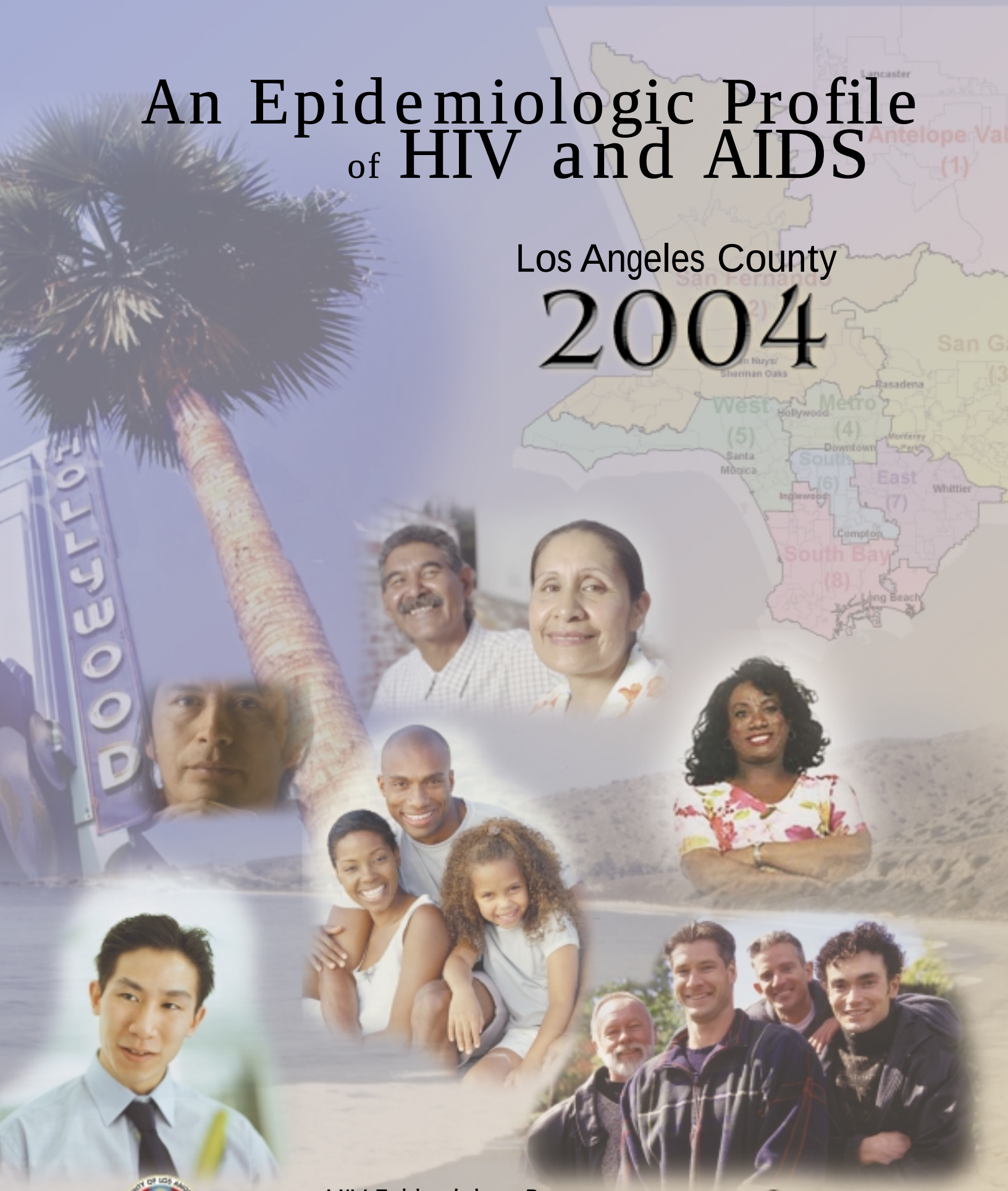
An Epidemiologic Profile of HIV and AIDS

Los Angeles County

2004



HIV Epidemiology Program
Office of Health Assessment and Epidemiology / Public Health
Los Angeles County Department of Health Services

County of Los Angeles
Department of Health Services
Public Health

An Epidemiologic Profile of HIV and AIDS in Los Angeles County, 2004

"To Enrich Lives through Effective and Caring Service"

HIV Epidemiology Program
Office of Health Assessment and Epidemiology
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Los Angeles County

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An Epidemiologic Profile of HIV and AIDS in Los Angeles County 2004

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MAJOR CONTRIBUTORS FROM HIV EPIDEMIOLOGY PROGRAM:
Trista Bingham, M.P.H., M.S.
Nina Harawa, Ph.D., M.P.H.
Virginia Hu, M.P.H.
Denise Fearman-Johnson, Psy.D., M.P.H.
Sharon Lu, M.P.H
Ekow Kwa Sey, M.P.H
Zhijuan Sheng, M.S.
Amy Wohl, Ph.D., M.P.H
Mi Suk Yu-Harlan, M.S.P.H

OTHER MAJOR CONTRIBUTORS INCLUDE:
Toni Frederick, Ph.D., M.S.P.H. of Acute Communicable Disease Control

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Han Wu of Tuberculosis Control Program, LAC-DHS; Sarah Guerry and Lisa Smith of STD Program, LAC-DHS;
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Executive Summary

This *HIV Epidemiologic Profile* provides updated information about HIV and AIDS in Los Angeles County. The *Profile* focuses predominantly on the social and demographic groups most affected by HIV and AIDS, as well as those behaviors that can transmit HIV. The intent of the *Profile* is both to synthesize recent surveillance data and research as well as to highlight changing patterns and emerging trends. Major findings include:

- Los Angeles County is very large and very diverse, geographically and demographically. A higher proportion of Greater Los Angeles metropolitan area residents live in poverty than do residents of any other major metropolitan area in the US. LAC has the largest regional education agency in the US and the largest county jail. Challenges include a lack of affordable housing, overcrowding, homelessness, a declining median income, a high proportion of residents without health insurance, and a large and growing immigrant population arriving from many countries and speaking many languages.

- Compared with the US, the HIV/AIDS epidemic in LAC involves proportionally more Latinos and more men who have sex with other men, but fewer persons whose mode of HIV exposure was injection drug use or heterosexual contact.

- The annual number of adults and adolescents diagnosed with AIDS each year continued to decline for all racial/ethnic groups in LAC. Infection rates (per 100,000 population) remained highest for both Black males and Black females. The mode of HIV exposure for the vast majority of new male AIDS diagnoses and two-thirds of female cases was sex with men.

- The number of new pediatric cases of HIV and AIDS in LAC continued to decline, due in large measure to the administration of antiretroviral therapy to HIV-infected pregnant women and/or their newborn infants. With the 2003 California prenatal HIV testing law - which allows a woman to "opt out" of the otherwise routine HIV testing for pregnant women - a further reduction in perinatal transmission of HIV can be expected.

- The number of men and women living with AIDS continues to increase with 19,700 persons living with AIDS in LAC as of July 2004. Whites and Latinos make up three of four males living with AIDS, while Latinos and Blacks represent three of four females with AIDS.

- Because the HIV reporting surveillance system implemented in 2002 does not have complete data, the number of persons living with HIV in LAC must still be estimated. We estimate that 50,000 - 60,000 Angelenos are living with HIV and AIDS in LAC, one-quarter of whom are likely to be unaware of their infection.

- From the few databases and local studies conducted to measure HIV incidence, high rates of recent infection with HIV have been found among transgendered women (male-to-female transgender) and men who have sex with men. With improved surveillance and laboratory technology, we will soon be able to identify those groups most recently infected with HIV.

continued on next page

- The impact of AIDS in LAC varies greatly by Service Planning Area (SPA), with the highest rate of persons with AIDS (per 100,000 population) living in the metropolitan area (SPA 4), including West Hollywood and Hollywood, followed by SPA 8, including Long Beach. Antelope Valley (SPA 1) had the lowest living AIDS case rate of any SPA.

- Behavioral risk groups in LAC with the highest estimated rates of HIV infection are transgendered women, men who have sex with men who also inject drugs (MSM-IDU), MSM who do not inject drugs, and MSM who report having sex with women (but who do not inject drugs). Groups with lower rates of infection include heterosexual male IDU, female IDU, and women at sexual risk.

- Among racial/ethnic groups in LAC, the high proportion of American Indians/Alaskan Natives who are living with AIDS was second only to Blacks and significantly higher than for Whites, Latinos, and Asian/Pacific Islanders.

- Surveillance data and local studies have found some of the highest HIV infection rates in Black and Latino MSM, who also report feelings of stigma, discrimination, and marginalization from their respective communities.

- National surveillance data from CDC, local studies, and recent syphilis outbreaks in LAC and elsewhere have all raised concerns that MSM - especially White MSM - may be putting themselves at increasingly high risk for HIV. In LAC, White MSM were more likely than other MSM to report using recreational injection drugs and finding sex partners on the Internet. Also, more White than non-White MSM with AIDS reported having a large number of recent sex partners and engaging in unprotected anal intercourse.

- Injection drug users (IDU) in LAC have much lower rates of HIV infection than do IDU from the Northeast US, but have similarly high rates of hepatitis C virus (HCV). One reason for this discrepancy may be the local availability of "black tar" heroin, which may make HIV transmission more difficult while still allowing for transmission of the more infectious HCV.

- Angelenos utilizing AIDS Drug Assistance Program (ADAP) benefits were predominantly English-speaking White and Latino males with an annual income less than $18,000 and no health insurance. Most ADAP recipients receive care from a public medical provider.

- HIV infection was detected "very late" - that is, within a year of their AIDS diagnosis - in over two-thirds of Latinos and in over half of Blacks living with AIDS who participated in the Los Angeles Supplemental HIV/AIDS Survey Project (SHAS) from 2000-2004, while a third of HIV infections among White participants were detected very late. The proportion of Whites in the study to have detected their infection "early" - that is, at least 5 years before a diagnosis of AIDS - was nearly twice that for Blacks and 4 times higher than for Latinos.

