contact the appropriate local HIV/AIDS programs or OA. OA, as part of its mission, responds to data requests by other government entities, stakeholders, and the general public. These may be submitted to OA by completing the HIV/AIDS surveillance data request form ([www.cdph.ca.gov/pubsforms/forms/CtrlldForms/cdph8532.pdf](http://www.cdph.ca.gov/pubsforms/forms/CtrlldForms/cdph8532.pdf)) to the fax number indicated on the form. Those without Internet access may also call OA at (916) 449-5866 to request data. Additional key strengths and limitations are discussed in more detail in the description of data sources in the Introduction section.



# Integrated Epidemiologic Profile of HIV/AIDS in California, 2001-2005

## Introduction

The Integrated Epidemiologic Profile of HIV/AIDS in California, 2001-2005 with 2007 update, provides a detailed description of the current HIV/AIDS epidemic within various populations in the state. The purpose of this report is to provide a summary of quantitative data sources that can be used to identify and prioritize California's HIV prevention and care needs. This report presents a description of the general population of California, estimates and trends of people living with HIV disease in the state by demographic and transmission groups, populations at risk for HIV infection, and statewide HIV care and utilization patterns.

This report was prepared using guidelines developed by the Centers for Disease Control and Prevention (CDC) and the Health Resources and Services Administration (HRSA), which provide a framework for organizing HIV Epidemiologic Profiles built around a set of epidemiologic and Care Act questions. This document has been organized into four sections accordingly, with each designed to answer one of four core questions:

- 1. What are the characteristics of the general population?** This section of the profile describes the demographic and socioeconomic characteristics of California's population.
- 2. What is the scope of the HIV/AIDS epidemic?** This section of the profile provides an examination of the extent and effect of the HIV epidemic in broad population groups in California and a closer examination of the impact of HIV disease on populations most heavily impacted by the epidemic.
- 3. What are the indicators of HIV infection risk?** This section of the profile examines data on risk behaviors from two perspectives: a) factors that affect the risk of HIV infection among HIV-negative persons; and b) factors that affect risk of transmitting HIV infection among HIV-positive persons.
- 4. What are the utilization patterns of care and/or services within the HIV/AIDS-infected population?** This section of the profile describes patterns of the Care Act, Part B (formerly called Title II) service utilization and unmet needs of HIV-infected persons in California.

## KEY DATA SOURCES

California uses an integrated approach to monitor the HIV epidemic. This allows a more comprehensive understanding of the effect of HIV disease on specific populations in California and a more informative profile of those at risk for HIV infection. This approach utilizes national- and state-level data sources designed to collect general (demographic, income, etc.) and HIV-specific information.

To answer the core epidemiologic and Care Act questions, each chapter of the HIV Epidemiologic Profile relies on information from a variety of existing data sources. The following is a brief description of data sources and information used for this profile.

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**Data sources used for the California Epidemiologic Profile and characteristics of these sources.**

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<b>Data Source</b>	<b>Pop<sup>1</sup></b>	<b>State Prog<sup>2</sup></b>	<b>National Pop<sup>1</sup> only</b>
AIDS Drug Assistance Program (ADAP)		X	
California Behavioral Risk Factor Surveillance System (BRFSS)	X		
California 2000 HIV/AIDS Knowledge, Attitudes, Beliefs, and Behaviors (KABB) Survey	X		
California Health Interview Survey (CHIS) Men Who Have Sex with Men (MSM) Follow-up Study	X		
California HIV Unmet Need Estimates		X	
California Women's Health Survey (CWHS)	X		
CARE Act Data Report (CADR)		X	
Current Population Survey (CPS), 2006			X
HIV C&T Data		X	
HIV/AIDS Reporting System (HARS)		X	
Injection Drug Users (IDUs)-Secondary Syringe Exchange (SSE) High-Risk Initiative		X	
Revised Sentinel Surveillance Project 2000-2003	X		
California Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000-2005	X		
STD Surveillance		X	
STD Prevalence Monitoring		X	
TB Surveillance		X	
Treatment Episode Data Set (TEDS) System		X	

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<sup>1</sup>Pop. = Population-based survey

<sup>2</sup>Prog. = Program data

## **1. Core HIV/AIDS Surveillance**

### *HIV/AIDS Reporting System (HARS)*

AIDS and HIV are reportable diseases in all U.S. states and territories. HIV/AIDS surveillance in clinical settings that involves the reporting of confidential HIV tests and AIDS diagnoses is sometimes called “core” or “case” surveillance. HARS is a public health surveillance system through which HIV and AIDS cases are reported from local health care providers and laboratories. HIV infections and AIDS diagnoses are reported to local health departments (LHDs) through a combination of passive and active surveillance. Passive surveillance is conducted through State-required reporting of HIV

and AIDS cases by health care providers and reporting of HIV-positive test results from laboratories to LHDs. Active surveillance is accomplished through routine visits to hospitals, physician offices, laboratories, HIV C&T sites, and outpatient clinics to ensure completeness, timeliness, and accuracy of reported data. In California, HIV/AIDS surveillance has traditionally relied upon active case surveillance, through onsite chart reviews and case report completion by local surveillance staff at the health care provider's office.

- **Key Strengths:** HARS is the only source of population-based AIDS information available in all U.S. states. Standardized reporting of demographic, risk, clinical, and laboratory information for AIDS cases has provided uniform trend and distribution data since 1983. In California, laboratory-based reporting of HIV fosters timely access to information necessary to measure the burden of disease and support prevention planning efforts. With the implementation of HIV reporting, California has data that is representative of more recent HIV infections, which can be used to identify emerging patterns of disease.
- **Key Limitations:** Not all persons infected with HIV are tested and people test at different stages of infection. Information from a health care provider is necessary to complete all HIV and AIDS case reports. Therefore, HARS cases are only representative of persons who have sought or received care in a clinical or other confidential diagnostic setting. HARS data are not representative of individuals testing at anonymous testing sites. While AIDS has been reportable in California since 1983, HIV infection has only been reportable since 2002. In 2002, California implemented HIV reporting by non-name code. The HIV name-based reporting system was established in April 2006. HIV case counts and statistics provided in this profile represent the code-based HIV cases reported through March 2006. Implementation of HIV reporting in 2002 resulted in an increase in prevalent AIDS reporting. Therefore, California AIDS data do not meet the stability of reporting assumption required for statistical adjustment for reporting delay; estimated HIV/AIDS incidence and prevalence estimates in this report are based on actual case counts. As a result, AIDS data presented in this report may not include persons diagnosed, but not yet reported to the HIV/AIDS Surveillance and AIDS incidence for more recent years may be underestimated. These numbers, therefore, represent a minimum estimate of persons diagnosed and living with HIV/AIDS in California. Further, changes in race/ethnicity reporting implemented in 2003 in response to Office of Management and Budget Guidelines make trend analysis difficult due to the need to compare data collected under more than one racial/ethnic classification system. Moreover, the expansion of Hispanic ethnicity to include persons of any race and the addition of the multiple race category limit the ability to compare data from differing time periods.
- **For more information:** CDC. "HIV/AIDS Statistics and Surveillance." Available at: [www.cdc.gov/hiv/topics/surveillance/index.htm](http://www.cdc.gov/hiv/topics/surveillance/index.htm).

## **2. Supplemental HIV/AIDS Surveillance Projects**

### *Revised Sentinel Surveillance Project 2000-2003*

The HIV Family of Surveys (HFS), a serologic surveillance system, was originally developed by CDC to estimate the prevalence of HIV in the United States. HFS involves the collection of HIV seroprevalence data by unlinked (anonymous) surveys from selected population subgroups. Between 1988 and 1996, OA participated in CDC-funded HFS activities; between 1997 and 2003, sentinel seroprevalence activities were funded by OA.

The objectives of HIV seroprevalence surveys are to: 1) establish baseline HIV seroprevalence; and 2) monitor HIV trends in known high-risk individuals and their partners. From 2000 to 2003, STD clinics in nine LHDs (Fresno, Kern, Sacramento, San Bernardino, San Diego, San Joaquin, and Santa Clara Counties, and the Cities of Long Beach and Berkeley) conducted the unlinked surveys. The serosurvey used unlinked (blinded) serum samples. Samples were gathered from discarded blood originally collected from consecutive eligible clients for routine diagnostic purposes and tested for HIV antibodies after all personally identifying information had been removed.

- Key Strengths: HIV seroprevalence estimates provide local information that can be used to monitor HIV rates and guide prevention and planning efforts.
- Key Limitations: Seroprevalence surveys in STD clinics are not representative of the entire population. The seroprevalence data are representative only of persons seeking testing for STDs in public health departments and are not generalizable to people receiving services through a private provider or people who do not seek STD testing.
- For more information: He, S. California HIV Seroprevalence Annual Report 2002. OA. 2004.

## **3. Behavioral Surveys**

### *California BRFSS*

BRFSS is a random digit dialed (RDD) telephone survey conducted by CDPH in conjunction with CDC and the Public Health Institute to assess the prevalence of and trends in health-related behaviors in the California population age 18 years and older.

Each year, roughly 4,000 persons in California age 18-64 years of age are asked about a wide variety of behaviors such as seat belt use, exercise, weight control, diet, tobacco and alcohol consumption, and utilization of cancer screening procedures. Demographic information collected includes age, race/ethnicity, marital and employment status, household income, and education. Beginning in 1994, adults between 18 and 64 years old are also asked questions specific to HIV/AIDS.

- **Key Strengths:** The population surveyed includes U.S. residents 18 years of age or older who live in households. The sample used for BRFSS is large and standardized methods allow for state-to-state and national comparisons. Population-based data also make it possible to generalize findings to the adult population of each state.
- **Key Limitations:** One limitation is reliance on self-reporting and the potential for response bias. BRFSS data are also only generalizable to households with a telephone with post-stratification weights used to correct for bias created by non-telephone coverage.
- **For more information:** CDC. 2005 BRFSS Overview. Available at URL: [www.cdc.gov/brfss/technical\\_infodata/surveydata/2005/overview\\_05.rtf](http://www.cdc.gov/brfss/technical_infodata/surveydata/2005/overview_05.rtf).

### *California 2000 HIV/AIDS KABB Survey*

The California 2000 HIV/AIDS KABB Survey was conducted by the University of California, Berkeley, Center for Family and Community Health for OA to measure KABBs regarding HIV and AIDS among California adults in 2000. Though this survey was completed prior to 2001-2005, it is included in this profile because it provides population-based measures of sexual risk behaviors known to be associated with HIV infection.

Data were collected via a RDD telephone survey of California households. Surveys were conducted in both English and Spanish and survey respondents included only individuals age 18 or older. Findings reflect data collected between April and June 2000. A total of 1,739 adults were interviewed and respondents were asked to answer approximately 70 questions concerning: 1) HIV risk factors and related behaviors; 2) personal experience with HIV testing; 3) knowledge, attitudes, and beliefs; and 4) opinions regarding public policies. Sociodemographic information included age, sex, race/ethnicity, education status, employment, income, and sexual preference.

- **Key Strengths:** The KABB Survey provides a unique source of information on HIV risk and risk-related behaviors for a representative sample of adults with phones.
- **Key Limitations:** One limitation is reliance on self-reporting and the potential for response bias. The KABB Survey also includes several sensitive questions, which may result in underreporting of certain behaviors. Because KABB data were collected through a phone survey, they are also only generalizable to households with a telephone. Finally, the data were collected in 2000 and may be less representative of current KABBs.
- **For more information:** Moskowitz, J.M., Henneman, T.A., Young Holt, B. California 2000 HIV/AIDS KABB Survey: Methods and Results. Berkeley, California: University of California, Berkeley; 2002. Available at: [http://cfch.berkeley.edu/reports/KABBTech\\_Nov12.pdf](http://cfch.berkeley.edu/reports/KABBTech_Nov12.pdf).

### *CHIS MSM Follow-up Study*

The CHIS MSM Follow-up Study, conducted from May 5 through June 23, 2002, was a follow-up study to the 2001 CHIS. Men age 18-64 years who self-identified as gay or bisexual in CHIS 2001 were re-contacted and interviewed by telephone in 2002. With a computer-assisted telephone interviewing program, men were interviewed in English or Spanish for 30-45 minutes about their demographic characteristics, sexual behaviors, HIV testing history, and HIV infection status. Respondents who completed the interview and self-reported as HIV negative or of unknown HIV status were asked to take an HIV test.

- **Key Strengths:** CHIS provides a unique source of information on HIV risk and risk-related behaviors among men who identify as gay or bisexual.
- **Key Limitations:** One limitation is reliance on self-reporting and the potential for response bias. The CHIS MSM Follow-up Study also includes a number of sensitive questions, which could cause underreporting of certain behaviors. Because the CHIS MSM Follow-up Study data were collected through a phone survey, they are also only generalizable to households with a telephone. The data were collected mid-June 2002 and may be less representative of current KABBs.
- **For more information:** Xia, Q., Osmond, D., Tholandi, M., Pollack, L., Zhou, W., Ruiz, J., and Catania, J. HIV Prevalence and Sexual Risk Behaviors Among MSM Results from a Statewide Population-Based Survey in California. *JAIDS*. 2006; 41(2): 238-245.

### *CWHS*

CWHS, coordinated by CDPH's Office of Women's Health, is a collaborative effort between CDPH; the California Departments of Mental Health, Alcohol and Drug Programs, and Social Services; and the private partners, California Medical Review, Inc. (a.k.a., Lumetra), and the Public Health Institute. CWHS is an annual household-based telephone survey, conducted in English and Spanish that collects information from a sample of randomly selected women, 18 years of age and older. The survey includes core demographic questions and specific program questions. The survey includes questions about tobacco use, alcohol use, dietary supplement use, sexual behavior, utilization of STD/HIV and family planning services, folic acid awareness, body weight, nutrition and physical activity, disability, osteoporosis, domestic violence, post-traumatic stress disorder, mental health, and screening for breast cancer.

- **Key Strengths:** CWHS provides a unique source of population-based information on a variety of health indicators, including HIV risk behaviors, for women within California that can be used to measure the general health status of the state.
- **Key Limitations:** One limitation is reliance on self-reporting and the potential for response bias. CWHS also includes several sensitive questions, which could cause in underreporting of certain behaviors. Because CWHS data were collected through a phone survey, they are also only generalizable to households with a telephone.

- For more information: CDPH's Office of Women's Health at: [www.cdph.ca.gov/data/surveys/Pages/CWHS.aspx](http://www.cdph.ca.gov/data/surveys/Pages/CWHS.aspx).

#### **4. Tuberculosis (TB) and Sexually Transmitted Disease (STD) Surveillance**

##### **TB Surveillance**

CDPH's TB Control Branch conducts statewide surveillance to determine TB incidence, to evaluate demographic and geographic variation in TB incidence, and to monitor trends. TB/HIV co-infection is routinely assessed by CDPH by matching TB and HIV surveillance data.

- Key Strengths: TB data are widely available at the state and local levels.
- Key Limitations:

##### **STD Surveillance**

CDPH's STD Control Branch conducts statewide surveillance to determine STD incidence, to evaluate demographic and geographic variation in STD incidence, and to monitor trends. It also conducts partner counseling and makes referrals for examination and treatment in order to reduce the spread of STDs. In California, chlamydia, gonorrhea, syphilis, chancroids, and associated clinical syndromes, including pelvic inflammatory disease and non-gonococcal urethritis are reportable STDs.

- Key Strengths: STD data are widely available at the state and local levels. STD surveillance data can serve as a surrogate marker for high-risk sexual practices and are associated with the prevalence of and changes in a specific HIV risk behavior. In particular, because of short incubation times between infection and symptomatic disease, STDs can serve as a marker of recent unsafe sexual behavior; changes in STD trends may indicate changes in community sexual norms, such as unprotected sex.
- Key Limitations: Chlamydia and gonorrhea incidence, based on reported cases, underestimate the true incidence due to incomplete screening coverage of at-risk populations, underreporting of infections by medical and laboratory providers, and presumptively treated infections that are not confirmed by testing. Although STD risk behaviors result from unsafe sexual behavior, they do not necessarily correlate with HIV risk. In addition, differences in case-based rates between females and males are difficult to interpret due to differences in opportunity for detection. Females of reproductive age access STD-related health care services more often than males of the same age through routine Pap smear screening, family planning services, and other services. Further, there are well developed guidelines encouraging annual chlamydia (and gonorrhea) screening for females 25 years of

age or younger, but no such comprehensive guideline for males. Therefore, asymptomatic females are much more likely than asymptomatic males to be screened and reported as cases.

### *STD Prevalence Monitoring*

Because STDs are often asymptomatic and because not all STDs seen in clinical settings are reported, a screening-based prevalence monitoring project is used to augment routine STD surveillance in California. This system assesses the prevalence or “positivity” of chlamydia and gonorrhea among women screened for STDs at selected venues including family planning clinics, juvenile detention facilities, managed care settings, STD clinics, and others. Men are often seen only for symptomatic disease at these venues. Therefore, only the data for women is considered meaningful for estimates of prevalence.

CDC began funding prevalence monitoring projects in Region IX (California, Nevada, Arizona, Hawaii, and six U.S. Pacific Trust Territories) in 1995. The chlamydia prevalence data for California comes from three project areas: San Francisco, Los Angeles, and the California Project Area, which includes the remaining local health jurisdictions in California. Since 1999, KPNC has participated in electronic transmissions of data to CDPH as part of the Public Health Improvement Project. Through a data transmission protocol that removes patient identity, KPNC provides the chlamydia and gonorrhea testing data for all patients tested each year.

- **Key Strengths:** Prevalence monitoring allows assessment of chlamydia and gonorrhea prevalence among women in health care and other settings with defined screening protocols, consistent collection of data and evaluation of the impact of targeted prevention efforts over time. Data on chlamydia and gonorrhea testing comes from a standardized data collection form used in all participating sites, which allows for comparisons between jurisdictions.
- **Key Limitations:** Data from prevalence monitoring activities come from a convenience sample of selected venues serving diverse populations throughout the state and are subject to selection bias. Prevalence monitoring data is limited to those sites participating in the prevalence monitoring project and may not be representative of all geographic regions of the state. Only the data for women is considered meaningful for estimates of prevalence.
- **For more information:** CDPH, Center for Infectious Diseases, Division for the Control of Communicable Diseases, STD Control Branch. Available at URL: [www.cdph.ca.gov/HealthInfo/discond/Pages/SexuallyTransmittedDiseases.aspx](http://www.cdph.ca.gov/HealthInfo/discond/Pages/SexuallyTransmittedDiseases.aspx).

## **5. HIV Counseling and Testing Data**

The HIV counseling and testing (C&T) Program provides HIV testing to clients, often with integrated prevention counseling. All states, territories, and selected cities receive funding to support HIV counseling, testing, and referral programs as part of HIV



prevention cooperative agreements with CDC. Standardized data on clients who are tested for HIV are available at the local level and data may offer insights into HIV infection rates for a high-risk population in that area. In California, HIV C&T services are provided by 59 of 61 local health jurisdictions and their subcontractors at both anonymous and confidential HIV C&T sites. Data from HIV counseling, testing, and referral programs include information on client demographics as well as HIV C&T data (e.g., self-reported testing history and test result). Examples of behavioral data collected by HIV C&T sites include:

- Male-to-male sexual contact;
  - Heterosexual relations with a male who has sex with other males;
  - Injection drug use; and
  - Sex industry work.
- **Key Strengths:** HIV C&T programs provide standardized data on clients who seek free HIV testing in sites throughout the state. At sites where client-based estimates are used, HIV positivity offers one estimate of HIV prevalence within certain high-risk populations. HIV C&T Program data also provides information on risk behaviors, such as sex industry work, not routinely collected in HARS.
  - **Key Limitations:** HIV C&T collects information only from clients who seek HIV C&T services at an OA-funded site. Therefore, HIV C&T data only represents persons who consider themselves at risk for HIV and persons willing to take an HIV test and do so at a publicly funded site; thus they are not representative of the general population. Another limitation of HIV C&T data is that it is not possible to distinguish persons who have been tested multiple times. Estimates of new HIV-positive tests are derived from self-reporting of a previous HIV-positive test result, which could introduce response bias in the testing history data. Population estimation of HIV seroprevalence is not possible at sites where HIV C&T data are test based. Because C&T gathers data on prevention activities, changes should be interpreted with caution as they may reflect changes in program priorities rather than testing patterns of individuals.
  - **For more information:** OA's HIV C&T Program. Local Evaluation Online (LEO) – HIV C&T Guidance Documents. Available at: [www.cdph.ca.gov/programs/AIDS/Pages/OALEOCTDocs.aspx](http://www.cdph.ca.gov/programs/AIDS/Pages/OALEOCTDocs.aspx).

## **6. Substance Abuse Data**

### *IDUs- SSE High-Risk Initiative*

Syringe exchange programs (SEPs) and pharmacies are designed to facilitate access to sterile syringes and ancillary health services in California for IDUs. Limited hours of service, inadequate geographic coverage, and concerns about community stigma deter many IDUs from using SEPs and pharmacies. Secondary syringe exchange (SSE) is used to describe situations where one IDU obtains syringes at a SEP and then distributes the clean syringes to other IDUs. In 2004, a peer-based HIV prevention

intervention was initiated with SSEs in five California counties (Humboldt, Mendocino, Alameda, Santa Cruz, and Los Angeles). The SSE program makes it possible for IDUs who do not visit SEP sites to receive sterile syringes, prevention materials, health education, and referrals to health care services through their peers. SSEs are recruited, surveyed on risk behaviors and prevention efforts with IDUs, and trained to improve their role as peer educators within the injection drug using community.

- Key Strengths: SSE data provide unique information about risk behaviors and prevention efforts with IDUs living in California.
- Key Limitations: This data only reflects IDUs who have access to and who choose to participate in SEPs. Survey data that relies on self-reporting is subject to bias and sensitive questions may result in underreporting of some behaviors.
- For more information: Stopka, T., Berman-Lees, N., Irwin, K., Ross, A., Truax, S. Peer-Based HIV Prevention among IDUs and Satellite Syringe Exchangers in California. Presented at the National HIV/AIDS Update Conference, Oakland, California. April 11, 2005.

#### Treatment Episode Data Set (TEDS) System

The TEDS system collects data on the demographic and substance abuse characteristics of roughly 1.5 million annual admissions to publicly funded substance abuse treatment centers. TEDS is maintained by the Office of Applied Studies, Substance Abuse, and Mental Health Services Administration (SAMSHA). TEDS data are routinely collected by states that receive state alcohol and/or drug agency funds (including Federal Block Grant Funds) used to provide substance abuse treatment.

- Key Strengths: TEDS data provides a unique source of detailed information about drug use within broad population groups in California that can be used to guide prevention efforts. The admission data reflect the impact of substance abuse treatment on public resources.
- Key Limitations: One limitation of TEDS data is they only represent persons served in publicly funded centers and are not generalizable to the total population that may be impacted by substance abuse. Depending on the state-determined licensure, certification, accreditation, and disbursement of public funds for substance abuse treatment, some facilities are not included in TEDS. TEDS data do not reflect admissions to private for-profit agencies, hospitals, or correctional facilities that are not licensed through the California Department of Alcohol and Drug Programs (ADP). TEDS data are based on records of admissions and not unduplicated client counts. As TEDS does not follow clients through treatment episodes, TEDS does not fully reflect the substance abuse treatment burden.
- For more information: U.S. Office of Applied Studies, SAMHSA. TEDS State Instruction Manual. November 2005. Available from URL: [www.dasis.samhsa.gov/dasis2/manuals/teds\\_adm\\_manual.pdf](http://www.dasis.samhsa.gov/dasis2/manuals/teds_adm_manual.pdf).

## 7. Vital Statistics Data

### *Vital Statistics of California*

In the United States, State laws require that birth certificates be completed for all births, and Federal law mandates the national collection and publication of births and other vital statistics data. The National Vital Statistics System is the federal compilation of the data, coordinated by the National Center for Health Statistics (NCHS). States use a standard form (U.S. Standard Certificate of Live Birth) to collect birth data and report this information to NCHS annually. As of 2003, states adopted a revised standard form. The new form collects demographic information about the newborn, the mother, and the father; insurance; prenatal care; prenatal risk factors; maternal morbidity; mode of delivery; pregnancy history; and clinical characteristics of the newborn. States have the option of collecting additional information on their birth certificates; some states have elected to include information on HIV testing though California is not one of these.

- **Key Strengths:** Vital statistics provide detailed information on births and deaths over a number of years that can be used to target prevention resources. Standardized reporting also makes comparisons possible across jurisdictions. Reporting is approximately 100.0 percent complete as vital records capture nearly all births and deaths that occur within a geographic area. The revised birth certificate collects rich information on a variety of health indicators including the mother's insurance, smoking, and morbidity information that may be useful for focusing prevention resources.
- **Key Limitations:** Changes in race/ethnicity reporting over time may make trend analysis difficult due to the need to compare data collected under more than one racial/ethnic classification system. Moreover, the expansion of Hispanic ethnicity to include persons of any race and the addition of the multi-race category limit the ability to compare vital records data from differing time periods. Finally, the lack of HIV data on the California birth certificate limits its use as a tool for HIV epidemiology.
- **For more information:** CDPH, Office of Vital Records. Vital Statistics of California 2004. Available at URL: [www.cdph.ca.gov/pubsforms/Pubs/OHIRvsofca2004.pdf](http://www.cdph.ca.gov/pubsforms/Pubs/OHIRvsofca2004.pdf).

## 8. Population Data

### *Current Population Survey (CPS) 2006*

CPS is sponsored jointly by the U.S. Census Bureau and the Bureau of Labor Statistics under the authorities of Title 13, United States Code, Section 182, and Title 29, United States Code, Sections 1-9. The purpose of CPS is to provide annual estimates of employment, income, migration, and other characteristics of the general labor force and population as a whole. Independent samples for states within the United States are based on the 1990 decennial census. The total sample size is roughly 72,000

households per month located in 754 primary sampling units. Household respondents must be 15 years old or older and be able to provide information on each household member.

- **Key Strengths:** The sample used for CPS is large and standardized methods allow for state-to-state and national comparisons. Population-based data also make it possible to generalize findings to the population of each state.
- **Key Limitations:** CPS data are obtained through a combination of computer-assisted personal interviewing and computer-assisted telephone interviewing. Reliance on self-reporting could make the information subject to bias. Data are only generalizable to households with a phone. Changes in race/ethnicity reporting implemented in the 2000 census make trend analysis difficult due to the need compare data collected under more than one racial/ethnic classification system. Moreover, the expansion of Hispanic ethnicity to include persons of any race and the addition of the multiple race category limit the ability to compare data from differing time periods.
- **For more information:** U.S. Census Bureau. CPS Design and Methodology Technical Paper 66. October 2006. Available at: [www.census.gov/prod/2006pubs/tp-66.pdf](http://www.census.gov/prod/2006pubs/tp-66.pdf).

*California Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000-2005*

The Demographic Research Unit within the California Department of Finance serves as the single official source of demographic data for California planning and budgeting. Using U.S. census estimates as a baseline, the Demographic Research Unit calculates county and state-level projected population estimates for 50 years into the future. Data tables for the Race/Ethnic Population with Age and Sex Detail, 2000-2005, contain the estimated population by sex (male/female), age (year), and race/ethnicity for each year.

County and state-level population estimates are projected from census counts from the most recent decennial census. Intercensal counts are derived from data from a number of different sources including school enrollment, tax return data, legal immigration, California prison population, and the driver's license files maintained by the California Department of Motor Vehicles.

- **Key Strengths:** As census estimates are released by the U.S. Census Bureau only every ten years, the intercensal estimates prepared by the California Department of Finance provide timely access to detailed demographic data that can be used to calculate disease rates at the county level.
- **Key Limitations:** One limitation is the dependence on accuracy and completeness of multiple information sources, like the California Department of Motor Vehicle data on change-of-address, which is subject to underreporting and reporting delays. Migration of people who do not hold drivers licenses, for example, would not be captured and included in estimation.
- **For more information:** The Demographic Research Unit of the California Department of Finance at: [www.dof.ca.gov/Research/Research.php](http://www.dof.ca.gov/Research/Research.php).

## 9. Care Services Data

### *AIDS Drug Assistance Program (ADAP)*

ADAPs are authorized under Part B (formerly called Title II) of the Federal Care Act to provide access to HIV/AIDS treatments to low-income, uninsured, and under-insured PLWH/A. The goal of ADAP is to make drug treatments available, in an effective and timely manner, to PLWH to increase their duration and quality of life.

Participation in ADAP is open to low-income, uninsured or under-insured HIV-infected California residents. To be eligible for ADAP, clients must be:

- HIV infected;
- California residents;
- Eighteen years of age or older; and
- Have an annual federal adjusted gross income (FAGI) below \$50,000 per year.

A co-payment is required of anyone whose annual FAGI is between 400 percent of federal poverty level (FPL) and \$50,000. People with an annual FAGI below 400 percent of FPL receive ADAP drugs at no cost.

- Key Strengths: Data collected under ADAP includes prescription information (national drug code, units dispensed, drug cost), client demographic characteristics (gender, age, income), health status, insurance status, and a description of HIV primary care sites and prescribing physicians.
- Key Limitations: ADAP data represent persons who receive drug therapies through ADAP and do not represent PLWH/A that may receive medications through private insurance plans or public sources of coverage such as Medi-Cal (California's Medicaid program) or Medicare.
- U.S. Department of Health and Human Services, HRSA. HIV/AIDS Programs: Helping People with HIV/AIDS Live Longer and Better. Available at URL: <http://hab.hrsa.gov/tools/title1>.

### *California HIV Unmet Need Framework*

HRSA's HIV/AIDS Bureau (HAB) defines "unmet need" as the "the need for HIV-related health services by individuals with HIV who are aware of their HIV status, but are not receiving regular primary health care" (Kahn, Jannney, and Franks, 2003). Primary medical care is defined as "the receipt of a viral load test, a CD4 count, or antiretroviral therapy during a one-year time period."

The Unmet Need Framework was developed by the University of California, San Francisco. This framework utilizes statewide and locally available data on the number of PLWH/A and care patterns to determine the number of individuals with unmet need

and provides a valuable source of information that can assist programs in determining the needs of persons who know their HIV status but are not receiving primary medical care. Clients not receiving care – or those with an unmet HIV medical need – are derived by subtracting client care data from PLWH/A population data. The size of the population living with known HIV/AIDS is based on AIDS and HIV reporting. Care pattern data came from a number of data sources: Medi-Cal, ADAP, HARS, Veteran's Affairs, and Kaiser Permanente Northern California (KPNC).

Some limitations of the unmet need framework are of note. The ratio of persons with met needs to the number of PLWH/A should be interpreted as a maximum estimate of unmet need, primarily because the analysis does not include the majority of HIV medical services received by PLWH/A with private insurance (except for KPNC patients). Further, because the estimates rely on HARS data, changes in race/ethnicity reporting make trend analysis difficult due to the need to compare data collected under more than one racial/ethnic classification system. Finally, the expansion of Hispanic ethnicity to include persons of any race and the addition of the multiple race category limit the ability to compare data from differing time periods.

For more information: Kahn, J., Janney, J., Franks, P. A Practical Guide to Measuring Unmet Need for HIV-related Primary Medical Care: Using the Unmet Need Framework. Institute for Health Policy Studies, University of California, San Francisco. May 2003. Available at: <ftp://ftp.hrsa.gov/hab/unmetneedpracticalguide.pdf>.

### *Care Act Data Report (CADR)*

Each agency funded through Parts A-D (formerly Titles I-IV) of the Care Act must submit an annual report on the clients and services provided. CADR is an annual data report form used to collect information from grantees and service providers funded under Parts A, B, C, or D of the Care Act. CADR includes general information on provider and program characteristics, including the types of organizations providing services (such as ownership status), sources of revenue and expenditures, and paid and volunteer staff. CADR data include demographic information (e.g., gender, race, age, HIV exposure category) on total numbers of clients served by each provider, health insurance coverage and utilization data about medical and support services.

- **Key Strengths:** CADR is the only source of Care Act data available in all states and eligible metropolitan areas (EMAs). These data provide the only demographic information and service utilization data on all Care Act clients that can be compared across states and EMAs.
- **Key Limitations:** CADR aggregate data do not represent unduplicated client information unless a grantee has access to unduplicated data from an entire EMA or state. Therefore, CADR is a summary report by providers who provide unduplicated client counts by agency. CADR data cannot be generalized to HIV-infected individuals as the data only reflect individuals who know their HIV status, are not receiving services under a private insurance plan or Medi-Cal, and are financially eligible to receive Care Act services.

- For more information: HRSA. Reporting Requirements (Chapter 3) in Tools for Grantees: Ryan White CARE Act Title I Manual - 2003 Version. Available at: <http://hab.hrsa.gov/tools/title1/t1SecIIIChap3.htm>.



## **QUESTION 1. WHAT ARE THE SOCIODEMOGRAPHIC CHARACTERISTICS OF THE GENERAL POPULATION OF CALIFORNIA?**

California's high HIV/AIDS morbidity, population size and diversity, expansive geography, and 61 LHDs make meeting the demand for timely, integrated information about the HIV/AIDS epidemic one of the state's most challenging and immediate concerns. This first chapter describes California's population characteristics in 2005, an essential context for HIV prevention planning. Unless otherwise stated, California population estimates were obtained from the California Department of Finance, Demographic Research Unit.

### **SUMMARY**

**Population:** In 2005, the California population was estimated to be 36,957,436. County populations ranged widely from as low as 1,307 persons in Alpine County to 10,216,326 in Los Angeles County. In addition to being the most populous state in the country, California has one of the fastest growing populations. According to 2000 U.S. Census Bureau estimates, California accounted for approximately 12.0 percent of the U.S. population and in 2005, California's annual population growth was among the largest in the country. Moreover, 7 of the nation's 25 fastest growing cities in 2005 were in California (Lancaster, Bakersfield, Visalia, Irvine, Fontana, Elk Grove, and Palmdale). While population density varies by county, overall California has more people per square mile than the national average (220 versus 78 persons per square mile).

California's population is mainly urban, with less than 5.0 percent of residents living in rural areas. California has 25 Metropolitan Statistical Areas, defined by the U.S. Census Bureau as regions clustered around an urban center with a minimum population of 50,000. Three Combined Statistical Areas (CSA), adjacent urban and suburban areas with populations above one million, are contained within the state (Los Angeles-Long Beach-Riverside, San Jose-San Francisco-Oakland, and Fresno-Madera). California shares another CSA with Nevada (Sacramento-Arden and Arcade-Truckee).

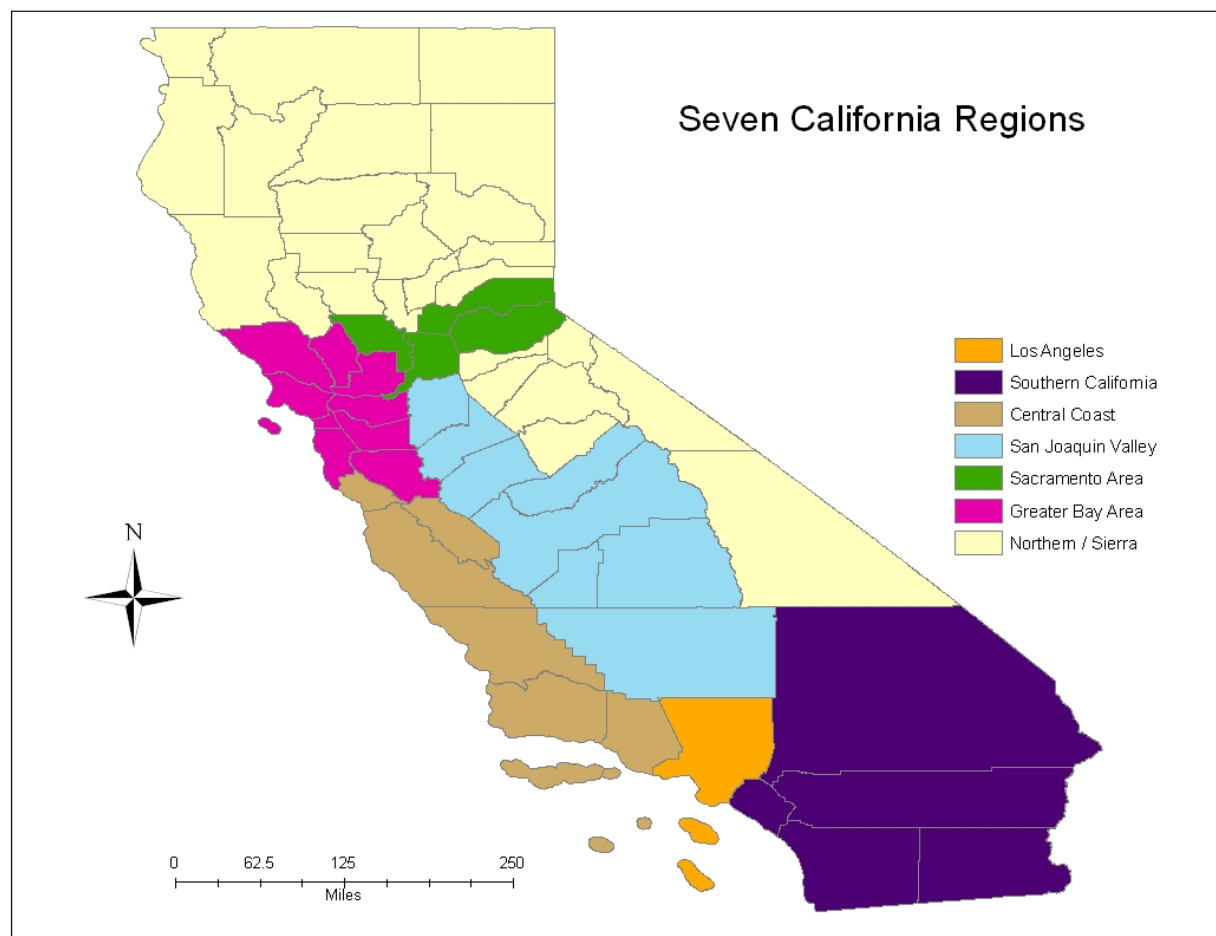
**Demographic Composition:** In 2005, the estimated median age in California was 34.4 years, slightly lower than the U.S. median age of 36.4 years. According to most recent population estimates, over one-third (36.8 percent) of Californians are younger than 24 years of age. In 2005, the racial/ethnic composition of the state was estimated to be approximately 44.0 percent White, 35.0 percent Hispanic, 6.0 percent African American, 12.0 percent Asian, and 2.0 percent Multi-racial. Native Americans and Pacific Islanders accounted for less than 1.0 percent of the statewide population. California has roughly equal numbers of males and females.

**Regional Structure:** The state of California is comprised of 58 counties and 477 cities, which are commonly divided into seven distinct geographic regions for the evaluation of health data. Information in this report has been divided using the regional structure



defined by the University of California, Los Angeles (UCLA), Center for Health Policy Research, California Health (Figure 1).

**Figure 1. Map of Seven California Regions**



Source: CDPH/OA.

- Northern/Sierra Counties: Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, Glenn, Humboldt, Inyo, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Nevada, Plumas, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Tuolumne, and Yuba.
- Greater Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma.
- Sacramento Area: El Dorado, Placer, Sacramento, and Yolo.
- San Joaquin Valley: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare.
- Central Coast: Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, and Ventura.
- Los Angeles: Los Angeles.
- Other Southern California: San Bernardino, Orange, Riverside, San Diego, and Imperial.

## CALIFORNIA DEMOGRAPHICS

This section presents broad demographic information for the state of California. Population characteristics presented include region of residence, age, sex, and race/ethnicity.

Regional populations within California range widely from approximately 1 to 10 million. Table 1 provides a summary of the total population for each of the seven regions described in this profile.

**Table 1. Population Totals and Median Age for Seven California Regions, 2005**

California Region	Total Population	Median Age	Pct.
Northern/Sierra Counties	1,404,164	39	3.8
Greater Bay Area	7,087,305	37	19.2
Sacramento Area	2,054,338	35	5.6
San Joaquin Valley	3,784,633	29	10.2
Central Coast	2,234,242	34	6.1
Los Angeles County	10,216,326	34	27.6
Other Southern California	10,176,428	35	27.5
California Total	36,957,436	34	100.0

Note: Regions reflect those established by the UCLA Center for Health Policy Research for the 2001 CHIS.

Data Source: California Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 2000-2005*, Sacramento, California, July 2007.

The regions of Los Angeles County and Other Southern California are the most populous in the state, each with estimated resident populations of over 10 million. The Northern/Sierra Counties region, with an estimated population of 1,404,164 in 2005, is the least populated. As indicated in Table 1, over one-half of California residents lived in Los Angeles County and other counties in Southern California in 2005.

Roughly one-half of all Californians in 2005 were under 34 years of age. Among the seven regions, the Northern/Sierra regional population was oldest on average with a median age of 39 years. Overall, the San Joaquin Valley population had the youngest median age; an estimated one-half of its residents were under 29 years old.

**Table 2. Population by Age Group and Sex, California, 2005**

	Male		Female		Total	
	N	Pct.	N	Pct.	N	Pct.
0-4	1,325,658	7.2	1,380,210	7.5	2,705,868	7.3
5-9	1,345,982	7.3	1,286,078	6.9	2,632,060	7.1
10-14	1,498,873	8.1	1,432,473	7.7	2,931,346	7.9
15-19	1,417,773	7.7	1,345,176	7.3	2,762,949	7.5
20-24	1,347,022	7.3	1,234,857	6.7	2,581,879	7.0
25-29	1,241,826	6.7	1,147,701	6.2	2,389,527	6.5
30-34	1,338,330	7.3	1,274,702	6.9	2,613,032	7.1
35-39	1,446,271	7.8	1,376,820	7.4	2,823,091	7.6
40-44	1,482,258	8.0	1,440,930	7.8	2,923,188	7.9
45-49	1,384,564	7.5	1,377,819	7.4	2,762,383	7.5
50-54	1,173,960	6.4	1,211,231	6.5	2,385,191	6.5
55-59	986,869	5.4	1,038,727	5.6	2,025,596	5.5
60-64	702,649	3.8	759,264	4.1	1,461,913	4.0
65 +	1,753,654	9.5	2,205,759	11.9	3,959,413	10.7
Total	18,445,689	100.0	18,511,747	100.0	36,957,436	100.0

Note: Percentages do not add up to 100 due to rounding.

Data Source: California Department of Finance, *Race/Ethnic Population with Age and Sex Detail 2000-2005*, Sacramento, California, July 2007.

According to the California Department of Finance estimates, the age distribution among California's male and female populations in 2005 was similar (Table 2); however, women accounted for a higher proportion of the older population; in 2005, 9.5 percent of males and 11.9 percent of females were 65 years and older.