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I. INTRODUCTION

This profile is the third edition of *An Epidemiologic Profile of HIV and AIDS in Los Angeles County* released by the HIV Epidemiology Program. This *Profile* contains updated epidemiologic information on HIV and AIDS in Los Angeles County (LAC). This information is provided in order to assist community-based organizations, planners, and policy-makers in the planning, implementation, and evaluation of programs and policies that involve HIV and AIDS care, prevention, education, and research in the county. It is our hope that by providing accurate and timely information, we can assist in reducing the spread and impact of HIV throughout LAC.

The *Profile* is consistent with guidance from the Centers for Disease Control and Prevention (CDC) and Health Research Services Administration (HRSA), as provided at a recent integrated CDC/Ryan White CARE Act grantee training. As was done in the second edition (2000), the *Profile* again focuses on behavioral risk groups (BRGs) and other targeted groups identified by both the HIV Prevention Planning Committee (PPC) as well as the Commission on HIV/AIDS Health Services (CHHS). The *Profile* also includes a section on patterns of care service utilization. Finally, the *Profile* emphasizes the presentation of epidemic information by Service Planning Area (SPA) to help planners and policy-makers effectively address regional needs.

Although HIV reporting by non-name code became mandatory in the State of California on July 1, 2002, information on non-AIDS HIV-infected persons collected thus far is not complete and has not been evaluated, so is not presented in the *Profile*. In the absence of this information, we have relied heavily on AIDS surveillance data, estimates of HIV prevalence, and data from HIV seroprevalence studies of high-risk populations conducted by the HIV Epidemiology Program, as well as data collected by other programs and local academic institutions.

AIDS surveillance data does not represent a complete picture of the HIV epidemic. Estimates of HIV prevalence should be interpreted with caution, taking into consideration the limitations of each estimate - as footnoted and stated in the Technical Notes at the end of the *Profile*.

The *Profile* is divided into eight sections, beginning with this introduction. In *Section II*, a description of the geographic and socio-demographic characteristics of LAC, including sub-groups at high risk for HIV, is presented. *Section III* then provides information on epidemiologic trends in AIDS incidence, prevalence, and mortality countywide. *Section IV* describes the geographic distribution of HIV and AIDS by Service Planning Area. *Section V* describes HIV and AIDS cases in terms of Behavioral Risk Groups identified by the Prevention Planning Committee. The next section, *VI*, describes the epidemic as it impacts some special populations as identified by the Commission on HIV/AIDS Services. *Section VII* describes persons with HIV and co-morbid conditions, such as tuberculosis, sexually transmitted diseases, and hepatitis C disease. *Section VIII* is a new section devoted to data on the treatment and care of persons living with HIV and AIDS in LAC. Finally, appendices are presented, including: *Appendix A: Glossary,* terms used in the *Profile* with which readers may not be familiar; *Appendix B: Technical Notes,* containing an explanation of some of the methods, strengths, and limitations of the data cited in the *Profile*; and *Appendix C: References,* which includes reports, web sites, and scientific literature cited in the *Profile*.

II. Description of Los Angeles County

Geography: Los Angeles County (LAC), which was established in 1850, presently consists of 4,084 square miles, comprising approximately 3% of California's total land area. A diverse land, LAC has 81 miles of ocean shoreline, mountain ranges with 10,000-foot peaks, densely populated valleys (23,000 persons per square mile), and a sparsely populated desert (2,000 per square mile) [1].

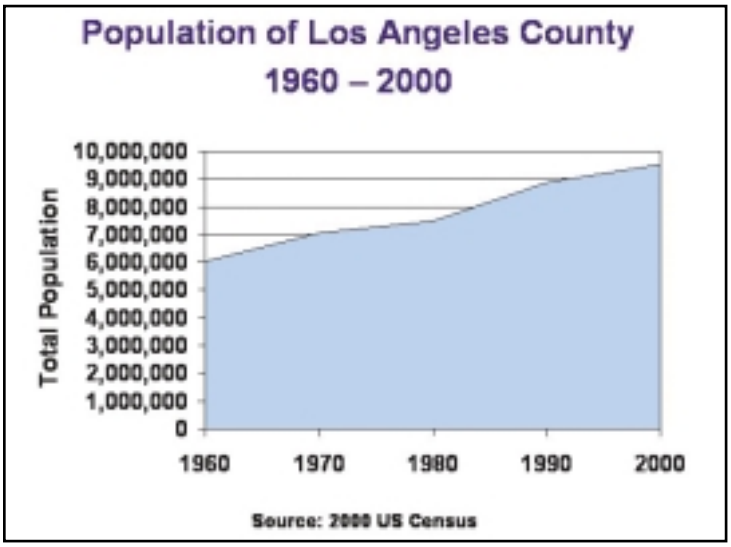

FIGURE 2.1

Population: LAC, with 10 million residents, is the most populous county in the United States. In fact, it is more populous than 42 of the 50 states. The 2000 census reported the population of LAC to be over 9.5 million or about 29% of California's total population. LAC's population has increased 7.4% since the 1990 census, continuing a decades long trend (see Figure 2.1) [2]. With a population of 3.7 million and representing 39% of all county residents, the City of Los Angeles is the largest of the county's 88 incorporated cities; Long Beach is next largest with a population of 457,608, representing 5% of all county residents.

Age/Gender Composition: As in years past, females accounted for slightly more of the county population (50.6%) in 2000 than did males (49.4%). The census 2000 age distributions of LAC and US residents are shown in the population pyramid below by gender (see Figure 2.2). The narrow base of the pyramid indicates that the LAC and US populations are growing slowly (see Technical Note #1). Comparatively, LAC has an excess of children and young adults (shown in pink), while the US has an excess of adults aged 40 years and over (shown in yellow), indicating a faster growing population for LAC compared with the US. Similarly, LAC had proportionately fewer residents aged 65 years and older (9.7%) than did the US (12%), and had more children under the age of 18 years (28%) than did the US (26%). While the median age has continued to increase slightly over the past several decades (29 years in 1970, 30 years in 1980, 31 years in 1990), in 2000 the LAC median age (32 years) was still lower than that of the US (35.3 years).

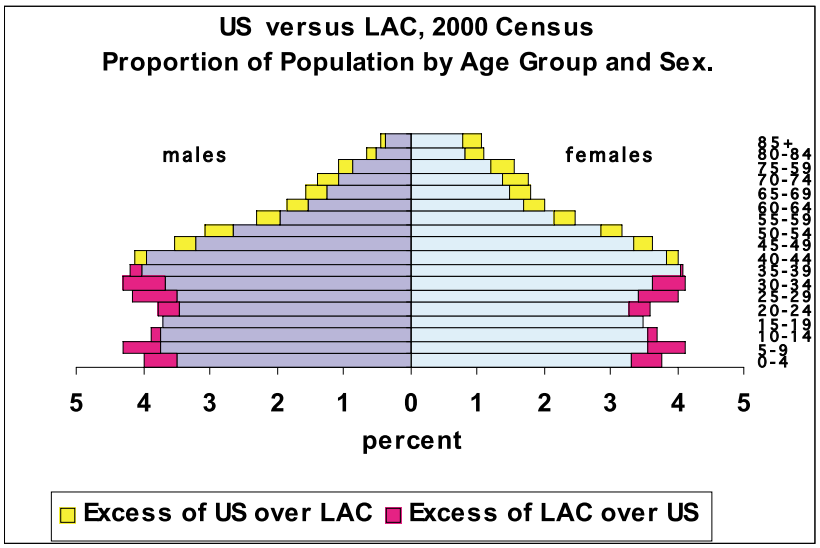

FIGURE 2.2

Within the county, race/ethnic-specific population pyramids vary greatly, ranging from a growing population of Latinos, with a broad base of children and young adults, to an apparently declining White Angeleno population, with a higher proportion of older adults atop a narrower base of children and youth (Figure 2.3). Accordingly, the ratio of persons over 65 years to children under the age of 15 was highest for Whites (116:1), then Asians (60:1), Blacks (39:1), and lowest for Latinos (14:1). The median age for LAC residents in 2000 ranged from a low of 26 years for Latinos, to 28 years for American Indians, 33 years for Blacks, 35 years for Asians, to a high of 41 years for Whites.