**Table 3. Population by Race/ethnicity and Sex, California, 2005**

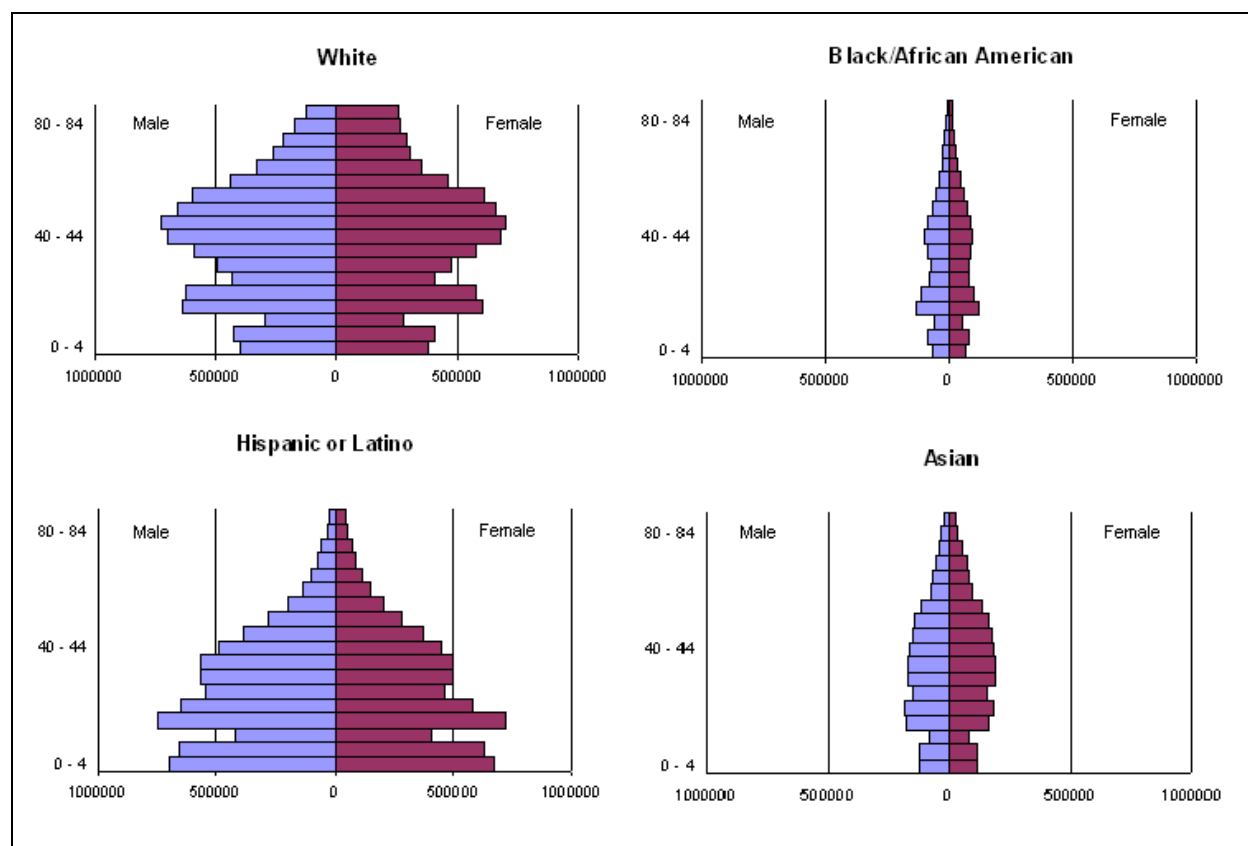
Race/Ethnicity	Males		Females		Total	
	N	Pct.	N	Pct.	N	Pct.
White	8,131,225	44.1	8,277,252	44.7	16,408,477	44.4
Hispanic	6,610,111	35.8	6,295,729	34.0	12,905,840	34.9
African American	1,103,747	6.0	1,151,534	6.2	2,255,281	6.1
Asian	2,045,839	11.1	2,217,881	12.0	4,263,720	11.5
American Indian	105,711	0.6	109,333	0.6	215,044	0.6
Pacific Islander	64,297	0.4	64,993	0.4	129,290	0.4
Multi-race	384,759	2.1	395,025	2.1	779,784	2.1
Total	18,445,689	100.0	18,511,747	100.0	36,957,436	100.0

Note: Percentages do not add up to 100 due to rounding.

Data Source: California Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 2000-2005*, Sacramento, California, July 2007.

As indicated in Table 3, the racial/ethnic composition of Californians was 44.4 percent White, 34.9 percent Hispanic, 11.5 percent Asian, 6.1 percent African American, and 2.1 percent Multi-race. Persons in American Indian and Pacific Islander racial groups accounted for approximately 1.0 percent of California's total population.

**Figure 2. Population of California by Race/ethnicity, Sex, and Age, 2005**



Data Source: California Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 2000-2005*. Sacramento, California, July 2007.

In 2005, the estimated population of White residents in California was 16,408,477. White residents comprised approximately 44.4 percent of California's total population and were older than other racial/ethnic populations on average (Figure 2) with a median age of 42 years (41 years for males and 43 years for females).

There were an estimated 12,905,840 individuals of Hispanic ethnicity living in California in 2005. Hispanics made up roughly 34.9 percent of California's population in 2005. California's Hispanic population is younger than the statewide average (median age is 26 years versus 34 years). The median age was 26 years for both males and females.

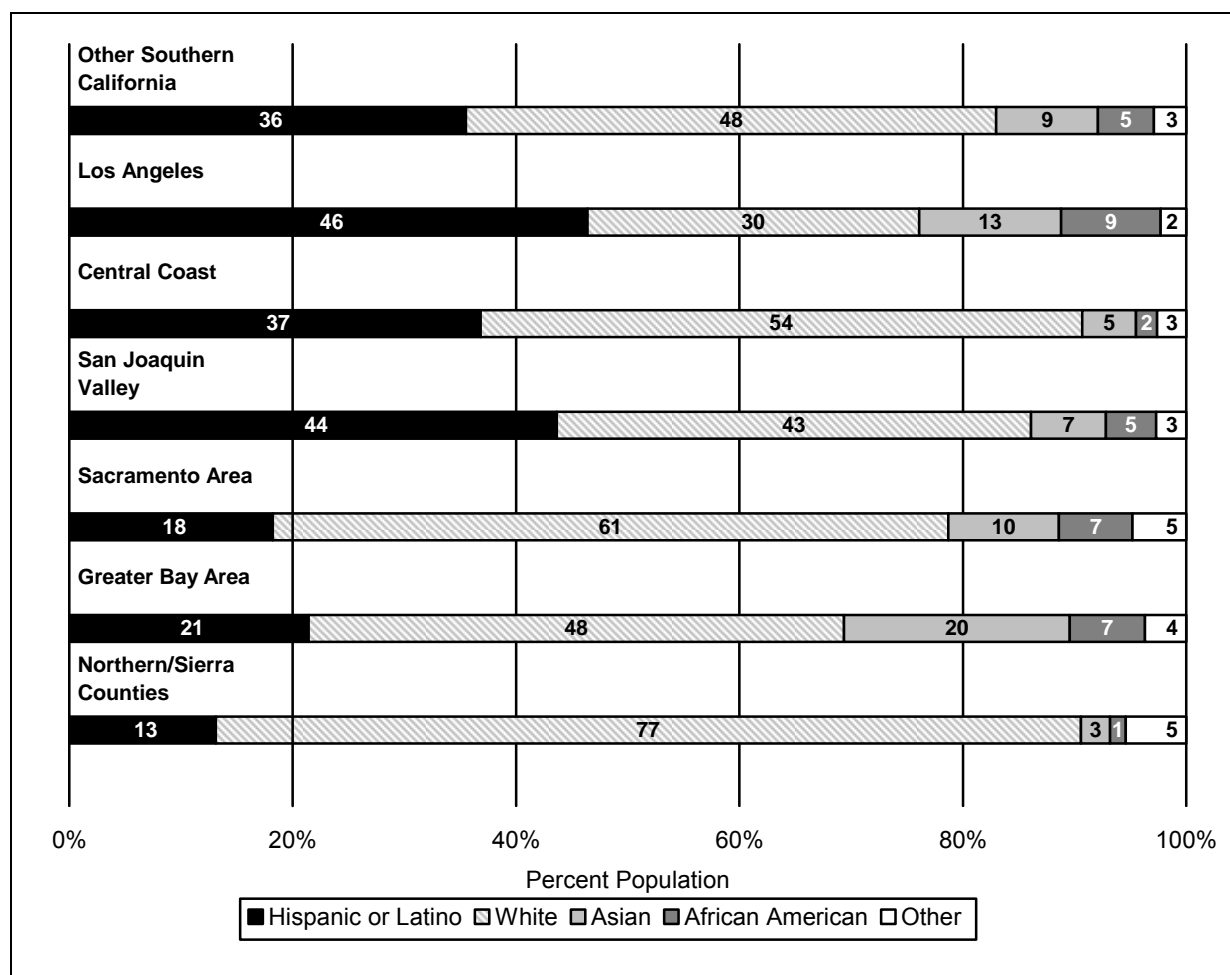
Nearly 11.5 percent of California's 2005 population was Asian. California's Asian population, estimated at 4,263,720, was slightly older than the statewide average. The median age of Asian persons in California in 2005 was 36, two years older than the statewide median of 34. Overall, the estimated Asian female population was slightly older than the Asian male population with a median age of 37 years versus 35 years, respectively.

With an estimated population of 2,255,281, African Americans made up approximately 6.1 percent of California residents in 2005. Roughly, one-half the African American

population in California in 2005 was under 33 years of age. The median age for males in 2005 was 32.

Regional variations in race/ethnicity among California residents can be seen in Figure 3.

**Figure 3. Population by Race/ethnicity for Seven California Regions, 2005**



Note: Percentages do not add up to 100 due to rounding.

Data Source: California Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 2000-2005*, Sacramento, California, July 2007.

The estimated percentage of persons who were non-Hispanic White ranged from a low of 29.7 percent in Los Angeles County to a high of 77.4 percent in the Northern/Sierra County region. The Los Angeles and San Joaquin Valley regions had the highest proportion of Hispanic (46.4 percent and 43.7 percent, respectively). The Greater Bay Area and Los Angeles regions are home to the highest concentration of persons describing themselves as Asian (20.2 percent and 12.7 percent, respectively). In 2005, Los Angeles County had the highest percentage of African Americans (8.9 percent) while the Northern/Sierra County region has the highest percentage of Native Americans (2.7 percent compared with 0.6 percent statewide).

## SOCIOECONOMIC STATUS OF CALIFORNIANS

This section summarizes indicators of socioeconomic status, measured in terms of income, education, and employment levels for Californians in 2005. Unless otherwise noted, the information presented in this section comes from U.S. Census Bureau estimates for California.

### *California Poverty and Income Estimates*

Table 4 provides a summary of poverty estimates, measured by the percent of persons living below FPL, for Californians in 2005.

**Table 4. Estimated Percent of Persons Living Below 100 Percent FPL, California, 2005**

Race/Ethnicity	All Californians	Children Under 18 years	Adults 18 to 64			Adults Over 65		
			Total	Men	Women	Total	Men	Women
All Californians	13.8	19.0	11.8	10.3	13.3	7.1	6.3	7.8
Hispanic	19.8	26.7	16.5	13.9	19.3	10.1	10.1	10.1
White	8.4	10.5	8.4	7.4	9.3	5.8	4.8	6.6
African American	20.2	10.5	18.1	16.9	19.2	15.4	10.6	17.9
American Indian	9.5	33.3	8.4	4.4	10.5	a	a	a
Asian	8.3	8.0	8.7	7.9	9.4	6.6	7.9	5.5
Native Hawaiian/Pacific Islander	12.3	21.7	11.4	5.6	18.0	a	a	a
Multi-race	11.8	10.6	12.6	11.0	14.0	14.3	a	a

Note: The Hispanic category includes individuals of any race.

a - percentage suppressed because it is statistically unreliable.

Data Source: U.S. Census Bureau, CPS, 2006 Annual Social and Economic Supplement.

In total, an estimated 13.2 percent of Californians were living below FPL. The proportion of people living in poverty varies by age, sex, and race/ethnicity. Overall, children were the largest group of California residents in poverty in 2005, with roughly 19.0 percent living in families with annual incomes under 100 percent FPL. Over one-fourth (26.7 percent) of California's Hispanic children and one-third (33.3 percent) of California's American Indian children were living below the FPL threshold 2005.

As Table 4 indicates, Californian adults (18-64 years) living below the FPL threshold in 2005 were most likely to be African American or Hispanic; 18.1 percent of African Americans and 16.5 percent of Hispanic 18-64 years old were living below 100 percent FPL in 2005. Statewide, older women were more likely than older men to be living below the FPL threshold. Among Californians over 65 years of age, 7.8 percent of women and 6.3 percent of men were living in poverty. There is a marked disparity in male-to-female poverty ratios within racial populations in California, most notably among African Americans. Within the 65 and older age group, roughly 10.0 percent of African

American men and 17.9 percent of African American women were living in poverty in California in 2005.

It is important to note that these poverty measures are not adjusted for cost of living and likely underestimate the actual burden of poverty in the state. The U.S. Department of Housing and Urban Development (HUD)-estimated fair market rents provide a better sense of the actual cost of living within a geographic area. As housing is generally considered affordable if the rent accounts for no more than 30.0 percent of the gross household income (HUD, 2007), the housing wage, defined as the income necessary to afford an average two-bedroom rental unit at HUD-estimated fair market rent, is presented in this report as an indicator of potential cost burden.

California's hourly housing wage was \$21.24 in 2004 and \$22.09 in 2005, roughly 40.0 percent higher than the national average for both years. Although California ranked 17<sup>th</sup> in the proportion of individuals living below FPL in 2005, state-by-state comparisons of median income and HUD-estimated fair market rents, prepared by the National Low Income Housing Coalition, show that California is among the least affordable states in the country.

For HIV-infected individuals, affordable housing is vital to ensuring access to comprehensive health care services. For this reason, official poverty estimates are presented in tandem with HUD-estimated fair market rents. Poverty and income estimates vary widely by geographic region in California. For each California region, Tables 5 through 10 on the subsequent pages provide the estimated percent of persons living in poverty (below 100 percent FPL) and the median income. Tables 5 through 10 also provide estimates for the annual housing wage, calculated by dividing the annual HUD-estimated fair market rent for a modest two-bedroom unit by 30.0 percent.

Median income levels and housing wages tended to be highest in the Greater Bay Area and lowest in the Northern/Sierra and San Joaquin Valley regions. Median income levels ranged from a low of \$29,526 in Modoc County in the Northern/Sierra region to a high of \$68,842 in Santa Clara County, a county in the Greater Bay Area region. Housing wages ranged from as low as \$21,480 for counties in the Northern/Sierra region to as high as \$72,840 for parts of the San Francisco Bay Area.

### *Los Angeles and Other Southern California Counties*

California's southern region is the most heavily populated in the state. Official poverty estimates in Southern California counties ranged from 10.9 percent in San Diego to 16.7 percent in Los Angeles County (Table 5). Annual median income was highest in San Diego County (\$51,939) and lowest in San Bernardino County (\$43,179). Fair market rents for a two-bedroom unit in this region ranged from \$792 in Riverside and San Bernardino Counties to \$1,186 per month in San Diego County.



**Table 5. Estimated Percent of Persons Below 100 Percent FPL, Los Angeles and Other Southern California Counties, California, 2004**

County	Pct.	90.0% Confidence Interval (CI)	Median Income	Housing Wage*
Los Angeles	16.7	13.7 to 19.7	\$43,518	\$40,840
Riverside	11.9	9.5 to 14.4	\$46,885	\$29,160
San Bernardino	15.4	12.2 to 18.5	\$43,179	\$29,160
San Diego	10.9	8.7 to 13.1	\$51,939	\$47,000

\* The housing wage is the annual income required for an individual to pay no more than 30.0 percent of his or her wages on the fair market rent for a two-bedroom unit.

Data Sources: U.S. Census Bureau, Data Integration Division, Small Area Estimates Branch, CPS, 2006. HUD, 2005 Fair Market Rents, County Level Data File. Accessed October 3, 2007, from: [www.huduser.org](http://www.huduser.org).

### *Greater Bay Area*

The Greater Bay Area is the second most populous region in the state. Official poverty estimates in Greater Bay Area counties were generally low ranging from approximately 6.0 to 7.0 percent in Contra Costa, Marin, Napa, and San Mateo Counties to roughly 11.0 to 12.0 percent in Alameda and San Francisco Counties (Table 6). The Greater Bay Area had some of the highest median income levels and highest housing wage thresholds in California in 2004. The annual income necessary to afford a two-bedroom unit in the region was higher than the median income for four of the nine counties in this region.

**Table 6. Estimated Percent of Persons Below 100 Percent FPL, Greater Bay Area Counties, California, 2004**

County	Pct.	90.0% CI	Median Income	Housing Wage
Alameda	11.1	8.8 to 13.4	\$57,659	\$56,800
Contra Costa	7.8	6.1 to 9.4	\$65,459	\$56,800
Marin	7.0	5.4 to 8.5	\$67,731	\$71,000
Napa	7.8	6.0 to 9.6	\$53,184	\$44,840
San Francisco	11.6	9.1 to 14.0	\$51,815	\$71,000
San Mateo	6.6	5.2 to 8.1	\$65,425	\$71,000
Santa Clara	8.4	6.7 to 10.1	\$68,842	\$72,840
Solano	8.7	6.8 to 10.6	\$57,728	\$44,840
Sonoma	8.4	6.6 to 10.2	\$53,645	\$46,520

\* The housing wage is the annual income required for an individual to pay no more than 30.0 percent of his or her wages on the fair market rent for a two-bedroom unit.

Data Sources: U.S. Census Bureau, Data Integration Division, Small Area Estimates Branch, CPS, 2006. HUD, 2005 Fair Market Rents, County Level Data File. Accessed October 3, 2007, from: [www.huduser.org](http://www.huduser.org).

### *San Joaquin Valley*

Table 7 summarizes poverty levels and median income for the San Joaquin Valley region, the third most populous region in the state. Poverty in the San Joaquin Valley region tended to be higher than other regions in the state, ranging from roughly 14.0 percent in Stanislaus and San Joaquin Counties to nearly 20.0 percent in Fresno County. Fair market rents for a two-bedroom unit in this region ranged from \$574 to \$757 per month.

**Table 7. Estimated Percent of Persons Below 100 Percent FPL, San Joaquin Valley Counties, California, 2004**

County	Pct.	90.0% CI	Median Income	Housing Wage
Fresno	19.8	15.6 to 24.0	\$36,930	\$24,120
Kern	17.8	14.0 to 21.6	\$38,689	\$23,800
Kings	17.6	13.5 to 21.7	\$38,238	\$22,960
Madera	17.9	13.9 to 21.9	\$37,881	\$24,120
Merced	17.0	13.3 to 20.7	\$38,792	\$25,200
San Joaquin	14.0	11.0 to 17.0	\$44,814	\$30,280
Stanislaus	13.6	10.6 to 16.5	\$43,072	\$28,760
Tulare	20.9	16.3 to 25.4	\$34,809	\$23,680

\* The housing wage is the annual income required for an individual to pay no more than 30.0 percent of his or her wages on the fair market rent for a two-bedroom unit.

Data Sources: U.S. Census Bureau, Data Integration Division, Small Area Estimates Branch, CPS, 2006. HUD, 2005 Fair Market Rents, County Level Data File. Accessed October 3, 2007, from: [www.huduser.org](http://www.huduser.org).

### *Central Coast*

Poverty estimates and median income levels for counties in California's Central Coast region are presented in the Table 8. Official poverty rates in this region tended to be low, ranging from roughly 9.0 to 13.0 percent. Median incomes were lowest in Monterey, San Luis Obispo, and Santa Barbara Counties and highest in San Benito, Santa Cruz, and Ventura Counties. Fair market rents in the Central Coast region ranged from \$864 to \$1,341 per month. In Santa Cruz County, the housing wage, the amount at which fair market rent equals 30.0 percent of income, was greater than the average county income estimate.

**Table 8. Estimated Percent of Persons Below 100 Percent FPL, Central Coastal Counties, California, 2004**

County	Pct.	90.0% CI	Median Income	Housing Wage
Monterey	12.9	10.1 to 15.7	\$46,971	\$40,560
San Benito	8.8	6.8 to 10.7	\$57,595	\$34,560
San Luis Obispo	10.4	8.1 to 12.7	\$46,225	\$36,680
Santa Barbara	12.5	9.8 to 15.3	\$46,706	\$40,600
Santa Cruz	10.8	8.4 to 13.2	\$52,031	\$53,640
Ventura	9.3	7.3 to 11.3	\$59,379	\$45,680

\* The housing wage is the annual income required for an individual to pay no more than 30.0 percent of his or her wages on the fair market rent for a two-bedroom unit.

Data Sources: U.S. Census Bureau, Data Integration Division, Small Area Estimates Branch, CPS, 2006. HUD, 2005 Fair Market Rents, County Level Data File. Accessed October 3, 2007, from: [www.huduser.org](http://www.huduser.org).

### *Sacramento Area*

As presented in Table 9, within the Sacramento area poverty levels were lowest in El Dorado and Placer Counties (6.9 percent and 5.6 percent) and highest in Sacramento and Yuba Counties (13.6 percent and 11.2 percent). Fair market rents in this region ranged from \$775 to \$950 per month. The median annual income ranged from \$44,810 to \$64,642.

**Table 9. Estimated Percent of Persons Below 100 Percent FPL, Sacramento Area Counties, California, 2004**

County	Pct.	90.0% CI	Median Income	Housing Wage
El Dorado	6.9	5.3 to 8.4	\$56,629	\$38,000
Placer	5.6	4.3 to 6.8	\$64,642	\$38,000
Sacramento	13.6	10.8 to 16.4	\$47,215	\$38,000
Yolo	11.2	8.6 to 13.7	\$44,810	\$31,160

\* The housing wage is the annual income required for an individual to pay no more than 30.0 percent of his or her wages on the fair market rent for a two-bedroom unit.

Data Sources: U.S. Census Bureau, Data Integration Division, Small Area Estimates Branch, CPS, 2006. HUD, 2005 Fair Market Rents, County Level Data File. Accessed October 3, 2007, from: [www.huduser.org](http://www.huduser.org).

### *Northern/Sierra Region*

California's Northern/Sierra region is the least heavily populated in the state (Table 1). Poverty in Northern/Sierra Counties ranged from 7.9 percent in Nevada County to 19.2 percent in Del Norte County (Table 10). Median incomes in this region ranged from \$29,526 per year to \$49,811 per year in 2004.

**Table 10. Estimated Percent of Persons Below 100 Percent FPL, Northern/Sierra Counties, California, 2004**

County	Pct.	90.0% CI	Median Income	Housing Wage
Alpine	13.2	9.9 to 16.6	\$42,827	\$23,160
Amador	8.8	6.7 to 10.9	\$47,459	\$27,680
Butte	15.2	11.8 to 18.6	\$34,891	\$26,400
Calaveras	9.3	7.1 to 11.5	\$46,052	\$25,400
Colusa	11.7	9.0 to 14.4	\$38,350	\$21,480
Del Norte	19.2	14.4 to 24.1	\$31,502	\$25,400
Glenn	14.4	11.0 to 17.7	\$34,883	\$21,480
Humboldt	15.4	11.8 to 19.0	\$33,281	\$25,520
Inyo	10.5	8.0 to 13.0	\$38,853	\$24,480
Lake	15.6	12.1 to 19.2	\$32,757	\$26,120
Lassen	15.7	11.5 to 19.9	\$39,143	\$21,960
Mariposa	11.0	8.4 to 13.6	\$37,355	\$24,080
Mendocino	14.4	11.1 to 17.7	\$36,624	\$27,920
Modoc	15.5	11.8 to 19.1	\$29,526	\$21,480
Mono	8.2	6.3 to 10.2	\$48,083	\$33,200
Nevada	7.9	6.1 to 9.6	\$49,811	\$31,120
Plumas	9.8	7.6 to 12.1	\$41,309	\$21,480
Shasta	13.4	10.3 to 16.5	\$37,696	\$24,320
Sierra	9.1	6.8 to 11.4	\$37,599	\$22,520
Siskiyou	15.1	11.6 to 18.6	\$32,531	\$21,480
Sutter	12.1	9.4 to 14.9	\$41,289	\$22,840
Tehama	14.5	11.3 to 17.7	\$34,520	\$21,480
Trinity	14.2	10.8 to 17.7	\$30,307	\$21,480
Tuolumne	11.6	8.8 to 14.3	\$41,067	\$27,480
Yuba	15.6	12.0 to 19.1	\$34,493	\$22,840

\* The housing wage is the annual income required for an individual to pay no more than 30.0 percent of his or her wages on the fair market rent for a two-bedroom unit.

Data Sources: U.S. Census Bureau, Data Integration Division, Small Area Estimates Branch, CPS, 2006. HUD, 2005 Fair Market Rents, County Level Data File. Accessed October 3, 2007, from: [www.huduser.org](http://www.huduser.org).

### ***Education among Californians***

On average, educational attainment in California, measured as the percent of residents who reported attaining a bachelor's degree or higher, is relatively high compared to other states as indicated in Table 11. According to CPS estimates for 2005, roughly 30.0 percent of Californians over 25 years old have at least a four-year degree. In 2005, California men were more likely than women to have attained a bachelor's degree or higher (32.3 percent versus 28.9 percent).

**Table 11. Educational Attainment of the Population 25 Years and Over, 20 States with Highest Percentage of Population with a Bachelor's Degree or Higher**

State	High school graduate or higher			Bachelor's degree or higher		
	Pct.	90.0% CI*		Pct.	90.0% CI	
District of Columbia	84.1	82.7	85.5	46.9	45.0	48.8
Connecticut	90.0	89.2	90.8	36.8	35.5	38.1
Massachusetts	87.5	86.6	88.4	36.6	35.3	37.9
Maryland	86.9	85.9	87.9	36.3	34.8	37.8
New Jersey	86.9	86.1	87.7	36.3	35.2	37.4
Colorado	89.3	88.5	90.1	35.5	34.2	36.8
Vermont	90.0	89.0	91.0	34.4	32.8	36.0
Minnesota	92.7	92.0	93.4	34.2	32.9	35.5
New Hampshire	91.9	91.1	92.7	32.8	31.4	34.2
Washington	91.5	90.6	92.4	30.9	29.4	32.4
<b>California</b>	<b>80.4</b>	<b>79.8</b>	<b>81.0</b>	<b>30.6</b>	<b>29.9</b>	<b>31.3</b>
Virginia	86.0	84.9	87.1	30.6	29.2	32.0
Hawaii	87.2	86.1	88.3	30.4	28.8	32.0
Kansas	91.4	90.6	92.2	30.4	29.1	31.7
New York	85.7	85.1	86.3	30.4	29.6	31.2
Utah	92.5	91.6	93.4	29.8	28.2	31.4
Illinois	87.2	86.5	87.9	29.6	28.6	30.6
Rhode Island	83.9	82.9	84.9	29.2	28.0	30.4
Oregon	88.6	87.7	89.5	29.0	27.7	30.3
Alaska	91.7	90.7	92.7	28.6	27.0	30.2

\*90.0 percent CI indicates the range which is estimated to include 90.0 percent of the population with 5.0 percent above and 5.0 percent below that range.

Data Source: U.S. Census Bureau, CPS, 2005 Annual Social and Economic Supplement, Internet Release Date: October 26, 2006.

**Table 12. Educational Attainment of the Population 25 Years and Over, by Age, California, 2005**

Age	High school graduate or higher		Bachelor's degree or higher	
	Pct.	Standard error	Pct.	Standard error
Adults 25 and older	80.4	0.6	30.6	0.7
25 to 44 years	79.2	0.9	30.5	1.0
45 to 64 years	83.8	1.0	32.9	1.2
65 years and over	76.5	1.6	26.1	1.7

Data Source: U.S. Census Bureau, CPS, 2005 Annual Social and Economic Supplement, Internet Release Date: October 26, 2006.

Table 12 summarizes educational attainment among California adults by age. As shown, most (80.4 percent) Californians age 25 years and older in 2005 had at least a high school diploma. However, statewide educational attainment levels varied by race/ethnicity in 2005. Approximately one-half (49.9 percent) of Asian and 39.7 percent of White Californians held a bachelor's degree or higher in 2005. In contrast, college graduation was reported by 22.3 percent of African Americans and 9.0 percent of Hispanic Californians (Table 13).

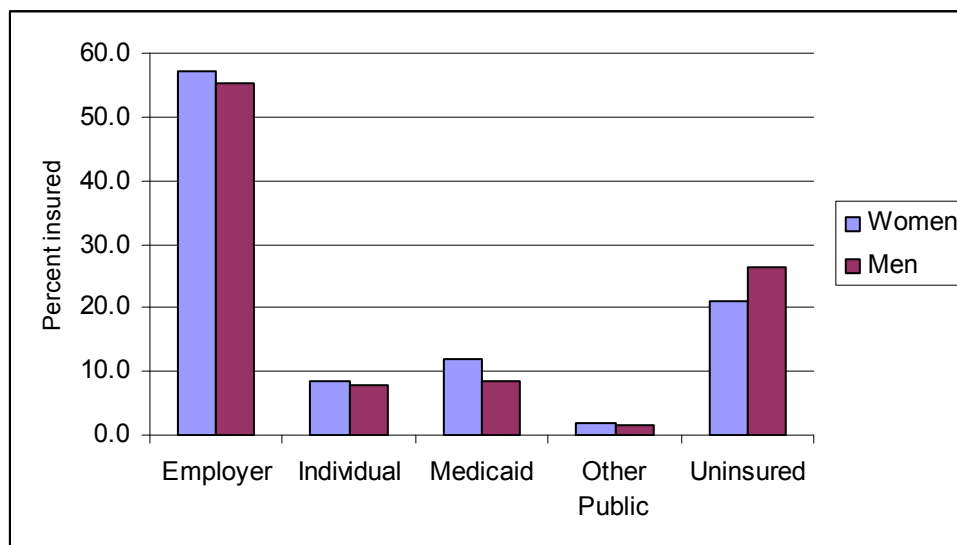
**Table 13. Educational Attainment of the Population 25 Years and Older, by Race/ethnicity, California, 2005**

Race/ethnicity	High school graduate or higher		Bachelor's degree or higher	
	Pct	Standard error	Pct	Standard error
All Adults	80.4	0.6	30.6	0.7
Hispanic	52.5	1.3	9.0	0.7
African American	86.4	2.3	22.3	2.7
Asian	88.4	1.5	49.9	2.4
White	93.6	0.5	39.7	1.1

Data Source: U.S. Census Bureau, CPS, 2005 Annual Social and Economic Supplement, Internet Release Date: October 26, 2006.

### ***Health Insurance among Californians***

According to U.S. Census Bureau estimates, one out of four non-elderly adults (19-64 years old) in California was uninsured in 2004. Overall, a greater proportion of men in California were uninsured than women. Figure 4 and Table 14 (next page) describe the breakdown of insurance source among California adults age 18-64 by sex.

**Figure 4. Percent of Adults Age 19-64 by Insurance Source and Sex, California, 2004**

Data Source: Urban institute and Kaiser Commission on Medicaid and the Uninsured analysis of the U.S. Census Bureau's March 2005 and 2006 CPS Annual Social and Economic Supplement data. Retrieved May 15, 2007, from: [www.statehealthfacts.org](http://www.statehealthfacts.org).

Overall, California has one of the highest proportions of uninsured residents in the nation. According to U.S. Census Bureau estimates, over one-quarter of men and roughly 20.0 percent of women in California age 19-64 years reported no health insurance coverage. Employment-based insurance is the main source coverage for Californians, both male and female.

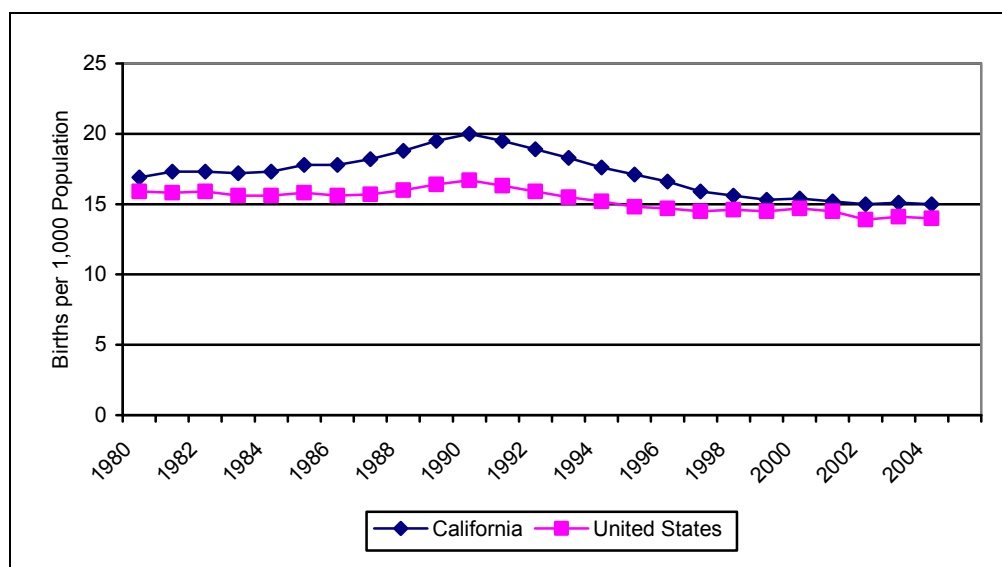
**Table 14. Health Insurance Coverage among Adults Age 19-64 by Sex, California and the United States, 2004**

Insurance Source	California (%)			United States (%)		
	Female	Male	Total	Female	Male	Total
Employer	57.1	55.4	56.2	63.8	63.1	63.5
Individual	8.4	7.9	8.1	6.0	5.7	5.9
Medicaid	11.8	8.4	10.1	9.7	6.4	8.0
Other Public	1.8	1.7	1.8	2.7	2.8	2.8
Uninsured	21.0	26.5	23.7	17.8	22.0	19.9

Data Source: Urban institute and Kaiser Commission on Medicaid and the Uninsured analysis of the U.S. Census Bureau's March 2005 and 2006 CPS Annual Social and Economic Supplement data. Retrieved May 15, 2007, from: [www.statehealthfacts.org](http://www.statehealthfacts.org).

## BIRTHS IN CALIFORNIA

The birth rate in California, measured in live births per 1,000 population has declined during the last 14 years. California's 2004 birth rate, at 15.0 per 1,000 California residents, was higher than the U.S. average of 14.0 per 100,000 population.

**Figure 5. Births in California and the United States, 1980-2004**

Data Source: CDPH, Center for Health Statistics, Office of Health Information and Research, Birth Records. Accessed July 26, 2007, from: [www.cdph.ca.gov/data/statistics/Pages/default.aspx](http://www.cdph.ca.gov/data/statistics/Pages/default.aspx).

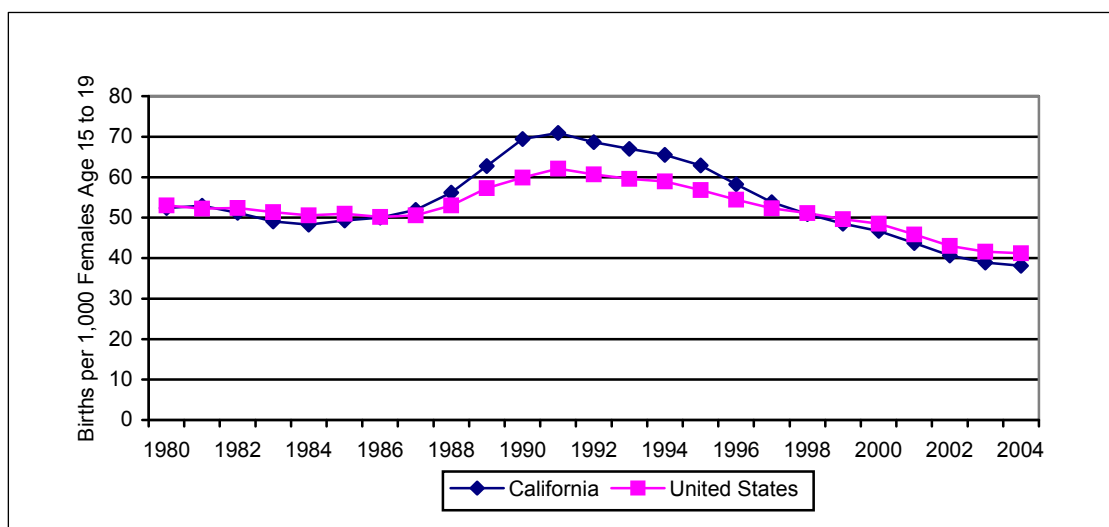
Birth rates varied by race/ethnicity with highest rates found among Hispanic (21.5 per 1,000 population) and Pacific Islanders (20.1 per 1,000 population). Statewide birth rates for women of childbearing age (15-44 years of age) were highest in 2004 among Hispanic (88.6 per 1,000 females) and Pacific Islanders (78.5 per 1,000 females).

**Table 15. Live Births per 1,000 Population by Race/ethnicity, California, 2004**

Race/ethnicity	Birth Rate
Hispanic	21.5
White	10.5
Asian	15.4
African American	11.8
Pacific Islander	20.1
American Indian	7.5
Multi-race	9.8
California statewide	15.0

Data Source: CDPH, Center for Health Statistics, Office of Health Information and Research, Birth Data Tables. Accessed July 26, 2007, from: [www.cdph.ca.gov/data/statistics/Pages/default.aspx](http://www.cdph.ca.gov/data/statistics/Pages/default.aspx).

Teen pregnancy is an indicator of unprotected sexual activity among young people and is associated with a number of outcomes for women including poverty and limited education. Births to teens in California dropped below the national average in 1999. In 2004, California's teen birth rate, the number of births per 1,000 adolescent girls, age 15-19 years old, was lower than the nation's teen birth rate (38.1 versus 41.2).

**Figure 6. Births to Teens Age 15-19, California and the United States, 1980-2004**

Data Source: CDPH, Center for Health Statistics, Office of Health Information and Research, Birth Data Tables. Accessed July 26, 2007, from: [www.cdph.ca.gov/data/statistics/Pages/default.aspx](http://www.cdph.ca.gov/data/statistics/Pages/default.aspx).

Though the overall teen birth rate has dropped, there are marked racial and ethnic differences in teen pregnancy rates in California (Table 16).



**Table 16. Live Births per 1,000 Females by Race/ethnicity and Age of Mother, California, 2004**

	15-44 Years	< 15	15-19	20-24	25-29	30-34	35-39	40-44	45 +
California	69.3	0.5	38.1	100.9	118.4	100.9	54.6	12.6	0.9
Hispanic	88.6	0.8	64.3	148.0	137.9	99.5	52.5	13.4	0.7
Multi-race	46.8	0.3	22.8	59.4	76.6	72.5	44.6	10.8	0.7
American Indian	32.7	a	20.9	62.3	61.6	36.4	20.2	4.3	a
Asian	66.0	0.2	11.3	44.1	110.0	135.8	71.0	15.0	1.1
African American	51.6	0.6	37.3	94.3	91.4	61.5	33.1	8.2	0.5
Pacific Islander	78.5	a	33.7	128.7	135.6	102.8	58.9	14.4	1.2
White and Other/Unknown	55.5	0.2	16.7	67.1	103.9	99.6	56.2	12.3	1.0

a - Rates not calculated for fewer than five live births.

Data Source: CDPH, Center for Health Statistics, Office of Health Information and Research, Birth Data Tables. Accessed July 26, 2007, from: [www.cdph.ca.gov/data/statistics/Pages/default.aspx](http://www.cdph.ca.gov/data/statistics/Pages/default.aspx).

Table 16, which summarizes birth rates by race/ethnicity shows that teen birth rates were highest among Hispanics. At 64.3 births per 1,000 females, the teen birth rate among Hispanic females was over one and one-half times the statewide average.

Timely prenatal care is important to women's health and a key strategy in the prevention of mother-to-child transmission of HIV. Inadequate prenatal care has been linked with increased risk of both pre-term delivery and having a low-birth weight baby (under 2,500 grams). State and national averages for three indicators of maternal and child health, mothers receiving late or no prenatal care, pre-term births and low-birth weight newborns, are shown in Table 17. As indicated, California percentages are lower than U.S. percentages for all three indicators.

**Table 17. Percent of Pre-term, Low-Birth Weight, and Births with Late or No Prenatal Care, California and the United States, 2004**

Late or No Prenatal Care <sup>1</sup>		Pre-term Births <sup>2</sup>		Low-birth weight <sup>3</sup>	
California	U.S.	California	U.S.	California	U.S.
2.6	3.6	10.9	12.5	6.7	8.1

<sup>1</sup>Prenatal care received in the third trimester or no prenatal care.

<sup>2</sup>Birth prior to 37 completed weeks of gestation. Live births less than 17 weeks gestation may reflect reporting inaccuracies and were removed before calculating percentages.

<sup>3</sup>Birth weight of less than 2,500 grams (5.5 pounds).

Data Source: CDPH, Center for Health Statistics, Office of Health Information and Research, Birth Records. Accessed July 26, 2007, from: [www.cdph.ca.gov/data/statistics/Pages/default.aspx](http://www.cdph.ca.gov/data/statistics/Pages/default.aspx).

## DEATHS IN CALIFORNIA

According to most recently published death records from CDPH's Office of Vital Records, there were 232,464 deaths in California in 2004 (Table 18). California's age-adjusted death rate was lower than the national average (639.1 per 100,000 persons in California versus 801.1 per 100,000 persons in the United States).

Overall death rates were highest for African Americans (971.3 per 100,000 population) and lowest for individuals of more than one race (232.9 per 100,000 population).

**Table 18. Deaths and Age-adjusted Death Rates by Race/ethnicity and Sex, California, 2004**

Race/ethnicity	Males		Females		Total	
	Deaths	Rate	Deaths	Rate	Deaths	Rate
American Indian	496	482.0	484	398.5	980	438.1
Asian	8,349	526.5	7,537	366.5	15,886	436.6
African American	9,536	1,156.6	8,753	820.1	18,289	971.3
Hispanic	18,786	668.0	14,590	464.0	33,376	557.1
Pacific Islander	359	862.3	264	610.4	623	729.9
Multi-race	514	259.6	466	207.9	980	232.9
White	78,894	863.1	83,436	642.9	162,330	743.1
Total	116,934	643.9	115,530	634.3	232,464	639.1

Note: Rates are per 100,000 population, age-adjusted to 2000 U.S. Population Standard.

Data Source: CDPH, Center for Health Statistics, Office of Health Information and Research, Vital Statistics Query System.

Accessed July 26, 2007, from: [www.cdph.ca.gov/data/statistics/Pages/default.aspx](http://www.cdph.ca.gov/data/statistics/Pages/default.aspx).

The majority of deaths among males and females were attributed to chronic diseases like heart disease, cerebrovascular disease, chronic lower respiratory disease, and diabetes, as shown in Table 19.

Chronic diseases and cancers were the four leading causes of death for females and the top two causes of death for males. Heart disease and cancers were the two leading causes of death for both males and females in 2004.

Injuries were a more common cause of death for males than females in 2004. Accidents were the fifth leading cause of all deaths, ranking third among males and eighth among females. Suicide was the 10<sup>th</sup> leading cause of death for Californians in 2004; intentional self harm was the 8<sup>th</sup> leading cause of death for males and the 12<sup>th</sup> leading cause of death for females. In 2005, HIV was listed as the 15<sup>th</sup> leading cause of male deaths and the 19<sup>th</sup> leading cause of female deaths.