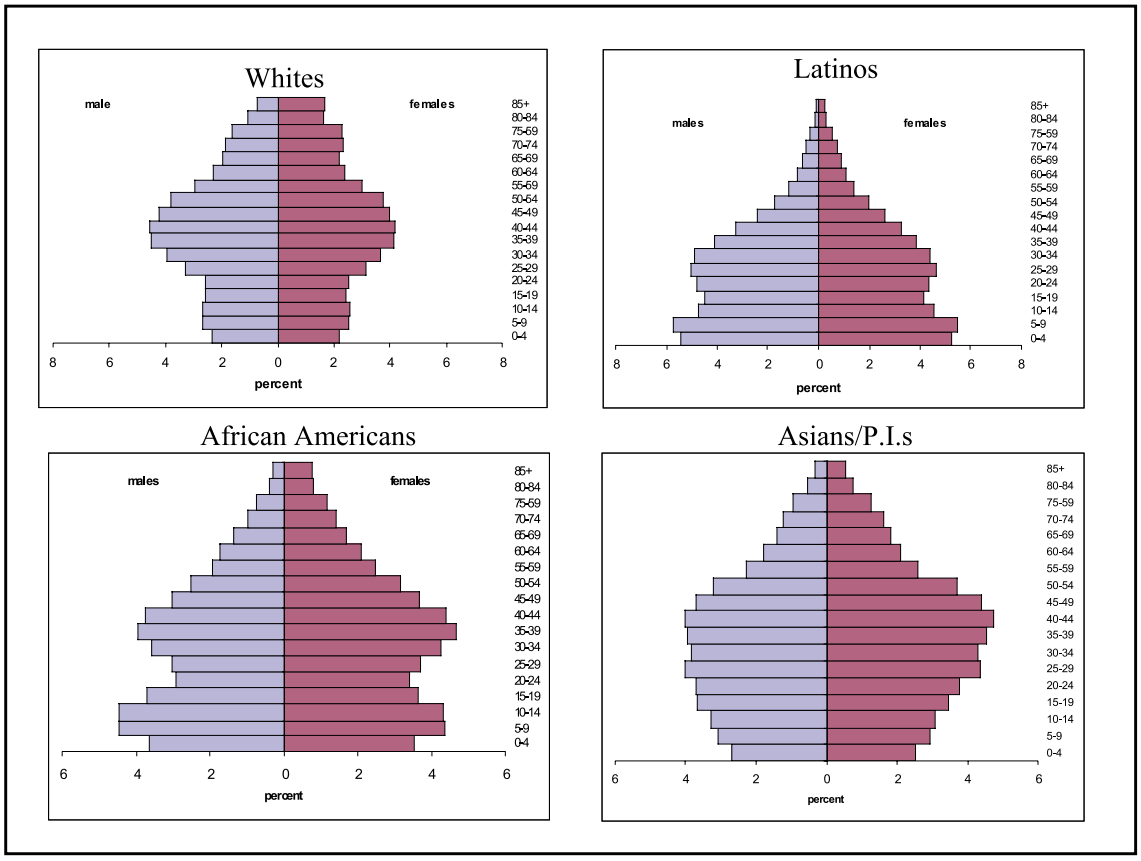

FIGURE 2.3

Growth Trends: Births accounted for 59% of the county's population growth in 2000, while in-migration from other states and immigration from other countries accounted for the other 41%. There were 98,000 births recorded in LAC in 2000 [1]. The birth rate (16 per 100,000 population in 2000) is slightly higher than that of California as a whole (15 per 100,000). County birth rates, however, have continued to decline since a peak of 23 per 1,000 in 1991 [3]. In 2001, Latina mothers delivered 63% of all births; Whites, 18%; Asian/Pacific Islanders, 10%; and Blacks, 8%. The infant death rate fell from 8 infant deaths per 1,000 births in 1990 to 5 in 2000. The proportion of births to teenagers (age under 20 years) was 10% in 2001. Births to women over 35 increased from 11% in 1990 to 17% in 2001 [1].

Recent immigrants: Constant migration continues to drive the ethnic diversity of LAC's population. Hailing from 6 continents and nearly 100 countries, over 3.5 million county residents are foreign-born (36%), compared with 26% of Californians and 11% of Americans, according to the 2000 Census. In fact, Los Angeles is the nation's second largest port of entry for immigrants in the U.S. Nearly half (49%) of all Latin LAC residents and over two-thirds (68%) of Asians are foreign-born. More than half (54%) of the County's population speak another language besides English at home, while over a quarter (28%) admit they do not speaking English "very well" [1].

Racial composition: Los Angeles is one of the most ethnically diverse counties in the nation. Los Angeles has been characterized by ethnic transition since the 1700's, shifting from American Indian to Mexican to non-Hispanic White to today's multi-racial, multi-ethnic mix of people from all parts of the world. While Whites are the majority racial/ethnic group in the United States as a whole, no racial or ethnic group constitutes a majority - that is, greater than 50% of the population - in LAC (see Figures 2.4 and 2.5) [2]. Latinos, with 46% of the county's population, are projected to be a majority by 2010. Non-Hispanic whites account for 32% of county residents, Asian/Pacific Islander 13%, Black 9.4%, and American Indian 0.3%. Although American Indians represent less than 1% of the population, they constitute the largest urban concentration of American Indians in the United States. And while Asian-Pacific Islanders represented the fastest growing community in the county from 1980 to 1990 (having increased in size by 112%), Latinos represented the fastest growing community from 1990 to 2000, with a 28% increase.

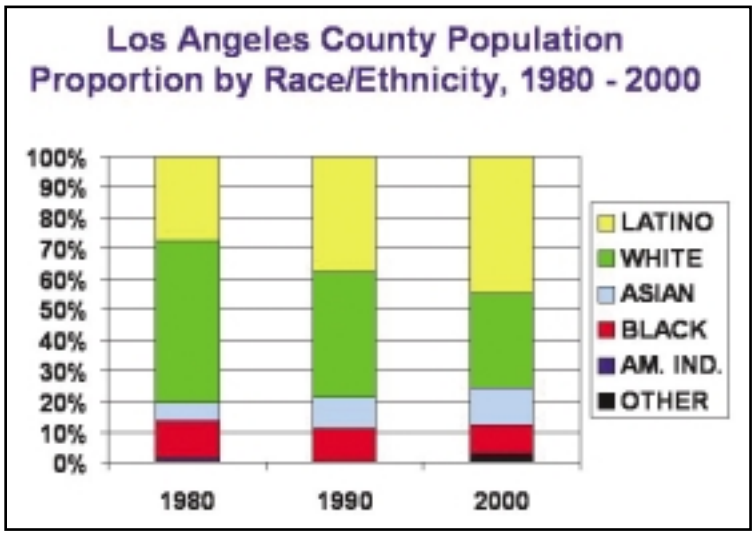

FIGURE 2.4

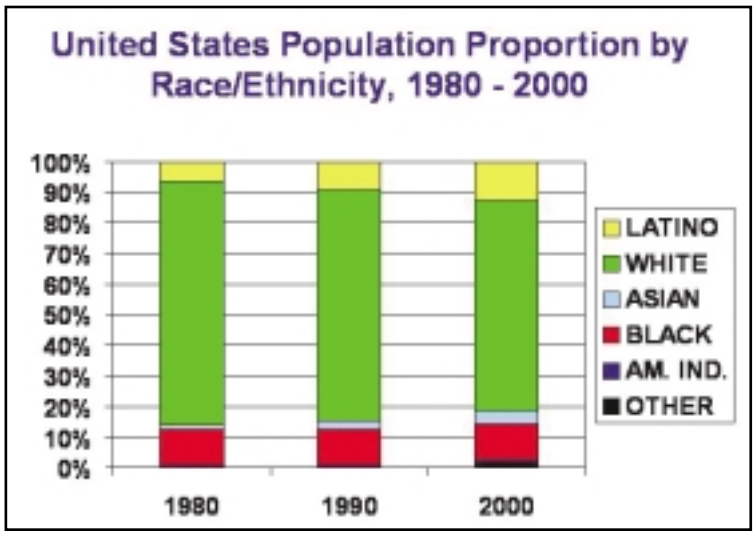

FIGURE 2.5

These broad categories mask an even greater diversity of the ethnic communities in LAC, composed of many nationalities with distinct cultures and languages. For example, as of 2000, countries of origin among the Latino residents of the county include Mexico (72%), Central America (8.8%), South America (1.8%), Cuba (0.9%), Puerto Rico (0.9%), Dominican Republic (0.04%), while other Spanish and unspecified accounted for 16% [1]. Among Asian-Pacific Islanders (A-PI), 98% are Asian and 2.3% Pacific Islander. Countries of origin include China/Taiwan (28%), the Philippines (22%), Korea (16%), Japan (9.6%), Vietnam (6.7%), India (5.2%), Samoa (1.1%), while other and unspecified countries accounted for 11% [1].

Industry and Employment: Once the leading farm county in the nation, 45 years later agriculture only accounts for 0.2% of jobs in LAC [4]. Over the past few years, LAC has witnessed a shift in the labor force from manufacturing jobs to service industry jobs. In 2000, the leading industries in the county are Services with 33% of the labor force, followed by Retail Trade with 22%, and Manufacturing with 16%, and Government with 15% [5]. The seasonally adjusted unemployment rate in the County was up from a recent low of 5.0% in January 2001 to 6% in October 2004, compared with 5.7% in California and 5.5% in the U.S. [6]. By race/ethnicity, unemployment rates varied from a high of 11% for Blacks, to 8% for Latinos to 6% for Whites.

Income & Poverty: Between 1990 and 2000, the median annual income for county residents, adjusted for inflation, declined 9%, from $46,067 to $42,189 [1]. Twenty-three percent of households were in the lowest income category - at or near poverty level - while 15% of county households made more than $100,000 per year. There was significant disparity in income between racial/ethnic groups, with Whites median annual income at $54,000, Asians at $48,000, American Indians at $36,000, Latinos at $34,000 and Blacks at $32,000 [1]. US Census 2000 reported Los Angeles as having the highest proportion of residents living in poverty than any other major metropolitan area in the US. Though improved since peaking at 24% in 1995, 18% of LAC residents were living in poverty in 2000 [1]. In comparison, 14% of Californians and 12% of Americans live in poverty. Among race/ethnic groups, 23 - 24% of LAC Blacks, Latinos and American Indians were living in poverty, compared with 14% of Asians and 9% of Whites [1]. In 2000, about 1.7 million LAC residents received some sort of public assistance, half of whom received medical insurance coverage only [1].

Housing and Homelessness: LAC has the nation's 16th least affordable housing market. The housing vacancy rate is very low (4.2%) and fewer housing units are home owned (48%) than in either California (57%) or the US (66%) [1]. Among rented housing units, 23% were considered overcrowded in 2000, with more than one person per room (including the kitchen but excluding bathrooms). While there are some 18,500 beds available in over 300 homeless shelters in the County, there are an estimated 80,000 persons who are homeless on any given night in the County and 254,000 homeless during the course of a year [7]. According to the 2000 US Census, 375,000 LA County adults reported having been homeless in the past 5 years.

Health Insurance: According to the 2001 California Health Interview Survey, using random telephone digit dialing of LAC adults, 24% of adults and 12% of children in LAC did not have health care insurance [8]. Among contacted adults, Latinos had the highest proportion uninsured (38%), followed by Asians (21%), Blacks (15%), and Whites (13%). Among children of respondents to the 2002 - 2003 *LA Health Survey*, 10% were uninsured, including 14% of Latinos, 10% of Asian/Pacific Islanders, 4% of Whites, and 3% of Blacks. According to the county's "Key Indicators of Public Health," 19% of adults and 7% of children in the County reported having no regular source of health care [9].

Infant Health: The vast majority of county women (86%) received prenatal care in their first trimester in 2001 and nearly all (96%) received care by the second trimester [1]. In every year since 1990, approximately 6 - 7% of women have given birth to low or very low birth weight babies [10]. Historically, Black women have had twice the rate of low birth weight babies than have other race/ethnicities. The infant mortality rate (see Glossary) for LAC was down from 8.4 per 1,000 live births in 1990 to 4.9 per 1000 live births in 2000. In comparison, California's infant mortality rate was 5.2 per 1,000 live births in 2000; the *Healthy People: 2010* goal is 4.5 per 1,000.

Mortality and Cause of Death: In 2001, the overall crude death rate for LAC was 6.3 deaths per 1,000. Nearly two-thirds of all deaths in LAC were due to heart disease, cancer, or stroke, the leading causes of death in all racial/ethnic groups in LAC and the US (Figure 2.6) [11, 12]. Between 1991 and 1999, the death rates for heart disease, cancer, and stroke decreased by 31%, 21%, and 23% respectively, while the death rate for diabetes increased 43%. In 1991, AIDS was the 7th leading cause of death among LAC residents. AIDS was the leading cause of death for LAC men aged 25 to 44 years in 1996, but dropped to the third leading cause in 1997 (behind unintentional injury and homicide) and dropped to 5th in 2001 (see Figure 2.7).

Top 10 Causes of Death: Los Angeles County and the United States

LAC: 1991	LAC: 2001	USA: 2001
1. Heart Disease	1. Heart Disease	1. Heart Disease
2. Malignancy/Cancer	2. Malignancy/Cancer	2. Malignancy/Cancer
3. Stroke	3. Stroke	3. Stroke
4. Pneumonia/Influenza	4. Chronic Lung Disease	4. Chronic Lung Disease
5. Unintentional injury	5. Pneumonia/Influenza	5. Unintentional injury
6. Chronic Lung Disease	6. Unintentional injury	6. Diabetes
7. AIDS	7. Diabetes	7. Pneumonia/Influenza
8. Homicide	8. Homicide	8. Alzheimer's Disease
9. Liver Disease	9. Liver Disease	9. Kidney disease
10. Diabetes	10. Alzheimer's Disease	10. Septicemia

FIGURE 2.6

Education: The LAC Office of Education is the nation's largest regional education agency. In 2001 - 2002, there were 1.7 million students enrolled in 1,897 public schools in 94 school districts in the County [13]. Twenty-eight percent of all California students were enrolled in LAC public schools. Los Angeles Unified School District is the largest district in the county with 43% of enrolled public school students. Ten percent of all K-12 students were enrolled in private schools during the same time period. Latinos comprise 60% of all students in public schools, while Whites comprised 18%, Blacks 11%, Asians 8%, Filipinos 2%, Pacific Islanders 0.5%, and American Indians or Alaskan Natives 0.3%. Students in LAC schools speak 90 different languages. Of the high school Class of 2000, 62% of students graduated with their class, including 93% of Asians, 90% of Filipinos, 78% of Whites, 74% of Pacific Islanders, 57% of American Indians, and 54% of both Black and Latino students. Among LAC adults over 25 years of age, 30% did not graduate from high school. A recent study conducted by the United Way found that Los Angeles has the highest rate of illiteracy among working age adults of any metropolitan area (53%) [14].

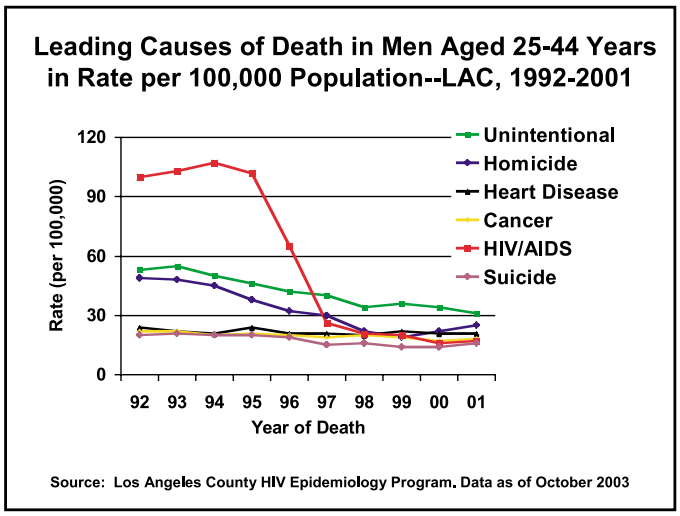

FIGURE 2.7

Incarcerated Persons: Incarceration of adults in LAC includes inmates of federal, state, and county facilities. The two Federal correctional facilities had a daily census of a little more than 2,000 inmates [15]. One adult California Department of Correction facility houses over 4,500 inmates [16]. The daily inmate census for the nine jail facilities and the Inmate Reception Center of the LA County Sheriff's Department has recently dropped due to facility closures, from an average of 19,500 in 2002 to just over 17,000 inmates in 2003 [17]. In 2002, 159,035 inmates were booked into the county jail system, of which 88% were male. Among males, 46% were Latino, 36% Black, 15% White, and 3% of other race/ethnicity. Among female inmates, 44% were Black, 29% Latino, 24% White, and 3% of other race/ethnicity. Historically, about 95% of the inmates released on probation from the county jail system remain in the county.

Mental Illness: Severe and persistent mental illness (SPMI) includes chronic schizophrenia, bipolar disorder, major depression, dementia, or other psychological conditions that may lead to persistent disability. It is estimated that around 2.6% of California adults suffer from SPMI and 5.4% from serious mental illness, which includes any mental illness diagnosis; meanwhile, the seriously and severely emotionally disturbed comprise 9% - 13% of children in California [18].

LAC represented 20% of mental health clients served statewide [19]. Approximately 2% of the entire LAC population (220,500 persons) was served by the LAC Department of Mental Health (DMH) in fiscal year 2002 - 2003 [20]. Slightly more than half (55%) of these clients were male. The majority (68%) were adults. The race/ethnic distribution of DMH clients was as follows: 30% Latino, 27% white, 26% Black, 5.5% Asian, 0.5% American Indian, 1% other, and 10% unknown. Of these clients, 39% (86,000) were uninsured when accessing mental health services.

Service Planning Areas: In 1998, LAC aggregated its 26 health districts into eight service planning areas or SPAs. SPAs were created by the Children's Planning Council and approved by the County Board of Supervisors in 1993 to make public health service more responsive to local needs. The Service Planning Areas for LAC are: Antelope Valley, SPA 1; San Fernando Valley, SPA 2; San Gabriel Valley, SPA 3; Metro, SPA 4; West, SPA 5; South, SPA 6; East, SPA 7; and South Bay, SPA 8 (see Figure 2.8). Data presented in this *Profile* is often displayed by SPA.

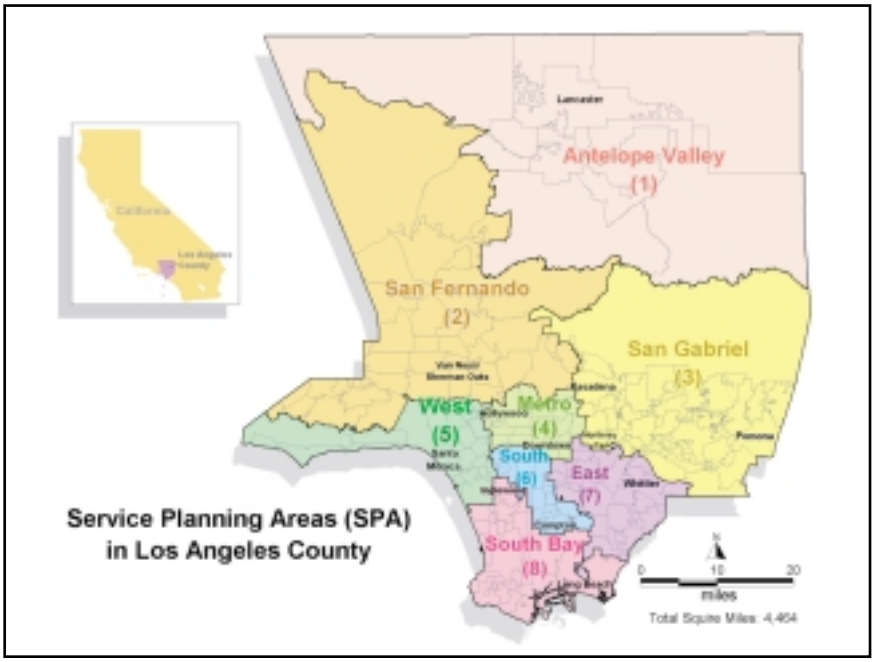

FIGURE 2.8

Table 2.1 gives a brief overview of geographic and socio-demographic characteristics by SPA. As is seen in the table, the size and composition of the SPAs varies greatly. For example, Metro and South SPAs have a population density of over 10,000 persons per square mile, while Antelope Valley's population density is less than 200. Latinos make up the majority in the Metro (54%), South (59%), and East (69%) SPAs, while Whites predominate in the West (62%) and Antelope Valley (51%). The SPA with the greatest proportion of Blacks is South (35%), while the greatest proportion of Asian-Pacific Islanders in the San Gabriel Valley (23%). American Indians are spread throughout the county with no apparent concentration in any one SPA.

SPA 7 has the greatest proportion of foreign-born residents (59%). SPA 6 has more than twice the proportion of children than SPA 5 (34% vs. 17%) and has almost three times the number of persons living at less than 200% of the Federal Poverty Level (63% vs. 24%).

Conversely, South SPA has just over half the proportion of adults with a high school diploma (48% vs. 90%) and less than a sixth the proportion of adults with a college degree (8% vs. 52%) than the West SPA. South SPA also had the highest teenage birthrate at 83 out of every 1,000 live births, followed by East SPA at 57 per 1,000 live births. In all SPAs, over 80% of women received perinatal care during the 1st trimester, and over 90% by the 2nd trimester of their pregnancies.

Table 2.1: County population characteristics by Service Planning Area (SPA), 1999 - 2000.