**Table 19. Causes of Death and Age-adjusted Rates per 1,000 Persons by Leading Cause of Death and Sex, California, 2000-2004**

Rank	Ten Leading Causes of Death	Rank	Males Deaths	Rate	Rank	Females Deaths	Rate <sup>1</sup>
1	Diseases of the Heart	1	32,506	233.2	1	32,496	160.3
2	Malignant Neoplasms	2	27,370	188.7	2	26,338	140.8
3	Cerebrovascular Disease	4	6,835	50.1	3	10,049	49.7
4	Chronic Lower Respiratory Disease	5	5,871	43.0	4	6,648	34.5
5	Accidents	3	7,043	40.8	8	3,571	19.1
6	Influenza and Pneumonia	7	3,357	25.3	6	3,974	19.4
7	Diabetes Mellitus	6	3,540	24.3	7	3,579	18.9
8	Alzheimer's Disease	10	2,131	16.8	5	4,831	22.8
9	Chronic Liver Disease and Cirrhosis	9	2,477	14.9	11	1,209	6.6
10	Intentional Self-Harm (Suicide)	8	2,543	14.7	12	821	4.5

<sup>1</sup>Rate per 100,000 population.

Data Source: CDPH, Center for Health Statistics, Office of Health Information and Research, Deaths and Age-Adjusted Death Rates for Leading Causes of Death by Sex, California, 2000-2004. Accessed July 26, 2007, from: [www.cdph.ca.gov/data/statistics/Pages/default.aspx](http://www.cdph.ca.gov/data/statistics/Pages/default.aspx).

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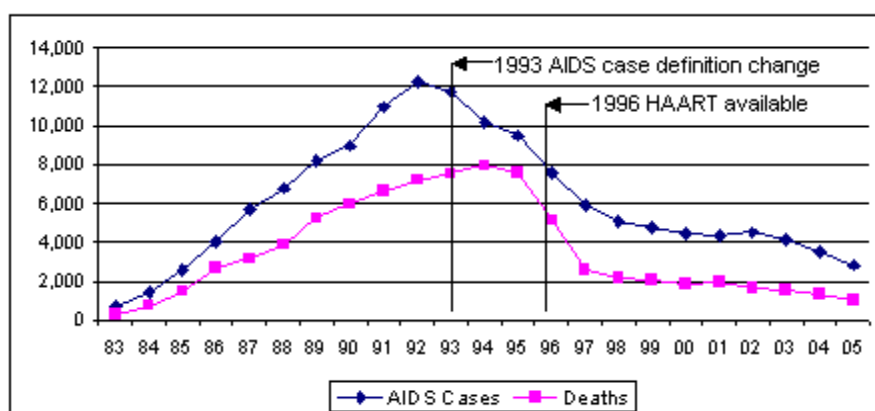
## QUESTION 2. WHAT IS THE SCOPE OF THE HIV/AIDS EPIDEMIC IN CALIFORNIA?

This chapter provides an examination of the extent and effect of the HIV epidemic among Californians. California uses many approaches to monitor the HIV epidemic including HIV/AIDS case reporting and seroprevalence surveys. This variety of approaches allows a closer investigation of the effects of HIV disease on specific population groups in California. This chapter provides a description of HIV/AIDS case reporting trends, HIV seroprevalence estimates, HIV mortality, and HIV co-morbidities.

### AIDS CASE REPORTING 1983-2005

AIDS has been a reportable condition in California since 1983. HIV infection has been reportable in California since 2002, upon the implementation of HIV reporting by non-name code. In April 2006, the code-based HIV reporting system was replaced by a name-based HIV reporting system. As this report primarily focuses on HIV/AIDS during the 2001-2005 period, HIV case counts and statistics provided in this profile represent the code-based HIV cases diagnosed through December 31, 2005, and reported to OA between July 2002 and March 2006. The implementation of code-based HIV reporting in 2002 coincided with an increase in the reporting of prevalent AIDS cases. Therefore, statistical adjustment of HIV/AIDS cases to account for reporting delay, which assumes stability of case reporting, was not applied to HIV or AIDS case counts.

**Figure 7. AIDS Diagnoses and Deaths, California, 1983-2005**



HAART – highly active antiretroviral therapy.

Note: The 1993 case definition change included an emphasis on CD4+ T-cell counts that had not previously existed.

Note: The slight increase in AIDS diagnoses in 2002 may be influenced by the initiation of HIV reporting by non-named code implemented that year. Counts for the 2001-2005 period exclude cases diagnosed, but not yet reported and may underestimate the number of diagnoses in the most recent years.

Data Source: OA's Surveillance Section, cases reported through March 31, 2006.

Figure 7 above describes AIDS diagnoses and deaths from all-causes among people with AIDS between 1983 and 2005. During the 1980s and early 1990s, reported AIDS diagnoses rose steadily, reaching a peak between 1992 and 1993. Annual reported AIDS diagnoses declined significantly in 1996 followed by another significant decline in 1997 and slight declines or stabilization from 1998-2005. This period (1996-2005) saw important diagnostic, treatment, and disease prevention advances. In particular, the significant reductions in 1996 and 1997 are attributed in large part to the availability of highly active antiretroviral therapy (HAART) regimens.

In 2005, California ranked second, only behind New York, in cumulative reported AIDS cases among adults and adolescents. California AIDS cases account for 15.1 percent of the nearly 1 million AIDS cases among adults and adolescents reported in the United States since the beginning of the epidemic. As of 2005, California AIDS cases among children accounted for 7.2 percent of the nation's cumulative pediatric AIDS cases. In 2005, California ranked fourth nationally in cumulative AIDS cases among children under 13 years of age.

## CUMULATIVE HIV AND AIDS CASES IN CALIFORNIA

### *Cumulative HIV and AIDS Cases in California by Gender*

Table 20 shows the gender distribution of HIV and AIDS diagnoses in California between 1983 and 2005. It is important to note that HIV/AIDS statistics for transgendered individuals are limited and likely underreport the burden of disease in this population. While sex at birth has been reported by all jurisdictions since the beginning of the epidemic, transgender status has not been consistently reported by all of California's 61 local health jurisdictions. Further, as noted in the Data Sources section of this report, the HIV code-based reporting system has a relatively short history compared to AIDS reporting and never reached maturity before names-based reporting took effect (April 2006). As a consequence, completeness of HIV cases diagnosed is limited in California surveillance data.

**Table 20. Cumulative HIV and AIDS Diagnoses by Gender, California, 1983–2005**

	AIDS		HIV		P-value*
	Cases	Pct.	Cases	Pct.	
<b>Gender</b>					
Female	11,801	8.4	5,812	14.2	<0.001
Male	127,720	91.1	34,751	84.9	<0.001
Transgender	725	0.5	378	0.9	<0.001
<b>Total</b>	140,246	100.0	40,941	100.0	

Note: Percentages do not add up to 100 due to rounding. HIV case counts are based on HIV infections reported under California's non-name code HIV reporting system implemented July 2002. The code-based HIV reporting system never reached maturity before being replaced with names-based reporting in 2006 and likely undercounts diagnoses prior to implementation. Gender reflects self-identified or physician-identified gender at time of diagnosis.

\* P-values represent the difference in proportions of HIV and AIDS diagnoses for the various groups highlighted.

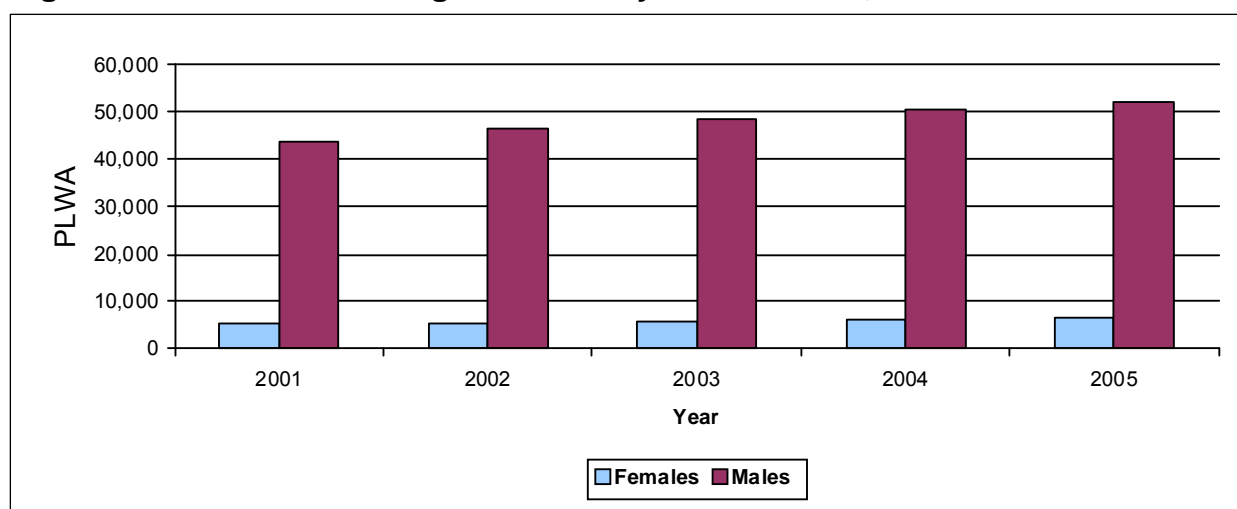
Data Source: OA's Surveillance Section cases reported through March 31, 2006.

By the end of 2005, an estimated 181,187 people were diagnosed with HIV or AIDS in California. At 91.1 percent of all reported AIDS diagnoses and 84.9 percent ( $P<0.001$ ) of all HIV infections, males have accounted for the majority of HIV disease diagnoses. However, females represented a larger proportion of HIV than AIDS diagnoses (14.2 percent versus 8.4 percent in 2005;  $P<0.001$ ), a reflection of the epidemic's growing presence among girls and women.

### ***People Living with AIDS (PLWA)***

While the number of new AIDS diagnoses has declined over the past five years, the number of PLWA has risen. Figure 8 shows the growing number of PLWA between 2001 and 2005 who were diagnosed in California.

**Figure 8. Californians Living with AIDS by Year and Sex, 2001-2005**



Note: Counts for this period exclude cases diagnosed, but not yet reported and deaths that have not yet been reported as of March 31, 2006, and may underestimate the actual number of diagnoses and deaths in most recent years. Totals reflect records with known sex at birth and may include persons diagnosed in California who have since moved out of state.

\*Monotonic increases for females and males were statistically significant ( $P<0.001$ ; Cochran-Armitage Test for Trend).

Data Source: OA's Surveillance Section cases reported through March 31, 2006.

HIV/AIDS case surveillance reports indicate the number of Californians living with AIDS has increased steadily over the last five years. In 2001, 43,943 males and 5,221 females diagnosed with AIDS in California were living with AIDS. In 2005, the number of males living with AIDS has risen by approximately 18.0 percent since 2001 to 52,039 in 2005 ( $P<0.001$ ), and the number of females living with AIDS has increased by roughly 23.0 percent to 6,259 in 2005 ( $P<0.001$ ).

In California, the proportion of living AIDS cases who are male is greater than the national average. Males account for approximately 74.0 percent of PLWA in the United States and 89.0 percent in California. Overall, the number of PLWA per 100,000 population among adult males in California has increased from 318.2 in 2001 to 350.4 in 2005. Conversely, women account for a smaller proportion of Californians known to be living with AIDS compared with their representation in national AIDS statistics (11.0

percent in California versus 25.0 percent nationally). However, California's living AIDS prevalence among adult females has steadily increased from 36.7 per 100,000 in 2001 to 42.4 per 100,000 in 2005. In the last ten years, the ratio of men to women living with AIDS in California has decreased from approximately 10:1 to 8:1.

### *Cumulative HIV and AIDS Cases in California by Race/ethnicity*

Table 21 summarizes cumulative HIV and AIDS diagnoses by reported race/ethnicity. In Table 21, a divergent racial/ethnic distribution can be seen between AIDS diagnoses and HIV infections reported in California by 2005. White individuals represent a greater proportion of cumulative AIDS diagnoses (56.7 percent) than cumulative HIV infections (48.2 percent) ( $P<0.001$ ). Non-White individuals, most notably those of Hispanic ethnicity and African Americans, accounted for more HIV infections than AIDS diagnoses, indicative of the increase in HIV disease in communities of color.

**Table 21. Cumulative HIV and AIDS Diagnoses by Race/ethnicity, California, 1983–2005**

	AIDS		HIV		P-Value*
	Cases	Pct.	Cases	Pct.	
<b>Race/ethnicity</b>					
Hispanic	31,575	22.5	10,616	25.9	<0.001
American Indian/Alaska Native	625	0.4	246	0.6	<0.001
Asian	3,214	2.3	1,060	2.6	<0.001
African American	24,754	17.7	7,943	19.4	<0.001
Native Hawaiian/Pacific Islander	65	<.1	90	0.2	<0.001
White	79,554	56.7	19,751	48.2	<0.001
Multi-race	245	0.2	129	0.3	<0.001
Other/unknown	214	0.2	1,106	2.7	<0.001
<b>Total</b>	<b>140,246</b>	<b>100.0</b>	<b>40,941</b>	<b>100.0</b>	

Note: Percentages do not add up to 100 due to rounding. HIV case counts are based on HIV infections reported under California's non-name code HIV reporting system implemented July 2002. The code-based HIV reporting system never reached maturity before being replaced with names-based reporting in 2006 and likely undercounts diagnoses prior to implementation.

\* P-values represent the difference in proportions of HIV and AIDS diagnoses for the various groups highlighted.

Data Source: OA's Surveillance Section cases reported through March 31, 2006.

### *Cumulative HIV and AIDS Cases in California by Age at Diagnosis*

The different age distributions for cumulative reported AIDS diagnoses and HIV infections, shown in Table 22, illustrate the progressive nature of HIV disease where AIDS defining conditions occur after HIV infection. Although time to progression from HIV to AIDS varies from person to person, AIDS diagnosis generally occurs six to ten years after infection with HIV. Therefore, as is expected, individuals in younger age groups accounted for a greater proportion of HIV infections than AIDS diagnoses. Roughly, 12.0 percent of reported HIV infections but less than 4.0 percent of AIDS diagnoses have occurred among young adults age 13-24 years ( $P<0.001$ ).



**Table 22. Cumulative HIV and AIDS Cases by Age at Diagnosis, California, 1983-2005**

	AIDS		HIV		P-value*
	Cases	Pct.	Cases	Pct.	
<b>Age at Diagnosis</b>					
under 13	654	0.5	404	1.0	<0.001
13-24	4,882	3.5	4,776	11.7	<0.001
25-34	46,794	33.4	15,083	36.8	<0.001
35-44	55,317	39.4	13,793	33.7	<0.001
45-54	23,540	16.8	5,373	13.1	<0.001
55+	9,059	6.5	1,512	3.7	<0.001
<b>Total</b>	<b>140,246</b>	<b>100.0</b>	<b>40,941</b>	<b>100.0</b>	<b>&lt;0.001</b>

Note: Percentages do not add up to 100.0 percent due to rounding. HIV case counts are based on HIV infections reported under California's non-name code HIV reporting system implemented July 2002. The code-based HIV reporting system never reached maturity before being replaced with names-based reporting in 2006 and likely undercounts diagnoses prior to implementation.

\* P-values represent the difference in proportions of HIV and AIDS diagnoses for the various groups highlighted.

Data Source: OA's Surveillance Section cases reported through March 31, 2006.

### *Cumulative HIV and AIDS Cases in California by Mode of Transmission*

For the purpose of assigning a mode of transmission (or risk group) to each HIV case, California utilizes a standard hierarchy of exposure categories developed by CDC. This system classifies all cases of HIV infection and AIDS to the mode of transmission most likely to have been responsible for transmission. Cases are counted only once in a hierarchy of exposure categories. Persons with more than one reported mode of exposure to HIV are classified in the exposure category listed first in the hierarchy. The exception is men who report sexual contact with other men and injection drug use; this group makes up a separate transmission category. The categories are: 1) male-to-male sexual contact (i.e., MSM); 2) injection drug use; 3) MSM with injection drug use; 4) high-risk heterosexual contact (i.e., sex with a person with HIV/AIDS or someone at high risk of HIV infection); and 5) other (e.g., hemophilia or blood transfusion) and all risk factors not reported or not identified.

Table 23 shows cumulative AIDS diagnoses and HIV infections by mode of transmission at the end of 2005. Male-to-male sexual contact was the reported mode of transmission for two-thirds (66.1 percent, 119,874 of 181,187) of all HIV and AIDS diagnoses.

Table 23 also illustrates a divergent pattern of exposure between AIDS diagnoses and HIV infections. Injection drug use, both alone and in combination with male-to-male sexual contact, was reported for a larger proportion of cumulative AIDS cases than cumulative HIV infections. In contrast, high-risk heterosexual contact was reported for a larger proportion of HIV infections than AIDS diagnoses. In total, heterosexual contact was the reported risk for 8.4 percent of AIDS diagnoses and 15.2 percent of HIV infections ( $P < 0.001$ ), suggesting a relative increase in this mode of transmission in recent years.

In Table 23, heterosexual contact for women is broken down into two categories: High-Risk Heterosexual Contact and Presumed Heterosexual Contact. The first category is part of the standard HIV risk hierarchy established by CDC early in the HIV epidemic and describes individuals who reported heterosexual contact with a partner known to have or to be at risk for HIV. The second category expands the heterosexual risk category to include women who have no confirmed history of injection drug use and who reported sex with a male of unknown HIV status and unknown HIV risk. These categories are based on the heterosexual HIV transmission classification recently proposed for HIV/AIDS surveillance by the Council of State and Territorial Epidemiologists.

**Table 23. Cumulative HIV and AIDS Diagnoses by Mode of Transmission and Sex, California, 1983-2005**

	AIDS		HIV		P-Value*
	Cases	Pct.	Cases	Pct.	
<b>Males</b>					
Male-to-male sexual contact	94,802	73.8	25,072	71.4	<0.001
Injection drug use	10,340	8.1	2,087	5.9	<0.001
Male-to-male sexual contact and injection drug use	13,043	10.2	2,396	6.8	<0.001
High-risk heterosexual contact	2,761	2.2	1,178	3.4	<0.001
Receipt of blood transfusion, blood components, or tissue	1,516	1.2	125	0.4	<0.001
Other/risk factor not reported or identified	5,541	4.3	4,084	11.6	<0.001
Pediatric and perinatal exposure	422	0.3	183	0.5	<0.001
<b>Total Males</b>	128,425	100.0	35,125	100.0	
<b>Females</b>					
Injection drug use	4,121	34.9	1,276	22.0	<0.001
High-risk heterosexual contact	5,218	44.1	2,467	42.4	0.005
Presumed heterosexual contact <sup>1</sup>	674	5.7	745	12.8	<0.001
Receipt of blood transfusion, blood components, or tissue	747	6.3	74	1.27	<0.001
Other/risk factor not reported or identified	712	6.0	1,033	17.8	<0.001
Pediatric and perinatal exposure	349	3.0	221	3.8	0.003
<b>Total Females</b>	11,821	100	5,816	100	
<b>Total Cases</b>	140,246	100.0	40,941	100.0	

Note: Percents do not add up to 100 due to rounding. HIV case counts are based on HIV infections reported under California's non-name code HIV reporting system implemented July 2002. The code-based HIV reporting system never reached maturity before being replaced with names-based reporting in 2006 and likely undercounts diagnoses prior to implementation.

<sup>1</sup> The "Presumed Heterosexual Contact" category includes cases classified initially as "No Identified Risk" (NIR) among adult women, age 13 years or older at diagnosis, whose only documented risk factor is sex with a male of unknown/unreported HIV risk.

\* P-values represent the difference in proportions of HIV and AIDS diagnoses for the various groups highlighted.

Data Source: OA's Surveillance Section cases reported through March 31, 2006.

### *Cumulative HIV and AIDS Cases in California by Region*

Table 24 summarizes cumulative AIDS and HIV diagnoses in California by region of residence at diagnosis. As indicated, the majority of cumulative AIDS and HIV

diagnoses have occurred among Californians living in three regions: Los Angeles County, the Greater Bay Area, and Other Southern California.

**Table 24. Cumulative HIV and AIDS Diagnoses by Region of Residence at Diagnosis, California, 1983-2005**

	AIDS		HIV		P-value*
	Cases	Pct.	Cases	Pct.	
Region of Residence at Diagnosis					
Central Coast	3,805	2.7	896	2.2	<0.0001
Greater Bay Area	46,324	33.0	11,106	27.1	<0.0001
Los Angeles County	50,579	36.1	15,202	37.1	<0.0001
Northern/Sierra	1,582	1.1	414	1.0	0.046
Other Southern California	28,006	20.0	10,060	24.6	<0.0001
Sacramento Area	3,920	2.8	975	2.4	<0.0001
San Joaquin Valley	5,430	3.9	2,164	5.3	<0.0001
Unknown	600	0.4	124	0.3	0.0004
Total	140,246	100.0	40,941	100.0	

Note: Regions reflect those established by UCLA's Center for Health Policy Research for the 2001 CHIS. HIV case counts are based on HIV infections reported under California's non-name code HIV reporting system implemented July 2002. The code-based HIV reporting system never reached maturity before being replaced with names-based reporting in 2006 and likely undercounts diagnoses prior to implementation

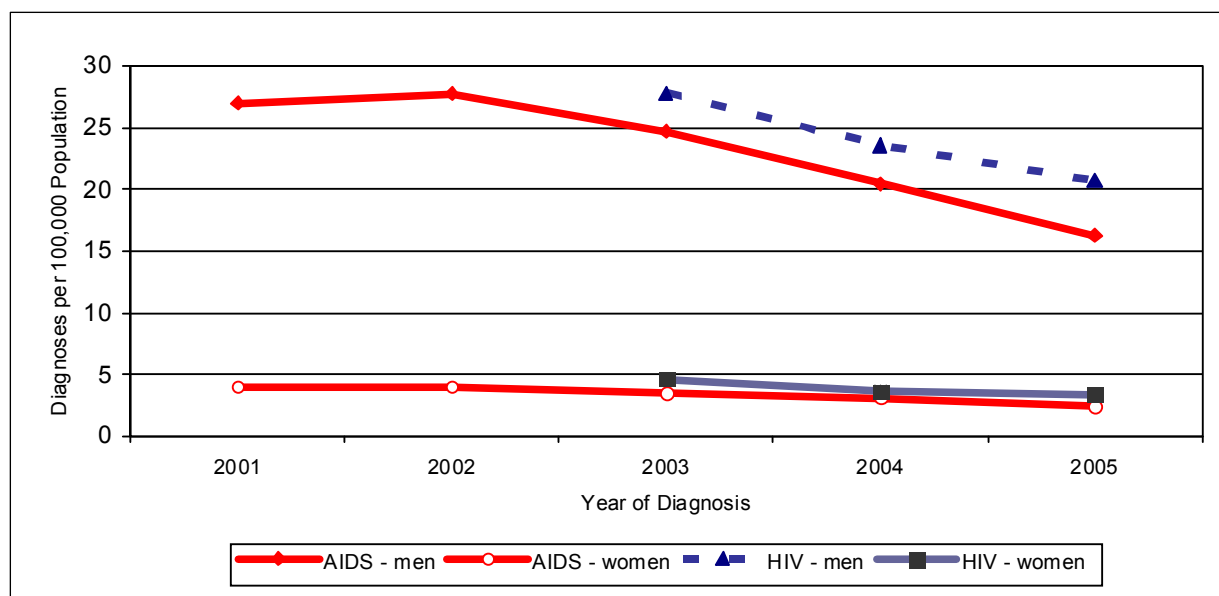
\* P-values represent the difference in proportions of HIV and AIDS diagnoses for the various groups highlighted.

Data Source: OA's Surveillance Section cases reported through March 31, 2006.

## ***New HIV and AIDS Diagnoses***

### ***Annual New HIV and AIDS Diagnoses by Sex***

Figure 9 summarizes rates of newly reported AIDS and HIV diagnoses (newly reported diagnoses per 100,000 population) annually among adults and adolescents by sex in California between 2001 and 2005. Throughout the four-year period, these rates were higher for men than for women. Rates of newly reported AIDS diagnoses among adult/adolescent men and women declined between 2002 and 2005 ( $P < 0.0001$ ) and the gap between males and females has narrowed. In 1996, there was more than an eight-fold difference between the rate of newly reported AIDS diagnoses among men and women in California. In 2005, the male rate was 6.8 times that of women.



**Figure 9. Annual Rate of Newly Reported AIDS and HIV Diagnoses among Adults/Adolescents by Sex, California, 2001-2005**

Note: Increase in AIDS case incidence in 2002 may be influenced by reporting patterns; increased reporting of newly diagnosed AIDS cases was seen in 2002, when HIV reporting by non-name code was implemented. HIV case counts are based on HIV infections reported under California's non-name code HIV reporting system implemented July 2002. Cases among adults/adolescents represent individuals 13 years or older at time of diagnosis. Totals reflect records with known sex at birth. Counts for this period exclude cases diagnosed, but not yet reported and may underestimate the actual number of diagnoses in 2005.

\*All monotonic decreases were statistically significant ( $P < 0.0001$ ; Cochran-Armitage Test for Trend).

Data Sources: OA's Surveillance Section cases reported through March 31, 2006; California Department of Finance, Race/ethnic population with age and sex detail, 2000-2005, Sacramento, California, July 2007.

### *Annual New HIV and AIDS Diagnoses by Region*

#### **AIDS Rates by Region:**

The average statewide rate of newly reported AIDS diagnoses among adults/adolescents in California was 9.4 per 100,000 population in 2005. However, as illustrated in Table 25, AIDS rates varied by geographic region, driven mainly by differing rates of diagnosis among males.

**Table 25. Newly Reported AIDS Diagnoses among Adults and Rates (per 100,000 Population) by Region of Diagnosis<sup>1</sup> and Sex, California, 2005\***

AIDS Diagnoses <sup>a</sup>									
Region of Diagnosis	Males			Females			Total		
	Cases	Pct.	Rate	Cases	Pct.	Rate	Cases	Pct.	Rate
Central Coast	83	3.4	9.0	12	3.3	1.3	95	3.4	5.2
Greater Bay Area	619	25.5	21.2	98	26.8	3.3	717	25.6	12.2
Los Angeles County	825	33.9	21.9	129	35.3	3.4	954	34.1	12.1
Northern/Sierra	17	0.7	2.9	4	1.1	*	21	0.8	1.8
Other Southern California	691	28.4	17.0	85	23.3	2.1	776	27.7	9.5
Sacramento Area	45	1.9	5.5	9	2.5	1.1	54	1.9	3.2
San Joaquin Valley	146	6.0	9.9	26	7.1	1.8	172	6.2	5.8
Unknown	6	0.2	*	2	0.5	*	8	0.3	*
Total	2,432	100.0	16.4	365	100.0	2.4	2,797	100.0	9.4

Note: Cases among adults/adolescents represent individuals 13 years or older at time of diagnosis. Totals reflect records with known sex at birth. HIV case counts are based on HIV infections reported under California's non-name code HIV reporting system implemented July 2002. Counts for this period exclude cases diagnosed, but not yet reported and may underestimate the actual number of diagnoses in 2005.

a - Rates not calculated for jurisdictions with fewer than five diagnoses or cases where the jurisdiction of diagnosis is unknown.

<sup>1</sup> Regions reflect those established by UCLA's Center for Health Policy Research for the 2001 CHIS.

\*The percentage of AIDS diagnoses among adults are not distributed in a manner that is proportionate to population distributions by region (Chi-square goodness of fit;  $P < 0.0001$ )

Data Sources: OA's Surveillance Section cases reported through March 31, 2006. California Department of Finance, Race/ethnic population with age and sex detail, 2000-2005, Sacramento, California, July 2007.

In 2005, adult/adolescent AIDS diagnosis rates ranged from a low of 1.8 per 100,000 population in the Northern/Sierra region to 12.2 per 100,000 population in the Greater Bay Area ( $p=0.005$ ) and 11.7 per 100,000 population in Los Angeles County ( $p=0.007$ ). Statewide, the AIDS rate was higher for males (16.4 per 100,000 population) than females (2.4 per 100,000 population) ( $P=0.001$ ).

Regional AIDS rates for males varied widely from 2.9 per 100,000 in the Northern/Sierra region to over 20.0 per 100,000 in both the Greater Bay Area (21.2 per 100,000;  $P=0.0002$ ) and Los Angeles County (20.5 per 100,000;  $P=0.0003$ ). AIDS rates among adult/adolescent females were lowest in the Northern/Sierra, Central Coast, and Sacramento Area regions and highest in the Greater Bay Area and Los Angeles County.

### *HIV Rates by Region*

Adult/adolescent HIV rates (new HIV diagnoses per 100,000 population) also varied by region of residence at diagnosis in 2005 (Table 26). In 2005, the statewide HIV rate was 12.1 per 100,000 population. The regional HIV rate was lowest in the Northern/Sierra (2.4 per 100,000 population) and highest in Los Angeles County (17.6 per 100,000 population;  $P=0.0007$ ) and the Greater Bay Area (16.6 per 100,000 population;  $P=0.0011$ ).

**Table 26. HIV Diagnoses among Adults and Rates (per 100,000 Population) by Region of Diagnosis and Sex, California, 2005\***

HIV Diagnoses (not AIDS)									
Region of diagnosis	Males			Females			Total		
	Cases	Pct.	Rate	Cases	Pct.	Rate	Cases	Pct.	Rate
Central Coast	54	1.8	5.9	14	2.7	1.5	68	1.9	3.7
Greater Bay Area	855	27.7	29.3	121	23.2	4.1	976	27.0	16.6
Los Angeles County	1,228	39.8	30.5	210	40.2	5.1	1,438	39.8	17.6
Northern/Sierra	17	0.6	2.9	11	2.1	1.9	28	0.8	2.4
Other Southern California	736	23.8	18.1	116	22.2	2.8	852	23.6	10.4
Sacramento Area	72	2.3	8.9	12	2.3	1.4	84	2.3	5.0
San Joaquin Valley	124	4.0	8.4	37	7.1	2.5	161	4.5	5.5
Unknown	3	<0.1	a	1	0.2	a	4	0.1	a
Total	3,089	100.0	20.8	522	100.0	3.5	3,611	100.0	12.1

Note: Cases among adults/adolescents represent individuals 13 years or older at time of diagnosis. Totals reflect records with known sex at birth. HIV case counts are based on HIV infections reported under California's non-name code HIV reporting system implemented July 2002. Counts for this period exclude cases diagnosed, but not yet reported and may underestimate the actual number of diagnoses in 2005. Regions reflect those established by UCLA's Center for Health Policy Research for the 2001 CHIS.

a - Rates not calculated for jurisdictions with fewer than five diagnoses or cases where the jurisdiction of diagnosis is unknown.

\*The proportion of HIV diagnoses among adults are not distributed in a manner that is proportionate to population distributions by region (Chi-square goodness of fit;  $P < 0.0001$ )

Data Sources: OA's Surveillance Section cases reported through March 31, 2006. California Department of Finance, *Race/ethnic population with age and sex detail, 2000-2005*, Sacramento, California, July 2007.

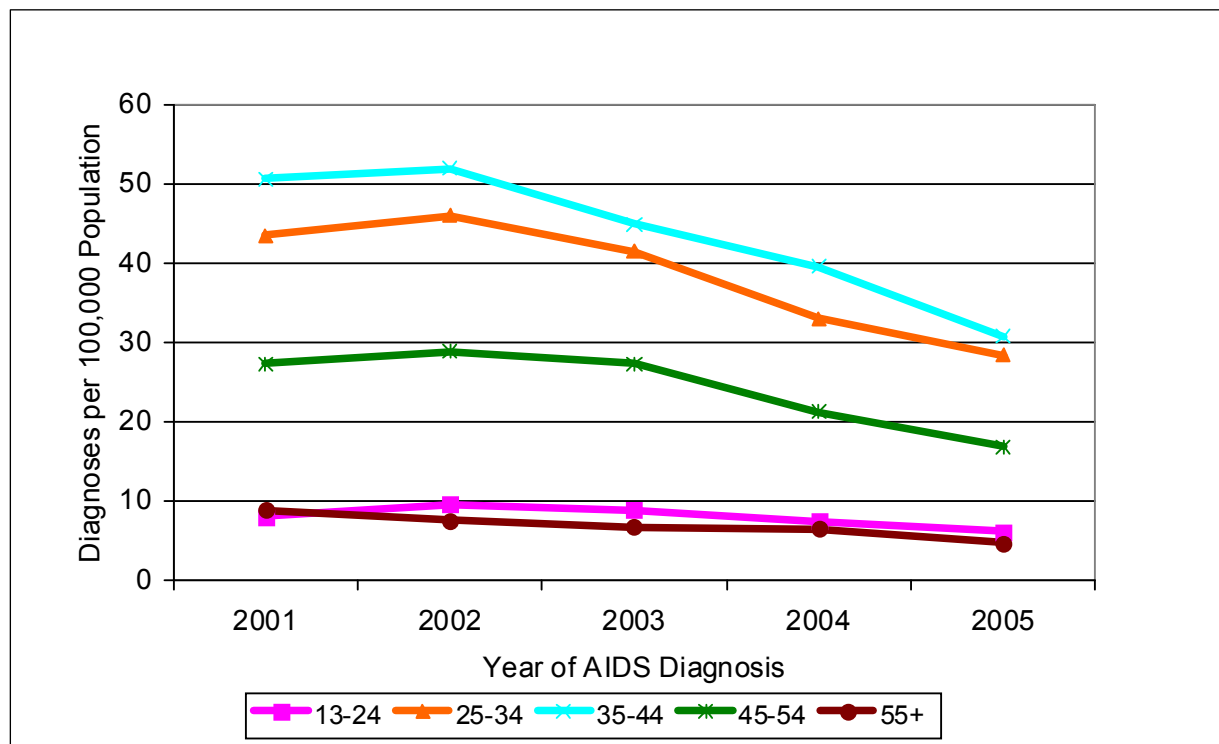
Regional differences in the overall HIV rates were influenced mainly by differing rates of infection among males. In 2005, adult/adolescent HIV rates for males ranged from a low of 2.9 per 100,000 in the Northern/Sierra region to 30.5 per 100,000 in Los Angeles County ( $P < 0.0001$ ) and 29.3 per 100,000; ( $P < 0.0001$ ) in the Greater Bay Area. Among adult/adolescent females, the statewide HIV rate was 3.5 per 100,000 in 2005. HIV rates among women were higher than the state average in Los Angeles County (5.1 per 100,000) and the Greater Bay Area (4.1 per 100,000).

### ***AIDS Diagnoses by Age***

Due to the long latent period between HIV infection and AIDS and the ability to delay AIDS onset even further through widely available antiretroviral therapy, AIDS diagnosis is a poor indicator of age at HIV infection. Age at first diagnosis of HIV disease can be a more reliable proxy for age at HIV infection, but this measure also has weaknesses as the patient's first documented HIV diagnosis includes HIV-positive patients who are asymptomatic as well as those who have presented for care with AIDS-defining clinical or laboratory symptoms. In light of the limitations of both HIV and AIDS surveillance, California began building an HIV incidence surveillance system in 2005, but this system will not be mature enough for reliable statewide estimate generation until approximately 2010. Thus, the Integrated Epidemic Profile of HIV/AIDS for California, 2001-2005, relies on HIV and AIDS surveillance to estimate the relationship between age and HIV disease.

Figure 10 describes AIDS diagnoses among males by age in California between 2001 and 2005.

**Figure 10. AIDS Diagnoses among Men by Age at Earliest Diagnosis of HIV Disease, California, 2001-2005\***



Note: Increase in AIDS case incidence in 2002 may be influenced by reporting patterns; increased reporting of newly diagnosed AIDS cases was seen in 2002, when HIV reporting by non-name code was implemented. Cases among adults/adolescents represent individuals 13 years or older at time of diagnosis. Rates reflect records with known sex at birth. HIV case counts are based on HIV infections reported under California's non-name code HIV reporting system implemented July 2002. Counts for this period exclude cases diagnosed, but not yet reported and may underestimate the actual number of diagnoses in 2005.

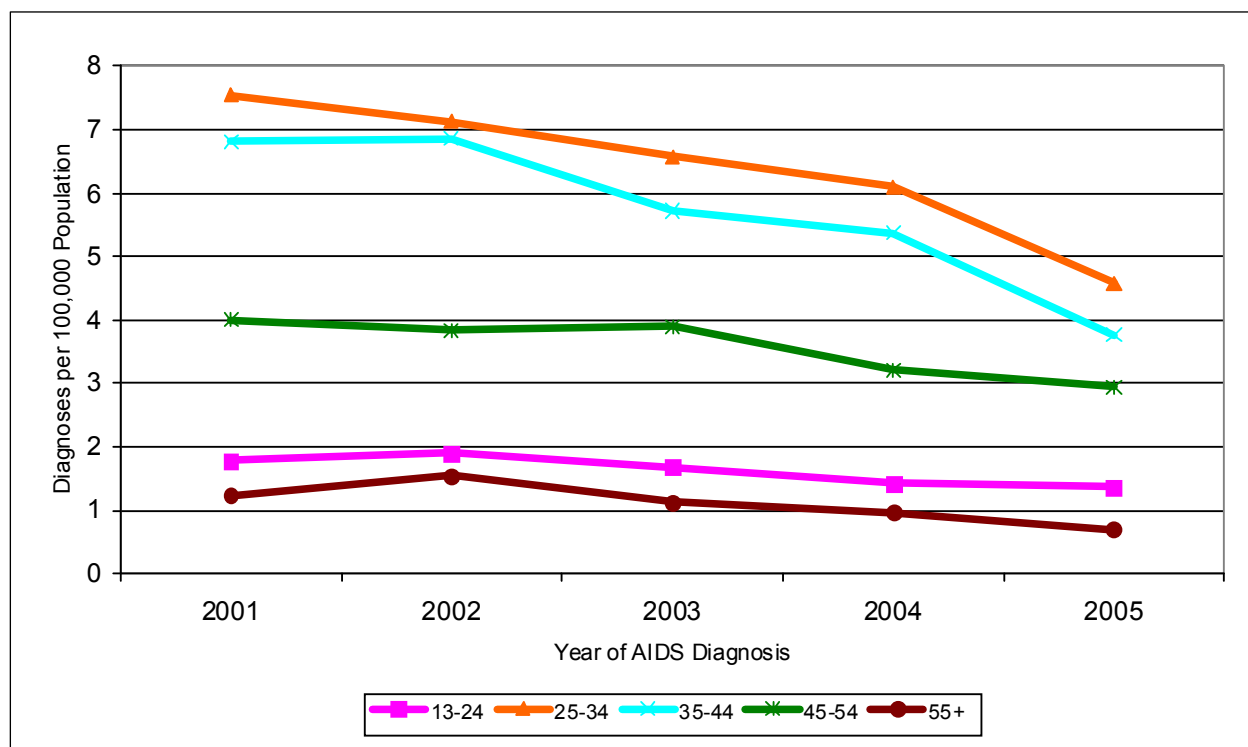
\*All monotonic decreases were statistically significant from 2002 to 2005 ( $P < 0.0001$ ; Cochran-Armitage Test for Trend).

Data Sources: OA's, Surveillance Section cases reported through March 31, 2006. California Department of Finance, Race/ethnic population with age and sex detail, 2000-2005, Sacramento, California, July 2007.

Over all five years, AIDS rates among men have remained substantially higher for those diagnosed with HIV between the ages of 25 and 44 years.

Figure 11, which describes AIDS diagnoses among adult/adolescent females in California between 2001 and 2005 shows that AIDS rates have consistently remained highest among women diagnosed with HIV between the ages of 25 and 44.

**Figure 11. AIDS Diagnoses among Women by Age at Earliest Diagnosis of HIV Disease, California, 2001-2005\***



Note: Increase in AIDS case incidence in 2002 may be influenced by reporting patterns; increased reporting of newly diagnosed AIDS cases was seen in 2002, when HIV reporting by non-name code was implemented. Cases among adults/adolescents represent individuals 13 years or older at time of diagnosis. Rates reflect records with known sex at birth. HIV case counts are based on HIV infections reported under California's non-name code HIV reporting system implemented July 2002. Counts for this period exclude cases diagnosed, but not yet reported and may underestimate the actual number of diagnoses in 2005.

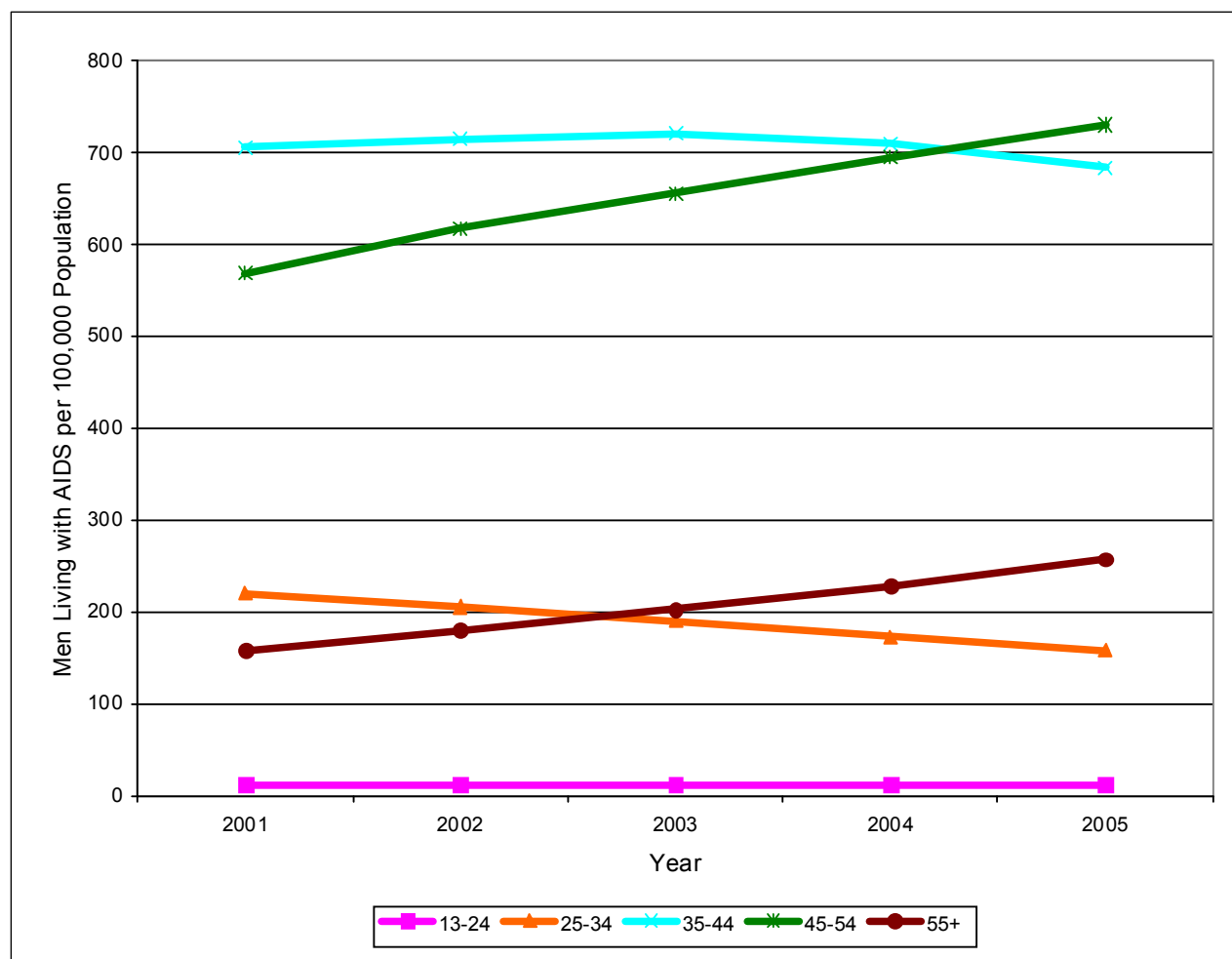
\*Monotonic trend decreases were statistically significant from 2002 to 2005 for the following age strata: 13-24, 25-34, 35-44, 55+ ( $P < 0.001$ ; Cochran-Armitage Test for Trend). The test for trend for the 45-54 year old age group was not statistically significant ( $P = 0.0618$ ).