SPA →	1 Antelope Valley	2 San Fernando Valley	3 San Gabriel Valley	4 Metro	5 West	6 South	7 East	8 South Bay
Population	300,693	1,982,248	1,730,032	1,137,446	621,338	1,009,893	1,271,648	1,465,839
Area (square miles)	1,504.2	1,206.1	680.6	106.5	223.9	87.2	155.1	205.6
Population Density (per square mile)	200	1,644	2,542	10,680	2,775	11,581	8,199	7,130
Age under 18 years	34%	27%	28%	24%	17%	36%	32%	28%
Age 65+ years	8%	10%	10%	10%	13%	7%	9%	10%
Latino	29%	36%	44%	54%	16%	59%	68%	35%
White	51%	48%	27%	22%	62%	3%	19%	34%
Black	13%	3%	5%	6%	7%	35%	3%	15%
Asian-Pacific Islander	3%	9%	23%	15%	11%	2%	8%	14%
American Indian	0.6%	0.3%	0.3%	0.3%	0.2%	0.2%	0.3%	0.3%
Foreign born	15%	37%	37%	51%	28%	36%	59%	29%
Adults with high school diploma	77%	76%	72%	61%	90%	48%	60%	76%
Adults with college degree	14%	28%	26%	24%	52%	8%	13%	27%
Unemployment rate	10%	7.1%	6.9%	10%	6.1%	14%	8.1%	7.5%
Living below 100% federal poverty level	12%	15%	16%	31%	13%	37%	19%	17%
Living below 200% federal poverty level	35%	33%	34%	55%	24%	63%	41%	36%
Teen birth rate (per 1000 live births)*	52	41	43	51	20	83	57	51
Prenatal care by 1st trimester**	84%	89%	87%	85%	94%	83%	86%	85%
Adults (18-64) with health insurance	79%	72%	71%	56%	77%	53%	67%	73%
Adults with regular source medical care	86%	83%	84%	76%	83%	75%	81%	84%

* Teen indicates a mother of age 15 – 19 years at delivery.
** Percent of total births.

III. Epidemiologic Trends in HIV and AIDS in Los Angeles County

As of July 2004, a cumulative total of 48,510 persons with AIDS and 28,810 AIDS-related deaths were reported in Los Angeles County for a cumulative case-fatality rate of 59%. Los Angeles County accounted for 5.5% of cumulative reported AIDS cases in the United States, 5.7% of US AIDS deaths, and 5.1% of persons living with AIDS. There are now over 19,700 persons living with AIDS in LAC.

A. Comparison of AIDS Trends in Los Angeles and the US

While there are some similarities in AIDS trends in the US and LAC - such as the dramatic decrease in annual diagnosed AIDS cases and AIDS deaths from 1995 to 1998 (see Figures 3.1 and 3.2) - there are also some important differences - especially in the distribution of cases by demographics and risk exposure. Therefore, it is important to look at local data and trends when trying to understand the impact of the epidemic locally.

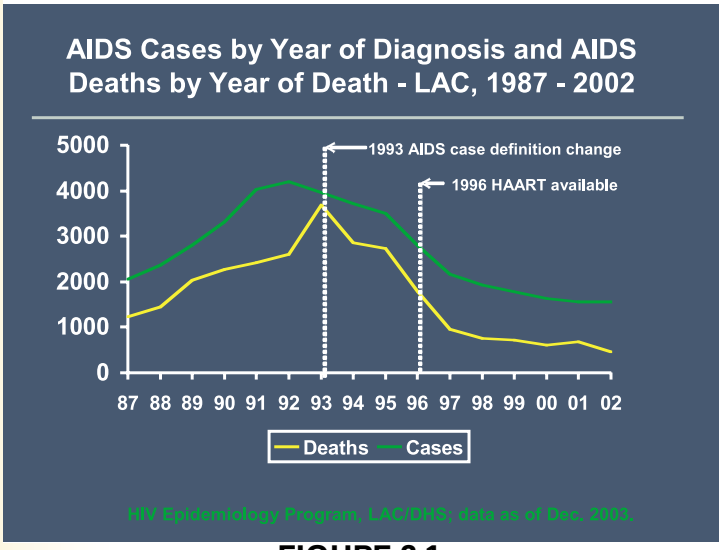

FIGURE 3.1

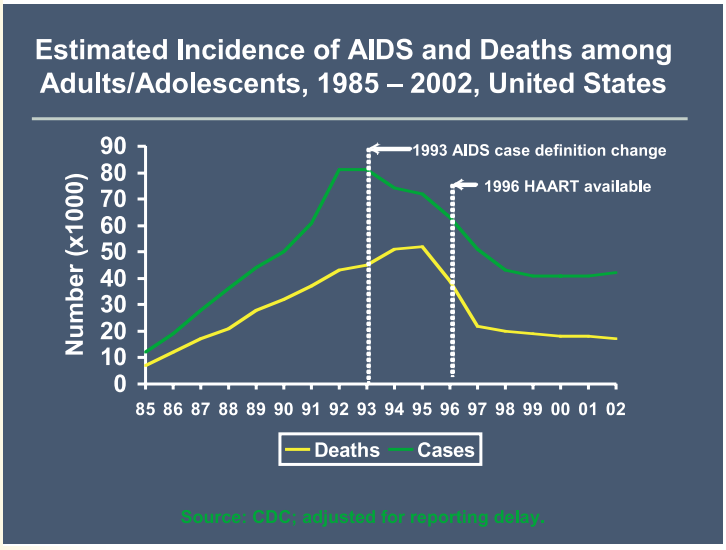

FIGURE 3.2

In both the US and LAC, the number of AIDS cases diagnosed annually increased sharply, peaking in 1992 - 1993. After a few years of steady decline, a steeper decline was seen from 1996 to 1998 before leveling off from 1999 to 2002. Nationally, CDC reported a 2.2% increase in annual diagnosed AIDS cases from 2001 to 2002, sparking concerns about the growing resistance of HIV to highly-active antiretroviral therapy (HAART). Unlike the US, LAC has yet to see a similar increase in annual AIDS cases.

Annual AIDS deaths have also shown nearly identical patterns in the US and LAC, with steady increases seen up to 1995, followed by steep declines from 1996 to 1998 (when HAART was introduced) followed again by less steep declines thereafter. LAC saw its first increase in AIDS deaths since 1994 - an increase of 1.1%, from 612 deaths in 2000 to 680 deaths in 2001.

With the decline in deaths outpacing the decline in new cases, the number of persons living with AIDS in the US and LAC continues to increase (see Figures 3.3 and 3.4).

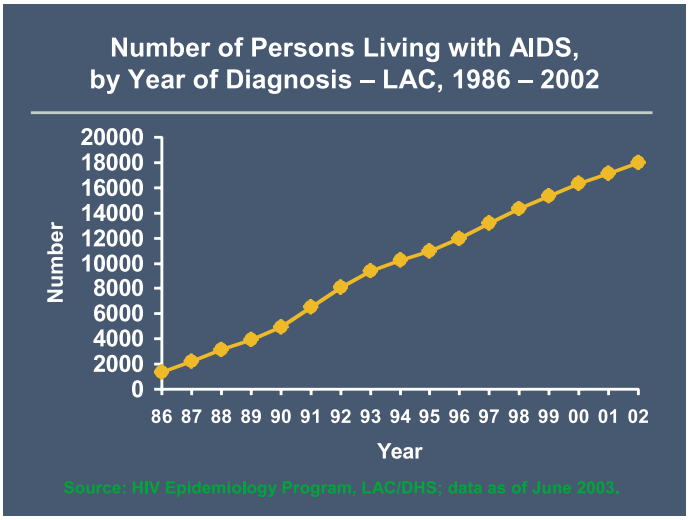

FIGURE 3.3

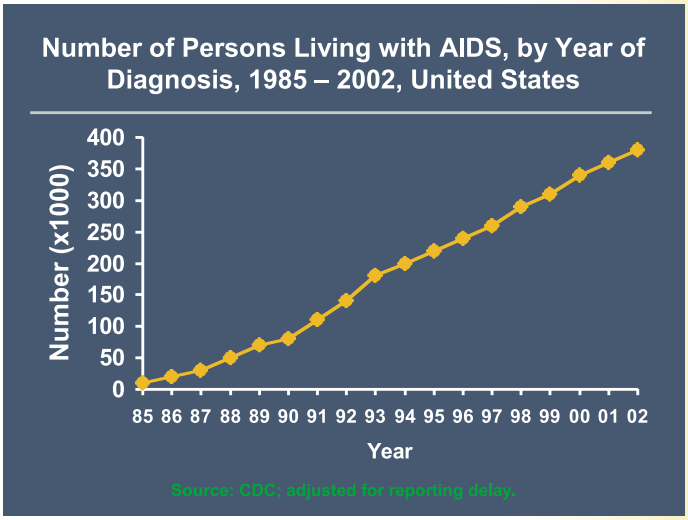

FIGURE 3.4

Gender: The percentage of males living with AIDS is much higher than for females. Men living with AIDS account for a higher proportion in LAC (89%) than they do nationally (78%). Among newly reported AIDS cases in LAC for 2001 - 2002 combined, the males comprised 87%. From 1993 to 2002, there has been a trend of increasing proportion of new AIDS cases that are female; but this trend has been less marked for LAC than for the U.S. (see Figures 3.5 and 3.6).

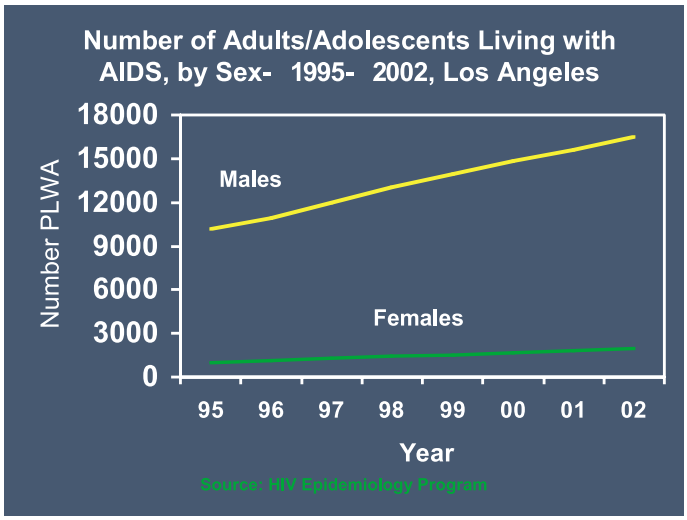

FIGURE 3.5

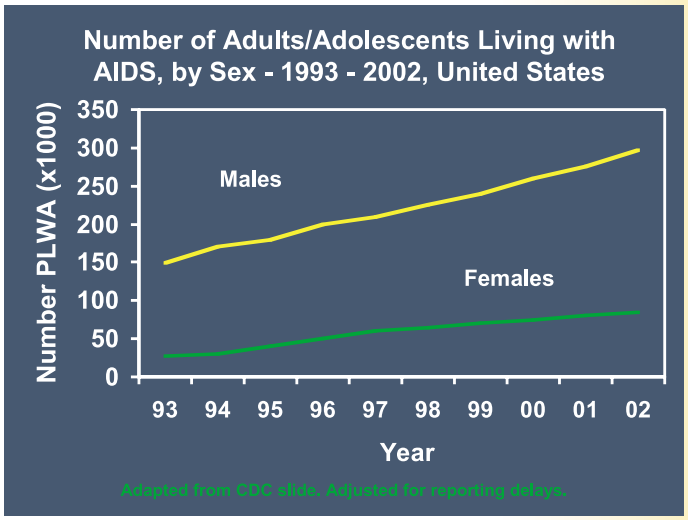

FIGURE 3.6

Race/Ethnicity: The racial/ethnic distribution of persons with AIDS differs markedly between LAC and the US. While Whites were the predominant group affected in both the US and LAC in the 1980's and early 1990's, Latinos have become the predominant group in the US since 1996 (see Figures 3.7 and 3.8).

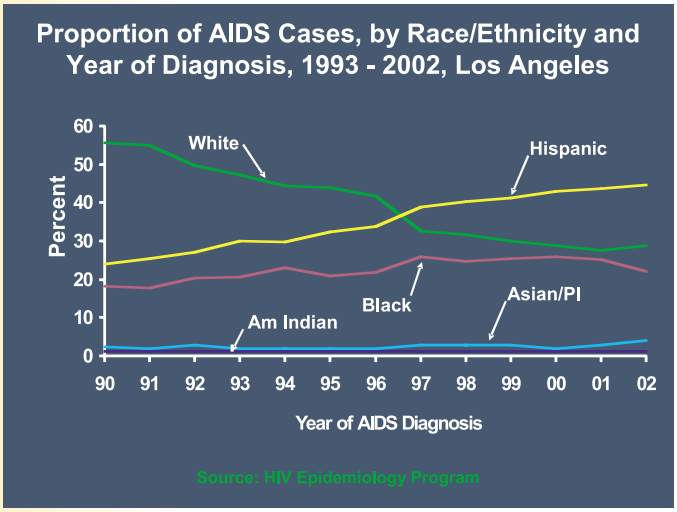

FIGURE 3.7

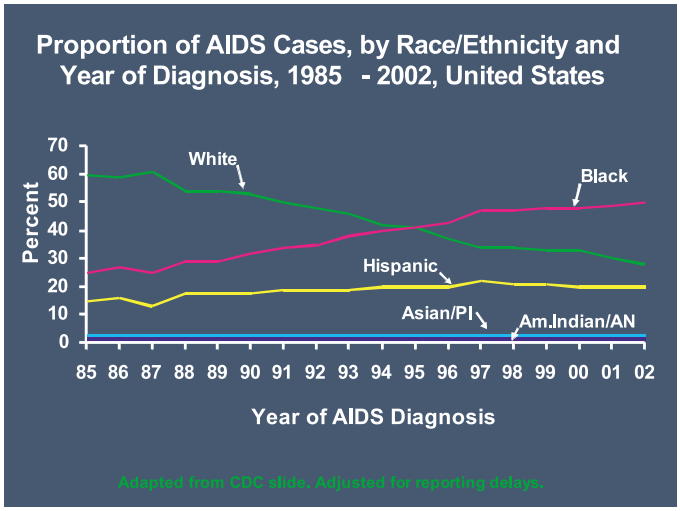

FIGURE 3.8

In 2002, Latinos accounted for 43% of persons with AIDS diagnosed in LAC, but only 20% of US cases. Blacks accounted for 22% of LAC cases, but half (50%) of all US cases. Whites accounted for 30% of LAC cases and 28% of US cases, while other race/ethnicities - such as Asian/Pacific Islanders and American Indian/Alaskan Natives - accounted for less than 5% of LAC cases and only 2% of US cases.

The percentage distribution of persons with AIDS is heavily influenced by underlying differences in the racial/ethnic population distributions of the US compared to LAC, as seen in the previous section. For this reason, AIDS rates by race/ethnicity are a better indicator for measuring the relative impact of AIDS among these groups. For both the US and LAC, the highest 2002 annual incident AIDS rates for men and women were seen among Blacks (see Figure 3.9), while the lowest rates were seen in Asians. Rates of newly diagnosed AIDS cases were similarly high for both US and LAC Black males (110 and 81 cases per 100,000 population, respectively) and similar for US and LAC Latino males (37 versus 36 per 100,000), and for Asian males (8 versus 11 per 100,000). The rate of new cases for White males in the US, however, was half that of White males in LAC (14 versus 30 per 100,000).

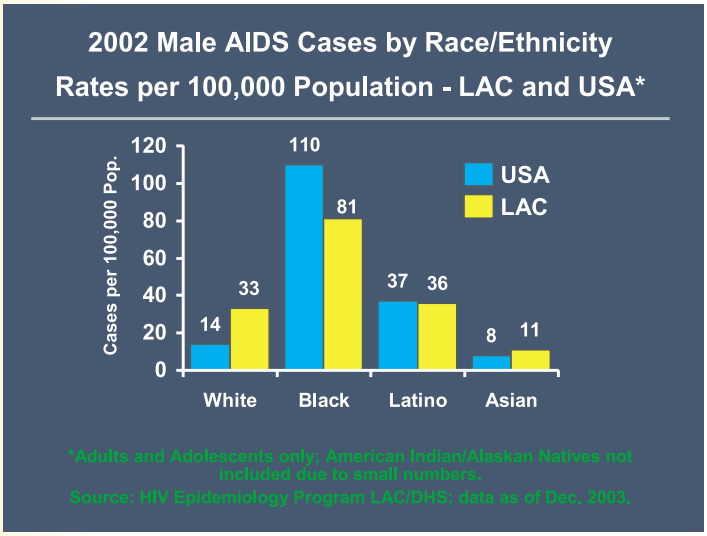

FIGURE 3.9

Among women, the US and LAC rates for 2002 were similar for Whites and Asians; but among Latino females, US rates were three times as high as LAC rates and among Black females US rates were 6 times as high as LAC rates (see Figure 3.10).

In a 1998 State Office of AIDS report entitled *A Spatial Study of AIDS Surveillance Data by Demographic Subgroups in California*, gender and racial/ethnic-specific AIDS rates were compared by county. Only among Latino males, did Los Angeles County have a statistically higher AIDS incidence rate (36 per 100,000) than did the State (28 per 100,000). Still, among Latino males, the LAC rate was much lower than that for San Francisco County (122 per 100,000).

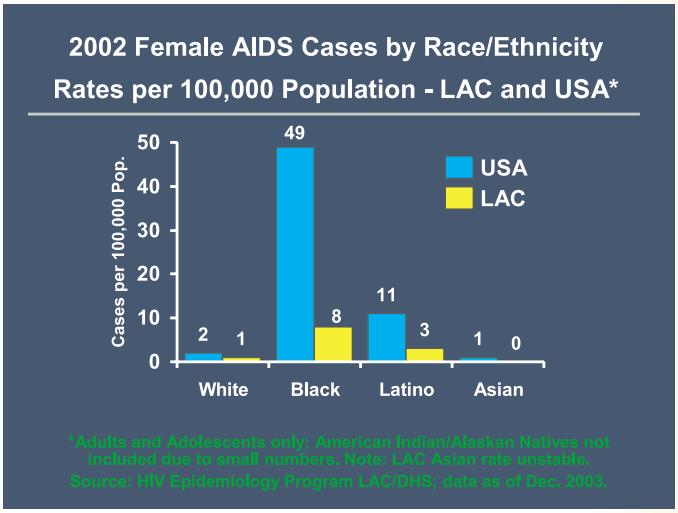

FIGURE 3.10

Mode of exposure: Mode of exposure means how HIV is transmitted - that is, through sexual contact, injecting drugs using an HIV-contaminated needle or syringe, from mother to child, or by receiving HIV-contaminated blood or blood products. When doing AIDS surveillance, demographics, modes of exposure and other information are also reported. The distribution of AIDS cases by modes of exposure differs greatly between LAC and other regions of the country - such as the South and Northeast United States. LAC has always had a higher proportion of men who have sex with men (MSM) than the nation overall. This can be seen in Figures 3.11 and 3.12.

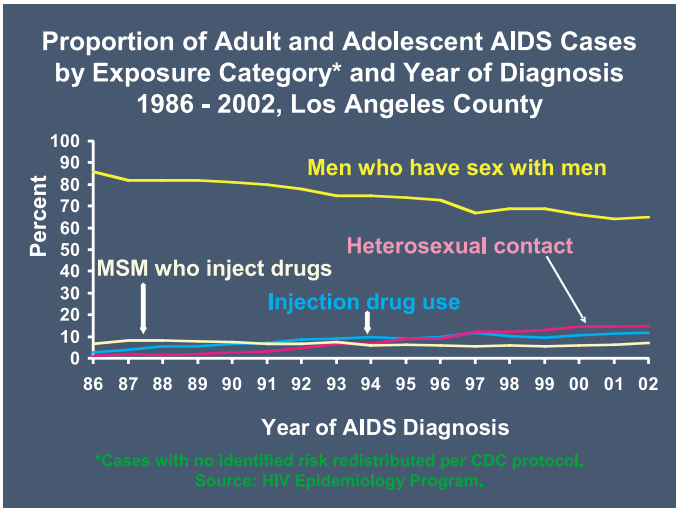

FIGURE 3.11

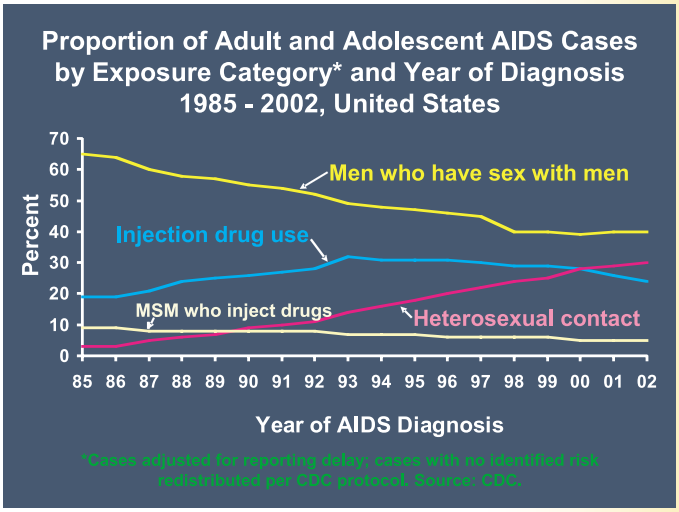

FIGURE 3.12

From 1986 to 2002, the proportion of annual AIDS cases attributable to transmission among men who have sex with men (MSM) decreased from 65% to 40% nationally, while LAC witnessed a decrease from 85% to 65%. Conversely, cases attributable to heterosexual contact increased nationally from 3% in 1985 to 30% in 2002; while in LAC, the increase was from less than 1% in 1985 to 15% in 2002.