Data Sources: OA's Surveillance Section cases reported through March 31, 2006. California Department of Finance, Race/ethnic population with age and sex detail, 2000-2005, Sacramento, California, July 2007.

## PLWA by Age

Antiretroviral therapy helps people with HIV disease live longer, healthier lives. As people diagnosed with AIDS survive longer and new HIV/AIDS diagnoses outnumber deaths among those with HIV disease, the populations living with HIV and AIDS are growing. At the same time, longer survival of people with HIV disease is resulting in increasing numbers of older PLWA. Figures 12 and 13 illustrate the growing burden of late-stage HIV disease (measured by AIDS prevalence per 100,000 population) among men and women in California.



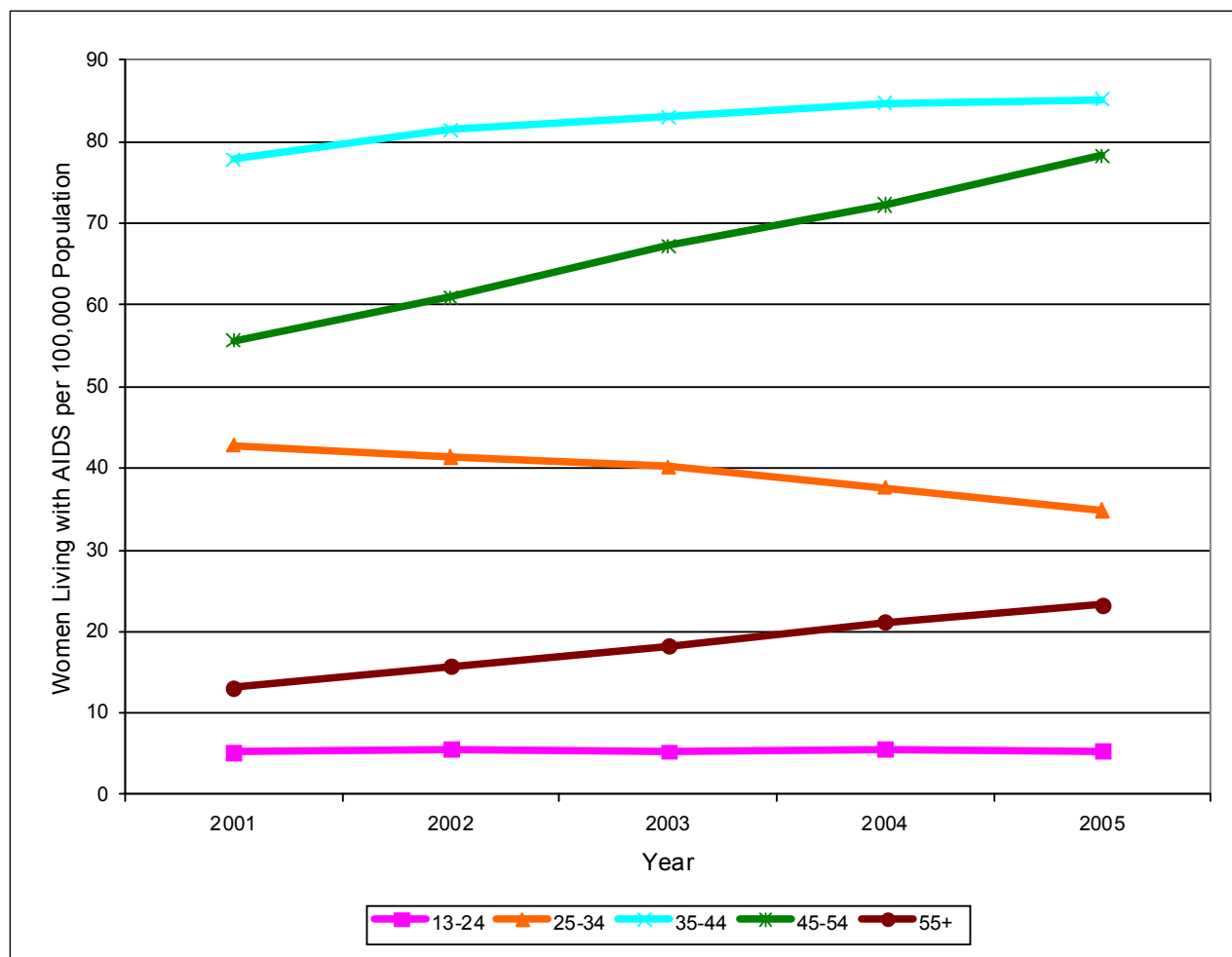
**Figure 12. Men Living with AIDS, California, 2001-2005\***

Note: Increased prevalence in 2002 may be influenced by a change in reporting patterns; increased reporting of prevalent AIDS cases was seen in 2002, when HIV reporting by non-name code was implemented. Prevalence estimates are based on California's estimated population and may include persons diagnosed in California who since moved out of state. Counts for this period exclude cases diagnosed, but not yet reported and deaths that have not yet been reported as of March 31, 2006, and may underestimate the actual number of diagnoses and deaths in most recent years. Rates reflect records with known sex at birth. In the absence of death information, individuals with unknown vital status were considered living.

\*Test for trend for monotonically decreasing rates were statistically significant from 2002 to 2005 for 25-34 year olds and from 2003-2005 for men in the 35-44 year old group ( $P < 0.0001$ ; Cochran-Armitage Test for Trend). Test for trend for monotonically increasing rates were statistically significant from 2002 to 2005 for 45-54 and the 55+ age groups ( $P < 0.0001$ ). The test for trend for the 13-24 year old age group was not statistically significant ( $P = 0.2776$ ).

Data Sources: OA's, Surveillance Section cases reported through March 31, 2006. California Department of Finance, Race/ethnic population with age and sex detail, 2000-2005, Sacramento, California, July 2007.

Among men, AIDS prevalence was substantially higher among men between the ages of 35 and 54 years old than other age groups. Men living with AIDS also represent a growing proportion among men in the 45-54 year and over 55 years age groups between 2001 and 2005 ( $P < 0.0001$ ).

**Figure 13. Women Living with AIDS, California, 2001-2005\***

Note: Increased prevalence in 2002 may be influenced by a change in reporting patterns; increased reporting of prevalent AIDS cases was seen in 2002, when HIV reporting by non-name code was implemented. Prevalence estimates are based on California's estimated population and may include persons diagnosed in California who since moved out of state. Counts for this period exclude cases diagnosed, but not yet reported and deaths that have not yet been reported as of March 31, 2006, and may underestimate the actual number of diagnoses and deaths in most recent years. Rates reflect records with known sex at birth. In the absence of death information, individuals with unknown vital status were considered living.

\*Test for trend for monotonically decreasing rates were statistically significant from 2002 to 2005 for 25-34 year old women ( $P < 0.0001$ ; Cochran-Armitage Test for Trend). Test for trend for monotonically increasing rates were statistically significant from 2002 to 2005 for 35-44, 45-54 and the 55+ age groups ( $P < 0.0001$ ). The test for trend for the 13-24 year old age group was not statistically significant ( $P = 0.2981$ ).

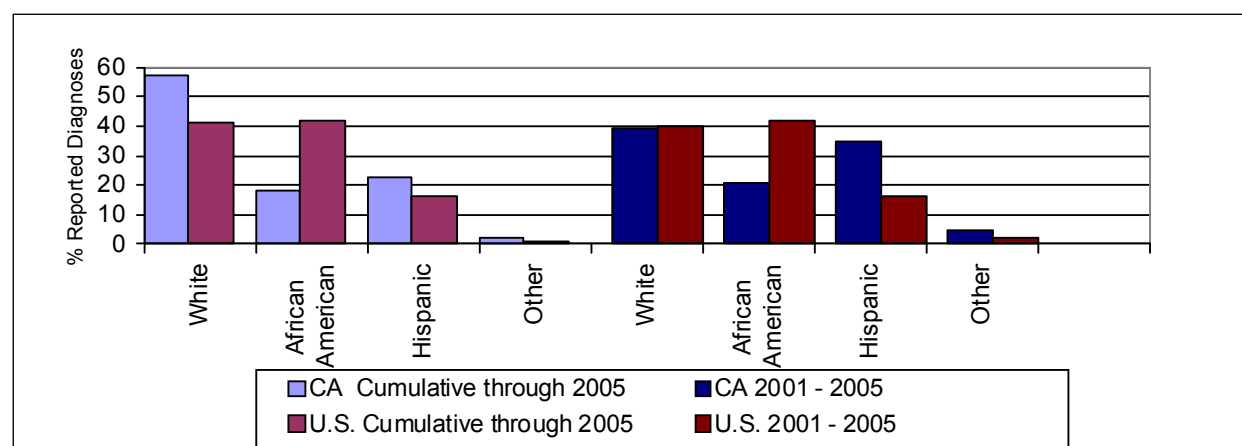
Data Sources: OA's Surveillance Section cases reported through March 31, 2006. California Department of Finance, Race/ethnic population with age and sex detail, 2000-2005, Sacramento, California, July 2007.

Figure 13 shows the proportion of women living with AIDS, an indicator of late-stage HIV disease, in various age groups in California. The prevalence of AIDS (persons living with AIDS per 100,000) presented in Figure 13 indicates an increasing burden of HIV disease among women in three age groups: women 34-44 and 45-54 years old and women over 55 years of age ( $P < 0.0001$ ).

### ***Race/ethnicity of Californians with HIV/AIDS***

Although HIV and AIDS have impacted people of all races and ethnicities, the racial/ethnic composition of reported cases in California has shifted since the beginning of the epidemic. Over the past 25 years, the proportion of White individuals represented in California's AIDS case reports decreased as the epidemic grew within other racial and ethnic populations. The racial/ethnic breakdown for newly diagnosed cases of AIDS in 2005 in California was 37.3 percent White, 37.8 percent Hispanic, 20.4 percent African American, and 3.1 percent Asian. Native Hawaiians and other Pacific Islanders, American Indians and Alaska Natives, people of more than one race and people of unknown race accounted for the remaining 1.4 percent. The racial/ethnic breakdown for HIV cases, one indicator of more recent HIV infections, was similar with a slightly larger representation of African Americans and Asians among cases with a reported race.<sup>3</sup> Figure 14 shows the cumulative and recent (2001-2005) difference in racial/ethnic composition of AIDS diagnoses in California and AIDS diagnoses across the United States.

**Figure 14. Percent of AIDS Cases Diagnosed Since the Beginning of the Epidemic and During the Last Five Years by Race/ethnicity, California and the United States, 2005**



Note: Counts for California cases in this period exclude AIDS cases diagnosed, but not yet reported and deaths that have not yet been reported as of March 31, 2006 and may underestimate the actual number of diagnoses and deaths in most recent years. The 'Other' category includes individuals in the following population groups: Asians, Native Hawaiians and Pacific Islanders, American Indians and Alaska Natives, persons of more than one race and persons of unknown/unreported race.

Data Sources: CDC, HIV/AIDS Surveillance Report: HIV Infection and AIDS in the United States and Dependent Areas, 2005. OA's Surveillance Section cases reported through March 31, 2006.

Differences in the racial/ethnic distribution of AIDS cases between California and the United States partially reflect differences in California's racial/ethnic composition relative to the United States as a whole. Compared with the United States, the estimated proportion of California's Hispanic population is large (35.0 percent versus 14.0 percent). The proportion of residents describing themselves as non-Hispanic African American is smaller in California than in the United States (6.0 percent versus 13.0 percent). As illustrated in Figure 14, compared to national AIDS statistics, the

<sup>3</sup> This comparison excludes HIV infections reported with unknown race and ethnicity.

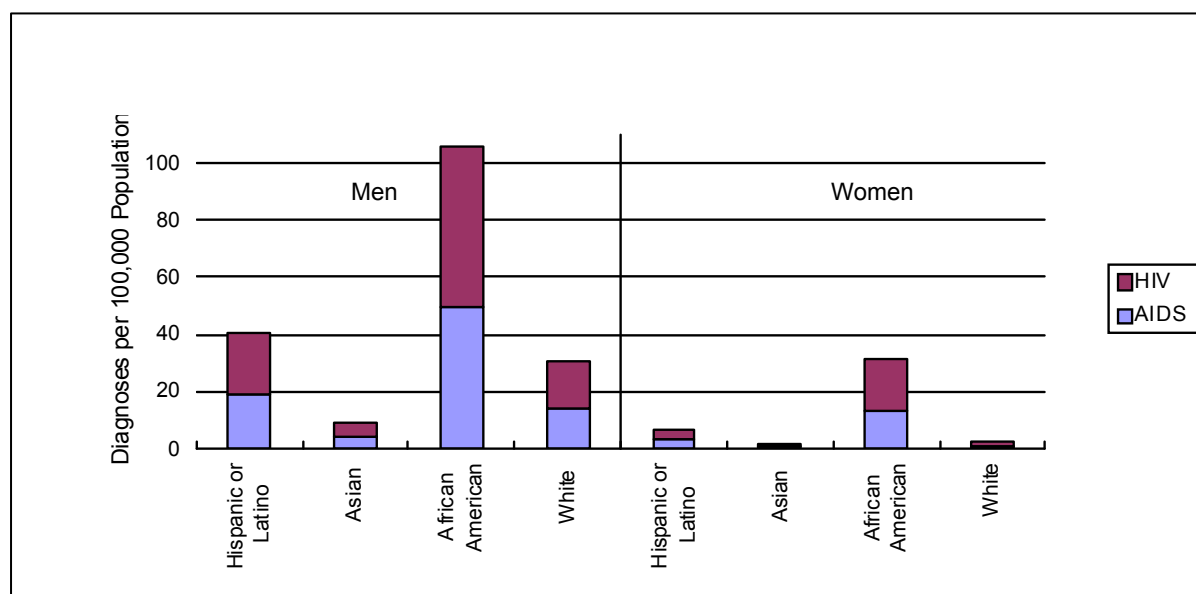
proportion of cumulative AIDS cases in California is greater among Whites (57.0 percent versus 41.0 percent) and Hispanics (23.0 percent versus 16.0 percent) and smaller among African Americans (18.0 percent versus 42.0 percent).

In the five-year period, from 2001-2005, although White individuals continued to account for the largest percent of AIDS case counts in California (39.0 percent), the proportion of AIDS cases among Hispanics and African Americans has increased. Compared to national figures, California's AIDS case counts show greater representation among Hispanics (35.0 percent versus 16.0 percent) and a smaller proportion of cases among African Americans (21.0 percent versus 42.0 percent). As noted previously, the Californian African American population is about one-half that of the national average and California's Hispanic population is more than double that of the national average.

### *HIV and AIDS Diagnoses by Race/ethnicity*

Figure 15 shows the 2005 HIV and AIDS rates (new diagnoses per 100,000 population) in 2005 for adult/adolescent males and females in California by race/ethnicity.

**Figure 15. HIV and AIDS Diagnoses among Adults/adolescents by Sex and Race/ethnicity, California, 2005**



Note: Counts for California cases in this period exclude AIDS cases diagnosed, but not yet reported as of March 31, 2006, and may underestimate the actual number of diagnoses. Rates were not calculated for individuals whose sex at birth is unknown. Rates not calculated for populations with fewer than 50 cases total: Pacific Islander, American Indian/Alaska Native, and Multi-race.

Data Sources: OA's Surveillance Section cases reported through March 31, 2006. California Department of Finance, Race/ethnic population with age and sex detail, 2000-2005, Sacramento, California July, 2007.

Figure 15 illustrates the disproportionate impact of HIV disease on African American men and women in California. The 2005 HIV/AIDS rate among African American males age 13 years and older was 105.5 per 100,000 population, three times the average HIV/AIDS rate for all males 13 years and older (37.2 per 100,000). The 2005 HIV/AIDS rate for

African American females age 13 and older was 31.2 per 100,000, over five times the statewide average rate among females over 13 years of age (5.9 per 100,000).

Table 27 provides a breakdown of AIDS diagnoses among adult/adolescents in California in 2005, by race/ethnicity and sex. As indicated by the data summarized below, although most AIDS cases were diagnosed among White and Hispanic individuals, the 2005 AIDS rate was highest among African Americans.

**Table 27. AIDS Diagnoses among Adults/adolescents and Rates (per 100,000 Population) by Race/ethnicity and Sex, California, 2005\***

Race/ethnicity	Men			Women			Total		
	Cases	Pct.	Rate	Cases	Pct.	Rate	Cases	Pct.	Rate
Hispanic	922	37.9	19.1	135	37.0	2.9	1,057	37.8	11.2
American Indian/Alaska Native	13	0.5	14.3	1	0.3	a	14	0.5	7.5
Asian	69	2.8	4.0	16	4.4	0.8	85	3.0	2.4
Hawaiian Native/Pacific Islander	11	0.5	20.9	3	0.8	a	14	0.5	13.1
African American	444	18.3	49.6	126	34.5	13.3	570	20.4	30.9
White	959	39.4	13.7	82	22.5	1.1	1,041	37.2	7.3
Multi-race	9	0.4	4.0	1	0.3	A	10	0.4	2.1
Unknown	5	0.2	a	1	0.3	A	6	0.2	a
Total	2,432	100.0	16.4	365	100.0	2.4	2,797	100.0	9.3

Note: Percentages do not add up to 100.0 due to rounding. Counts for California cases in this period exclude AIDS cases diagnosed, but not yet reported and deaths that have not yet been reported as of March 31, 2006, and may underestimate the actual number of diagnoses and deaths in most recent years. Hispanic category includes individuals of all races. Table excludes individuals whose sex at birth is unknown.

a – rates were not calculated for categories with five or less cases.

\*The proportion of AIDS diagnoses among adults/adolescents by race/ethnicity are not distributed in a manner that is proportionate to population distributions by race/ethnicity (Chi-square goodness of fit;  $P < 0.0001$ ).

Data sources: OA's Surveillance Section cases reported through March 31, 2006. California Department of Finance, *Race/ethnic population with age and sex detail, 2000-2005*, Sacramento, California, July 2007.

In 2005, the racial/ethnic composition of AIDS diagnoses among men in California was 39.4 percent White, 37.9 percent Hispanic, 18.3 percent African American, and 2.8 percent Asian. Men in American Indian/Alaska Native, Native Hawaiian/Pacific Islander, Multi-race, and unknown race/ethnicity categories accounted for 1.6 percent of AIDS cases in 2005. AIDS rates in 2005 were significantly higher than the statewide average for African American and Hispanic men and lower than statewide average for Asian and White men.

Similar racial/ethnic differences in proportion of AIDS diagnoses by race/ethnicity can be seen among women in California. In 2005, the racial/ethnic composition of AIDS cases among women was 37.0 percent Hispanic, 34.5 percent African American, 22.5 percent White, and 4.4 percent Asian. American Indian/Alaska Natives, Native Hawaiian/Pacific Islanders, and women of Multiple or Unknown race/ethnicity accounted

for 1.6 percent of AIDS cases in 2005. AIDS rates in 2005 were substantially higher than the statewide average for African American women and women (p-value not calculated due to statistical dependence).

Table 28 describes new HIV diagnoses, and indicator of more recent HIV infection, among Californians in 2005 by race/ethnicity and sex.

**Table 28. HIV Diagnoses among Adults/adolescents and Rates (per 100,000 Population) by Race/ethnicity and Sex, California, 2005\***

Race/ethnicity	Men			Women			Total		
	Cases	Pct.	Rate	Cases	Pct.	Rate	Cases	Pct.	Rate
Hispanic	1,015	32.9	21.0	156	29.9	3.4	1,171	32.4	12.4
American Indian/Alaska Native	18	0.6	19.8	7	1.3	7.4	25	0.7	13.4
Asian	91	2.9	5.3	12	2.3	0.6	103	2.9	2.8
Hawaiian Native/Pacific Islander	9	0.3	17.1	1	0.2	a	10	0.3	9.4
African American	501	16.2	55.9	170	32.6	17.9	671	18.6	36.4
White	1,189	38.5	16.9	119	22.8	1.6	1,308	36.2	9.2
Multi-race	19	0.6	8.4	5	1.0	2.1	24	0.7	5.1
Unknown	247	8.0	a	52	10.0	a	299	8.3	a
Total	3,089	100.0	20.8	522	100.0	3.5	3,611	100.0	12.1

Note: Counts for California cases in this period exclude AIDS cases diagnosed, but not yet reported as of March 31, 2006, and may underestimate the actual number of diagnoses. Hispanic category includes individuals of all races.

a – rates were not calculated for categories with five or less cases.

\*The proportion of HIV diagnoses among adults/adolescents by race/ethnicity are not distributed in a manner that is proportionate to population distributions by race/ethnicity in California (Chi-square goodness of fit;  $P < 0.0001$ ).

Data Sources: OA's, Surveillance Section cases reported through March 31, 2006. California Department of Finance, Race/ethnic population with age and sex detail, 2000-2005, Sacramento, California July, 2007.

The data in Table 28 show racial and ethnic variation in HIV rates among California men and women. Overall, HIV rates among adults/adolescents in California ranged from a low of 2.8 per 100,000 among Asians to a high of 36.4 per 100,000 among African Americans ( $P < 0.0001$ ). The numbers of HIV diagnoses among White and Hispanic individuals in 2005 were relatively equal. The HIV rate among people of Hispanic ethnicity was not significantly higher than that of White individuals (12.4 per 100,000 versus 9.2 per 100,000;  $P = 0.491$ ).

In 2005, the racial/ethnic distribution of HIV diagnoses among men was 38.5 percent White, 32.9 percent Hispanic, 16.2 percent African American, and 2.9 percent Asian. Individuals in American Indian/Alaska Native, Native Hawaiian/Pacific Islander, Multi-race, and unknown race/ethnicity categories accounted for 9.5 percent of AIDS diagnoses in 2005. HIV rates among African American men in 2005 were significantly higher than the statewide average. HIV rates among White and Asian men and men reporting multiple races were low compared to the statewide average.

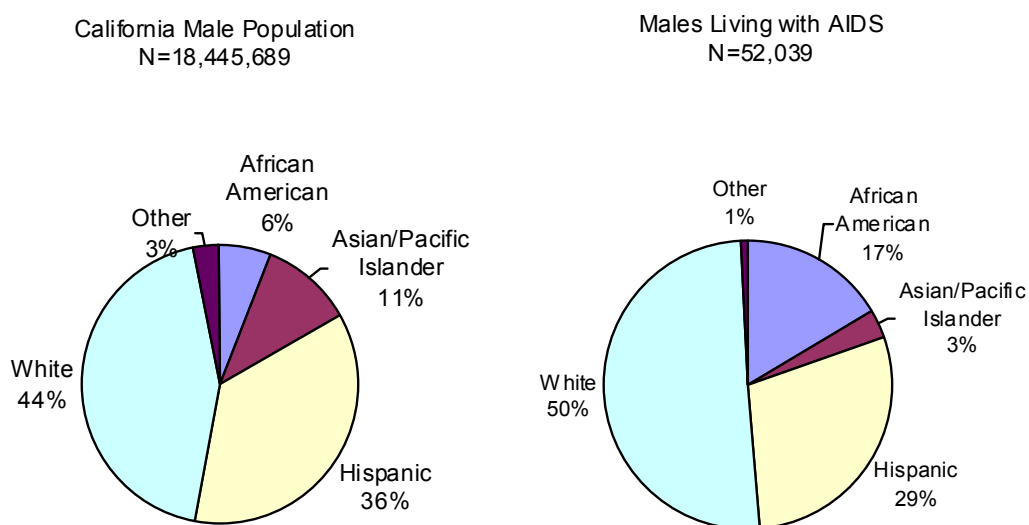
In 2005, the racial/ethnic composition of HIV diagnoses among California women was 32.6 percent African American, 29.9 percent Hispanic, 22.8 percent White, and 2.3 percent Asian. American Indian/Alaska Natives, Native Hawaiian/Pacific Islanders, and women of multiple or unknown race/ethnicity accounted for 12.5 percent of HIV diagnoses.

Although HIV diagnoses among adult/adolescent females occurred among Hispanic, African American, and White women in roughly equal numbers, significant disparities were seen in the race/ethnicity-specific 2005 HIV rates. At 17.9 per 100,000, the HIV rate for African American women was more than 5 times that of Hispanic women (3.4 per 100,000;  $P=0.0017$ ) and over 11 times the rate of White women (1.6 per 100,000;  $P=0.0002$ ). The HIV rate in Hispanic women was approximately twice that of White women (3.4 versus 1.6 per 100,000;  $p=0.210$ ).

#### *PLWA by Race/ethnicity*

Figures 16 and 17 portray the estimated proportion of males and females living with AIDS in California by race/ethnicity. As illustrated, African Americans living with AIDS account for numbers disproportionate to their representation in the California population. This disparity occurs among both males (17.0 percent versus 6.0 percent;  $P<0.0001$ ) and females (36.0 percent versus 6.0 percent;  $P<0.0001$ ).

**Figure 16. Estimated Male Population and Percent of Males Living with AIDS by Race/ethnicity, California, 2005**



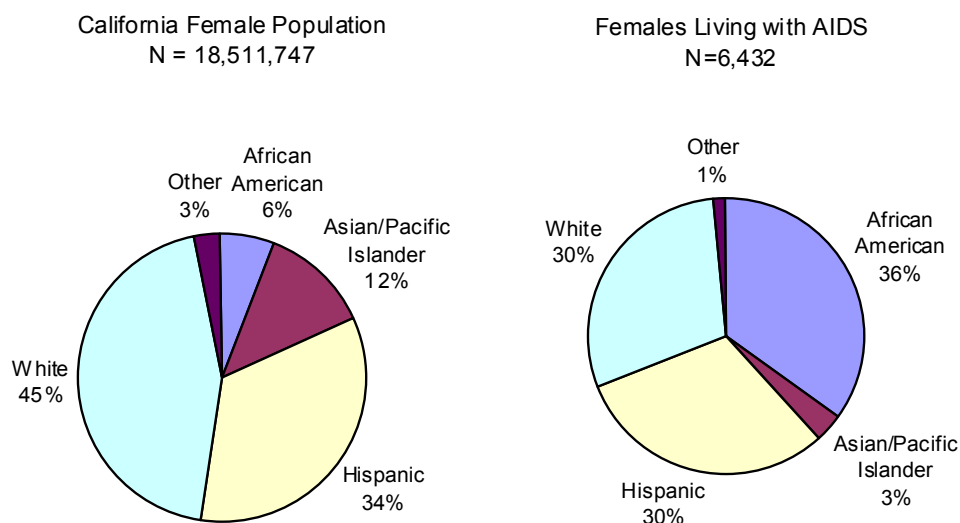
Note: The number of PLWA may include persons diagnosed in California who have since moved out of state. Persons in the 'Other' category include American Indians/Alaska Natives, persons of more than one race, and persons of unknown race and ethnicity. Totals do not reflect individuals with unknown sex at birth. In the absence of death information, individuals with unknown vital status were considered living.

Data Sources: OA's Surveillance Section cases reported through March 31, 2006. California Department of Finance, *Race/ethnic Population with Age and Sex Detail, 2000-2005*, Sacramento, California, July 2007.



Figure 17 shows the estimated proportion of females living with AIDS by race/ethnicity. As can be seen, African American females accounted for the largest proportion of females living with AIDS by the end of 2005.

**Figure 17. Estimated Female Population and Percent of Females Living with AIDS by Race/ethnicity, California, 2005**



Note: The number of PLWA may include persons diagnosed in California who have since moved out of state. Persons in the 'Other' category include American Indians/Alaska Natives, persons of more than one race, and persons of unknown race and ethnicity. Totals do not reflect individuals with unknown sex at birth. In the absence of death information, individuals with unknown vital status were considered living.

Data sources: OA's Surveillance Section cases reported through March 31, 2006. California Department of Finance, *Race/ethnic Population with Age and Sex Detail, 2000-2005*, Sacramento, California, July 2007.

Table 29 describes AIDS prevalence among Californians, defined as the number of PLWA per 100,000 population in 2005, broken down by race/ethnicity, current age, and sex. AIDS prevalence varied widely by sex, race/ethnicity, and age. In 2005, the statewide average AIDS prevalence among adult/adolescent men (350.4 per 100,000) was roughly eight times higher than AIDS prevalence among adult/adolescent women (42.4 per 100,000;  $P < 0.0001$ ). Estimated AIDS prevalence among men was substantially higher than AIDS prevalence among women for all racial/ethnic populations over 13 years of age.

As shown in Table 29, the proportion of PLWA varied greatly by race/ethnicity. Among men, AIDS prevalence ranged from 84.4 per 100,000 among Asians and Pacific Islanders to 972.6 per 100,000 for African Americans ( $P < 0.0001$ ). Although African American, Hispanic, and White women represent roughly equal proportions of women living with AIDS, AIDS prevalence was much greater among African American women. At 235.0 per 100,000 population, the proportion of African American women living with AIDS was over five times that of Hispanic women (42.0 per 100,000;  $P < 0.0001$ ) and over eight times that of White women (26.7 per 100,000;  $P < 0.0001$ ).

**Table 29. PLWA by Sex, Race/ethnicity, and Age Group, California, 2005**

Males					Females				
Race/ ethnicity	current age	N	Pct.	Rate	Race/ ethnicity	current Age	N	Pct.	Rate
Hispanic					Hispanic				
	Under 13	31	0.2	1.8		Under 13	25	1.3	1.5
	13-24	217	1.4	15.6		13-24	72	3.7	5.5
	25-34	2,222	14.8	199.4		25-34	342	17.5	35.4
	35-44	6,819	45.3	643.6		35-44	747	38.2	79.3
	45-54	4,219	28.1	632.5		45-54	496	25.4	75.4
	55+	1,534	10.2	253.8		55+	273	14.0	37.6
<i>Total Adults/Adolescents</i>		<i>15,011</i>	<i>99.8</i>	<i>310.3</i>	<i>Total Adults/Adolescents</i>		<i>1,930</i>	<i>98.7</i>	<i>42.0</i>
Asian/Pacific Islander					Asian/Pacific Islander				
	Under 13	2	0.1	a		Under 13	2	1.0	a
	13-24	18	1.2	4.8		13-24	3	1.4	a
	25-34	176	11.8	52.3		25-34	39	18.1	10.9
	35-44	599	40.1	173.2		35-44	67	31.0	17.5
	45-54	484	32.4	159.8		45-54	63	29.2	18.0
	55+	214	14.3	53.1		55+	42	19.4	8.3
<i>Total Adults/Adolescents</i>		<i>1,491</i>	<i>99.9</i>	<i>84.38</i>	<i>Total Adults/Adolescents</i>		<i>214</i>	<i>99.1</i>	<i>10.9</i>
African American					African American				
	Under 13	20	0.2	9.6		Under 13	17	0.8	8.5
	13-24	102	1.2	42.8		13-24	55	2.5	24.6
	25-34	625	7.2	415.2		25-34	277	12.3	178.3
	35-44	3,264	37.4	1,829.8		35-44	803	35.7	436.5
	45-54	3,277	37.5	2,131.1		45-54	797	35.4	486.5
	55+	1,442	16.5	826.1		55+	302	13.4	135.1
<i>Total Adults/Adolescents</i>		<i>8,710</i>	<i>99.8</i>	<i>972.6</i>	<i>Total Adults/Adolescents</i>		<i>2,234</i>	<i>99.2</i>	<i>235.0</i>
White					White				
	Under 13	11	0.0	1.0		Under 13	4	0.2	a
	13-24	80	0.3	6.3		13-24	35	1.8	3.0
	25-34	1,012	3.9	109.3		25-34	174	9.1	19.1
	35-44	9,143	34.8	707.6		35-44	747	38.8	59.6
	45-54	10,565	40.2	761.9		45-54	650	33.7	47.7
	55+	5,490	20.1	255.6		55+	319	16.5	12.6
<i>Total Adults/Adolescents</i>		<i>26,290</i>	<i>99.9</i>	<i>374.8</i>	<i>Total Adults/Adolescents</i>		<i>1,925</i>	<i>99.8</i>	<i>26.7</i>

Note: AIDS prevalence estimates based on California population estimates and may include persons diagnosed in California who have since moved out of state. Totals reflect individuals with known sex at birth. In the absence of death information, individuals with unknown vital status were considered living. Classification by race/ethnicity is based on initial case report; Asian category includes Pacific Islanders to reflect racial classification system in place for diagnoses before the 2000 census. Prevalence was not calculated for persons in categories with fewer than 100 cases among women or men: Pacific Islander, American Indian/Alaska Native, and Multi-race.

a – rates not calculated for categories with fewer than ten individuals.

Data Sources: OA's Surveillance Section cases reported through March 31, 2006. California Department of Finance, *Race/ethnic Population with Age and Sex Detail, 2000-2005*, Sacramento, California, July 2007.

## MODE OF TRANSMISSION

HIV/AIDS case reporting uses three tiers of risk factor information to describe the mode of exposure for HIV transmission. “Risk factors” are the collective term for the individual routes of exposure/transmission on which data are routinely collected for surveillance of HIV/AIDS cases and recorded as “yes,” “no,” or “unknown” on the HIV/AIDS Case Report Form. “Risk factors” refer to a set of variables that describe the patient’s behaviors (e.g., “injected non-prescribed drugs”) or medical history (e.g., “received clotting factor for a coagulation disorder”) that have been found to increase risk of HIV infection. Individual risk factors are typically summarized according to hierarchical summary of risk, developed by CDC.

For the purposes of this report, risk factors have been presented using CDC-defined hierarchy of risk with one exception, the addition of a ‘Presumed Heterosexual Contact’ category. This category includes adult/adolescent women with risk factors that would initially put them in the “no identified risk” (NIR) category under current CDC hierarchy: women age 13 years or older at diagnosis with no identified history of injection drug use or other exposure, whose only reported risk factor is sex with a male with unknown or unreported risk. For the purposes of this report, a negative history of injection drug use was determined by a “no” answer to “injected non-prescribed drugs” on the HIV/AIDS Case Report Form. Presumed Heterosexual Contact categorization was based on the criteria outlined in the Council of State and Territorial Epidemiologist Position Statement 07-ID-09 previously described on pages 47-48.

Table 30 on the next page shows the annual number of HIV and AIDS diagnoses among California males for years 2001-2005 by mode of transmission. As can be seen, sexual contact, primarily male-to-male sexual contact, was the most commonly reported mode of transmission among men for all five years. In total, male-to-male sexual contact was reported by nearly three-quarters of all men diagnosed with AIDS between 2001 and 2005.

HIV diagnoses between 2003 and 2005 showed a similar risk distribution. Male-to-male sexual contact was reported by the majority of men with an HIV (not AIDS) diagnosis. Injection drug use in the absence of male-to-male sexual contact was reported more often among men with an AIDS diagnosis than men diagnosed with HIV alone. Roughly, 9.0 percent of men with an AIDS diagnosis between 2001 and 2005 and 5.5 percent of men with an HIV diagnosis between 2003 and 2005 ( $P < 0.0001$ ) reported a history of injection drug use.

**Table 30. HIV and AIDS Diagnoses among Males by Mode of Transmission and Year of Diagnosis, California, 2001–2005**

	AIDS						Total	Pct.
	2001	2002	2003	2004	2005			
Male-to-male sexual contact	2,385	2,552	2,377	1,967	1,570	10,851	65.1	
Injection drug use	385	380	333	248	207	1,553	9.3	
Male-to-male sexual contact and injection drug use	347	335	302	241	186	1,411	8.5	
High-risk heterosexual contact	229	228	198	183	131	969	5.8	
Receipt of blood transfusion, blood components, or tissue	24	29	12	8	10	83	0.5	
Other/risk factor not reported or identified	356	400	333	360	327	1,776	10.7	
Pediatric or perinatal exposure <sup>2</sup>	7	6	6	9	2	30	0.2	
Subtotal	3,733	3,930	3,561	3,016	2,432	16,673	100.0	
	HIV (not AIDS)						Total	Pct.
	2001	2002	2003	2004	2005			
Male-to-male sexual contact	*	*	2,645	2,380	2,017	7,042	66.6	
Injection drug use	*	*	258	186	136	580	5.5	
Male-to-male sexual contact and injection drug use	*	*	250	182	155	587	5.5	
High-risk heterosexual contact	*	*	145	141	91	377	3.6	
Receipt of blood transfusion, blood components, or tissue	*	*	14	7	7	28	0.3	
Other/risk factor not reported or identified	*	*	701	565	683	1,949	18.4	
Pediatric or perinatal exposure <sup>1</sup>	*	*	6	8	2	16	0.1	
Subtotal	*	*	4,019	3,469	3,091	10,579	100.0	

Note: Percentages do not add up to 100 due to rounding. HIV case counts are based on HIV infections reported under California's non-name code HIV reporting system implemented July 2002. Counts for this period exclude cases diagnosed, but not yet reported and may underestimate the actual number of diagnoses in recent years. Totals do not reflect individuals with unknown sex at birth.

<sup>1</sup> Pediatric or perinatal exposure is based on mode of transmission regardless of the patient's age. This category may include persons exposed to HIV as infants or children and diagnosed with AIDS as adults.

\* Counts for HIV cases diagnosed before implementation of California's code-based system in July 2002 are not shown.

Data Sources: OA's Surveillance Section cases reported through March 31, 2006.

**Table 31. HIV and AIDS Diagnoses among Females by Mode of Transmission and Year of Diagnosis, California, 2001–2005**

	AIDS						Total	Pct.
	2001	2002	2003	2004	2005			
Injection drug use	180	139	132	118	79	648	25.8	
High-risk heterosexual contact	261	292	264	233	175	1,225	48.8	
Presumed heterosexual contact <sup>1</sup>	54	54	41	65	59	273	10.9	
Receipt of blood transfusion, blood components, or tissue	10	21	7	4	6	48	1.9	
Other/risk factor not reported or identified	62	69	69	43	45	288	11.5	
Pediatric or perinatal exposure <sup>2</sup>	8	9	3	7	4	31	1.2	
Subtotal	575	584	516	470	368	2,513	100.0	
	HIV (not AIDS)						Total	Pct.
	2001	2002	2003	2004	2005			
Injection drug use	*	*	141	81	89	311	17.6	
High-risk heterosexual contact	*	*	243	229	182	654	36.9	
Presumed heterosexual contact <sup>1</sup>	*	*	124	100	71	295	16.7	
Receipt of blood transfusion, blood components, or tissue	*	*	11	2	4	17	0.9	
Other/risk factor not reported or identified	*	*	166	127	176	469	26.5	
Pediatric or perinatal exposure <sup>2</sup>	*	*	11	1	3	15	0.8	
Subtotal	*	*	696	550	525	1,771	100.0	

Note: Percentages do not add up to 100 due to rounding. HIV case counts are based on HIV infections reported under California's non-name code HIV reporting system implemented July 2002. Counts for this period exclude cases diagnosed, but not yet reported and may underestimate the actual number of diagnoses in recent years. Totals do not reflect individuals with unknown sex at birth.

<sup>1</sup> The "Presumed Heterosexual Contact" category includes cases classified initially as "NIR" among adult women, age 13 years or older at diagnosis, whose only reported risk factor is heterosexual contact with a partner of unknown/unreported risk (Council of State and Territorial Epidemiologists Position Statement 07-ID-09).

<sup>2</sup> Pediatric or perinatal exposure is based on mode of transmission regardless of the patient's age. This category may include persons exposed to HIV as infants or children and diagnosed with AIDS as adults.

\* Counts for HIV cases diagnosed before implementation of California's code-based system in July 2002 are not shown.

Data Source: OA's Surveillance Section cases reported through March 31, 2006.

As shown in Table 31, heterosexual contact was the mode of transmission reported by the majority of females diagnosed with HIV and AIDS during the five-year period, from 2001-2005. High-risk heterosexual contact (i.e., heterosexual contact with a person

with HIV/AIDS or someone at high risk of HIV infection) was reported by nearly one-half (48.8 percent) of females diagnosed with AIDS between 2001 and 2005. Another 10.9 percent of females diagnosed with AIDS between 2001 and 2005 were presumed to be exposed heterosexually. Roughly, 37.0 percent of females diagnosed with HIV between 2003 and 2005 reported heterosexual contact with a person with HIV/AIDS or someone at high risk of HIV infection. Presumed heterosexual contact with a male partner of unknown HIV status and unknown risk accounted for 16.7 percent of HIV diagnoses among females between 2003 and 2005.

Injection drug use was the second most common risk factor reported by females diagnosed with AIDS between 2001 and 2005. Injection of nonprescription drugs was reported by roughly one-quarter (25.8 percent) of females diagnosed with AIDS between 2001 and 2005.

The proportion of diagnoses in the 'Other/risk factor not reported or identified' category is larger among women diagnosed with HIV compared to women diagnosed with AIDS. This is due in part to the high percent of female HIV cases initially reported without risk factor information. The majority of cases (n=469) in this category appear in the most recent calendar year, 2005 (Table 31). A shorter follow-up time for risk ascertainment among more recent diagnoses is at least partly responsible for the comparatively high number of HIV diagnoses with unknown risk in 2005.

### *Perinatal and Pediatric AIDS Diagnoses*

Perinatal and pediatric AIDS diagnoses provide a measure of the burden of late-stage HIV disease among infants and children. Table 32 shows the reported mode of transmission for AIDS diagnoses, among children diagnosed in California between 2001 and 2005.

Roughly 0.3 percent of AIDS diagnoses in California between 2001 and 2005 occurred in infants and children. In California, mother-to-child transmission of HIV accounted for the largest proportion (68.9 percent) of pediatric AIDS diagnoses during this five-year period. Receipt of blood transfusion, blood components, or tissue was the identified transmission mode for 14.8 percent of AIDS diagnoses. Risk factor information was missing or not reported for the remaining 16.4 percent of pediatric AIDS cases diagnosed between 2001 and 2005.

**Table 32. Perinatal and Pediatric AIDS Diagnoses by Mode of Transmission, California, 2001–2005**

Mode of Transmission	Total	Pct.
Mother with documented HIV infection or HIV risk factors	42	68.9
Receipt of blood transfusion, blood components, or tissue	9	14.8
Other/risk factor not reported or identified	10	16.4
Total	61	100.0

Note: Percentages do not add up to 100 due to rounding. Pediatric or perinatal exposure is based on mode of transmission regardless of the patient's age. This category may include persons exposed to HIV as infants or children who were over the age of 13 years when diagnosed with AIDS. Counts for this period exclude cases diagnosed, but not yet reported and may underestimate the actual number of diagnoses in 2005.