Figure 3.13 presents the distribution of newly diagnosed AIDS cases in 2002 by mode of exposure for both LAC and US adults and adolescents. MSM (in purple) and MSM/IDU (that is MSM who also inject drugs, in orange), together accounted for 72% of LAC's incident cases, but only 44% of national cases. Conversely, twice the proportion of US cases reported HIV exposure through (non-MSM) injection drug use (24% versus 12%) or heterosexual contact (30% versus 15%) compared with LAC cases.

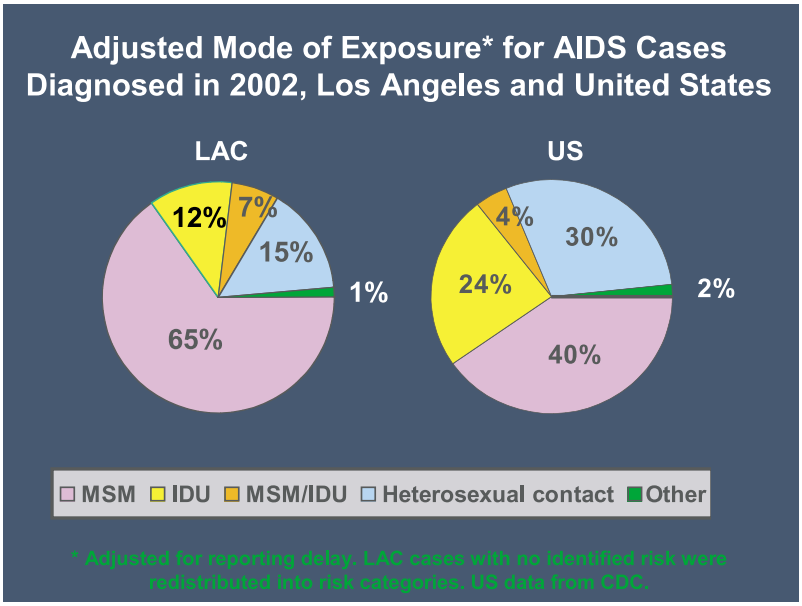

FIGURE 3.13

B. AIDS in Adolescents and Adults in Los Angeles

Gender: The number of male adolescent and adult AIDS cases diagnosed annually in LAC has decreased substantially, from about 3,600 cases in 1993 to only 1,100 cases in 2002 (see Figure 3.14). Meanwhile, female AIDS cases also decreased from a high in 1995 of 358 cases to 168 cases for 2002. In 1993, males composed 92% and females 8% of all adult and adolescent AIDS cases in LAC; in 2002, the proportion of female cases rose to 13% (see Figure 3.15).

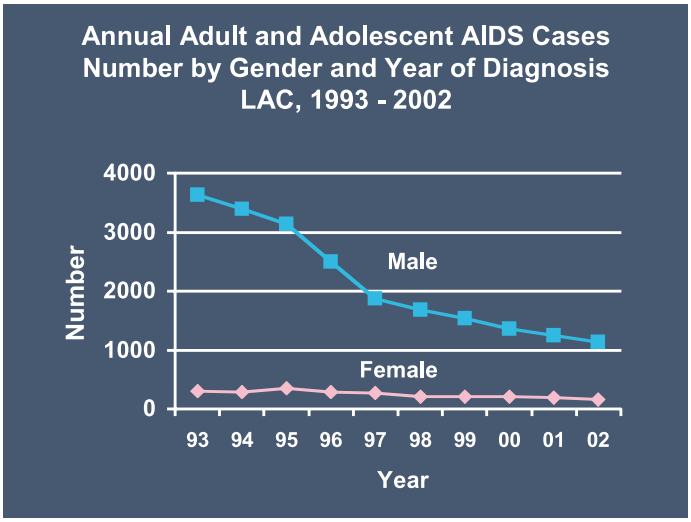

FIGURE 3.14

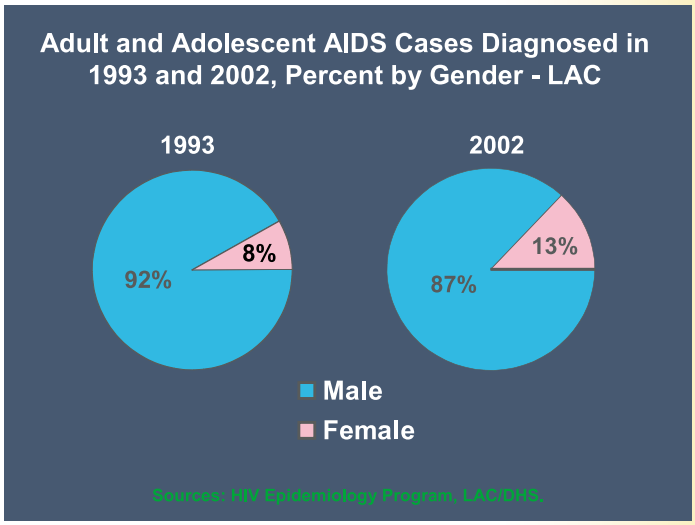

FIGURE 3.15

Race/ethnicity: The annual number of adult and adolescent AIDS cases decreased for all races/ethnicities in the last 10 years, most dramatically among Whites, whose annual total dropped from 1,845 cases in 1993 to only 378 cases in 2002 (see Figure 3.16). Latino cases also dropped sharply, from 1,179 in 1993 to 378 in 2002, while Black cases dropped from 847 to 256 cases in the same time period.

In 1993, Whites comprised 47% of adults and adolescents living with AIDS in LAC, Latinos 30%, Blacks 21%, and Asian/Pacific Islanders only 2% (see Figure 3.17). By 2002, however, Latinos comprised the largest number of cases with 44%, followed by Whites at 29%, Blacks at 22%, and Asian/Pacific Islanders at 4%. Not shown in the figure due to small numbers, American Indians and Alaskan Natives composed 0.5% of all county adults and adolescents living with AIDS in both 1993 and 2002.

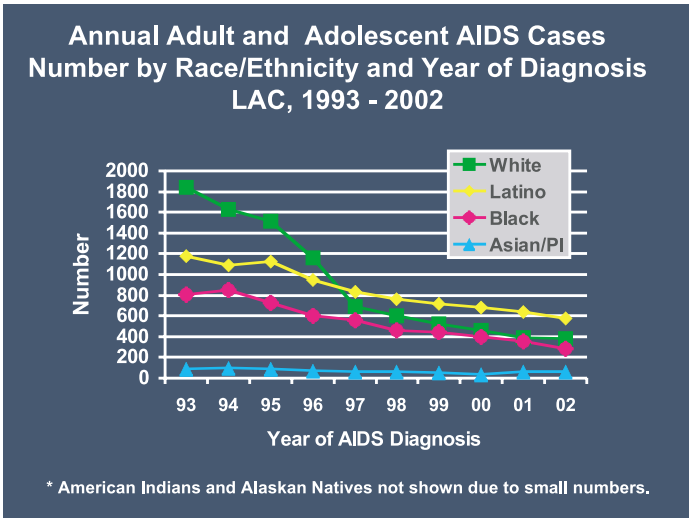

FIGURE 3.16

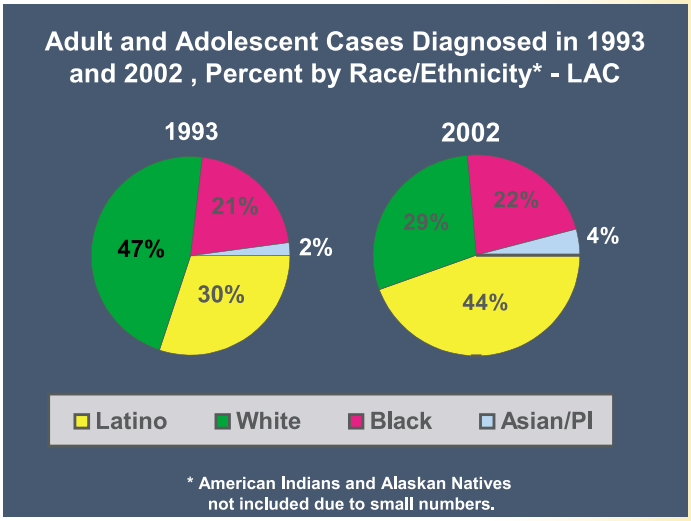

FIGURE 3.17

While Whites once had, and Latinos now have, the highest number and proportion of cases, Blacks have been impacted more than any other race/ethnicity in the county. Black adult and adolescent male annual AIDS rates, while steadily decreasing in the last 10 years, continue to be more than twice that of White and Latino males (see Figure 3.18). Similarly, among adult and adolescent females, Blacks have the highest rate of any race/ethnic group, 3 times higher than Latina rates and 7 times higher than Whites in 2001 (see Figure 3.19).