Data Source: OA's Surveillance Section cases reported through March 31, 2006.

### *Perinatal and Pediatric HIV Diagnoses*

Table 33 shows the reported mode of transmission for HIV diagnoses, a crude estimate of more recent infection, among children between 2003 and 2005. In California, mother-to-child transmission of HIV accounted for nearly all (95.6 percent) of pediatric HIV diagnoses between 2003 and 2005.

**Table 33. Perinatal and Pediatric HIV Diagnoses by Mode of Transmission, California, 2003–2005**

Mode of Transmission	Total	Pct.
Mother with documented HIV infection or HIV risk factors	40	95.6
Receipt of blood transfusion, blood components, or tissue	0	0
Other/risk factor not reported or identified	1	4.4
Subtotal	41	100.0

Note: Pediatric or perinatal exposure is based on mode of transmission regardless of the patient's age. This category includes persons over the age of 13 years who were diagnosed with AIDS as adults. HIV case counts are based on HIV diagnoses reported under California's code-based HIV reporting system implemented July 2002. Counts for this period exclude cases diagnosed, but not yet reported and may underestimate the actual number of diagnoses in 2005.

Data Source: OA's Surveillance Section cases reported through March 31, 2006.

### *HIV Positivity at HIV C&T Sites*

At HIV C&T sites with client-based data, HIV positivity can be used as an crude estimate or non-population-based estimate of HIV prevalence within specific populations considered to be at increased risk of HIV infection. Table 34 provides the number of transgender clients and the percent HIV-positive served in California HIV

C&T sites between the years of 2001-2005. The percent of transgender individuals testing positive for HIV ranged from 4.2 percent in 2005 to 6.4 percent in 2001.

**Table 34. Percent of Transgender Clients Served in HIV C&T Sites Testing Positive for HIV, California, 2001-2005**

	2001	2002	2003	2004	2005
Number HIV Positive*	45	51	70	50	35
Total Transgender Clients*	705	851	1,370	1,024	843
Percent HIV Positive	6.4	6.0	5.1	4.9	4.2

Note: HIV C&T data reflect prevention activities and changes from year to year may reflect shifts in program priorities rather than testing patterns of individuals.

\* Excludes persons with a previous positive HIV test.

Data Source: OA's HIV C&T Program, July 2007.

### *HIV Seroprevalence Among STD Clients 2000-2003*

Table 35 provides a summary of HIV seroprevalence data obtained through unlinked (anonymous) surveys of male clients attending STD clinics in nine LHDs in California (Fresno, Kern, Sacramento, San Bernardino, San Diego, San Joaquin, and Santa Clara Counties, and the Cities of Long Beach and Berkeley). Results from HIV seroprevalence surveys conducted at STD clinics between 2001 and 2003 showed that among men seeking syphilis testing, HIV seroprevalence increased overall from 2.1 percent in 2001 to 3.2 percent in 2003. HIV seroprevalence was highest among MSM for all survey years.

**Table 35. HIV Seroprevalence for Male Clients Attending STD Clinics by Risk and Year of Survey, Selected California Counties, 2000-2003**

	2001			2002			2003		
	Tested	Pos.	Pct.	Tested	Pos.	Pct.	Tested	Pos.	Pct.
Male-to-male sexual contact	303	27	8.9	445	53	11.9	529	71	13.4
Male-to-male sexual contact and injection drug use	18	3	a	7	2	a	10	0	A
Heterosexual contact	2,128	14	0.7	2,230	19	0.8	1,993	13	0.6
Heterosexual contact and injection drug use	54	1	a	30	1	a	38	0	A
Other	b	0	a	5	0	a	b	0	A
Unknown	172	11	6.4	60	0	0	52	0	0
Total	2,675	56	2.1	2,777	75	2.7	2,625	84	3.2

Note: All positive specimens were repeatedly reactive by Enzyme-Linked Immunoabsorbent Assay (ELISA) and confirmed by a Western blot or Immunofluorescence Assay (IFA). Specimens were collected consecutively and tested for HIV after all personal identifiers were removed. Counties included Fresno, Kern, Sacramento, San Bernardino, San Diego, San Joaquin, and Santa Clara, and the Cities of Long Beach and Berkeley. These unlinked (blinded) surveys were drawn from blood specimens collected for routine syphilis screening.

<sup>a</sup> Not calculated for fewer than 100 tested and number positive less than or equal to three.

<sup>b</sup> Less than five.

Data Source: OA. The Revised Sentinel Surveillance Project, 2000-2003.



Among women receiving routine syphilis screening, HIV seroprevalence was highest among those who reported heterosexual contact (data not shown).

### *HIV Seroprevalence Estimates, 2000-2003*

HIV seroprevalence data obtained via unlinked (anonymous) surveys provide another measurement of the scope of the HIV epidemic in California. Between 1997 and 2003, OA conducted sentinel seroprevalence activities in STD clinics across the state. Table 36 provides estimates of HIV seroprevalence for male clients attending STD clinics in nine LHDs in California (Fresno, Kern, Sacramento, San Bernardino, San Diego, San Joaquin, and Santa Clara Counties, and the Cities of Long Beach and Berkeley).

**Table 36. HIV Seroprevalence for Male Clients Attending STD Clinics by Race/ethnicity and Sex, and Year of Survey, Selected California Counties, 2000-2003**

	2000			2001			2002			2003		
	Tested	Pos. <sup>*</sup>	Pct.	Tested	Pos.	Pct.	Tested	Pos.	Pct.	Tested	Pos.	Pct.
Males												
Hispanic	904	7	0.8	924	10	1.1	1,054	19	1.8	962	22	2.3
White	656	16	2.4	861	28	3.3	871	39	4.5	852	44	5.2
African American	626	11	1.8	695	13	1.9	606	12	2	561	12	2.1
Asian/Pacific Islander	100	1	1.8	104	1	1	140	3	2.1	150	3	2
American Indian/Native Alaskan	5	0	a	6	0	a	7	0	a	2	0	a
Other	89	1	a	88	4	a	99	2	a	98	3	a
Total Males	2,380	36	1.5	2,678	56	2.1	2,777	75	2.7	2,625	84	3.2
Total Females	1,487	4	0.3	1,592	3	0.2	1,325	1	0.1	1,276	2	0.2

Note: Table reflects estimates obtained from clients attending STD clinics in Fresno, Kern, Sacramento, San Bernardino, San Diego, San Joaquin, and Santa Clara Counties, and the Cities of Long Beach and Berkeley. These unlinked (blinded) surveys were drawn from blood specimens collected for routine syphilis screening. Specimens were collected consecutively and tested for HIV after all personal identifiers were removed.

<sup>\*</sup> All positive specimens were repeatedly reactive by ELISA and confirmed by a Western blot or IFA.

<sup>a</sup> Not calculated for fewer than 100 tested and number positive less than or equal to three.

<sup>b</sup> Less than five.

Data Source: OA. The Revised Sentinel Surveillance Project 2000-2003.

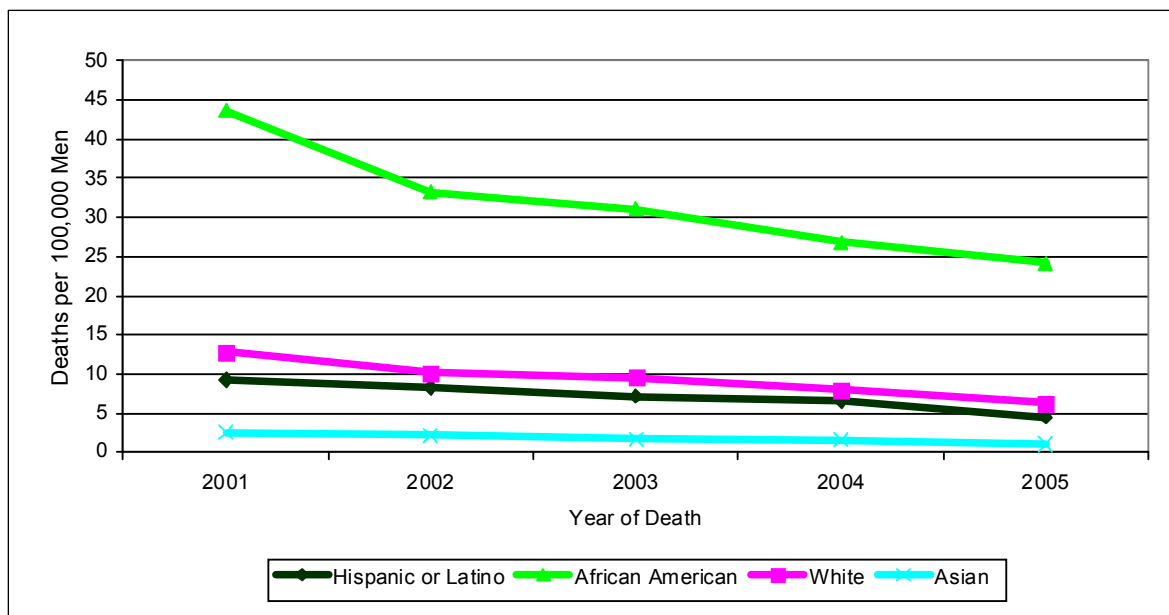
As seen in Table 36, results from HIV seroprevalence surveys conducted at STD clinics between 2000 and 2003 show that among men, HIV seroprevalence increased overall from 1.5 percent in 2000 to 3.2 percent in 2003 and was highest among Whites (2.4 percent to 5.2 percent). HIV seroprevalence among women testing for syphilis was 0.3 percent in 2000 and 0.2 percent in 2003.

## DEATHS FROM ALL-CAUSE MORTALITY AMONG PERSONS WITH AIDS

### *Deaths from All-cause Mortality among Men with AIDS*

Figure 18 summarizes statewide deaths in California among Hispanic, African American, White, and Asian adult/adolescent males diagnosed with AIDS per 100,000 population for years 2001 to 2005.

**Figure 18. All-cause Mortality among Men Diagnosed with AIDS by Race/ethnicity, California, 2001-2005**



Note: Mortality estimates are based on deaths known to have occurred in California. Estimates exclude deaths occurring between 2001 and 2005 where the state of death is unknown, deaths known to have occurred out of state, and deaths with missing dates. Data for this period exclude deaths that may have occurred, but are not yet reported and may underestimate the actual number of deaths in more recent years. Rates do not reflect deaths among individuals with unknown sex at birth. Mortality rates were not calculated for persons in categories with fewer than 100 deaths: Pacific Islander, American Indian/Alaska Native, and Multi-race.

\*Test for trend for monotonically decreasing rates were statistically significant in each racial/ethnic group between 2001 and 2005 ( $P < 0.0001$ ; Cochran-Armitage Test for Trend).

Data Source: OA's Surveillance Section data as of March 31, 2006.

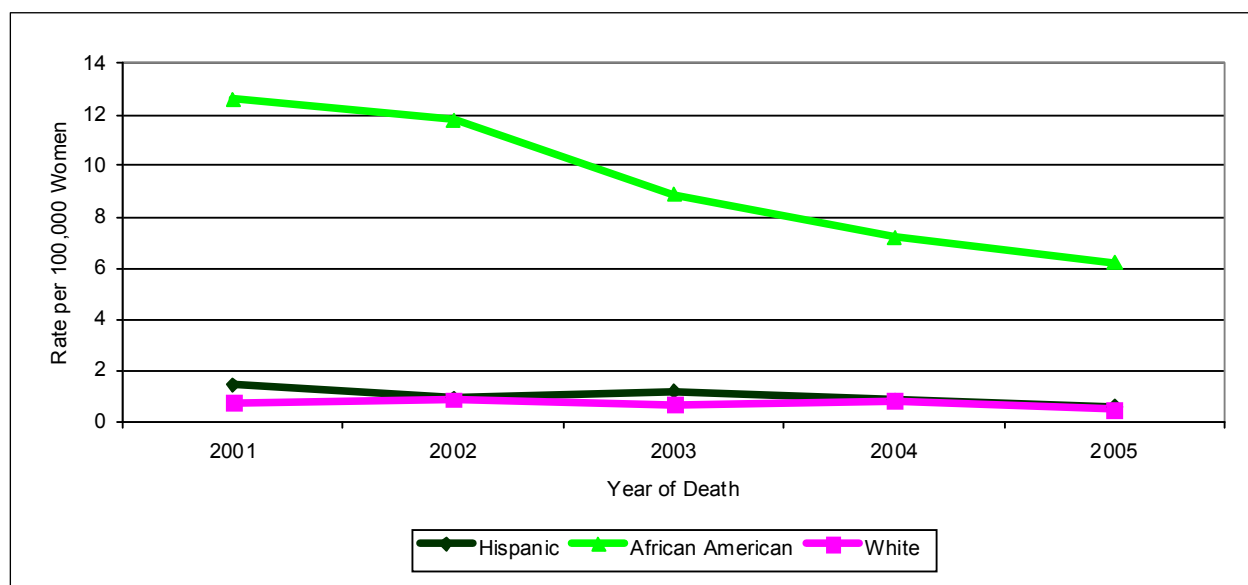
Figure 18 illustrates the disparity in all-cause mortality between African American men and men of Hispanic, White, or Asian race/ethnicity. All-cause mortality rates among men diagnosed with AIDS in California were highest among African Americans for all five years. Trend analyses indicate that decreases in all-cause mortality in each racial/ethnic group between 2001 and 2005 were statistically significant (Cochran-Armitage Test for Trend;  $P < 0.0001$ ).

### *Deaths from All-cause Mortality among Women with AIDS*

A similar disparity can be seen in death rates among women diagnosed with AIDS in California. Statewide deaths (per 100,000 population) for years 2001 to 2005 among Hispanic, African American, and White women diagnosed with AIDS are presented in

Figure 19 below. All-cause mortality rates for African American women were substantially higher than rates for White and Hispanic women for all five years. Decreases in all-cause mortality for African American women between 2001 and 2005 and for Hispanic women between 2003 and 2005 were statistically significant trends ( $P<0.0001$ ).

**Figure 19. All-cause Mortality among Women Diagnosed with AIDS by Race/ethnicity, California, 2001-2005**



Note: Mortality estimates are based on deaths known to have occurred in California: estimates exclude deaths occurring between 2001 and 2005 where the state of death is unknown, deaths known to have occurred out of state, and deaths with missing dates. Data for this period exclude deaths that may have occurred, but are not yet reported and may underestimate the actual number of deaths in more recent years. Rates do not reflect deaths of individuals with unknown sex at birth. Mortality rates were not calculated for persons in categories with fewer than 100 deaths: Asian, Pacific Islander, American Indian/Alaska Native, and Multi-race.

\* Test for trend for monotonically decreasing rates were statistically significant for African American women between 2001 and 2005 and for Hispanic women between 2003 and 2005 ( $P<0.0001$ ; Cochran-Armitage Test for Trend).

Data Source: OA's Surveillance Section data as of March 31, 2006.

## TUBERCULOSIS (TB) AND SEXUALLY TRANSMITTED DISEASES (STD) AMONG PERSONS WITH AIDS

### TB and AIDS

Persons infected with HIV are susceptible to a number of life-threatening infections and malignancies. Persons with immune systems suppressed by HIV are particularly at increased risk of rapid progression from latent TB infection to TB disease, which is an AIDS-defining condition for people infected with HIV and a leading cause of death among HIV-positive people around the world.

**Table 37. AIDS and TB Match Results by Sex, Age at AIDS Diagnosis, and Race/ethnicity, California, 2000-2004**

	AIDS & TB		AIDS (no TB)		Total		% TB among AIDS Cases
	Cases	Pct.	Cases	Pct.	Cases	Pct.	
Total	1,005	100.0	26,549	100.0	27,554	100.0	3.4
<b>Sex</b>							
Male	828	82.4	23,166	87.3	23,994	87.1	3.5
Female	177	17.6	3,383	12.7	3,560	12.9	5.0
<b>Age at AIDS diagnosis</b>							
0-12	3	0.3	67	0.3	70	0.3	4.3
13-19	9	0.9	177	0.7	186	0.7	4.8
20-29	138	13.7	3,306	12.5	3,444	12.5	4.0
30-39	374	37.2	10,514	39.6	10,888	39.5	3.4
40-49	305	30.3	8,480	31.9	8,785	32.0	3.5
Over 49	176	17.5	4,005	15.1	4,181	15.2	4.2
<b>Race/Ethnicity</b>							
Hispanic	586	58.3	8,589	32.4	9,175	33.3	6.4
White	120	11.9	11,233	42.3	11,353	41.2	1.1
African American	212	21.1	5,580	21.0	5,792	21.0	3.7
Asian	67	6.7	777	2.9	844	3.1	7.9
Native Hawaiian/Pacific Islander	4	0.4	60	0.2	64	0.2	6.3
American Indian/Alaska Native	5	0.5	138	0.5	143	0.5	3.5
Multi-Race	6	0.6	106	0.4	112	0.4	5.4
Other/Unknown	5	0.5	66	0.2	71	0.3	7.0

Note: Table reflects AIDS and TB cases reported between January 1, 2000 and December 31, 2005. Due to reporting delay, AIDS cases may have been diagnosed earlier than 2000. Totals do not reflect individuals with unknown sex at birth.

Data Source: OA's Surveillance Section, January 31, 2005, AIDS-TB Registries Match, 2000-2004.

As shown in the Table 37, a TB diagnosis was reported for 3.4 percent of all AIDS cases reported in California between 2000 and 2004. Among women living in California, the proportion of AIDS cases with a TB diagnosis was slightly larger than their overall representation among AIDS case reports; women accounted for 12.9 percent of AIDS cases and 17.6 percent of AIDS cases linked to TB records. The age profile for patients with both AIDS and TB was similar to that of reported AIDS cases.

The racial/ethnic distribution of AIDS case reports with a TB diagnosis differed from the distribution of reported AIDS cases. At 11.9 percent, Whites accounted for a relatively small percent of AIDS cases with a TB diagnosis, compared to their representation among reported AIDS cases (42.3 percent). In contrast, people of Hispanic ethnicity, who accounted for 32.4 percent of AIDS reports, represented a comparatively large proportion (58.3 percent) of people with both a TB and AIDS diagnosis. A similar disparity was found among Asians, who accounted for 2.9 percent of AIDS case reports and 6.7 percent of people with both and AIDS and TB diagnosis.

## ***STDs and AIDS***

Because some STDs facilitate the transmission and acquisition of HIV, co-infection is of particular concern for HIV prevention efforts. For example, ulcerative infections like syphilis significantly increase the risk of sexual acquisition of HIV. Nonulcerative STDs, like chlamydia and gonorrhea are associated with a two-to-five-fold increase in the risk of HIV transmission.

A total of 32,706 gonorrhea cases and 1,039 syphilis cases diagnosed between 1999 and 2001 were compared to 22,307 records of living AIDS cases. A gonorrhea diagnosis was found for 1.2 percent of reports among PLWA in 2001 (data not shown). A syphilis report was found for 0.2 percent of people known to be living with AIDS in 2001. Males were overrepresented among AIDS cases with a syphilis report, accounting for roughly 87.0 percent of all AIDS cases and approximately 95.0 percent of AIDS cases linked to a syphilis record.

## 2007 UPDATE: SCOPE OF THE EPIDEMIC AND INDICATORS OF RISK

This section provides a brief update on the HIV/AIDS epidemic through 2007. The 2007 update only utilizes HARS data as this represents the key data source informing the epidemiologic profile. The update utilizes data available through December 31, 2008, to examine epidemiological trends through December 31, 2007, as it takes approximately 12 months for case reports to reach a reasonably high level of completeness. The most recently published HIV/AIDS surveillance statistics for California can be accessed at the following link: [www.cdph.ca.gov/data/statistics/Pages/OA2009MonthlyStatistics.aspx](http://www.cdph.ca.gov/data/statistics/Pages/OA2009MonthlyStatistics.aspx).

In 2006, the California HARS underwent a significant change from a code-based to a names-based HIV reporting protocol as a result of Senate Bill 699 (Soto, 2005). This change in protocol had a particularly significant impact on surveillance as the California HIV/AIDS reporting regulations did not permit local health departments to re-report code-based cases by name, but instead required all name-based cases to be reported from actual provider records. This slowed the process of populating the names-based HIV surveillance system resulting in considerable under-reporting of HIV cases in the data used for this report. As illustrated in Figure 21, the name-based HIV reporting system had captured 35,012 cases through December 2008 while the code-based system had captured 41,155 cases as of April 2006. The AIDS case reporting system (always names-based) had captured 151,921 cases as of December 2008.

**Figure 20. California HIV surveillance systems  
Cumulative as of December 31, 2008**

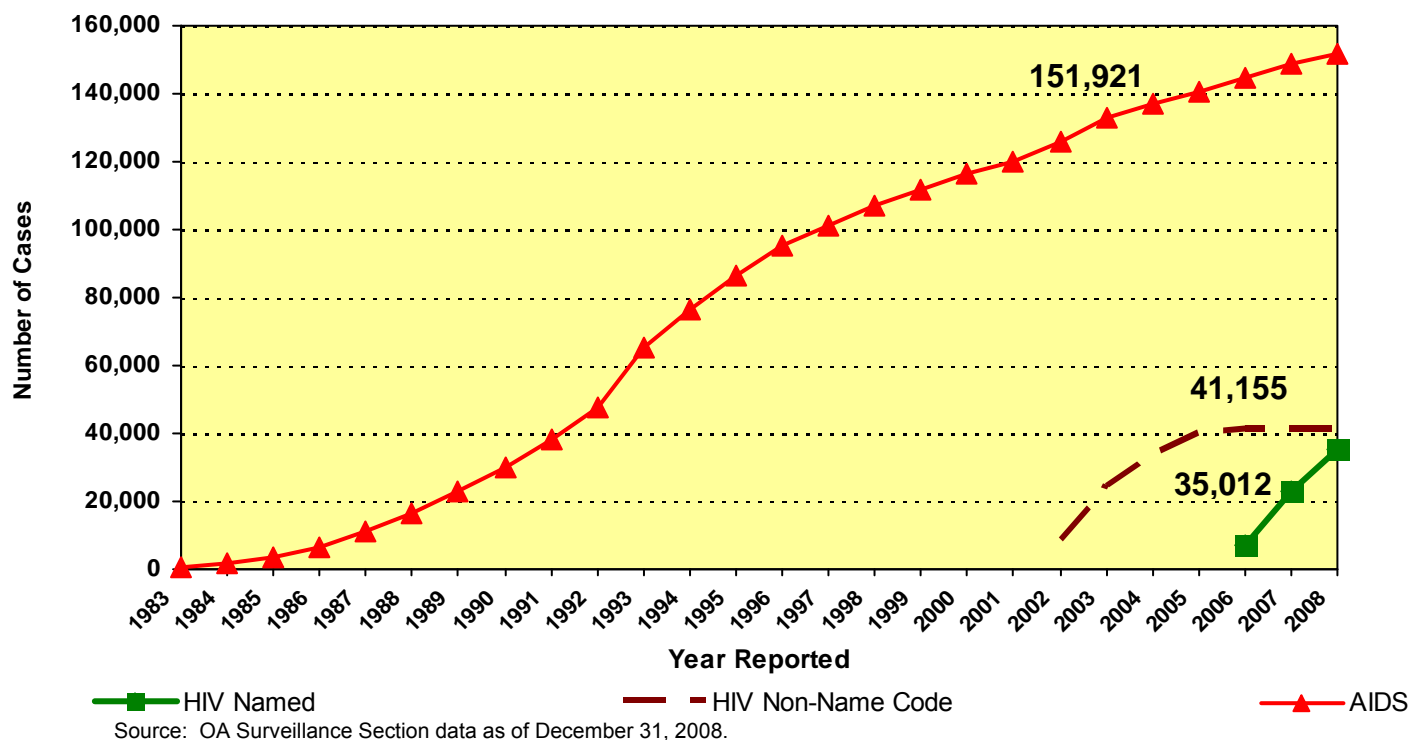


Table 38 summarizes diagnosed HIV and AIDS cases through December 2007 stratified by sex, race/ethnicity, exposure category, and age. Cumulative California AIDS cases rose from 140,246 at the end of 2005 to 149,971 through 2007, an increase of 10.7 percent. As noted above, changes in the HIV reporting system prevent a similar comparison in the California number of HIV (non-AIDS) cases. At the end of 2007, males were more likely to be infected than females, with males representing 90.7 percent of cumulative AIDS and 85.5 percent of cumulative HIV cases. These proportions were similar to those found through 2005 when males represented 91.1 percent of AIDS and 84.9 percent of HIV cases. Comparing the distribution of cases by race-ethnicity, Whites, Hispanics, and African Americans continued to contribute the same proportion of cumulative cases in 2007 as in 2005. At the end of 2007, White/non-Hispanics represented 55.7 percent of AIDS cases and 49.3 percent of HIV cases; Hispanics represented 23.2 percent of AIDS and 27.3 percent of cumulative HIV cases and African Americans represented 17.9 percent of AIDS and 18.5 percent of HIV cases. Asian/Pacific Islanders represented 2.5 percent of AIDS cases and 3.2 percent of HIV cases through 2007 while American Indians/Alaska Natives represented 0.5 percent of both AIDS and HIV cases. It is notable that Hispanics, African Americans, and Asian/Pacific Islanders represented a greater proportion of HIV than AIDS cases while Whites represented a smaller proportion of HIV than AIDS cases, suggesting the epidemic continued to have a greater impact on people of color than Whites between 2005 and 2007.

Table 38 also portrays cumulative HIV/AIDS cases in California diagnosed through December 31, 2007, by exposure group. The exposure group with the highest number and proportion of cumulative HIV and AIDS cases reported through 2007 in California was White MSM. Cumulative HIV and AIDS cases reported totaled 100,593 and 21,320, respectively, among White MSM and the proportion of HIV and AIDS in this group was equal to 67.1 percent and 66.2 percent of all cases, respectively ( $P<0.0001$ ). The second most prevalent exposure category in California includes injection drug use, with 18.8 percent of cumulative HIV/AIDS cases reported among IDUs and IDUs who also report male-to-male sexual contact. The age distribution of cumulative HIV/AIDS cases through 2007 also remained similar to data through 2005 with the largest proportion of diagnoses reported in the 30-39 year age group (42.1 percent), followed by the 40-49 year age group (22.9 percent), and the 20-29 year age group (17.2 percent).

Table 39 presents cumulative HIV/AIDS cases by mode of exposure and race/ethnicity through 2007. Considering total reported HIV/AIDS cases, male-to-male sexual contact was associated with 75.7 percent of cases among Whites, 62.7 percent of cases among Hispanics, and 46.1 percent of cases among African Americans. In contrast, injection drug use was the mode of exposure associated with 21.0 percent of total HIV/AIDS cases among African Americans, 8.9 percent of cases among Hispanics, and 6.7 percent among Whites. Heterosexual contact was associated with 12.4 percent of all HIV/AIDS cases in the Hispanic population, 11.2 percent among African Americans, and 4.0 percent among Whites.

The exposure group with the highest number and proportion of cumulative HIV and AIDS cases reported through 2007 in California was White MSM. Cumulative HIV and AIDS cases reported totaled 100,593 and 21,320, respectively, among White MSM and the proportion of HIV and AIDS in this group was equal to 67.1 percent and 66.2 percent of all cases, respectively ( $P < 0.002$ ). The second most prevalent exposure category in California includes injection drug use, with 18.8 percent of cumulative HIV/AIDS cases reported among IDUs and IDUs who also report male-to-male sexual contact. By age group, seven out of ten (71.3 percent) cumulative HIV/AIDS cases in California were among 30-49 year olds through 2007 compared to 72.0 percent through 2005.



**Table 38. California Cumulative HIV/AIDS Cases Diagnosed through December 31, 2007**

SELECTED INDICATORS	HIV CASES				AIDS CASES				TOTAL HIV/AIDS CASES			
	LIVING		CUMULATIVE		LIVING		CUMULATIVE		LIVING		CUMULATIVE	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>GENDER</b>												
Males	26,731	85.6	27,536	85.5	56,393	87.9	136,003	90.7	83,124	87.2	163,539	89.8
Females	4,196	13.4	4,367	13.6	7,178	11.2	13,086	8.7	11,374	11.9	17,453	9.6
Transgender	301	1.0	311	1.0	552	0.9	882	0.6	853	0.9	1,193	0.7
<b>RACE/ETHNICITY</b>												
White	15,388	49.3	15,894	49.3	30,219	47.1	83,541	55.7	45,607	47.8	99,435	54.6
Black	5,730	18.3	5,973	18.5	12,074	18.8	26,779	17.9	17,804	18.7	32,752	18.0
Hispanic	8,590	27.5	8,788	27.3	19,222	30.0	34,808	23.2	27,812	29.2	43,596	23.9
Asian/Pacific Islander	1,004	3.2	1,024	3.2	2,023	3.2	3,685	2.5	3,027	3.2	4,709	2.6
American Indian/Alaskan Native	152	0.5	159	0.5	296	0.5	677	0.5	448	0.5	836	0.5
Multi-race	176	0.6	186	0.6	234	0.4	358	0.2	410	0.4	544	0.3
Unknown	188	0.6	190	0.6	55	0.1	123	0.1	243	0.3	313	0.2
<b>EXPOSURE CATEGORY</b>												
MSM/Bisexual Male	20,933	67.0	21,320	66.2	40,893	63.8	100,593	67.1	61,826	64.8	121,913	66.9
Injection Drug Use	2,262	7.2	2,471	7.7	6,504	10.1	15,382	10.3	8,766	9.2	17,853	9.8
MSM/Bisexual Male & IDU	2,074	6.6	2,168	6.7	5,597	8.7	14,151	9.4	7,671	8.0	16,319	9.0
Hemophiliac/Transfusion	121	0.4	136	0.4	563	0.9	2,323	1.5	684	0.7	2,459	1.3
Heterosexual Contact	2,950	9.4	3,010	9.3	5,949	9.3	9,219	6.1	8,899	9.3	12,229	6.7
Other/Unknown	2,590	8.3	2,800	8.7	4,254	6.6	7,492	5.0	6,844	7.2	10,292	5.6
Pediatric Exposure	298	1.0	309	1.0	363	0.6	811	0.5	661	0.7	1,120	0.6
<b>AGE GROUP</b>												
Under 13 years of age	297	1.0	308	1.0	266	0.4	664	0.4	563	0.6	972	0.5
13 to 19 years of age	723	2.3	728	2.3	427	0.7	632	0.4	1,150	1.2	1,360	0.7
20 to 29 years of age	8,611	27.6	8,739	27.1	10,321	16.1	22,624	15.1	18,932	19.9	31,363	17.2
30 to 39 years of age	11,954	38.3	12,237	38.0	27,907	43.5	64,438	43.0	39,861	41.8	76,675	42.1
40 to 49 years of age	7,064	22.6	7,385	22.9	18,301	28.5	42,360	28.2	25,365	26.6	49,745	27.3
Over 49 years of age	2,579	8.3	2,817	8.7	6,901	10.8	19,253	12.8	9,480	9.9	22,070	12.1
<b>TOTAL</b>	<b>31,228</b>	<b>100.0</b>	<b>32,214</b>	<b>100.0</b>	<b>64,123</b>	<b>100.0</b>	<b>149,971</b>	<b>100.0</b>	<b>95,351</b>	<b>100.0</b>	<b>182,185</b>	<b>100.0</b>

AIDS reporting began in March 1983. HIV reporting began in April 2006.

Percents may not add to 100 percent due to rounding.

MSM = Men who have sex with men. IDU = Injection drug use.

Source: OA Surveillance Section data as of December 31, 2008.

**Table 39. Cumulative HIV/AIDS Cases in California: Mode of Exposure by Race/Ethnicity Diagnosed through December 31, 2007**

MODE OF EXPOSURE	HIV CASES					AIDS CASES					TOTAL HIV/AIDS CASES					
	WHITE	BLACK	HISPANIC	OTHER	TOTAL	WHITE	BLACK	HISPANIC	OTHER	TOTAL	WHITE		BLACK		HISPANIC	
MSM/Bi	11,886	2,721	5,686	1,027	21,320	63,426	12,389	21,638	3,140	100,593	75,312	75.7%	15,110	46.1%	27,324	62.7%
IDU	1,064	793	534	80	2,471	5,635	6,078	3,357	312	15,382	6,699	6.7%	6,871	21.0%	3,891	8.9%
MSM/Bi & IDU	1,311	391	391	75	2,168	8,663	2,676	2,443	369	14,151	9,974	10.0%	3,067	9.4%	2,834	6.5%
Heterosexual Contact	808	1,036	1,182	219	3,245	3,210	2,635	4,212	569	10,626	4,018	4.0%	3,671	11.2%	5,394	12.4%
Other	825	1,032	995	158	3,010	2,607	3,001	3,158	453	9,219	3,432	3.5%	4,033	12.3%	4,153	9.5%
<b>TOTAL</b>	15,894	5,973	8,788	1,559	32,214	83,541	26,779	34,808	4,843	149,971	99,435		32,752		43,596	

AIDS reporting began in March 1983. HIV reporting began in April 2006.

MSM/Bi = Men who have sex with men/Bisexual males. IDU = Injection Drug Use.

Other Race/Ethnicity includes Asian/Pacific Islander, American Indian/Alaskan Native, Multi-Race and those with unknown or missing race/ethnicity.

Other Mode of Exposure includes Hemophiliac, Transfusion of blood or blood products/Transplant, Confirmed other risk, No identified risk and Pediatric.

Source: OA Surveillance Section data as of December 31, 2008.

**Table 40. California AIDS Cases by Year and Month Diagnosed, 2003-2007**

<b>MONTH</b>		<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>Totals</b>
January		458	358	252	239	325	1,632
February		661	407	325	242	338	1,973
March		573	524	283	283	435	2,098
April		630	340	288	226	331	1,815
May		617	360	294	313	363	1,947
June		602	373	316	314	340	1,945
July		639	418	295	320	337	2,009
August		510	356	346	398	397	2,007
September		453	721	284	482	291	2,231
October		593	291	282	417	369	1,952
November		525	281	274	465	278	1,823
December		454	262	266	404	185	1,571
<b>TOTALS</b>		<b>6,715</b>	<b>4,691</b>	<b>3,505</b>	<b>4,103</b>	<b>3,989</b>	<b>23,003</b>

AIDS reporting began in March 1983.

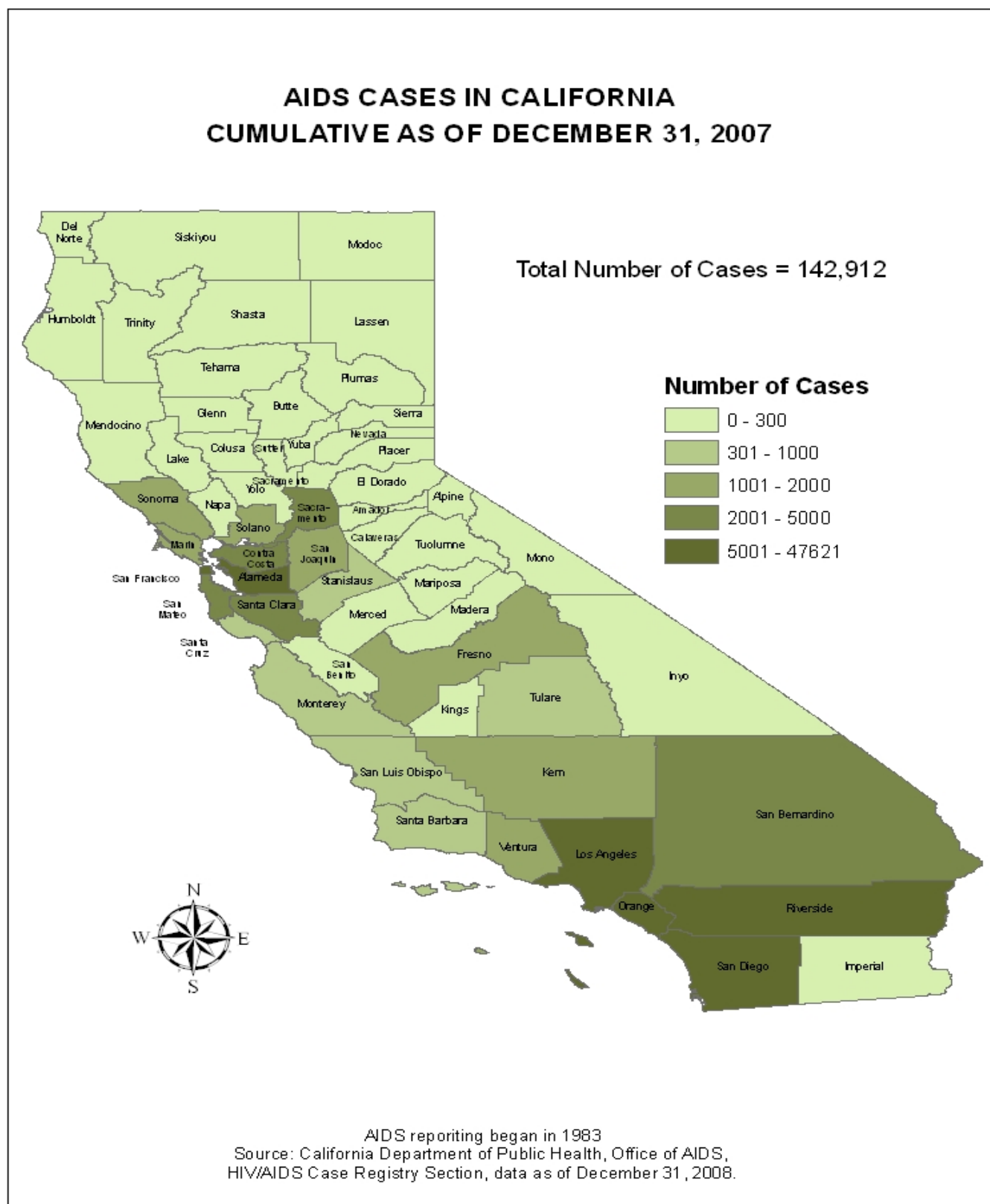
Source: OA Surveillance Section data as of December 31, 2008.

During the five-year period from 2003 to 2007, 23,003 AIDS cases were reported in California, and a decreasing trend in the number of AIDS cases reported by year was observed, from 6,715 in 2003 to 3,989 in 2007 ( $P < 0.001$ ) [Table 40]. California's change in HIV reporting system (code- to name-based) prevented evaluation of similar trends for HIV cases.

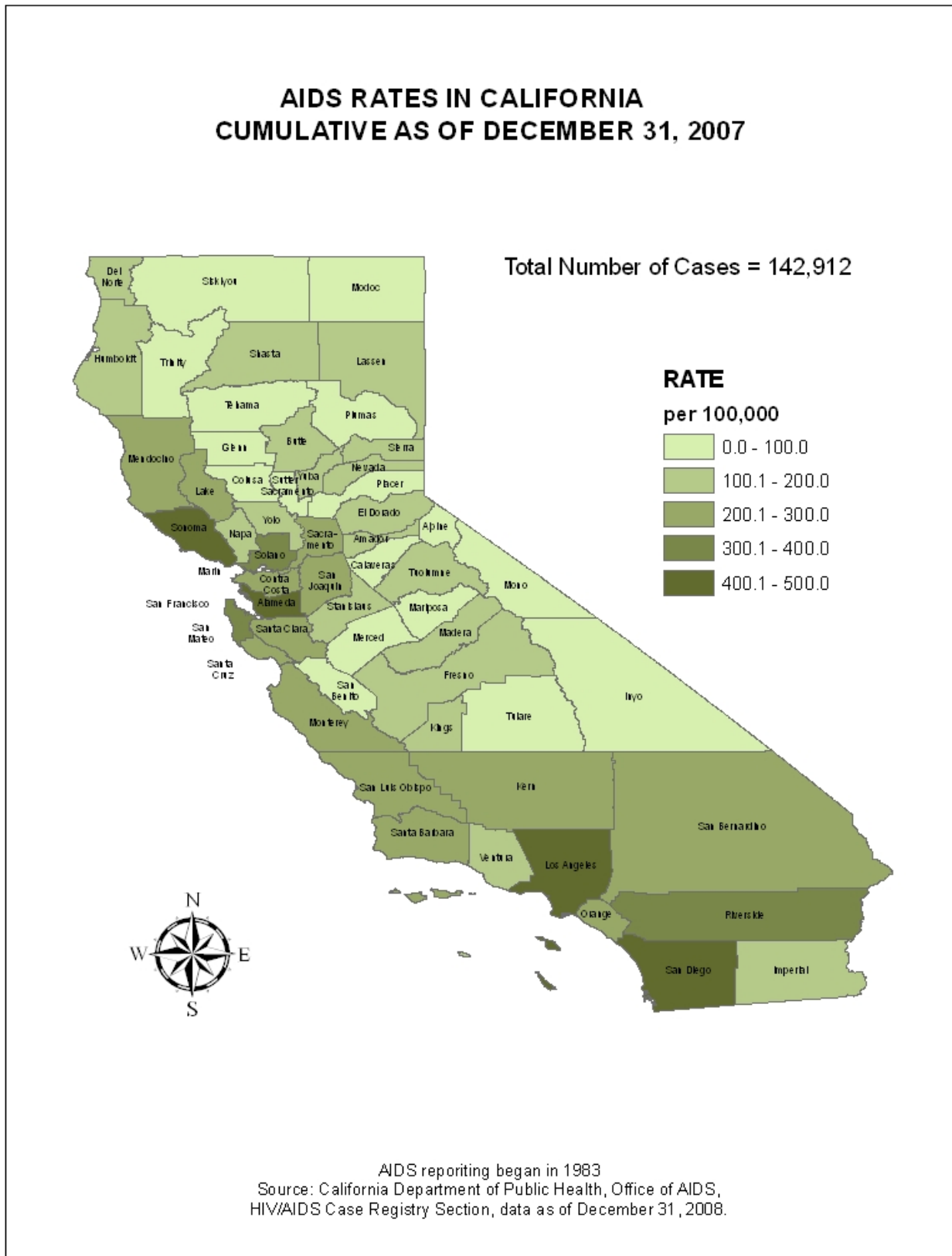
The geospatial distribution of HIV and AIDS cases provides a means to compare the burden of disease across the 58 California counties. It is evident from Figure 21 that through December 2007, the largest numbers of cumulative AIDS cases have been reported in the most populous California counties. Through December 31, 2007, Los Angeles County reported the largest number of cases by any one county with 47,621 (33.3 percent), followed by San Francisco with 27,805 (19.5 percent), San Diego with 13,538 (9.5 percent), and Orange County with 7,233 (5.1 percent). The relative burden of disease among counties remained consistent between 2005 and 2007.

Complementing cumulative case counts, cases per 100,000 population provide an indication of the disease risk in each county. As Figure 22 indicates, the highest rates of AIDS per 100,000 population were also found in the major metropolitan areas (San Francisco Bay Area, Greater Los Angeles Area, and the San Diego Area). In addition, counties along the Central Coast recorded somewhat higher rates per 100,000 than those inland. All coastal counties, from Mendocino in the north, to Monterey along the Central Coast, to San Diego in the south recorded 200 to 500 AIDS cases per 100,000 population. Most other regions in the state recorded less than 200 AIDS case per 100,000 population (Figure 22). Geospatial distributions of cumulative HIV cases per 100,000 population are displayed in Figures 23 and 24, with higher rates per 100,000 in major metropolitan areas.

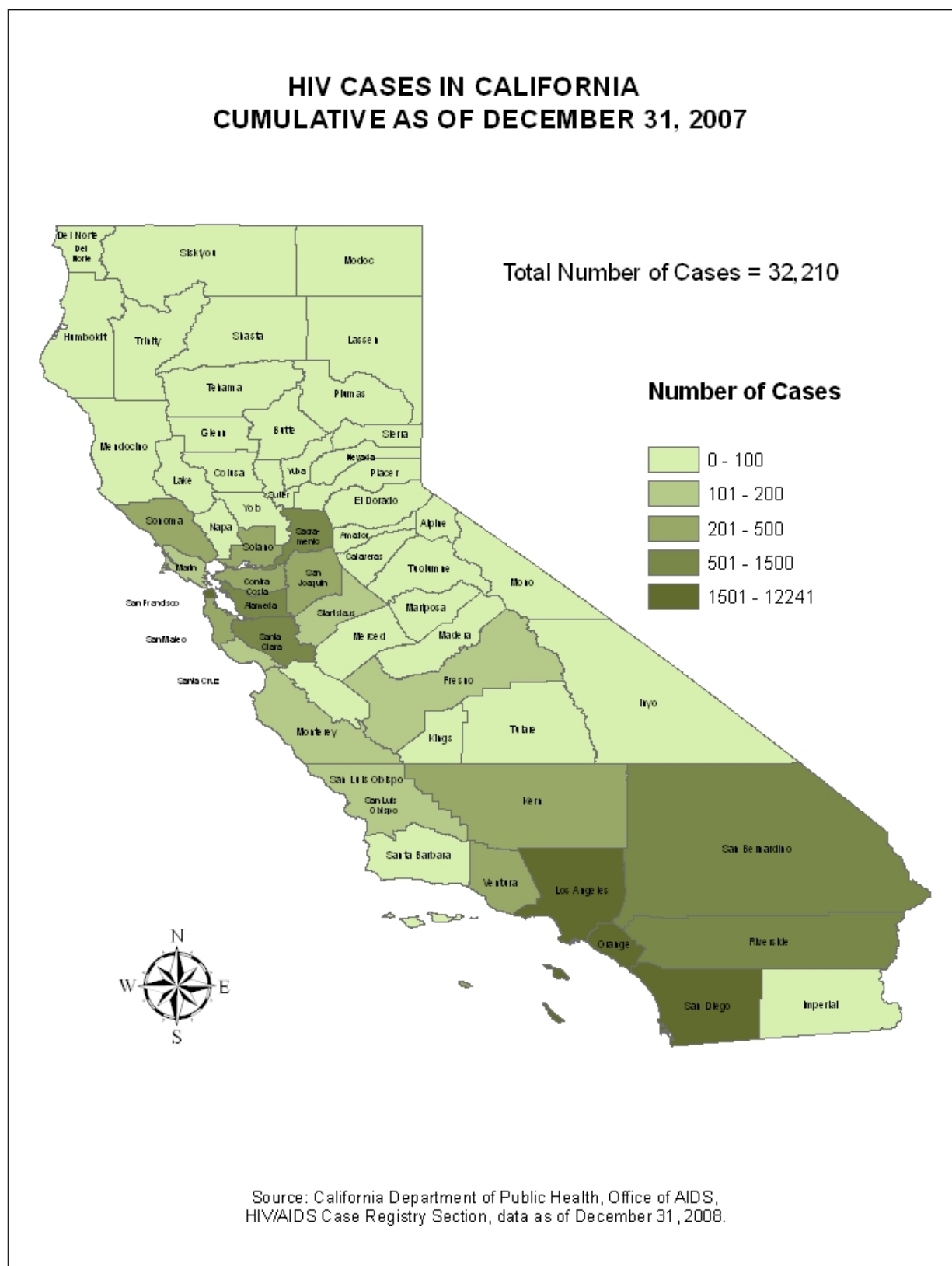
**Figure 21. AIDS Cases in California, Cumulative as of December 31, 2007**



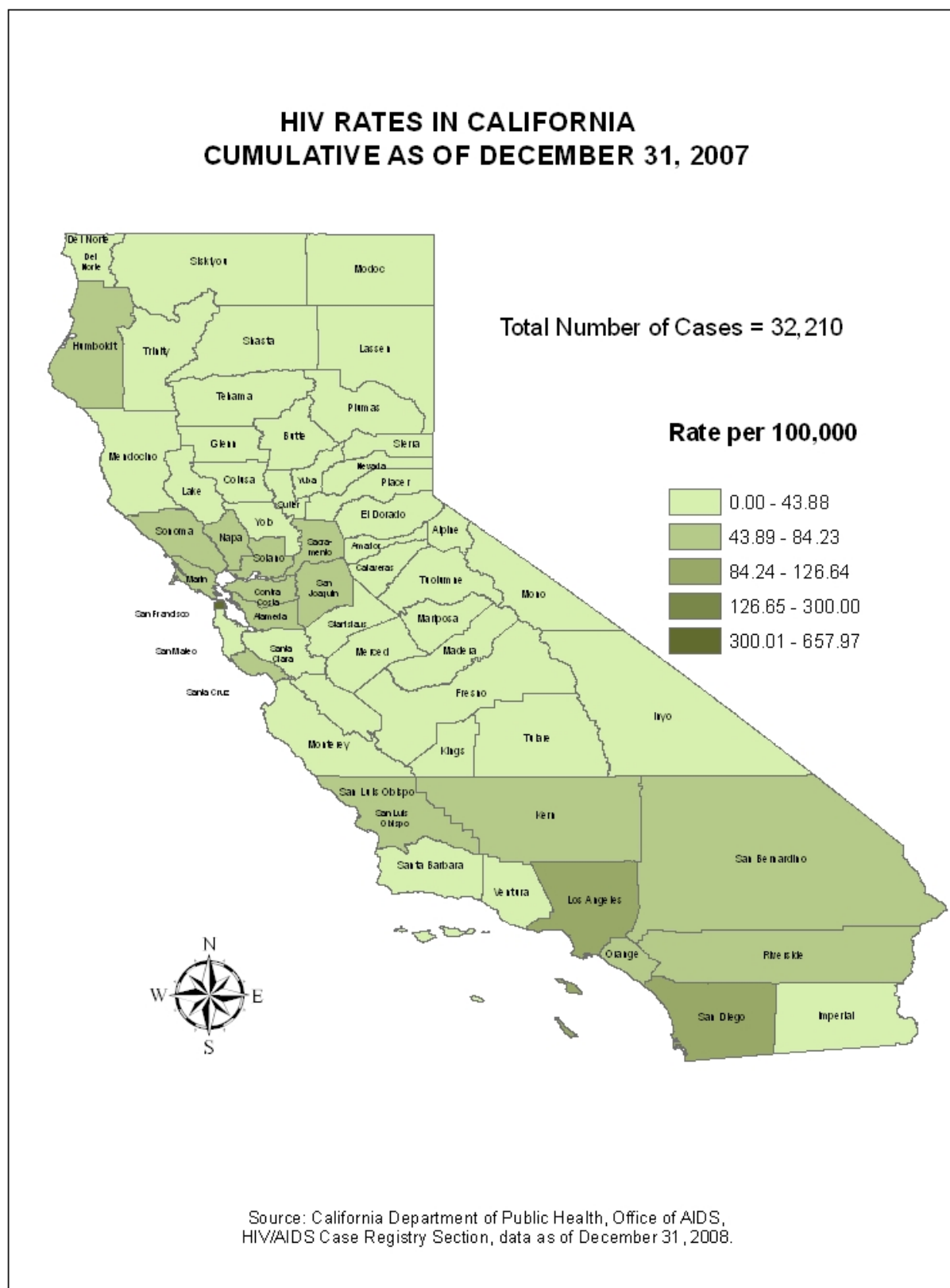
**Figure 22. AIDS Rates in California, Cumulative as of December 31, 2007**



**Figure 23. HIV Cases in California, Cumulative as of December 31, 2007**



**Figure 24. HIV Rates in California, Cumulative as of December 31, 2007**





### **QUESTION 3. WHAT ARE THE INDICATORS OF RISK FOR HIV AND AIDS IN CALIFORNIA?**

Persons most likely to become infected with HIV are those who engage in high-risk behaviors with persons who live in communities with high HIV prevalence. Thus, this chapter focuses on the trends and characteristics of populations practicing different risk behaviors. The primary focus of this section is on three risk populations defined by behaviors: MSM, IDUs, and higher risk heterosexuals. This section also presents selected HIV risk data available on all Californians, including those inside and outside the three higher risk populations. Data in this section come from disease surveillance, monitoring and evaluation systems, and statewide population-based surveys. These surveys collect data on a range of knowledge and risk factors related to HIV/AIDS infection and related service utilization.

The previous section addressed the level of HIV infection in various groups affected by HIV. This section addresses direct and indirect measures of risk in groups most at risk for acquiring HIV infection. ‘Direct’ measures of risk provide information about risk behavior that is directly associated with HIV transmission and acquisition. Indirect measures do not describe actual HIV risk behaviors; however, they serve as indicators of possible HIV risk that may need further investigation. Because these indicators may or may not represent a behavior, the term ‘risk factor’ is used to describe indicators of behavioral risk as well as non-behavioral risk. Examples of “direct” risk factors are unprotected sexual intercourse, exchange of blood or blood products, sharing unsterilized injection equipment, and HIV prevalence. Indirect risk factors include STD rates, non-injectable substance use, and risk perception.

In addition to classifying risk factors as ‘direct’ versus ‘indirect,’ this discussion considers the potential of risk factors to affect transmission of the virus, acquisition of the virus, or both. Acquisition risk factors affect the likelihood that an HIV-negative person will become infected while transmission risk factors impact the risk of transmitting HIV infection among HIV-positive persons.

Risk factors are examined separately for the major HIV exposure categories in California: male-to-male sex, injection drug use, and heterosexual contact. Male-to-male sex can be insertive, receptive, or both with transmission and acquisition risk being dramatically reduced by condom use. Injection drug use includes injection of nonprescription drugs like heroin, cocaine, and methamphetamine as well as other injectable substances like steroids, designer drugs, or any pill or tablet that has been crushed and dissolved. Injection drug use can mediate both transmission and acquisition of the virus. Heterosexual sex can include one or multiple partners and is often defined in terms of the number of sex partners, type of sex (e.g., anal insertive, anal receptive, vaginal, oral), protection (condom use), as well as sexual partner HIV status and risk. Examples of high-risk heterosexual behavior include: a) unprotected sexual intercourse with an HIV-positive individual, a man who has sex with men, or a person who injects nonprescription drugs; and b) unprotected sexual intercourse with multiple partners, anonymous partners, and/or “casual” partners (not part of a long-term or committed relationship).

## RELATIONSHIP BETWEEN HIV AND OTHER STDs

STDs are associated with significant morbidity in adults and severe complications in perinatally infected neonates. Sequela associated with STDs is the leading cause of preventable infertility in the United States. Further, important relationships between STDs and HIV exist and can be viewed in several ways: 1) STDs as a facilitator of transmission of HIV; 2) STDs as a facilitator of acquisition of HIV; 3) STDs as an indirect measure of unsafe sex; 4) STD susceptibility of HIV-infected individuals. We describe data focused on three STDs in California: chlamydia, gonorrhea, and syphilis. While the burden of these diseases varies substantially in the state, with chlamydia representing the largest number of cases, associations between these STDs and HIV also vary considerably. Chlamydia rates have not been shown to be consistently associated with HIV/AIDS while gonorrhea and syphilis have.

## RISK BEHAVIORS AMONG MSM

In California and United States, HIV disease has had a devastating effect on gay and bisexual men as well as non-gay/bisexual identified MSM. This section describes direct and indirect measures of risk among MSM and relies heavily on data from public HIV C&T clients. The distribution of reported sexual orientation among clients at public HIV C&T sites in California remained stable between 2001 and 2005. In 2005, over one-half of males testing in California's public HIV C&T sites reported heterosexual orientation. Another 25.7 percent reported male-to-male sexual contact or MSM and IDUs. Roughly 8.0 percent reported having sexual intercourse with both men and women (including IDUs). Also in 2005, HIV positivity was highest (3.3 percent) among men who reported having sex with men and lowest (0.5 percent) among heterosexual males. Overall, 2.7 percent of bisexual male testers seen in public HIV C&T sites tested positive for HIV in 2005 (Table 41).

**Table 41. Sexual Orientation of Male Clients Testing at HIV C&T Sites, California, 2005**

	Clients	Pct. Cases	Pct. HIV Positive
MSM and MSM/IDU	23,950	25.7	3.3
MSM and Women (bisexual)	7,314	7.9	2.7
Heterosexual male	50,771	54.5	0.5
Missing or not reported	11,119	11.9	2.9

Data Source: OA HIV C&T Data, July 2007.

## ***Direct Measures of Risk***

### **MULTIPLE PARTNERS AND CONDOM USE: CHIS MSM FOLLOW-UP STUDY**

In a re-interview of men aged 18-64 years who self-identified as gay or bisexual in the 2001 CHIS, HIV prevalence was estimated to be 19.1 percent (95 percent CI, 12.8 percent-25.3 percent). Table 42 summarizes responses to questions about sexual partners and sexual practices among respondents. Roughly 90.0 percent of men participating in this cross-sectional survey reported having a male sexual partner in the last 12 months and nearly one-in-ten men identifying as gay or bisexual were sexually active with a female partner.

Having multiple sexual partners and having unprotected anal intercourse (UAI) are two behaviors associated with increased risk of HIV. Among men who responded to the survey, approximately 29.0 percent reported having five or more male sexual partners in the most recent 12-month period. Roughly 41.0 percent of men surveyed reported having UAI within the year with at least one male partner. Fourteen percent of men reported having UAI with at least two male partners and 15.0 percent of men surveyed reported having UAI with a secondary, or extra-relational, sex partner.

Survey participants included men in both seroconcordant and serodiscordant relationships. In seroconcordant relationships, both partners are thought to be either HIV positive or HIV negative. UAI was reported among 27.0 percent of men in relationships where partners were presumed to have the same HIV status. Serodiscordant relationships are those where only one partner is thought to be HIV positive. UAI was reported by roughly 11.0 percent of men where one partner was known to be HIV infected.

**Table 42. Sexual Behaviors in the Past 12 Months among a Probability Telephone Sample of MSM Living in California, 2001**

	Pct.	95% CI
Sexually active with men		
Yes	90	85 to 93
No	10	7 to 15
Sexually active with women		
Yes	9	5 to 15
No	91	85 to 95
Number of male partners		
None	10	7 to 15
One	32	26 to 40
2-4	29	22 to 37
≥ 5	29	23 to 35
Number of UAI partners		
None	59	51 to 66
One	27	22 to 34
Two or more	14	9 to 21
UAI with secondary partner		
Yes	15	11 to 20
No	85	80 to 89
Overall		
No male sexual partners	10	7 to 15
No anal intercourse	24	18 to 31
Protected anal intercourse (100% condoms use)	28	21 to 35
UAI, 100% HIV seroconcordant	27	21 to 34
UAI, serodiscordant risk to the insertive partner	5	3 to 8
UAI, serodiscordant risk to the receptive partner	6	3 to 12

Source: CHIS MSM Follow-Up Study.

**HIV PREVALENCE, TYPE OF SEX, AND USE OF PROTECTION: PUBLIC HIV C&T CLIENTS**

HIV positivity among MSM clients seeking services at California's public HIV C&T sites differed by race/ethnicity in 2005. As presented in Table 43, HIV positivity, the ratio of HIV-positive test results to all test results, was highest among African American men and men reporting more than one race, followed by Hispanic men.

**Table 43. Race/ethnicity and HIV Positivity of MSM Clients Testing at HIV C&T Sites, California, 2005**

Race/ethnicity	MSM clients		HIV Positivity	
	N	Pct.	N	Pct.
Hispanic	6,429	26.8	291	4.5
White	12,390	51.7	315	2.5
African American	1,656	6.9	103	6.2
Asian/Pacific Islander	2,255	9.4	51	2.3
American Indian	121	0.5	3	2.5
Multi-race	272	1.1	17	6.3
Unknown/Other	827	3.5	21	2.5
Total	23,950	100.0	801	3.3

Data Source: OA HIV C&amp;T Data, July 2007.

HIV positivity among men who report sex with both men and women (MSM/W) seeking services at public HIV C&T sites in California also varies by race/ethnicity (Table 44).

**Table 44. Race/ethnicity and HIV Positivity of MSM/W testing at Public HIV C&T Sites, California, 2005**

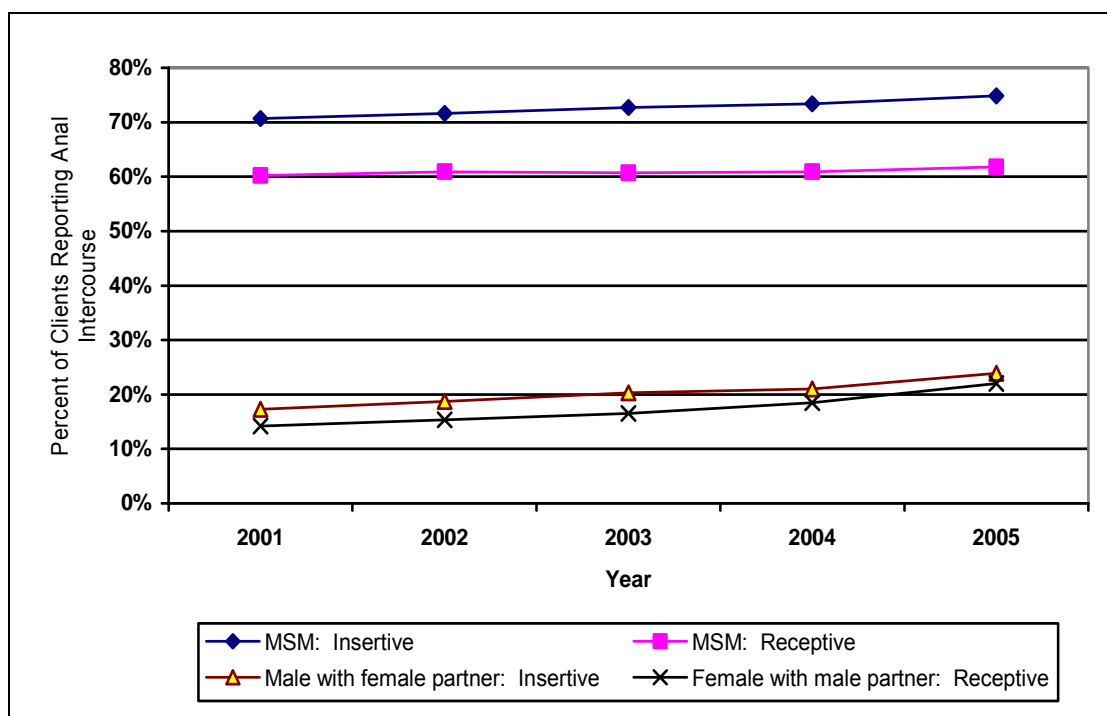
Race/ethnicity	Male Bisexual Clients		HIV Positivity	
	N	Pct.	N	Pct.
Hispanic	2,682	36.7	80	3.0
White	2,856	39.0	55	1.9
African American	970	13.3	39	4.0
Asian/Pacific Islander	381	5.2	6	1.6
American Indian	63	0.9	6	9.5
Multi-race	113	1.5	9	8.0
Unknown	249	3.4	3	1.2
Total	7,314	100.0	198	2.7

Data Source: OA HIV C&amp;T Data, July 2007.

Over three-quarters of all self-identified bisexual males testing at public HIV C&T clinics were either White or Hispanic. In 2005, HIV positivity was greatest among bisexual males reporting American Indian race or more than one race.

Risk for HIV transmission and acquisition varies by type of anal intercourse (insertive or receptive). An HIV-infected person, for instance, has a greater risk of transmitting HIV to his partner during insertive than receptive unprotected intercourse. Anal insertive and receptive intercourse varied among clients seeking HIV C&T services (Figure 25). Both insertive and receptive anal intercourse were reported by a relatively high proportion of clients with a history of male-to-male sexual contact for all five years, 2001-2005. Among male clients who reported sex with another male, over 70.0 percent had engaged in insertive anal intercourse and over 60.0 percent reported receptive anal intercourse. Approximately, one-in-five clients reporting only male-female sexual contact reported anal intercourse.

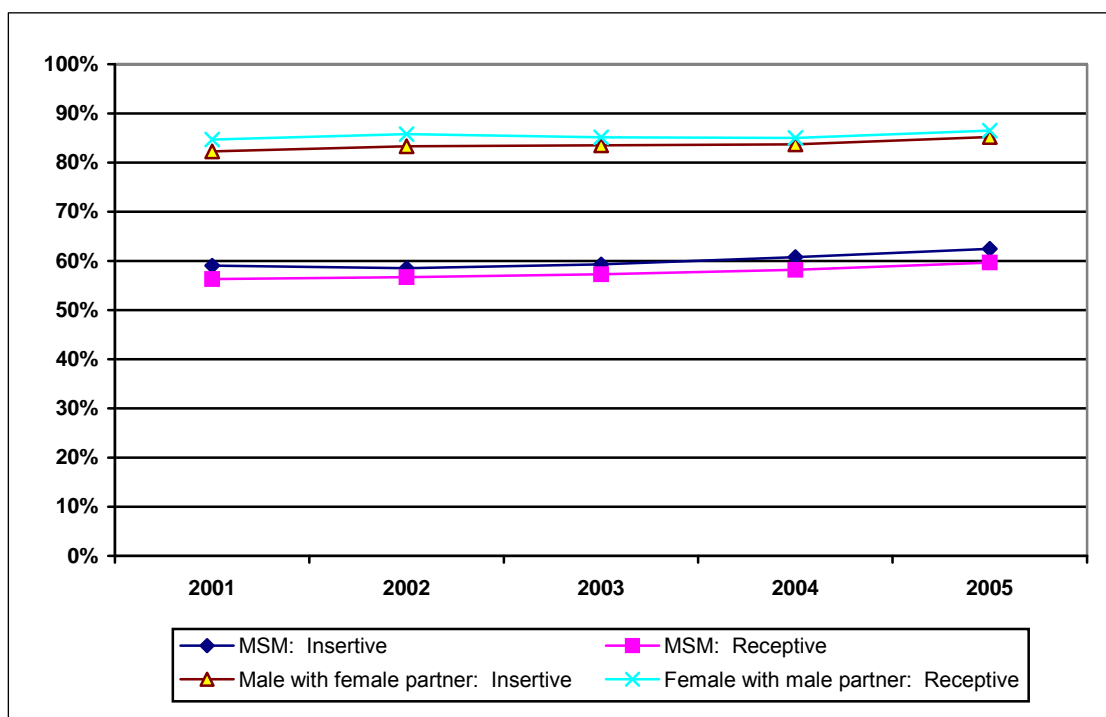
**Figure 25. Anal Insertive or Receptive Intercourse among Men and Women at HIV C&T Sites, California, 2001-2005**



Data Source: OA HIV C&T Data, July 2007.

Although anal intercourse was reported more often by men with male sexual partners than men with female sexual partners (Figure 25), UAI was more commonly reported by women and men who reported male-female sexual contact only (Figure 26). UAI was reported by over 80.0 percent of HIV C&T clients reporting male-female anal intercourse. In contrast, approximately 60.0 percent of MSM reported unprotected insertive or receptive anal intercourse.

**Figure 26. UAI among HIV C&T Clients by Risk Group, California, 2001-2005**



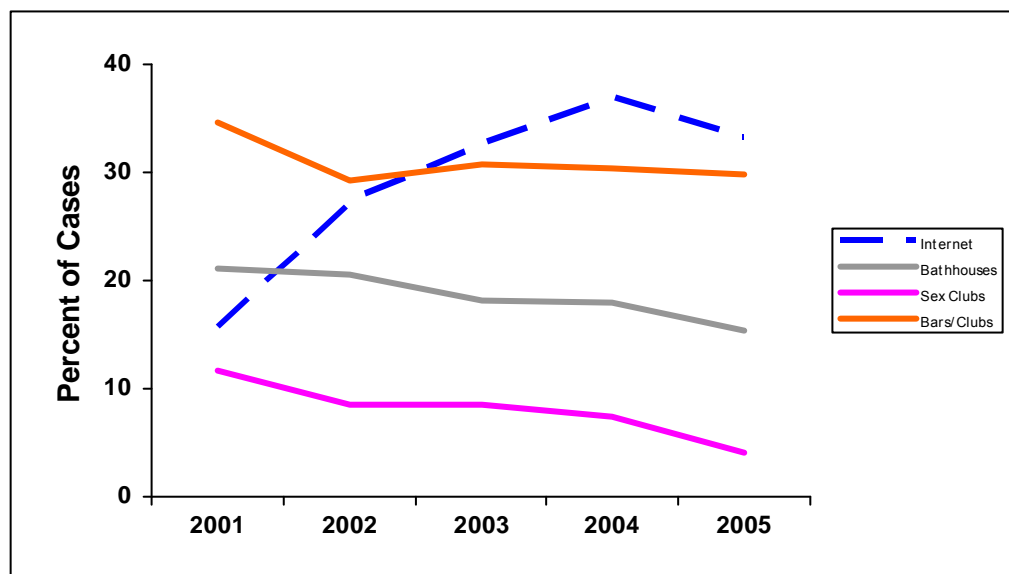
Data Source: OA HIV C&T Data, July 2007.

## Indirect Measures of Risk among MSM

### STDs AMONG MSM AND MEETING VENUE FOR SYPHILIS CASES: CALIFORNIA STD SURVEILLANCE DATA

Among MSM primary and secondary syphilis cases interviewed as part of enhanced STD surveillance efforts, the proportion reporting meeting their partners on the Internet grew from 16.0 percent in 2001 to 33.1 percent in 2005 (Figure 27).

**Figure 27. Meeting Venues Reported by Men with a History of Male-to-Male Sexual Contact among Primary and Secondary Syphilis Cases, California, 2001-2005**



Data Source: CDPH's STD Control Branch, Enhanced STD Surveillance Data, 2006.

In 2005, gonorrhea and HPV (genital/anal warts) were the most commonly reported STDs among men seeking HIV C&T services who reported male-to-male sexual contact (Table 45).

**Table 45. Self-Reported STDs among MSM Seeking HIV C&T by Reported STD, California, 2003-2005**

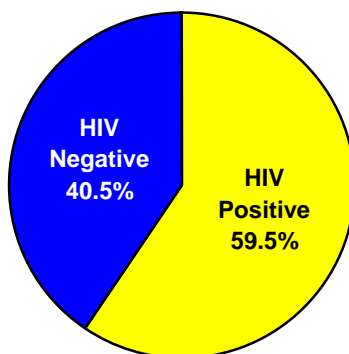
STD	2003		2004		2005	
	Cases	% among MSM	Cases	% among MSM	Cases	% among MSM
Chlamydia	1,072	4.0	1,030	4.2	967	4.0
Gonorrhea	1,963	7.4	1,791	7.3	1,779	7.4
Hepatitis B	600	2.3	716	2.9	809	3.4
Hepatitis C	299	1.1	327	1.3	324	1.4
HPV (genital/anal warts)	649	2.4	1,278	5.2	1,278	5.3
Syphilis	497	1.9	516	2.1	479	2
Trichomoniasis	46	0.2	30	0.1	38	0.2
Other STDs	569	2.1	365	1.5	323	1.3

Data Source: OA HIV C&T Data, July 2007.

Among primary and secondary syphilis cases, nearly 60.0 percent of MSM interviewed reported testing positive for HIV (Figure 28).



**Figure 28. HIV Status among Interviewed MSM, Primary and Secondary Syphilis Cases, California, 2005**



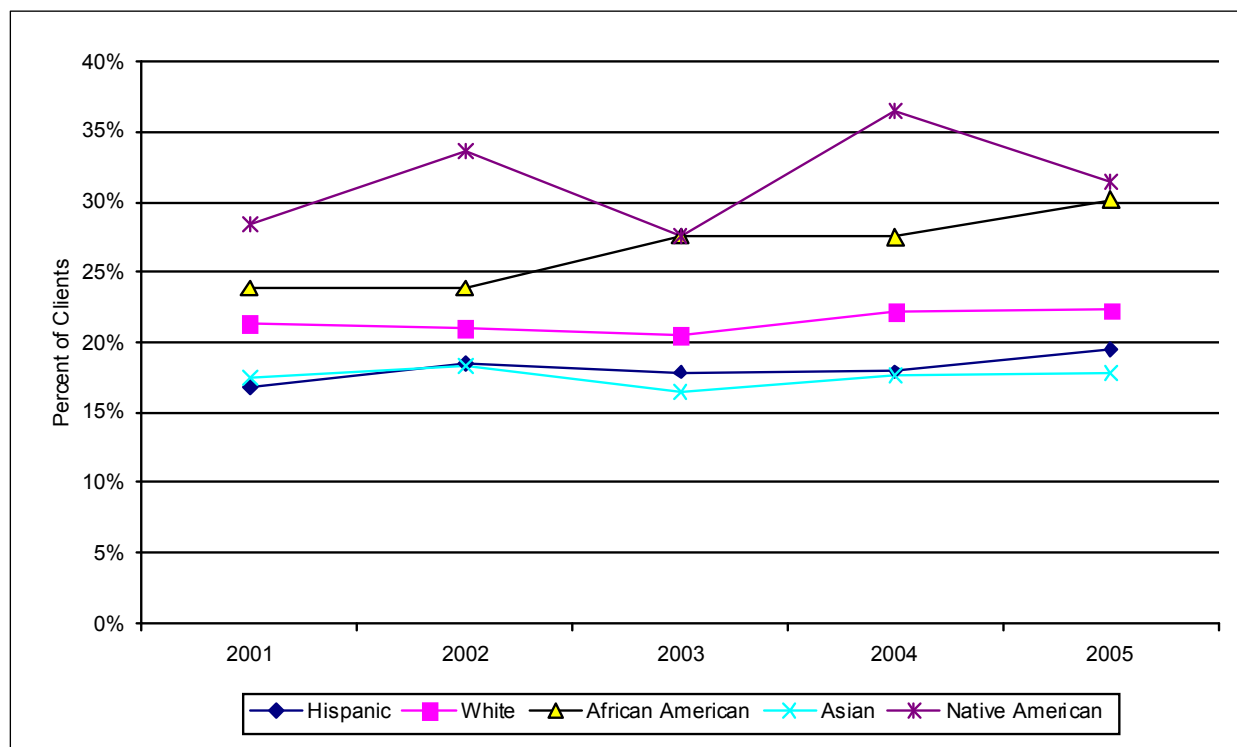
Source: CDPH's STD Control Branch Data, July 2006.

In 2005 in California, 80.8 percent of primary and secondary syphilis cases with data available occurred among men who also reported male-to-male sexual contact. Moreover, enhanced STD surveillance interviews, conducted in 2004-2005 on a sample of 1,425 gonorrhea cases from seven local health jurisdictions, showed that approximately 11.0 percent were among MSM; around 20.0 percent of these men were HIV co-infected (data not shown).

### **Substance Use among MSM**

Substance use, whether injected or not, can increase the risk of HIV transmission and acquisition through impaired individual risk assessment and reduced use of protection. Figure 29 summarizes reported use of stimulants such as crack, amphetamine, cocaine, nitrate/nitrite, and ecstasy among HIV C&T clients who reported male-to-male sexual contact only. Stimulant use was reported in greater proportions by men of Native American and African American race than by men in other racial/ethnic groups. Stimulant use was reported least frequently by Hispanic and Asian men.

**Figure 29. Stimulant Use among HIV C&T Clients who Reported Male-to-Male Sexual Contact Only by Race and Sex, California, 2001-2005**



Note: Stimulant use reported for the shorter of the past two years or since the last test. Stimulants include crack, amphetamine, cocaine, nitrate/nitrite, and ecstasy.

Data Source: OA HIV C&T Data, July 2007.

## **RISK BEHAVIORS AMONG IDUs**

As shown in Chapter 2, after sexual contact, injection drug use is the second most frequently reported risk behavior among people diagnosed with HIV and AIDS in California. In the 2000 KABB Survey, which measured the prevalence of injection drug use reported among California adults, 1-in-25 California adults were found to have injected nonprescription drugs at some point in their lifetime. Eight out of every 1,000 respondents reported having injected drugs during the prior year. This section examines characteristics of IDUs seeking HIV testing services in state-funded HIV C&T sites and direct and indirect risk behaviors among IDUs in California.

### ***Direct Measures of Risk among IDUs***

#### **SEROPOSITIVITY AND DEMOGRAPHICS OF IDUs UTILIZING PUBLIC HIV C&T SERVICES**

Table 46 summarizes HIV positivity and demographics among clients at State-supported HIV C&T sites who report injecting nonprescription drugs in 2005, including those also who also reported male-to-male sex. HIV positivity was greatest among individuals identifying as transgender, African Americans, and clients reporting more than one race.

**Table 46. IDU\* Seropositivity and Demographics for Public HIV C&T Clients, California, 2005**

	All Clients		HIV-Positive Clients	
	N	Pct.	N	Pct.
Gender				
Male	10,429	65.2	239	2.3
Female	5,411	33.8	44	0.8
Transgender	121	0.8	9	7.4
Other/Missing	48	0.9	2	4.2
Race/Ethnicity				
Hispanic	3,845	24.0	53	1.4
White	8,551	53.4	130	1.5
African American	2,227	13.9	76	3.4
Asian/Pacific Islander	197	1.2	4	2.0
American Indian	384	2.4	11	2.9
Multi-Race	325	2.0	13	4.0
Other/Unknown	478	3.0	7	1.5
Total	16,007	100.0	294	1.8

\*Includes MSM/IDUs.

Note: Percentages do not add up to 100 due to rounding.

Data Source: OA HIV C&amp;T Data, July 2007.

**INJECTION PRACTICES AMONG IDUS**

Needle sharing and other unsafe injection practices that facilitate the exchange of blood increase risk of HIV transmission and acquisition among people who inject nonprescription drugs. Table 47 shows the majority of IDUs at publicly funded HIV C&T sites reported “sometimes or always” sharing needles (61.5 percent in 2005).

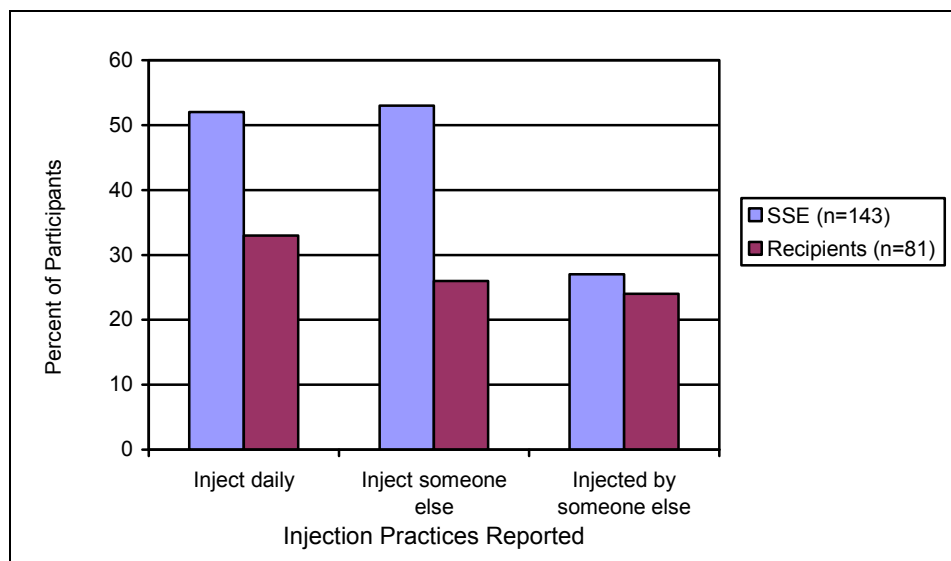
**Table 47. Needle Sharing among IDUs at HIV C&T Sites, California, 2005**

Shared Needles	All Testers		HIV-Positive Testers	
	N	Pct	N	Pct
Sometimes or Always	9,841	61.5	117	39.8
Never	5,039	31.5	160	54.4
Missing	1,127	7.0	17	5.8

Data Source: OA HIV C&amp;T Data, July 2007.

However, the largest proportion (54.4 percent) of HIV-positive tests were found among IDUs who reported “never” sharing needles in 2005. This may indicate a large number of HIV transmissions occurring through sexual practices rather than through injection practices. Alternatively, this could also reflect a change in practice as IDUs who knew or suspected they were HIV positive may have changed their behavior accordingly in an effort not to infect others.

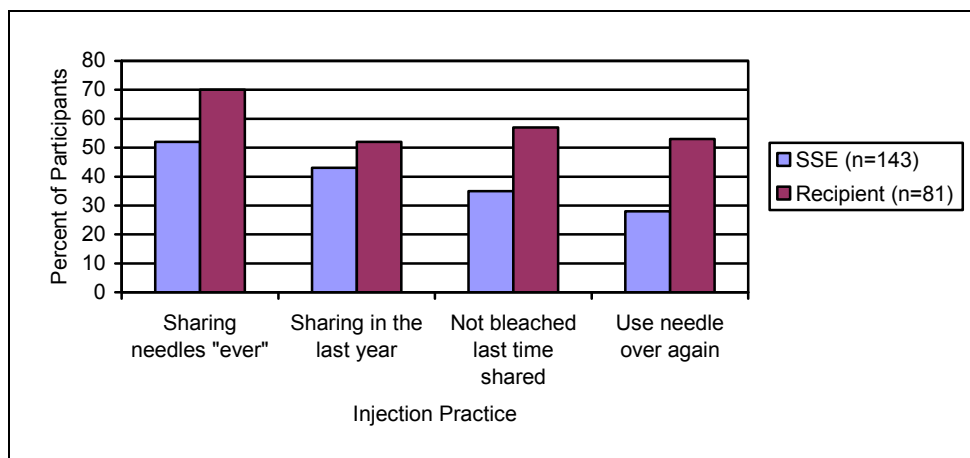
**Figure 30. Injection Practices among SSEs and Their Injection Drug Using Recipients, 2004**



Source: OA IDU-SSE High-Risk Initiative, 2005.

As indicated in Figure 30, enrolled SSEs reported daily injection more often than their recipients (52.0 percent versus 33.0 percent). SSEs (53.0 percent) were also more likely to report injecting someone else compared to their recipients, of whom 26.0 percent reported injecting another IDU.

**Figure 31. Injection Risk Behaviors among SSEs and Their Injection Drug Using Recipients, California, 2004**



Source: OA IDU-SSE High-Risk Initiative, 2005.

Injection drug using recipients who received syringes from SSEs tended to report higher injection-mediated risk behaviors than SSEs (Figure 31). Seventy percent of recipients and 52.0 percent of SSEs reported "ever" sharing syringes, respectively. During the last year, recipients (57.0 percent) were also more likely than SSEs (35.0 percent) to report not bleaching their syringes the last time that they shared. SSEs reported providing sterile syringes and harm-reduction information, such as information on safer injection

and safer sex practices, to ten injection drug using clients (mean=9.8) in a typical month.

### DRUG USE DURING SEX IN PUBLICLY SUPPORTED HIV C&T CLIENTS

A variety of drugs used during sex were reported by HIV C&T clients who have a history of injection drug use between 2001 and 2005 (Table 48). Alcohol, heroin, and amphetamines were the most common drugs of choice during sex for all five years.

**Table 48. Frequency of Drug Use with Sex Reported by IDUs at HIV C&T Sites, California, 2001-2005**

Drug and frequency of use	2001		2002		2003		2004		2005	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
Alcohol										
Rarely	1,352	7.7	1,621	8.2	1,738	7.7	1,682	8.6	1,270	7.9
Sometimes	3,616	20.6	4,056	20.5	4,465	19.7	4,470	22.8	3,712	23.2
Usually	2,235	12.7	2,468	12.5	2,504	11.1	2,243	11.5	2,220	13.9
Marijuana										
Rarely	898	5.1	1,075	5.4	1,213	5.4	1,189	6.1	880	5.5
Sometimes	2,149	12.2	2,410	12.2	2,563	11.3	2,209	11.3	2,063	12.9
Usually	1,368	7.8	1,438	7.3	1,512	6.7	1,440	7.4	1,429	8.9
Heroin										
Rarely	2,017	11.5	2,077	10.5	2,452	10.8	2,060	10.5	1,551	9.7
Sometimes	3,055	17.4	3,611	18.3	4,284	18.9	3,494	17.9	2,812	17.6
Usually	2,475	14.1	2,546	12.9	2,599	11.5	2,110	10.8	1,931	12.1
Barbiturates/Tranquilizers										
Rarely	256	1.5	233	1.2	235	1.0	226	1.2	146	0.9
Sometimes	445	2.5	446	2.3	593	2.6	468	2.4	417	2.6
Usually	317	1.8	255	1.3	262	1.2	243	1.2	275	1.7
Crack										
Rarely	516	2.9	614	3.1	653	2.9	567	2.9	494	3.1
Sometimes	1,222	7.0	1,394	7.0	1,888	8.3	1,736	8.9	1,394	8.7
Usually	937	5.3	986	5.0	970	4.3	955	4.9	982	6.1
Amphetamines										
Rarely	967	5.5	1,123	5.7	1,297	5.7	1,208	6.2	1,064	6.6
Sometimes	2,966	16.9	3,509	17.7	3,950	17.5	4,093	20.9	3,448	21.5
Usually	3,245	18.5	3,678	18.6	4,318	19.1	4,306	22.0	3,922	24.5
Cocaine										
Rarely	824	4.7	904	4.6	1,011	4.5	825	4.2	578	3.6
Sometimes	1,954	11.1	2,149	10.9	2,439	10.8	2,114	10.8	1,548	9.7
Usually	1,524	8.7	1,509	7.6	1,563	6.9	1,335	6.8	1,179	7.4
Nitrates										
Rarely	63	0.4	50	0.3	56	0.2	65	0.3	40	0.2
Sometimes	131	0.7	96	0.5	102	0.5	88	0.4	88	0.5
Usually	142	0.8	95	0.5	116	0.5	95	0.5	135	0.8
Ecstasy										
Rarely	148	0.8	169	0.9	179	0.8	182	0.9	123	0.8
Sometimes	519	3.0	377	1.9	333	1.5	336	1.7	289	1.8
Usually	325	1.8	320	1.6	352	1.6	332	1.7	509	3.2

Note: Clients can report more than one substance.

Data Source: OA HIV C&T Data, July 2007.

## SEXUAL RISK BEHAVIOR AMONG IDUs

Risk of exposure to HIV among people who inject drugs can occur through injection and/or sexual practices. Table 49 summarizes sexual risk behavior among people who reported injecting drugs at publicly funded HIV C&T sites in California in 2005.

Key high-risk sexual behaviors identified among HIV-positive IDUs seeking HIV C&T services include sex with other males; sex with a partner who also injects drugs; and drug use during sex. The vast majority (79.0 percent) of people who reported injecting drugs also reported using drugs with sex. Over one-half of injection drug using clients reported having a sex partner who also injects drugs.

Among HIV-positive IDUs seeking publicly funded HIV C&T services, drug use during sex, sex with another IDU, and male-to-male sexual contact were reported most frequently (Table 49). Sex with a sex worker was reported by 16.9 percent of all IDUs testing at state-funded HIV C&T clinics and 21.8 percent of IDUs with positive HIV test results. Male-to-male sexual contact was reported by 11.4 percent of all IDUs and 45.6 percent of HIV-positive IDUs.

**Table 49. Risks Reported by All IDUs and HIV-positive IDUs at HIV C&T Sites, California, 2005**

	All IDUs		HIV-Positive IDUs	
	N	Pct.	N	Pct.
Male-to-male sexual contact	1,829	11.4	134	45.6
Sex with an HIV-positive partner	1,049	6.6	98	33.3
Anal receptive intercourse	2,722	17.0	117	39.8
Sex with an IDU	8,341	52.1	155	52.7
Sex with a sex worker	2,709	16.9	64	21.8
Drug use during sex	12,652	79.0	240	81.6
Heterosexual contact with an MSM (females only)	594	3.7	5	1.7

Note: Percentages do not add up to 100; clients may report more than one risk.

Data Source: OA HIV C&T Data, July 2007.

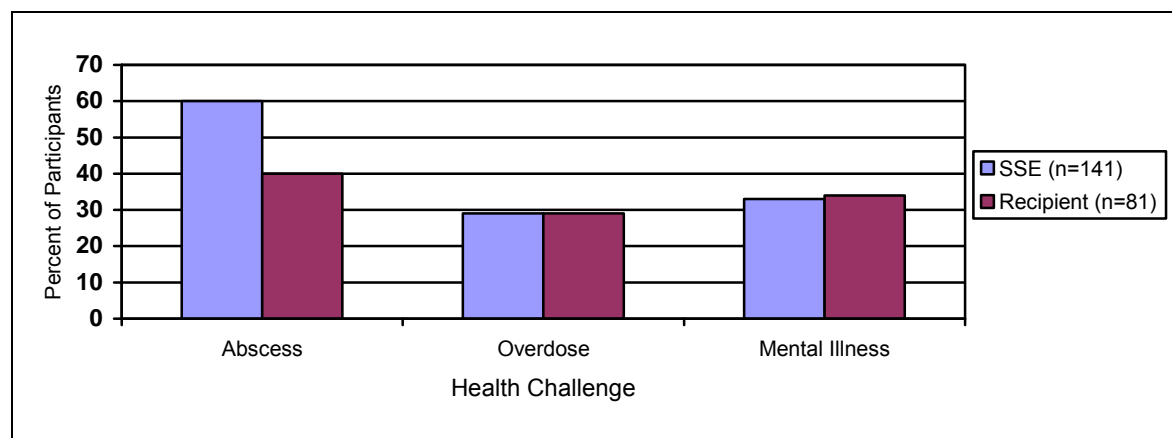
## SEP DATA

Data from SEPs provides another measure of risk among IDUs in California. SEPs facilitate access to sterile syringes and ancillary health services in California. However, limited hours of service, inadequate geographic coverage, and concerns about community stigma deter many IDUs from using SEPs. IDUs who do not visit SEP sites may, nonetheless, be receiving sterile syringes, prevention materials, health education, and referrals to health care services through networks of secondary syringe exchangers (SSEs), individuals who exchange syringes at SEPs on behalf of their injection drug using peers.

In 2004, OA funded five sites in the state to participate in an SSE peer education intervention. As of May 31, 2006, the IDU-SSE intervention had enrolled and surveyed 143 SSEs and 81 of their injection drug using recipients/clients. Enrolled SSEs had a mean age of 41 years and a mean education level of 11.7 years. Fifty-seven percent of SSEs were male and 86.0 percent were heterosexual. Fifty-five percent of SSEs were

White, 15.0 percent Hispanic, 13.0 percent Native American/Alaska Native, and 7.0 percent African American. Thirty-one percent of enrolled SSEs reported being homeless.

**Figure 32. Health Challenges among SSEs and their Injection Drug Using Recipients, 2004**

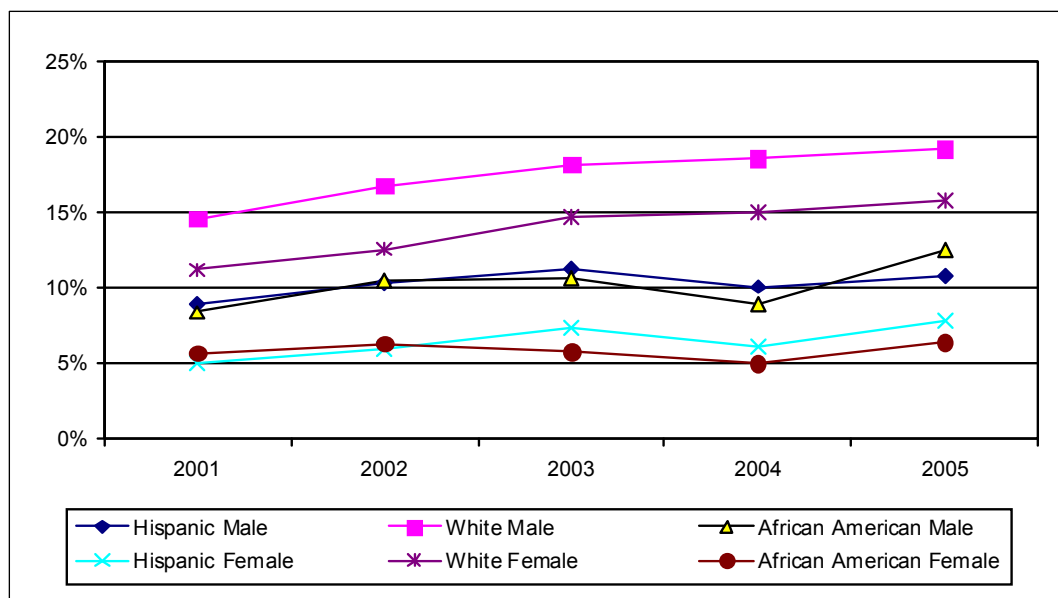


Source: OA IDU-SSE High-Risk Initiative.

Enrolled SSEs reported experiencing a number of health challenges that require unique health care interventions. As illustrated in Figure 32, more SSEs than recipients reported a recent abscess (60.0 percent versus 40.0 percent); roughly 29.0 percent of SSEs and their recipients have had an overdose and approximately one-third (33.0 percent and 34.0 percent, respectively) report a history of mental illness.

Reported injection drug use among heterosexuals served by California's HIV C&T sites varies by sex and race/ethnicity (Figure 33).

**Figure 33. Injection Drug Use among HIV C&T Clients Reporting Heterosexual Contact by Race and Gender, California, 2001-2005**



Note: Drug use reported during the shorter of: the past two years or time since the last test.

Data Source: OA HIV C&T Data, July 2007.

Injection drug use among heterosexuals at publicly funded HIV C&T sites was reported more often among men than women in every racial/ethnic group during the years 2001-2005. At roughly 20.0 percent and 15.0 percent, respectively, White males and White females accounted for the largest percent of heterosexual HIV C&T clients reporting injection drug use between 2001 and 2005.

According to data gathered from HIV C&T services in 2005, the three most commonly reported drugs used “usually” during sex by IDUs attending HIV C&T sites in California were amphetamines (24.5 percent), alcohol (13.9 percent), and heroin (12.1 percent).

### ***Indirect Measures of Risk among IDUs***

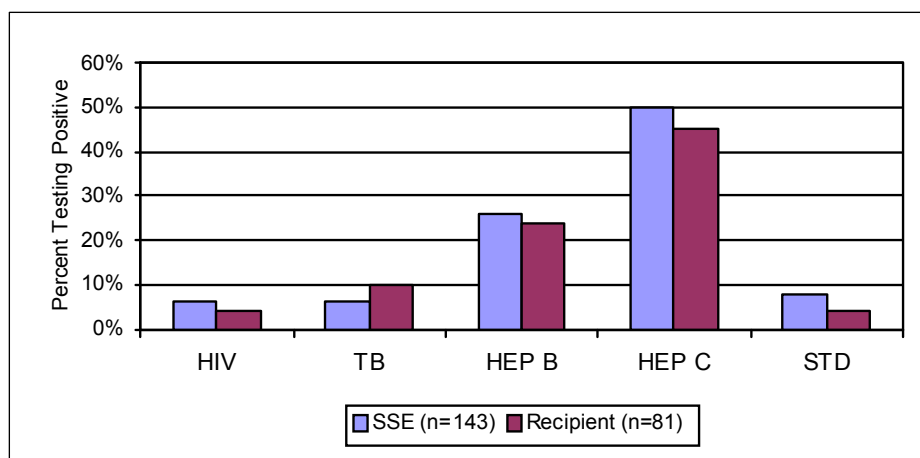
#### **STDs AND OTHER COMMUNICABLE DISEASES AMONG IDUs**

Preliminary findings from California’s IDU-SSE High-Risk Initiative indicate that SSEs and their injecting recipients/clients report relatively high HIV and hepatitis infection rates as well as other morbidities.

Roughly 90.0 percent of SSEs and 91.0 percent of recipients participating in California’s IDU-SSE High-Risk Initiative reported being tested for HIV; 6.0 percent and 4.0 percent received a positive result, respectively. Eighty percent of SSEs and 68.0 percent of recipients reported being tested for hepatitis C virus and 50.0 percent and 45.0 percent reported receiving a positive result, respectively. Figure 34 summarizes reported diseases diagnosed among SSEs and their injection drug using recipients.



**Figure 34. Percent of SSEs who Reported Testing Positive for HIV, TB, Hepatitis, and STDs, 2004**



Source: OA IDU-SSE High-Risk Initiative, 2005.

### **RISK BEHAVIORS AMONG PERSONS ENGAGING IN HIGHER RISK HETEROSEXUAL CONTACT**

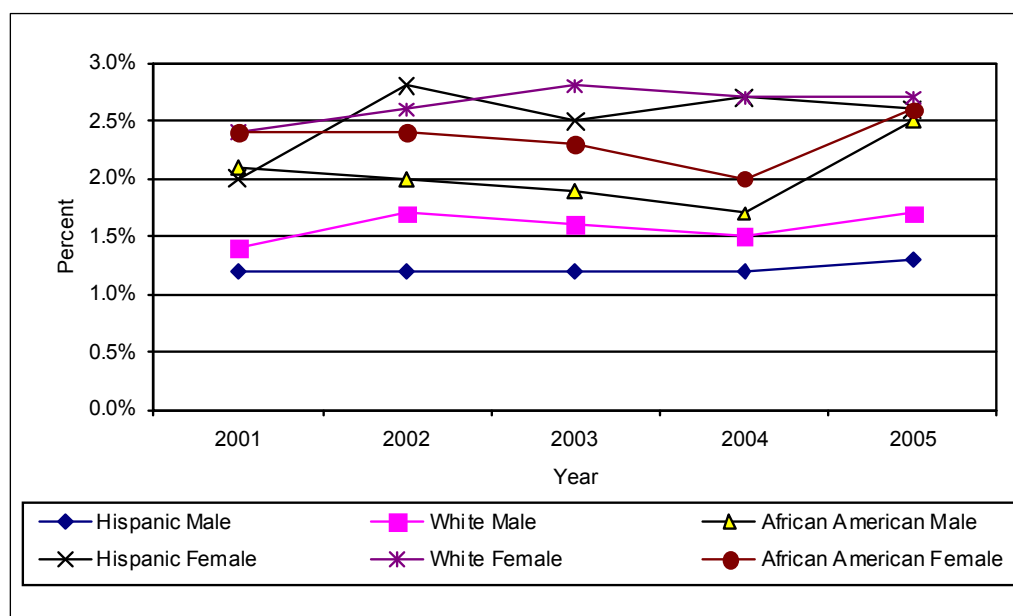
As noted in Chapter 2, heterosexual contact, particularly among females, accounts for a moderate proportion of HIV and AIDS diagnoses in California. This section describes direct and indirect measures of risk among persons reporting higher risk heterosexual contact that is associated with increased risk of HIV.

For the purposes of this section, high-risk sexual behavior is defined in terms of the sexual partner's HIV status and risk, hence this section focuses on risk of HIV acquisition. Sexual behavior identified in this section includes sex with an HIV-positive partner and sex with a sex worker. Sex with an IDU was addressed in the previous section.

#### ***Direct Measures of Risk among Heterosexuals Engaging in High-Risk Sexual Behavior***

The proportion of HIV C&T clients reporting only male-female sexual behavior who also reported having sex with an HIV-positive partner in the last two years was generally low, ranging from 1.0 to less than 3.0 percent. Females consistently reported this behavior more often than males (Figure 35). Of all six groups presented, Hispanic and White males represented the smallest percent of clients who reported both heterosexual contact and sex with an HIV-positive partner.

**Figure 35. Proportion of HIV C&T Clients who Reported Only Male-Female Sexual Behavior and also Reported Having Sex with an HIV-positive Partner in the Past Two Years by Race and Gender, 2001-2005**

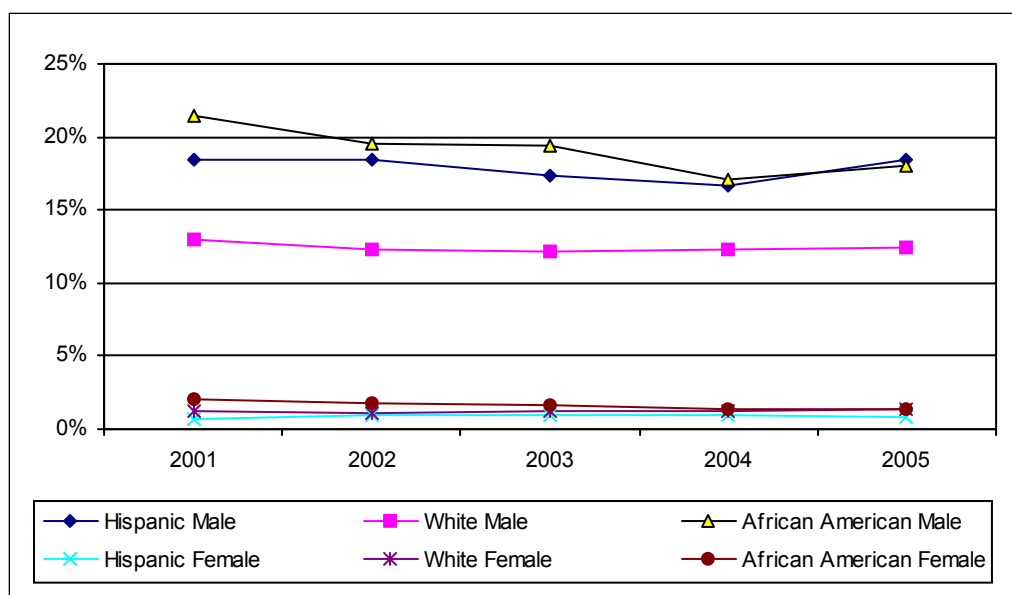


\* Reported for the shorter of the past two years or since the last test. Based on client's knowledge about the partner's HIV status.

Data Source: OA HIV C&T Data, July 2007.

Because of their contact with multiple sexual partners, sex with a sex worker is associated with increased risk of HIV. Figure 36 summarizes data from HIV C&T sites on heterosexual clients who had sex with a sex worker by race/ethnicity and sex.

**Figure 36. HIV C&T Clients who Reported Heterosexual Contact and Sex with a Sex Worker by Race/ethnicity and Sex, California, 2001-2005**



Data Source: OA HIV C&T Data, July 2007.

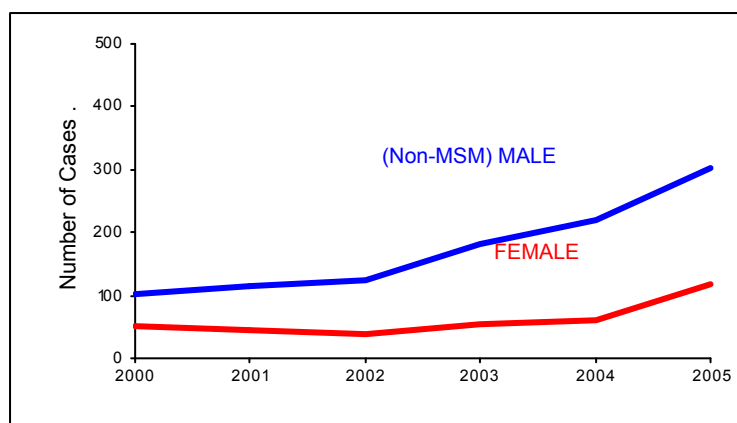
Among HIV C&T clients who reported heterosexual contact, males were more likely to report sexual contact with sex workers. During the five-year period from 2001-2005, a higher percentage of African American and Hispanic males reported sex with a sex worker than did White males (Figure 36).

### ***Indirect Measures among Persons Engaging in High-Risk Heterosexual Behavior***

#### **STDs AMONG PERSONS ENGAGING IN HIGH-RISK HETEROSEXUAL BEHAVIOR**

As noted above, the presence of STDs can influence both the transmission and acquisition of HIV. In addition, STDs are an indicator of sexual practices that put people at risk for both transmission and acquisition of HIV.

**Figure 37. Primary and Secondary Syphilis Cases by Gender, California, 2000-2005**



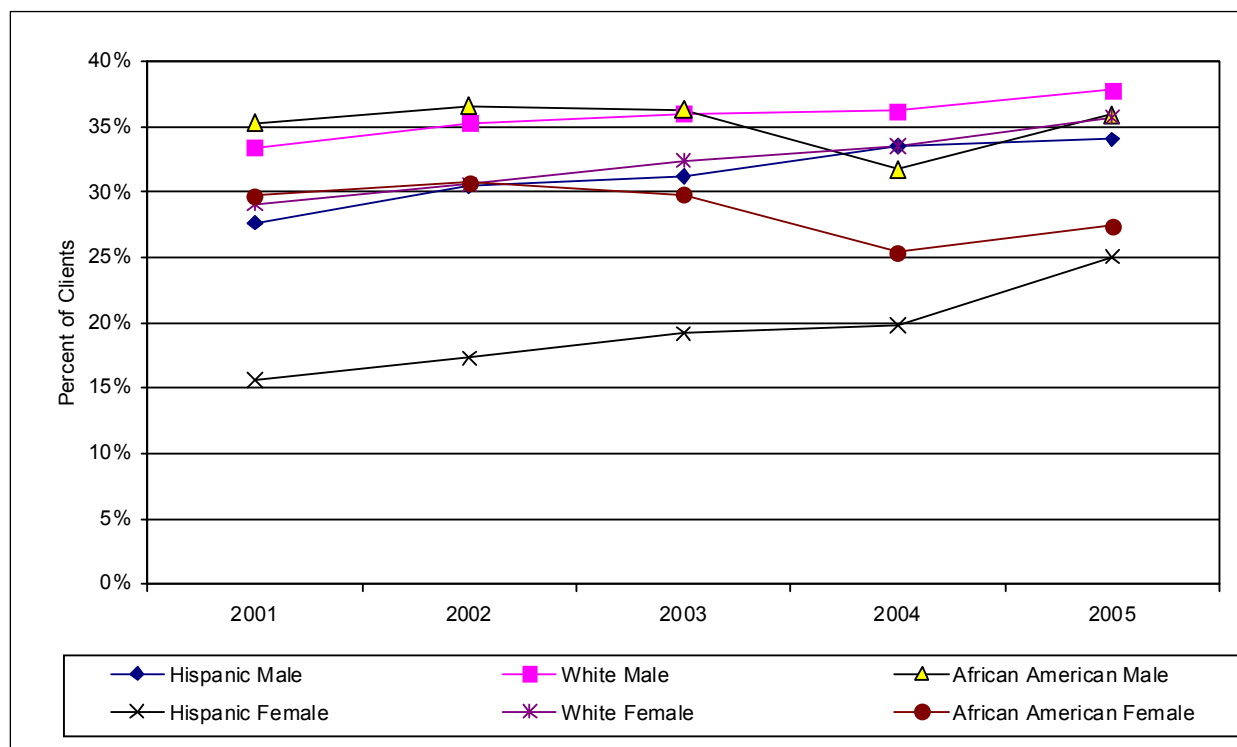
Source: CDPH's STD Control Branch, July 2006.

STD surveillance data from 2000-2005 indicate a steady increase in heterosexual primary and secondary syphilis cases from 2002-2005 (Figure 37). Detection and treatment of STDs may be an effective HIV prevention strategy.

#### **SUBSTANCE USE AMONG PERSONS ENGAGING IN HIGH-RISK HETEROSEXUAL BEHAVIOR**

Figure 38 presents the proportion of clients at publicly supported HIV C&T services who reported heterosexual contact and who also reported using crack, amphetamines, cocaine, nitrate/nitrite, or ecstasy during the five-year period from 2001-2005.

**Figure 38. Stimulant Use among HIV C&T Clients who Reported Heterosexual Contact by Race and Sex, California, 2001-2005**



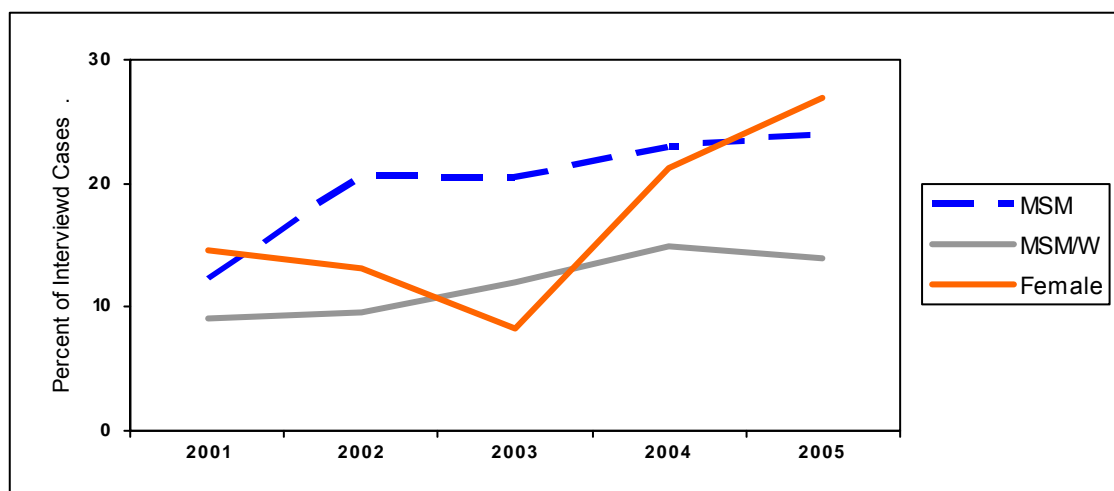
Note: Stimulant use reported for the shorter of the past two years or since the last test. Stimulants include crack, amphetamine, cocaine, nitrate/nitrite, and ecstasy.

Data Source: OA HIV C&T Data, July 2007.

Between 2001 and 2005 in California, stimulant use was reported by over one-third of African American and White male HIV C&T clients who reported heterosexual contact. While stimulant use ranged between 30.0 percent and 37.0 percent in most groups, the proportion was consistently lower among Hispanic females.

According to data from enhanced STD surveillance efforts, over one-quarter (27.0 percent) of females with syphilis reported using methamphetamines in 2005, reflecting an increase over the five-year period 2001-2005 (Figure 39).

**Figure 39. Percent of Interviewed Primary and Secondary Syphilis Cases Reporting Methamphetamine Use, by Sexual Orientation, California, 2001–2005**



Data Source: CDPH's STD Control Branch Data, July 2006.

## **INDICATORS OF HIV RISK AMONG ALL CALIFORNIANS**

This section provides information on direct and indirect indicators of HIV risk among segments of the California population not restricted to the three most important risk groups.

### ***Direct Measures of Risk among Californians***

#### **SEXUAL RISK BEHAVIOR AMONG ADULTS**

This section describes findings from two surveys that measured Californian's HIV sexual risk behavior and risk awareness.

#### ***2000 KABB Survey Findings***

In the 2000 KABB Survey of California adults, high-risk sexual behavior was defined as: 1) sexual intercourse with an HIV-positive individual or someone who injects nonprescription drugs or has sexual intercourse with a MSM; 2) sexual intercourse with at least six partners in the past 12 months; and 3) sexual intercourse with "casual" partners. Condom use was not elicited.

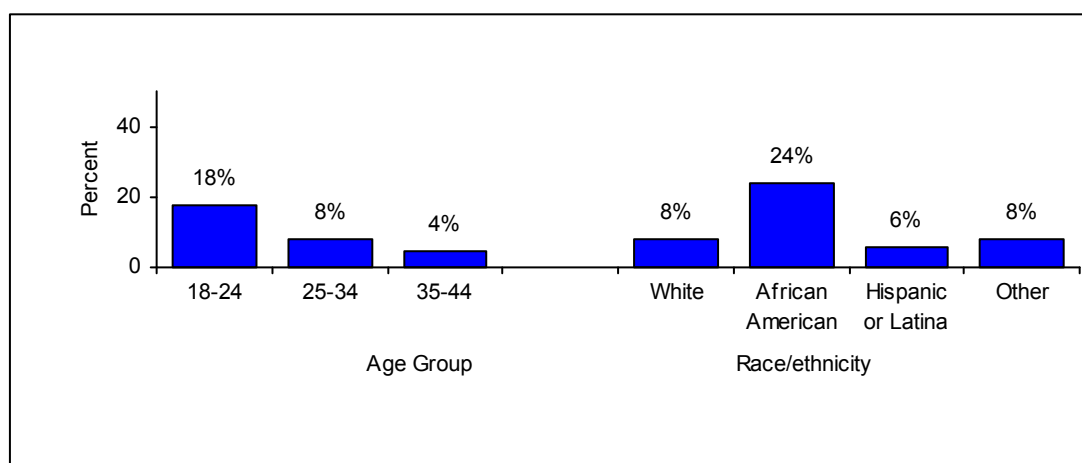
According to KABB findings, 1-in-20 California adults has had sex with someone at high risk for HIV (an HIV-positive individual, MSM, or IDU) at least once in their lifetime. This activity was most frequently reported by White non-Hispanics, adults 25 to 44 years of age, and unemployed individuals ( $p < 0.05$ ). The KABB Survey also found that 9-in-1,000 adult Californians reported sexual intercourse with six or more partners in the year prior to the survey and that 1-in-11 California adults reported having had sex with at least one casual partner. Forty-six percent of those individuals engaging in sex with

a casual partner reported using a condom. Survey results did not stratify these sexual risk behaviors by condom use, essential information for risk assessment.

### *CWHS Findings*

Between 1997 and 2003, 83.1 percent of CWHS respondents reported having only one sexual partner during the previous year. Approximately, 8.0 percent reported having no sexual partners during the previous 12 months. The percent of women having more than one sex partner during the year varied by age. Young women (18-24 years old) were more likely to report more than one sex partner within the year than older women (Figure 40).

**Figure 40. Women Reporting More than One Sex Partner in the Past 12 Months by Age Group and Race/ethnicity, California, 2005**



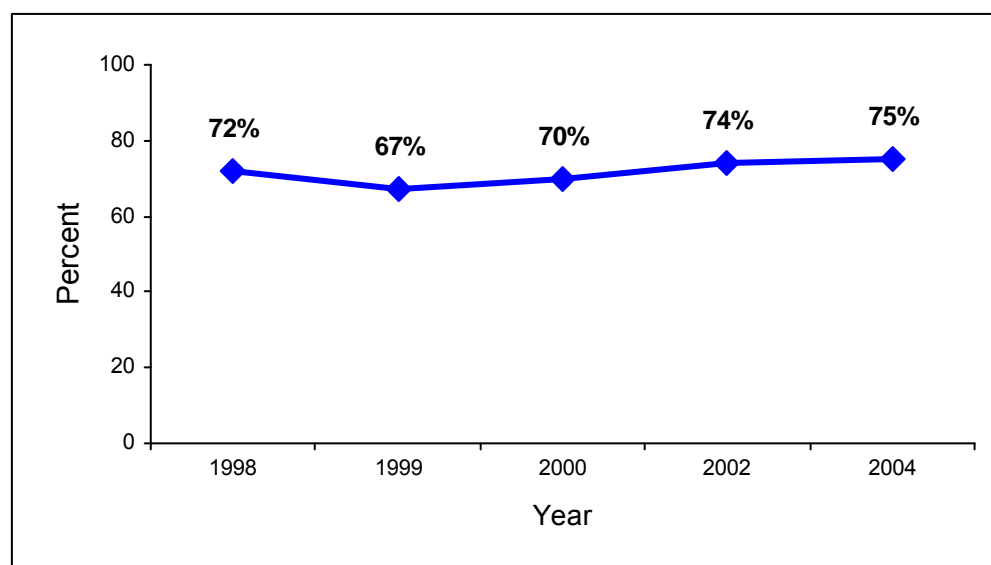
Source: CWHS, 2005.

Early onset of sexual activity (before the age of 16 years) has been associated with future high-risk sexual behavior. According to results from CWHS, the majority of California women experienced their first sexual experience between the ages of 17 and 18. However, the age at first sexual experience varied by both age group and race/ethnicity.

In 2001, over one-fourth of young women (26.5 percent) between 18 and 24 years of age reported having had their first sexual experience before they were 16 years old. In contrast, roughly 20.0 percent of women between 25 and 34 years of age and 15.6 percent of women 35-44 years of age engaged in sexual activity before age 16. On average, early onset of sexual activity was reported more often by White and African American women than women of Hispanic ethnicity. About 14.0 percent of Hispanic women reported engaging in sexual activity before age 16. In contrast, approximately one-fourth (23.4 percent) of White women and 27.2 percent of African American women reported having their first sexual experience before they reached 16 years of age.

Condom use is a common HIV prevention strategy and an indicator of safe sex practices. From 1998 to 2004, no significant change occurred in the proportion of sexually active women surveyed reporting condom use during their first sexual encounter with a new partner (Figure 41). Of note, however, the proportion reporting condom use remained quite high (67.0 percent to 75.0 percent) during this time period. The proportion of respondents using condoms at first sex with a new partner did not differ between age and racial/ethnic groups (data not shown).

**Figure 41. Women with a New Partner in the Previous Year who Reported Using a Condom with Their New Partner During First Sex, California, 1998-2004**



Source: CWSHS (1998-2004).

Communication with sex partners about the risk of HIV or AIDS plays an important role in safe sex practices like condom use. In California, approximately one-half of CWSHS respondents surveyed between 1997 and 2003, who had a new sex partner in the last 12 months, reported having “talked seriously” about the risk of AIDS with their most recent sex partner.

### ***Indirect Measures of Risk among All Californians***

#### **STDs**

STD surveillance data show increases in the rates of chlamydia, gonorrhea, and early syphilis (primary, secondary, and early latent syphilis cases combined) among males and females in California since 2001. In terms of absolute numbers, chlamydia, gonorrhea, and early syphilis cases represented a large amount of morbidity in 2005: 128,248 reported cases of chlamydia, 33,910 cases of gonorrhea, and 2,793 cases of early syphilis. Chlamydia, gonorrhea, and early syphilis rates have increased among males and females in almost all race/ethnic groups. Based on demographic data from case-based reporting, rates of these STDs were higher for African Americans than for other racial/ethnic groups; were highest in 15-24-year-old age groups; and tended to be

highest in the rural central California counties. The racial differences were most pronounced for gonorrhea, where, for example, in 2005 the rate among African Americans was 9.3 times that of non-Hispanic Whites.

Among men seeking public HIV C&T who reported sexual contact with both males and females, gonorrhea was the most frequently reported STD for all three years, 2003-2005, followed by chlamydia (Table 50).

**Table 50. Self-Reported STDs among MSM/W Seeking HIV C&T by Reported STD, California, 2003-2005**

STD	2003		2004		2005	
	Cases	% among MSM/W	Cases	% among MSM/W	Cases	% among MSM/W
Chlamydia	391	4.6	391	4.7	290	4.0
Gonorrhea	568	6.7	542	6.5	481	6.6
Hepatitis B	145	1.7	173	2.1	120	1.6
Hepatitis C	272	3.2	263	3.1	297	4.1
HPV (genital warts)	187	2.2	283	3.4	218	3.0
HSV (genital herpes)	205	2.4	340	4.1	292	4.0
Syphilis	186	2.2	156	1.9	107	1.5
Other STDs	154	1.6	97	1.2	80	1.1

Note: Percentages do not add up to 100 due to rounding.

Data Source: OA HIV C&T Data, July 2007.

Table 51 summarizes chlamydia, gonorrhea, and early syphilis cases diagnosed among males in California between 2001 and 2005. The age distribution varied by disease. Chlamydia occurred most often among young men ages 13-24 years old. In contrast, men ages 35-44 years accounted for the largest proportion of early syphilis diagnoses.

**Table 51. Chlamydia, Gonorrhea, and Early Syphilis Cases among Males, California, 2001-2005**

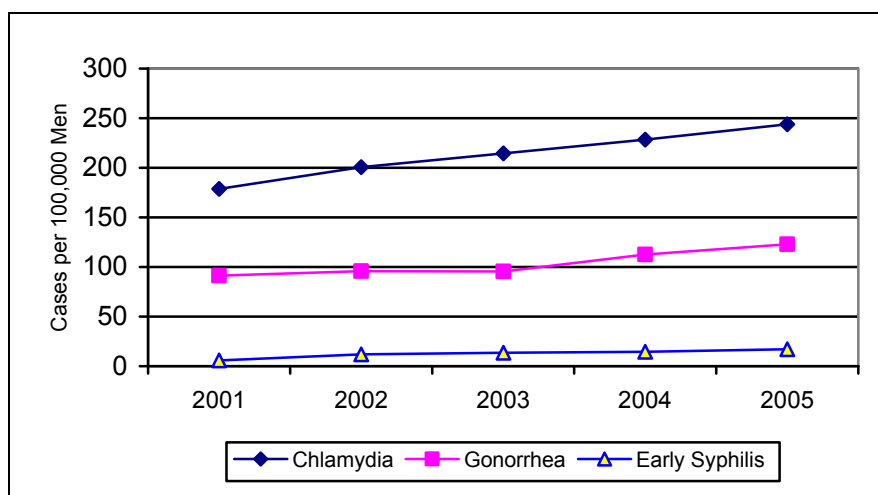
Age at Diagnosis	Chlamydia		Gonorrhea		Syphilis	
	N	Pct.	N	Pct.	N	Pct.
0-12	281	0.2	88	0.1	3	0.0
13-24	83,528	54.1	26,503	35.3	839	9.2
25-34	46,872	30.4	24,820	33.1	2,602	28.7
35-44	16,629	10.8	16,315	21.8	3,857	42.5
45-54	4,582	3.0	5,266	7.0	1,399	15.4
55+	1,331	0.9	1,436	1.9	365	4.0
Unknown	1,069	0.7	559	0.7	9	0.1
Total	154,292	100.0	74,987	100.0	9,074	100.0

Data Source: CDPH's STD Control Branch, STD Surveillance Data, October 2007.



Rates of chlamydia, gonorrhea, and syphilis per 100,000 persons have increased steadily in the past five years. Among men ages 13 years and older between 2001 and 2005, the chlamydia rate rose from 178.6 to 228.4; the gonorrhea rate rose from 91.3 to 112.7; and the early syphilis rate rose from 5.9 to 14.4 (Figure 42).

**Figure 42. Chlamydia, Gonorrhea, and Early Syphilis Cases among Men Age 13 Years and Older, California, 2001–2005**



Data Source: CDPH's STD Control Branch, STD Surveillance Data, July 2006.

Table 52 summarizes chlamydia, gonorrhea, and early syphilis cases diagnosed among females in California between 2001 and 2005.

**Table 52. Chlamydia, Gonorrhea, and Early Syphilis Cases among Females, California, 2001-2005**

Age at Diagnosis	Chlamydia		Gonorrhea		Early Syphilis	
	N	Pct.	N	Pct.	N	Pct.
0-12	679	0.2	173	0.3	2	0.2
13-24	299,124	70.5	41,166	65.7	273	32.5
25-34	96,234	22.7	14,667	23.4	270	32.1
35-44	20,513	4.8	4,808	7.7	198	23.5
45-54	4,398	1.0	1,224	2.0	84	10.0
55+	1,085	0.3	231	0.4	13	1.5
Unknown	2,448	0.6	349	0.6	1	0.1
	424,481	100.0	62,618	100.0	841	100.0

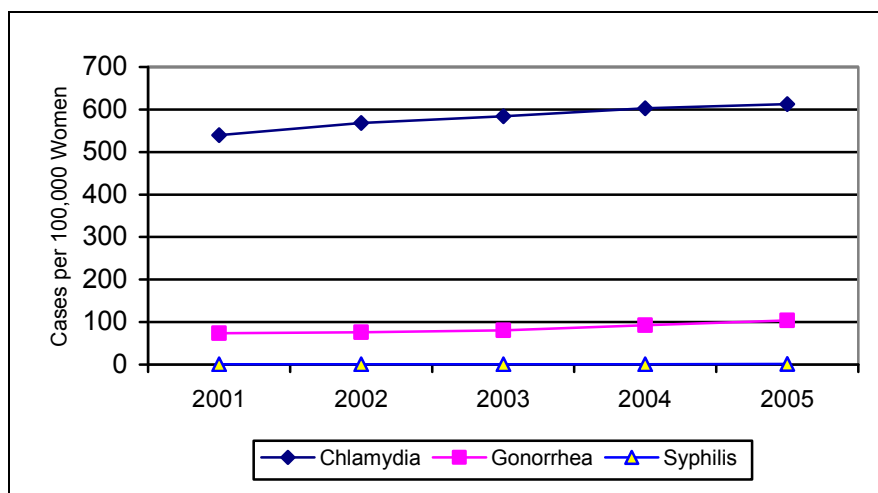
Data Source: CDPH's STD Control Branch, STD Surveillance Data, October 2007.

Women were also diagnosed with chlamydia, gonorrhea, and early syphilis at different ages (Table 52). Chlamydia and gonorrhea cases tended to be concentrated among women age 13-24 years old. In contrast, over one-half of early syphilis cases occurred among women 25 years and older.

Figure 43 summarizes chlamydia, gonorrhea, and early syphilis rates per 100,000 females age 13 years and older by year for years 2001-2005. In Figure 43, the rates of chlamydia and gonorrhea have increased steadily in the past five years. Between 2001,

chlamydia rates per 100,000 women rose from 536.3 to 598.3. Gonorrhea rates also increased, rising from 73.6 in 2001 to 92.1 in 2005.

**Figure 43. Chlamydia, Gonorrhea, and Early Syphilis Cases among Women Age 13 Years and Older, California, 2001–2005**



Data Source: CDPH's STD Control Branch, STD Surveillance Data, July 2006.

Compared to men, females had higher rates of chlamydia in all five years. In 2005, the chlamydia rate among adults age 13 and older was 598.3 per 100,000 women and 228.4 per 100,000 men. Gonorrhea and early syphilis rates tended to be higher among men than women. In 2005, the gonorrhea rate for persons 13 years and older was 92.1 for females and 112.7 for males. Early syphilis rates for 2005 were much higher among men than women (14.4 versus 1.0).

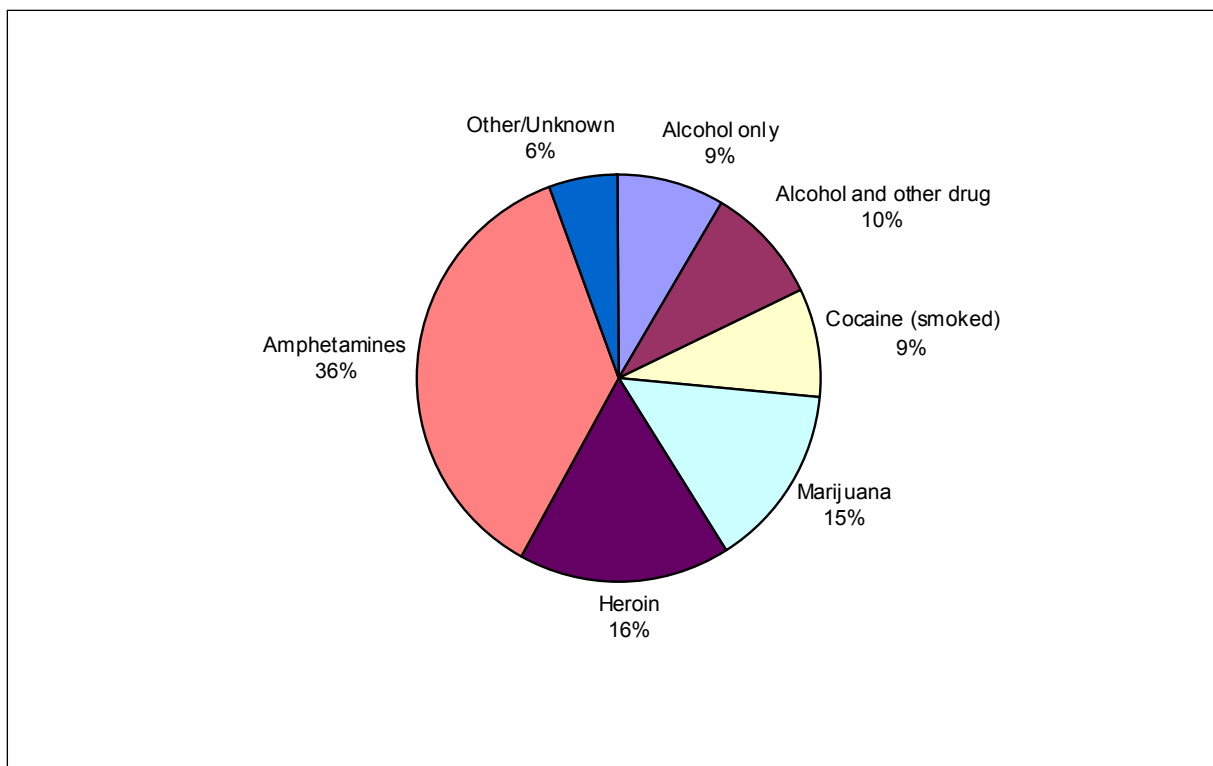
## DRUG TREATMENT

### *Drug Treatment in Publicly Funded Sites in California*

Given its association with high-risk sexual activity, non-injection drug use is associated with increased risk of HIV infection. Figure 44 summarizes records for publicly funded substance abuse treatment admissions in California for 2005 obtained from TEDS.

As illustrated in Figure 44, amphetamine use was associated with the largest proportion of admissions (36.0 percent). Heroin and marijuana, representing 16.0 percent and 15.0 percent of admissions, respectively, were the second and third most common drugs associated with treatment admissions.

**Figure 44. Substance Use Associated with Admissions to Publicly Funded Substance Abuse Treatment Centers, California, 2005**



Note: Other/Unknown category includes tranquilizers, inhalants, PCP, hallucinogens, cocaine (other route), and opiates other than heroin. Percentages do not reflect unduplicated admissions; individuals admitted to treatment more than once within a calendar year would be counted more than once. Methamphetamine admissions include admissions for both methamphetamine and amphetamine, but are primarily for methamphetamine.

Data Source: Office of Applied Studies, SAMSHA, TEDS; DASIS Online Query System. Based on administrative data reported by states to TEDS through July 23, 2007. URL: [www.dasis.samhsa.gov/webt/NewMapv1.htm](http://www.dasis.samhsa.gov/webt/NewMapv1.htm).

#### *Drug Treatment in Publicly Funded Sites in California by Sex*

The majority of admissions to publicly funded substance abuse treatment centers were for males. Males accounted for 64.5 percent of total admissions and the majority of admissions for each substance category (Table 53). With the exception of admissions for amphetamines and cocaine (smoked), the male-to-female ratio of admissions was at least two to one in 2005.

**Table 53. Admissions to Publicly Funded Substance Abuse Treatment Centers by Sex and Primary Substance of Abuse, California, 2005**

	Total Admissions	Alcohol only	Alcohol with secondary drug	Cocaine (smoked)	Marijuana	Heroin	Amphetamines
Male	64.5	67.1	69.2	63.9	72.3	70.3	57.6
Female	35.5	32.9	30.8	36.1	27.7	29.7	42.4

Note: Percentages do not reflect unduplicated admissions; individuals admitted to treatment more than once within a calendar year would be counted more than once. Amphetamine admissions include admissions for both methamphetamine and amphetamine, but are primarily for methamphetamine.

Data Source: Office of Applied Studies, SAMSHA, TEDS; DASIS Online Query System. Based on administrative data reported by states to TEDS through July 23, 2007. URL: [www.dasis.samhsa.gov/webt/NewMapv1.htm](http://www.dasis.samhsa.gov/webt/NewMapv1.htm).

### Drug Treatment in Publicly Funded Sites in California by Age

The number of admissions and substance of choice varied by age. With the exception of persons treated for marijuana dependency, who tended to be under 25 years of age, persons between the ages of 26 and 40 represented the largest proportion of admissions (Table 54).

**Table 54. Percent of Admissions to Publicly Funded Substance Abuse Treatment Centers by Age at Admission and Primary Substance of Abuse, California, 2005**

Age at admission	Total admissions (%)	Alcohol only (%)	Alcohol with secondary drug (%)	Cocaine (smoked) (%)	Marijuana (%)	Heroin (%)	Amphetamines (%)
Under 18 years	10.6	11.1	11.1	0.6	43.4	0.4	4.8
18 to 25 years	19.9	9.4	15.5	7.5	26.8	9.8	28.2
26 to 40 years	37.9	30.5	38.1	37.9	21.1	35.0	47.3
41 to 55 years	28.4	39.5	32.6	49.6	8.1	47.7	19.1
Over 55 Years	3.2	9.4	2.8	4.4	0.6	7.1	0.8

Note: Percentages do not reflect unduplicated admissions; individuals admitted to treatment more than once within a calendar year would be counted more than once. Amphetamine admissions include admissions for both methamphetamine and amphetamine, but are primarily for methamphetamine.

Data Source: Office of Applied Studies, SAMSHA, TEDS; DASIS Online Query System. Based on administrative data reported by states to TEDS through July 23, 2007. URL: [www.dasis.samhsa.gov/webt/NewMapv1.htm](http://www.dasis.samhsa.gov/webt/NewMapv1.htm).

### Drug Treatment in Publicly Funded Sites in California by Race/ethnicity

Table 55, which summarizes substance use characteristics for publicly funded substance abuse treatment centers, shows that admissions and primary substance of abuse vary among ethnic and racial populations in California.

**Table 55. Percent of Admissions to Publicly Funded Substance Abuse Treatment Centers by Race/ethnicity and Primary Substance of Abuse, California, 2005**

	Total admissions (%)	Alcohol only (%)	Alcohol with secondary drug (%)	Cocaine (smoked) (%)	Marijuana (%)	Heroin (%)	Amphetamines (%)
<b>Ethnicity</b>							
Hispanic	35.5	31.5	30.9	18.6	41.8	39.7	37.8
Not Hispanic	64.3	68.3	69.0	81.3	57.9	60.3	61.9
Unknown	0.2	0.2	0.1	0.1	0.2	0.1	0.2
<b>Race</b>							
White	49.2	55.2	51.9	18.9	37.1	50.6	58.3
African American	16.1	13.4	17.5	64.9	22.4	11.9	4.3
American Indian or Alaska Native	3.4	3.9	4	1.3	3.3	3	3.8
Asian or Native Hawaiian or Other Pacific Islander	3.3	3.3	2.3	2.4	3.5	1.7	4.3
Other/Unknown not reported	28.1	24.3	24.3	12.6	33.7	32.9	29.3

Note: Percentages do not reflect unduplicated admissions; individuals admitted to treatment more than once within a calendar year would be counted more than once. Amphetamine admissions include admissions for both methamphetamine and amphetamine, but are primarily for methamphetamine.

Data Source: Office of Applied Studies, SAMSHA, TEDS; DASIS Online Query System. Based on administrative data reported by states to TEDS through July 23, 2007. URL: [www.dasis.samhsa.gov/webt/NewMapv1.htm](http://www.dasis.samhsa.gov/webt/NewMapv1.htm).

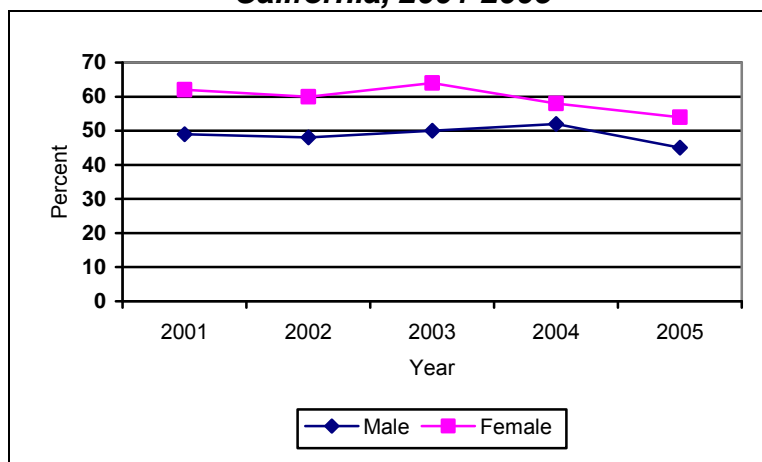
With the exception of admissions for cocaine (smoked), most admissions were for White persons in California. White individuals accounted for the majority of total admissions for alcohol only (55.2 percent), alcohol with secondary drug use (51.9), amphetamines (58.3 percent), and heroin (50.6 percent). It should be noted that these proportions do not represent rates and thus cannot be construed as relative contribution by race/ethnicity.

## RISK PERCEPTION

According to findings from the California 2000 KABB Survey, 3.0 percent of adult Californians perceive their risk of HIV infection to be “high,” and 9.0 percent perceive their risk as “moderate.” Data from publicly funded HIV C&T sites, an important source of information about risk perception and HIV positivity among populations thought to be at high risk of HIV, show that females report ever testing for HIV more often than men (Figure 45).

The observed higher frequency of female tests to male tests at HIV C&T sites is consistent with findings from the California BRFSS. According to data from the California BRFSS, on average, roughly one-half of California men and 60.0 percent of women 18 to 44 years of age reported that they had been tested for HIV at least once other than through blood donation during the five-year period 2001-2005.

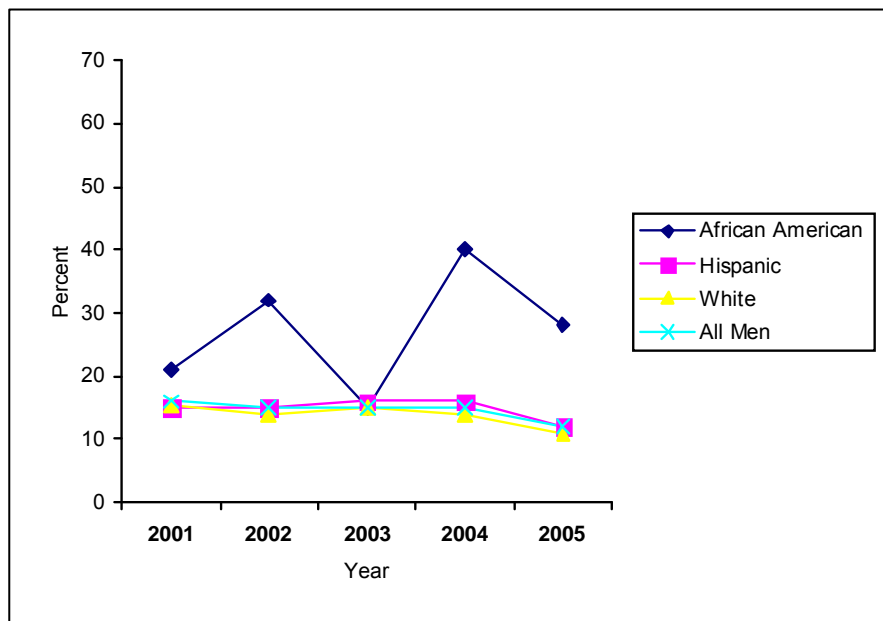
**Figure 45. Percentages of Adults Age 18 to 44 Ever Tested for HIV by Gender, California, 2001-2005**



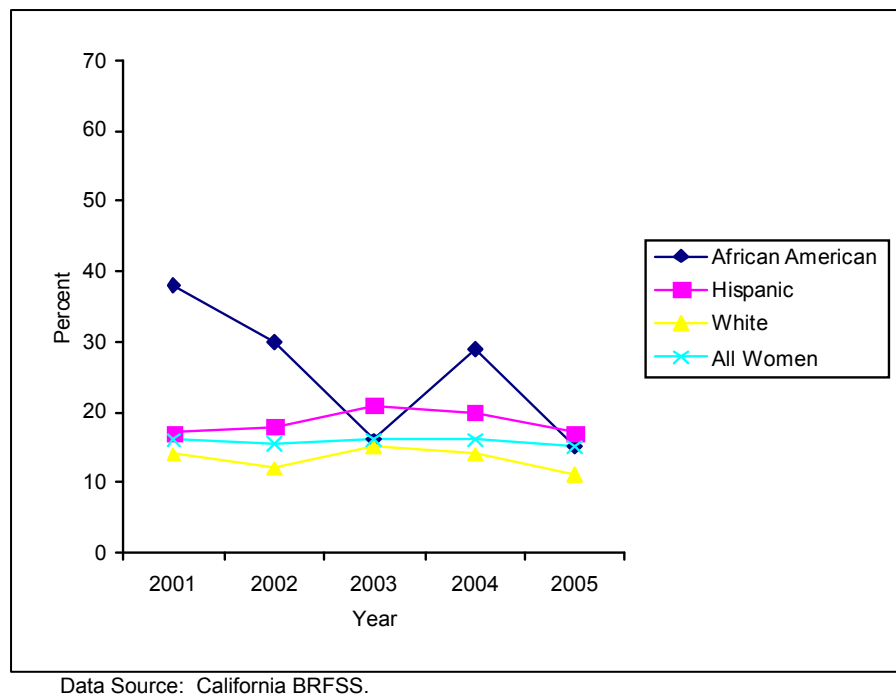
Source: California BRFSS.

HIV testing within the last 12 months is reported below by race/ethnicity (Figures 46 and 47). The proportion of African Americans reporting an HIV test in the last 12 months was higher than that for Whites and Hispanics for all years except 2003 for men and 2003 and 2005 for women. Over the five-year period 2001-2005, the proportion of all males in the 18 to 44 year age range being tested for HIV varied between 12.9 percent and 17.0 percent; for all females it varied between 14.8 percent and 16.5 percent.

**Figure 46. Men Age 18 to 44 Tested for HIV in the Past 12 Months by Race, California, 2001-2005**



**Figure 47. Women Age 18 to 44 Tested for HIV in the Past 12 Months by Race, California, 2001-2005**



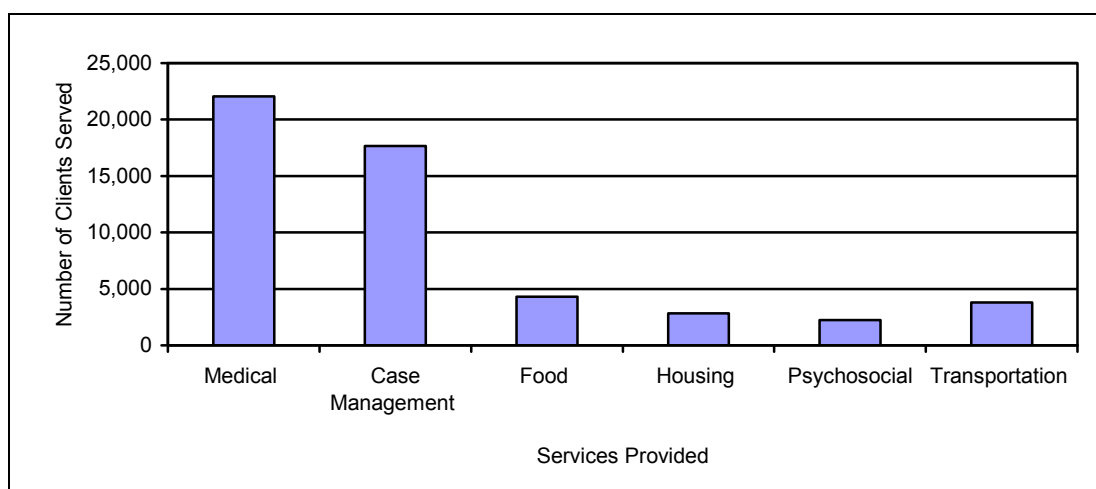
## QUESTION 4. WHAT ARE THE UTILIZATION PATTERNS OF CARE, TREATMENT AND SUPPORT SERVICES WITHIN THE HIV/AIDS INFECTED POPULATION?

This chapter provides a description of characteristics and patterns of care, treatment, and support service utilization and unmet needs among PLWH/A disease in California. This section of the profile is organized into three main parts: 1) a description of clients receiving medical, case management, and other support services provided through Ryan White Comprehensive AIDS Resources Emergency (CARE) Act funds; 2) a description of clients served through ADAP; and 3) an overview of unmet needs among Californians living with HIV.

### CLIENTS RECEIVING RYAN WHITE ELIGIBLE MEDICAL AND SUPPORT SERVICES IN CALIFORNIA

In 2005, funding for medical care and support services to improve the quality and availability of care for medically underserved people and families impacted by HIV disease was provided through two sources: the Ryan White CARE Act and State General Funds. This section focuses on Ryan White CARE Act funds. In California, these funds include parts A through D of the Ryan White CARE Act. The Ryan White CARE Act Part A funds are granted directly to Eligible Metropolitan Areas (EMAs) that have reported at least 2,000 AIDS cases in the previous five years and have a population of at least 500,000. Part B funds are granted to all 50 states and territories. They include a base grant and funding for ADAP. Part C provides funds directly to agencies for comprehensive primary health care in an outpatient setting. Organizations such as federally qualified health centers, family planning agencies, rural health clinics, and community-based organizations are eligible to receive Part C funds. Part D funds, also given directly to agencies, provide family centered care (including outpatient or ambulatory care) for women, infants, children and youth with HIV/AIDS.

**Figure 48. Medical and Support Services Received by Ryan White CARE Act Clients, California, 2005**



Note: Numbers are from the calendar year 2005 Ryan White CARE Act Data Report and may represent duplicate counts.  
Data Source: CDPH Ryan White CADR data through December 31, 2005.



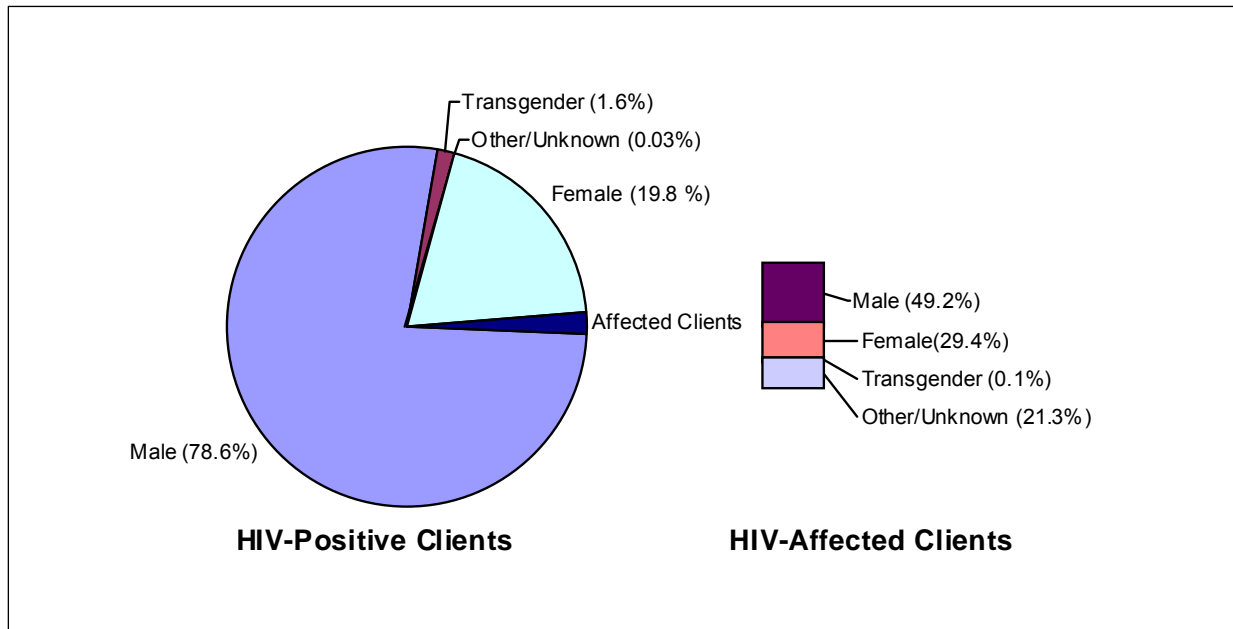
Californians living with HIV disease received a wide variety of HIV-related medical care and support services in 2005 (Figure 48). Medical care supports access to antiretroviral drugs as well as prophylaxis and treatment for opportunistic infections.

- In 2005, Ryan White CARE Act providers reported that 22,050 Californians had received HIV-related medical care.
- In 2005, Ryan White CARE Act providers reported providing 17,659 Californians with case management services. Case management (i.e., coordination of services to clients to make sure they receive necessary health care, psychosocial, and other support) was the second most commonly reported service delivered by Ryan White CARE Act providers to Californians in 2005.
- Food, meals, and nutritional supplements were provided to 4,322 Californians by Ryan White CARE Act providers in 2005. The provision of food and nutrition accounted for the third most common form of support provided to people with HIV disease and their affected partners and families in 2005.
- Ryan White CARE Act providers reported providing 3,810 clients with transportation services, which help ensure people with HIV, can access health care or support services.
- In 2005, Ryan White CARE Act providers reported providing housing assistance to 2,825 Californians living with HIV and their affected families.

Roughly 98.1 percent of clients receiving Ryan White CARE Act services were HIV positive. The remaining 1.9 percent were “affected clients” (i.e., family members, and/or partners of infected clients who received case management or other supportive services during the year).

The distribution of Ryan White CARE Act service recipients varies by age and gender. As Figure 49 illustrates, the majority of HIV-positive and -affected clients in 2005 were male. Males represented 78.6 percent of Ryan White CARE Act clients and one-half of affected partners and family members. Females accounted for 19.8 percent of HIV-infected clients and 29.4 percent of affected clients served in 2005. Individuals who identify as transgender accounted for 1.6 percent of HIV-positive clients and 0.1 percent of affected family members and partners. Gender was missing for the remaining affected clients.

**Figure 49. HIV-positive and -affected Ryan White CARE Act Clients by Gender, California, 2005**



Note: Numbers are from the calendar year 2005 Ryan White CADR and may represent duplicate counts. Gender is based on client self report. Persons in the Other/Unknown gender category include individuals who do not report a gender or do not identify as male, female, or transgender.

Data Source: CDPH Ryan White CADR data through December 31, 2005.

**Figure 50. Ryan White CARE Act Clients by Age, California, 2005**



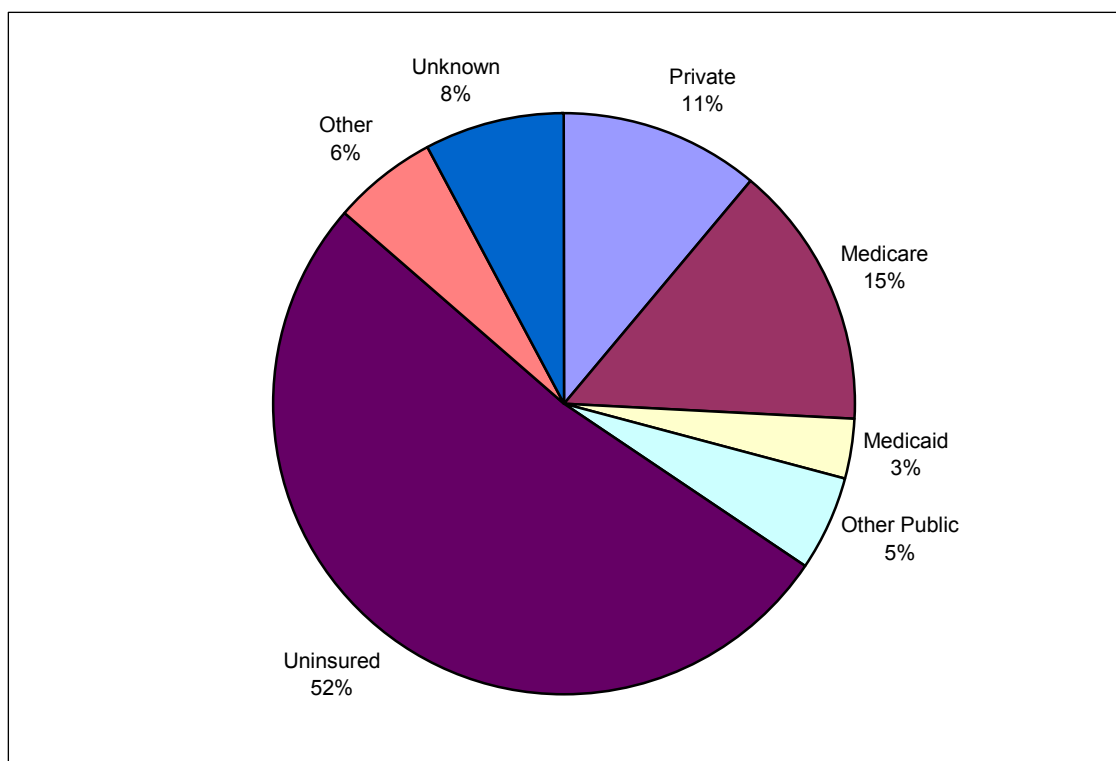
Note: Numbers are from the calendar year 2005 Ryan White CADR and may represent duplicate counts.

Data Source: CDPH Ryan White CADR data through December 31, 2005.

As demonstrated in Figure 50, though the largest proportion of people receiving at least one service provided under Ryan White CARE Act in 2005 were between 25 and 64 years of age (94.1 percent), clients ranged from infants and toddlers under 2 years old

(0.3 percent) to people age 65 and older (1.7 percent). Clients also included school-age children age 2-12 years (0.6 percent) and people between the ages of 13 and 24 years (3.2 percent).

**Figure 51. Health Insurance Coverage among Ryan White CARE Act Clients, California, 2005**



Note: Numbers are from the calendar year 2005 Ryan White CADR and may represent duplicate counts.  
Data Source: CDPH Ryan White CADR data through December 31, 2005.

In 2005, over one-half of all Ryan White CARE Act clients were uninsured. Over one-quarter of clients were covered by publicly funded medical insurance: 14.8 percent were covered by Medicare, 3.4 percent were covered by Medicaid, and 5.3 percent were covered by some other form of publicly funded plan. Roughly, 11.0 percent had private insurance (Figure 51).

### **GEOGRAPHIC DISTRIBUTION AND CHARACTERISTICS OF AIDS DRUG ASSISTANCE PROGRAM (ADAP) CLIENTS**

ADAP is a state-administered program authorized under Part B (formerly Title II) of the Ryan White CARE Act. The goal of ADAP is to make U.S. Food and Drug Administration-approved medications that extend and improve the quality of life available to PLWH. California's ADAP was established in 1987 to help ensure that HIV-positive uninsured and underinsured individuals have access to pharmaceutical (drug) therapies. The program is funded through three sources: Ryan White, State General Funds, and rebates.

ADAP served 23,237 clients in fiscal year (FY) 2005-06. The majority of clients were served in Southern California. Nearly one-half (43.7 percent) of ADAP clients were served in Los Angeles County and another 23.4 percent were served in the Southern California Counties of Imperial, Orange, Riverside, San Bernardino, and San Diego. Almost one-quarter (23.3 percent) of clients enrolled in ADAP lived in the Greater Bay Area, which includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties.

**Table 56. ADAP Enrollees by Region and Sex, California, Fiscal Year (FY) 2005-06**

Region	Males		Females		Other		Total	
	N	Pct	N	Pct	N	Pct.	N	Pct.
Central Coast	487	87.6	66	11.9	3	0.5	556	2.4
Greater Bay Area	4,985	91.7	415	7.6	35	0.6	5,435	23.3
Los Angeles County	9,174	90.3	945	9.3	42	0.4	10,161	43.7
Northern/Sierra	299	89.3	36	10.7	0	0	335	1.4
Other Southern California	4,967	91.3	466	8.6	10	0.2	5,443	23.4
Sacramento Area	598	90.1	66	9.9	0	0	664	2.9
San Joaquin Valley	555	86.6	84	13.1	2	0.3	641	2.8
Unknown	2	0.0	0	0.0	0	0.0	2	0.0
Total	21,067	90.7	2,078	8.9	92	0.4	23,237	100.0

Note: Totals may not add up to 100.0 percent; table excludes two clients with unknown region of residence. The "Other" category includes individuals with unknown/unreported sex and individuals who identify as transgender.

Data Source: OA ADAP data through July 2007.

In California, 90.7 percent of ADAP enrollees in FY 2005-06 were male, 8.9 percent were female, and 0.4 percent were transgender or unknown (Table 56).

**Table 57. ADAP Enrollees by Region and Age, California, FY 2005-06**

Region	18 to 30 yrs		31 to 40 yrs		41 to 50 yrs		51 to 60 yrs		Over 60 yrs	
	N	Pct	N	Pct	N	Pct	N	Pct	N	Pct
Central Coast	56	10.1	156	28.1	219	39.4	92	16.5	32	5.8
Greater Bay Area	274	5.0	1,317	24.2	2,265	41.7	1,206	22.2	348	6.4
Los Angeles	904	8.9	3,408	33.5	3,968	39.1	1,452	14.3	409	4.0
Northern/Sierra	12	3.6	75	22.4	155	46.3	75	22.4	17	5.1
Other Southern California	458	8.4	1,502	27.6	2,202	40.5	969	17.8	299	5.5
Sacramento Area	29	4.4	153	23.0	298	44.9	138	20.8	43	6.5
San Joaquin Valley	65	10.1	189	29.5	253	39.5	103	16.1	29	4.5
Total	1,798	7.8	6,801	29.4	9,361	40.4	4,035	17.4	1,177	5.1

Note: Percentages do not add up to 100.0 percent due to rounding. Table excludes 2 records with unknown region and 65 records with unknown age.

Data Source: OA ADAP data through July 2007.

At 40.4 percent of all ADAP enrollees, individuals between 41 and 50 years of age accounted for the largest proportion of Californians served by ADAP in FY 2005-06

(Table 57). People between 31 and 40 years of age represented the second largest group of ADAP enrollees served in California (29.4 percent).

**Table 58. ADAP Enrollees by Region and Race/ethnicity, California, FY 2005-06**

Region	Hispanic		White		African American		Asian		Other/Unknown	
	N	Pct.	N	Pct.	N	Pct.	N	Pct.	N	Pct.
Central Coast	226	40.6	251	45.1	17	3.1	8	1.4	54	9.7
Greater Bay Area	1,162	21.4	2,933	54.0	763	14.0	217	4.0	360	6.6
Los Angeles	4,982	49.0	3,044	30.0	1,503	14.8	265	2.6	367	3.6
Northern/Sierra	44	13.1	244	72.8	20	6.0	a	a	a	a
Other Southern California	1,893	34.8	2,709	49.8	389	7.1	96	1.8	356	6.5
Sacramento Area	112	16.9	412	62.0	109	16.4	a	a	a	a
San Joaquin Valley	303	47.3	236	36.8	61	9.5	9	1.4	32	5.0
Total	8,722	37.5	9,829	42.3	2,862	12.3	609	2.6	1,213	5.2

Note: Individuals in the Other/Unknown category include Native Americans and Alaska Natives, Pacific Islanders, and individuals reporting more than one race. Table excludes 2 records with unknown region.

a – Censored for small underlying subpopulations.

Data Source: OA ADAP data through July 2007.

In California, the largest proportion of ADAP enrollees in FY 2005-06 were White (42.3 percent) or Hispanic (37.5 percent). African Americans (12.3 percent), Asians (2.6 percent), and individuals of other/unknown race (5.2 percent) in combination accounted for roughly 20 percent of Californians served by ADAP (Table 58).

## UNMET NEED ESTIMATES

Unmet need estimates are used to assist programs in determining the needs of persons who know their HIV status but are not receiving primary medical care. HRSA defines “unmet need” as the unmet need for health services among individuals who know their HIV status but are not receiving primary health care (not “in care”). The unmet needs assessment process involves the collection of information about the need for services among PLWH, both those receiving care and those not in care. Primary medical care is defined as “the receipt of a viral load test, a CD4 count, or the receipt of antiretroviral therapy during a one-year time period.”

The Unmet Need Framework was developed by the University of California, San Francisco. The framework uses locally available data on the number of PLWH and care utilization patterns to estimate the number of individuals with unmet need. The size of the population living with HIV/AIDS is based on HIV and AIDS reporting; care pattern data comes from a number of data sources: Medi-Cal, ADAP, HARS, Veteran’s Affairs, and Kaiser Permanente (north region). Due to the limitation of the data sources, primarily lack of data on HIV/AIDS clients receiving primary medical care from private insurance companies other than Kaiser Permanente Northern California, the final unmet California Department of Public Health

need percentages overestimate the number of HIV and AIDS-aware with unmet need in California.

Unmet needs estimates provide a valuable indicator of the size of the population of PLWH whose need for HIV-related medical care is not being met. In this section, unmet needs estimates for counties funded under Part A (formerly Title I) and non-EMA (Part B - formerly Title II) of the Care Act are presented separately. For the analysis, ADAP, Medi-Cal and HARS databases were merged. To determine county of residence, the county field listed in the ADAP data file was used. If there was no county code listed in the ADAP file or if the client was not listed in the ADAP data file, then the county code listed in the Medi-Cal file was used to determine the client's county. If the county code was not listed in any of these data sets, the county code from the HARS dataset was used to determine the client's county of residence. The county field in the HARS dataset is the client's county of diagnosis and not the current county of residence. Therefore, the county variable is a mix of current county of residence and county of diagnosis. We estimate that approximately one-half of our clients are getting publically funded services.

### *Unmet Needs Estimates in California EMAs*

**Table 59. Needs for Health Services Met through Private and Public Sources among PLWH/A by EMA, California, FY 2004-05**

Title I EMAs	PLWA			PLWH (not AIDS) <sup>1</sup>		
	PLWA	Needs Met	Pct. <sup>2</sup>	PLWH	Needs Met	Pct <sup>3</sup>
Inland Empire	4,256	1,617	38.0	4,441	1,044	23.5
Los Angeles County	20,066	12,615	62.9	21,543	11,252	52.2
Oakland	3,783	2,245	59.3	4,058	1,927	47.5
Orange	3,208	1,301	40.6	2,756	806	29.2
Sacramento	1,511	888	58.8	1,284	821	63.9
San Diego	5,684	3,536	62.2	5,974	3,715	62.2
San Francisco	10,176	8,267	81.2	7,541	6,303	83.6
Santa Clara	1,580	1,541	97.5	1,435	355	24.7
Sonoma	762	503	66.0	661	374	56.6
Totals	51,026	32,513	63.7	49,693	26,597	53.5

Note: Needs met is defined as receipt of a viral load test, a CD4 count, or the receipt of antiretroviral therapy during the 12-month period.

<sup>1</sup> Estimate based on national HIV and AIDS estimates published by CDC and California's code-based HIV case counts.

<sup>2</sup> Ratio of population with needs met to the estimated number of PLWA based on residence at first AIDS diagnosis.

<sup>3</sup> Ratio of population with needs met to the estimated number of PLWH based on residence at first HIV diagnosis.

<sup>4</sup> Private insurance is limited to data provided by Kaiser North. Other private insurance is not represented in the analysis.

Data Source: OA Care Research and Evaluation Section, July 2007.

In total, an estimated 32,513 PLWA diagnosed in California's Part A EMAs had their primary health care needs met in FY 2004-05 (Table 59). The overall percent of PLWA with met needs, estimated using the ratio of persons with met need to the estimated number of PLWA in EMAs, was 63.7 percent in FY 2004-05. An estimated 26,597

PLWH in these EMAs had their health care needs met during this period. The overall percent of PLWH with met needs, estimated using the ratio of PLWH with met needs to the estimated number of PLWH in EMAs, was 53.5 percent.

*Unmet Needs Estimates in Non-EMA Counties*

Among non-EMA counties which are not funded directly by HRSA, an estimated 3,536 PLWA and another 2,414 PLWH (not AIDS) had their primary HIV-related health care needs met in FY 2004-05 (Table 60). The overall percent of people with met needs, based on the ratio of PLWH with met needs to the estimated number of PLWA in non-EMA counties was 59.3 percent for persons with AIDS and 36.5 percent for persons with HIV.

**Table 60. Needs for Health Services Met through Private and Public Sources among PLWH/A by Non-EMA Counties, California, 2005**

Title II Counties	PLWA			PLWH (not AIDS) <sup>1</sup>		
	PLWA	Needs Met	Pct. <sup>2</sup>	PLWH	Needs Met	Pct <sup>3</sup>
Tuolumne Group	59	38	64.4	52	25	48.1
Butte Group	262	186	71.0	311	156	50.2
Fresno	607	351	57.8	647	288	44.5
Humboldt/Del Norte	118	95	80.5	128	83	64.8
Imperial	89	63	70.8	146	53	36.3
Inyo	7	7	100.0	9	3	33.3
Kern	889	403	45.3	1,100	289	26.3
Kings	115	50	43.5	127	39	30.7
Lake	66	55	83.3	33	37	112.1
Madera	92	31	33.7	104	22	21.2
Mariposa	6	1	16.7	2	2	100.0
Mendocino	71	54	76.1	42	47	111.9
Merced	75	57	76.0	127	33	26.0
Mono	2	3	150.0	0	0	-
Monterey	390	252	64.6	326	148	45.4
Mountain Counties	59	38	64.4	57	28	49.1
Napa	74	45	60.8	71	23	32.4
Nevada	59	47	79.7	14	27	192.9
San Barbara	291	160	55.0	354	85	24.0
San Benito	20	13	65.0	24	6	25.0
San Joaquin	480	364	75.8	708	149	21.0
San Luis Obispo	303	139	45.9	208	66	31.7
Santa Cruz	253	141	55.7	222	136	61.3
Shasta Group	41	63	153.7	42	85	202.4
Solano	698	397	56.9	656	227	34.6
Stanislaus	289	183	63.3	368	99	26.9
Tehama	14	4	28.6	9	10	111.1
Tulare	121	72	59.5	208	72	34.6
Ventura	405	224	55.3	519	176	33.9
Unknown	3	0	-	0	0	0
Total Met	5,958	3,536	59.3	6,614	2,414	36.5

Note: Needs met is defined as receipt of a viral load test, a CD4 count, or the receipt of antiretroviral therapy during the 12-month period.

<sup>1</sup> Estimate based on national HIV and AIDS estimates published by CDC and California's code-based HIV case counts.

<sup>2</sup> Ratio of population with needs met to the estimated number of PLWA based on residence at first AIDS diagnosis.

<sup>3</sup> Ratio of population with needs met to the estimated number of PLWH based on residence at first HIV diagnosis.

<sup>4</sup> Private insurance is limited to data provided by Kaiser North. Other private insurance is not represented in the analysis.

Data Source: OA Care Research and Evaluation Section, July 2007.



## **CONCLUSION**

Unmet need analysis is conducted annually using updated data sets. For more information, please contact Susan Sabatier, Chief, Program Evaluation and Research Section of OA at [Susan.Sabatier@cdph.ca.gov](mailto:Susan.Sabatier@cdph.ca.gov).

## **Glossary**

### **Acquired Immunodeficiency Syndrome (AIDS)**

A disease of the immune system caused by the human immunodeficiency virus (HIV). AIDS is characterized by the loss of CD4 cells (an important part of the body's immune system), which leaves the body vulnerable to life-threatening conditions such as infections and cancers.

### **Bias**

In survey research, a poor measurement process can lead to bias. The measurement process includes the environment in which the survey is conducted, the way that questions are asked, and the state of the survey respondent. In HIV/AIDS surveys, high-risk behaviors are often underreported because respondents are reluctant to admit to activities that they consider are socially undesirable.

### **Centers for Disease Control and Prevention (CDC)**

An agency of the U.S. Department of Health and Human Services that is charged with protecting the health and safety of citizens at home and abroad. CDC serves as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and education activities designed to improve the health of the people of the United States.

### **HAART**

The name given to treatment regimens that aggressively suppress HIV replication and progression of HIV disease. The usual HAART regimen combines three or more anti-HIV drugs.

### **HIV C&T Service**

In California, a person can choose to be tested for HIV infection at any of the state-funded anonymous or confidential HIV C&T sites at no or low cost. The HIV data presented in this report come from the code-based HIV reporting system, and are not representative of individuals testing at anonymous testing sites.

### **HIV**

The virus that causes AIDS. A person infected with HIV, or living with HIV disease, may or may not have progressed to an AIDS diagnosis.

### **Incidence**

The rate of occurrence of new cases of a particular disease in a given population over a specific period of time. Often reported as number of cases per 100,000 people per year.

### **Opportunistic Infections (OIs)**

Illnesses caused by various organisms that occur in people with weakened immune systems, including people with HIV/AIDS. OIs common in people with AIDS include: pneumocystis carinii pneumonia; cryptosporidiosis; histoplasmosis; toxoplasmosis;

other parasitic, viral, and fungal infections. Some types of cancers are also AIDS defining conditions.

### **Perinatal Transmission**

The passage of HIV from an HIV-infected mother to her infant. The infant may become infected while in the womb, during labor and delivery, or through breastfeeding.

### **Prevalence**

The number of people in a population affected with a particular disease or condition at a given time. Prevalence can be thought of as a snapshot of all existing cases of a disease or condition at a specified time.

### **Rate**

Type of ratio that includes a specification of time. In epidemiology, rates express the probability of, or risk for, disease or other events in a defined population during a specified period of time, often one year.

### **Ryan White CARE Act**

The Ryan White CARE Act was created to provide federal assistance to increase the availability of primary health care and support services for PLWH, to increase access to care for underserved populations, and to improve the quality of life of those affected by HIV infection. The Ryan White CARE Act was first enacted by Congress in 1990 and was reauthorized in 1996, 2000, 2006, and 2009. The Ryan White CARE Act is administered by HRSA through the following programs:

- Part A of the Ryan White HIV/AIDS Treatment Modernization Act of 2006 (Care Act) provides emergency assistance to EMAs and Transitional Grant Areas that are most severely affected by the HIV/AIDS epidemic.
- Part B of the Care Act provides grants to all 50 States, the District of Columbia, Puerto Rico, Guam, the U.S. Virgin Islands, and five U.S. Pacific territories or associated jurisdictions. Part B grants include a base grant, ADAP award, ADAP supplemental grants and grants to States for Emerging Communities - those reporting between 500 and 999 cumulative reported AIDS cases over the most recent five years.
- The Part C Early Intervention Program of the Care Act funds comprehensive primary health care in an outpatient setting for PLWH.
- Part D grantees provide family-centered care involving outpatient or ambulatory care (directly or through contracts) for women, infants, children, and youth with HIV/AIDS. Grantees are expected to provide primary medical care, treatment, and support services to improve access to health care.
- Part F provides support for Special Projects of National Significance to develop and evaluate innovative models of HIV/AIDS care, for AIDS Education and Training Centers to conduct education and training for health care providers, and for the HIV/AIDS Dental Reimbursement Program to assist with providing oral health services to HIV-infected patients. The Minority AIDS Initiative grants provide funding to evaluate and address the disproportionate impact of HIV/AIDS on women and minorities.

**Surveillance**

The ongoing, systematic collection, analysis, and interpretation of data (e.g., regarding agent/hazard, risk factor, exposure, health event) essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those responsible for prevention and control.

## Abbreviations

**ADAP** - AIDS Drug Assistance Program  
**AIDS** - Acquired Immunodeficiency Syndrome  
**BRFSS** - Behavioral Risk Factor Surveillance System  
**CARE** – Ryan White Comprehensive AIDS Resources Emergency Act  
**CADR** - CARE Act Data Report  
**CDC** - Centers for Disease Control and Prevention  
**CDPH** – California Department of Public Health  
**CHIS** - California Health Interview Survey  
**CI** – confidence interval  
**CPS** - Current Population Survey  
**CSA** - Combined Statistical Areas  
**CWHS** - California Women's Health Survey  
**C&T** - counseling and testing  
**ELISA** - Enzyme-Linked Immunoabsorbent Assay  
**EMA** - eligible metropolitan areas  
**FAGI** – federal adjusted gross income  
**FPL** - federal poverty level  
**FY** – fiscal year  
**HAART** - highly active antiretroviral therapy  
**HAB** - HIV/AIDS Bureau (HRSA)  
**HARS** - HIV/AIDS Reporting System  
**HFS** - HIV Family of Surveys  
**HIV** - Human Immunodeficiency Virus  
**HPV** - human papillomavirus  
**HRSA** - Health Resources and Services Administration  
**HUD** - U.S. Department of Housing and Urban Development  
**IDUs** - injection drug users  
**IFA** - Immunofluorescence Assay  
**KABB** - knowledge, attitudes, beliefs, and behaviors  
**KPNC** – Kaiser Permanente Northern California  
**LHDs** - local health departments  
**MSM** - men who have sex with men  
**MSM/W** – men who have sex with men and women  
**NCHS** - National Center for Health Statistics  
**NIR** - no identified risk  
**OA** – Office of AIDS  
**PLWH/A** - people living with HIV/AIDS  
**RDD** – random digit dialed  
**SAMHSA** - Substance Abuse and Mental Health Services Administration  
**SEP** - syringe exchange program  
**SSE** - secondary syringe exchange  
**STDs** - sexually transmitted diseases  
**TB** - tuberculosis  
**TEDS** - Treatment Episode Data Set  
**UAI** - unprotected anal intercourse

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