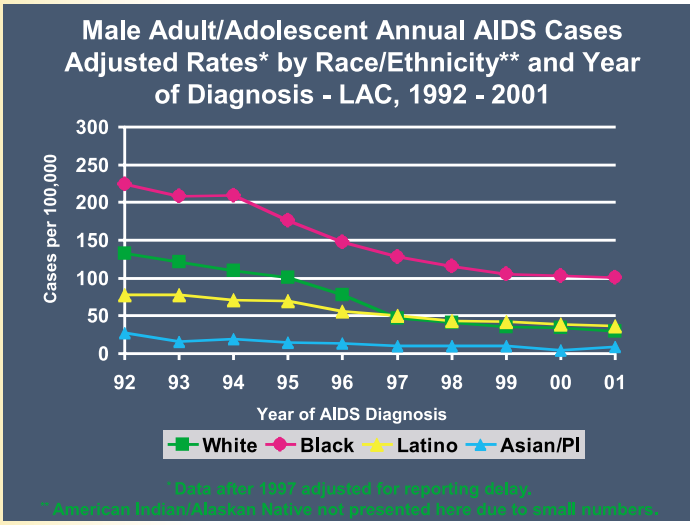

FIGURE 3.18

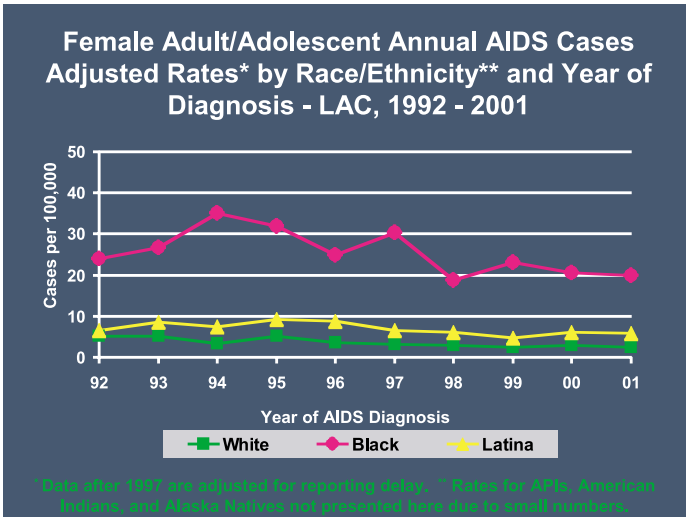

FIGURE 3.19

Age: In 2002, compared with 1993, there were proportionately fewer AIDS cases diagnosed among younger age groups than among older age groups (see Figure 3.20). In fact, the median age at diagnosis has risen from 33 years in 1981 to 39 years in 2001 (see Figure 3.21).

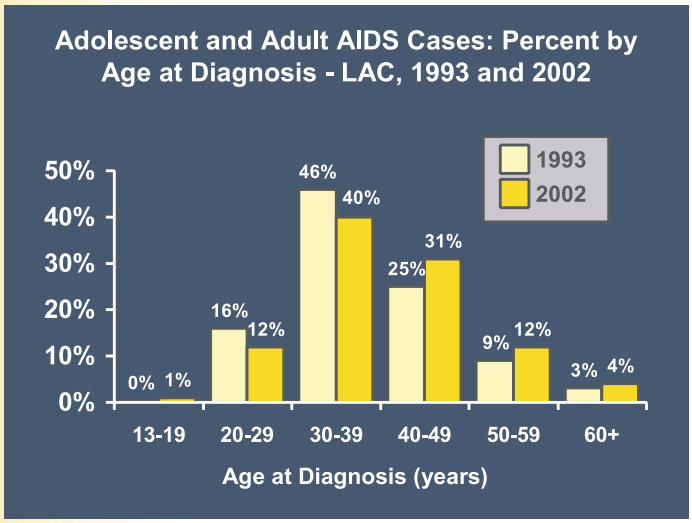

FIGURE 3.20

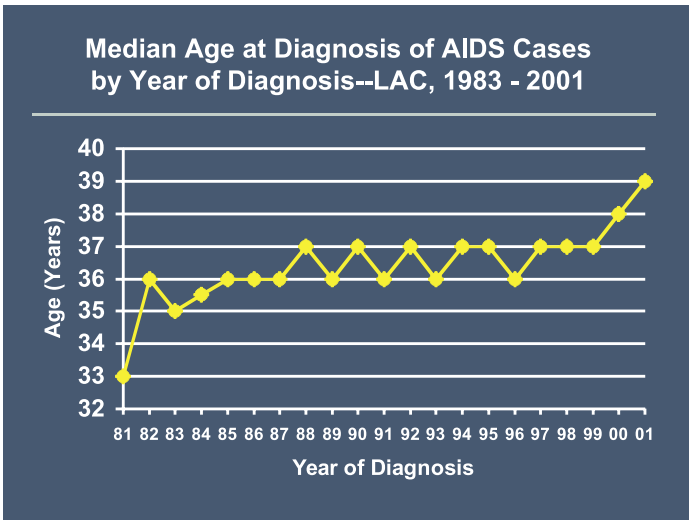

FIGURE 3.21

Mode of Exposure: While declining slightly, MSM (including MSM who inject drugs) continue to account for the vast majority of cases, with 92% of male cases before 1993, but only 83% of male cases diagnosed in 2001 (see Figure 3.22). Injection drug use among heterosexuals has accounted for an increasing amount of male cases, with only 5% of cases prior to 1993, but 9% of cases diagnosed in 2001. Prior to 1993, heterosexual contact accounted for only about 1% of all male adult and adolescent AIDS cases in LAC. Among men diagnosed with AIDS in 2001 in LAC, mode of exposure was reported as heterosexual transmission in 7% (86 out of 1,253).

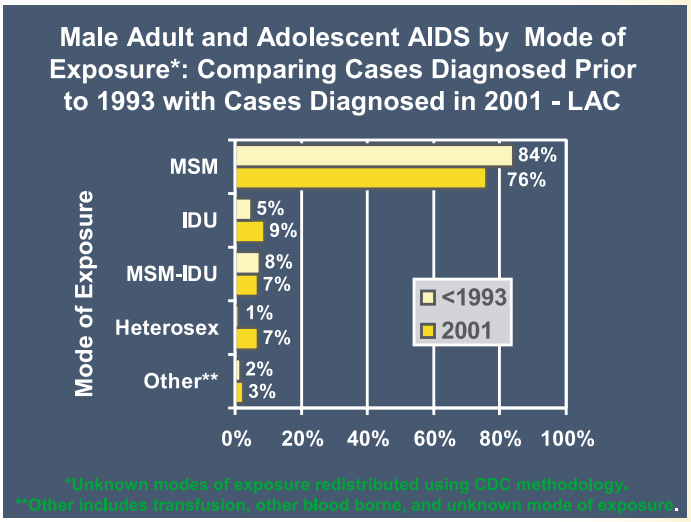

FIGURE 3.22

The proportion of female adults and adolescents in LAC who reported sexual contact as their mode of exposure rose from 49% among cases prior to 1993 to 62% among cases diagnosed in 2001 (see Figure 3.23). Conversely, injection drug use among female cases has decreased from 32% prior to 1993 to 25% in 2001. Other modes of transmission among females - such as blood transfusion/hemophilia - dropped from 19% in 1993 to 13% in 2001.

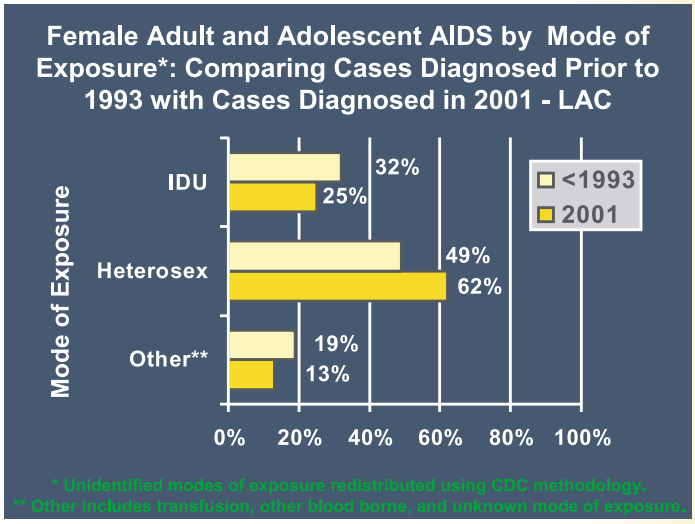

FIGURE 3.23

C. HIV and AIDS in Children

AIDS Surveillance Data

As of December 2003, a total of 243 children 13 years of age or less had been reported with pediatric AIDS in LAC. The annual number of children diagnosed with AIDS in Los Angeles County declined from a peak of 28 in 1994, to 12 in 1996, 3 in 1998, 3 in 2002, and no new pediatric AIDS cases in 2003. The decrease in the number of children with AIDS in recent years is due to the effectiveness of providing antiretroviral treatment to HIV-infected pregnant woman as well as providing treatment to infected children.

A contributing factor to the decline in new pediatric AIDS cases is the increasing use of highly-active antiretroviral therapy (HAART) since 1995 in HIV-infected children who have not progressed to AIDS. Data from the Pediatric Spectrum of Disease HIV study (PSD; see below) suggest that at their last medical contact, 89% of HIV-infected children were receiving HAART.

Since the implementation of universal blood donor screening in 1985 and the treatment of blood products received by those with hemophilia and other blood clotting disorders, the majority of children reported with AIDS have been exposed to HIV via perinatal (mother-to-child) transmission. Of the 243 cumulative children diagnosed with AIDS under age 13, 69% acquired HIV from their mothers; 26% were infected through a blood transfusion; and 3% had hemophilia or a coagulation disorder. In 2%, no exposure category could be determined.

The racial/ethnic distribution for children with AIDS is similar to that of adult female cases. Overall, 18% of the 243 children diagnosed with AIDS in LAC were White, 35% Black, 45% Latino and 2% Asian.

Children Living with AIDS

As of December 2003, 55 of the 243 children who were under 13 when diagnosed with AIDS were still alive and in medical care in LAC. The average age of these children is now 12 years and 37% are 13 years of age or older. Although the number of children diagnosed with AIDS is small, prevention of secondary HIV transmission will be an issue as these adolescents become sexually active and reach reproductive age. In addition, many will lose their family members to HIV and will continue to need supportive services.

Pediatric Spectrum of Disease (PSD)

The LAC Pediatric Spectrum of HIV Disease (PSD) study collected data on all children in LAC who have been exposed to or infected with HIV, as well as those who have been diagnosed with AIDS from 1988 to 2004. Follow-up reviews were done every 6 months to document new symptoms, treatment regimens, immunologic status, and death. PSD data suggest that the widespread use of antiretroviral therapy in HIV-infected mothers and their newborns has been a major factor in the decline in perinatal HIV infection among children in LAC (Figure 3.24).

PSD data show that in addition to the 55 children with an AIDS diagnosis, 107 children less than 13 years of age are currently living in LAC with HIV infection. Of the 162 cumulative children under age 13 diagnosed with HIV and AIDS, 93% acquired HIV from their mothers, 4% were infected through a contaminated blood transfusion, and 2% had an unknown exposure.

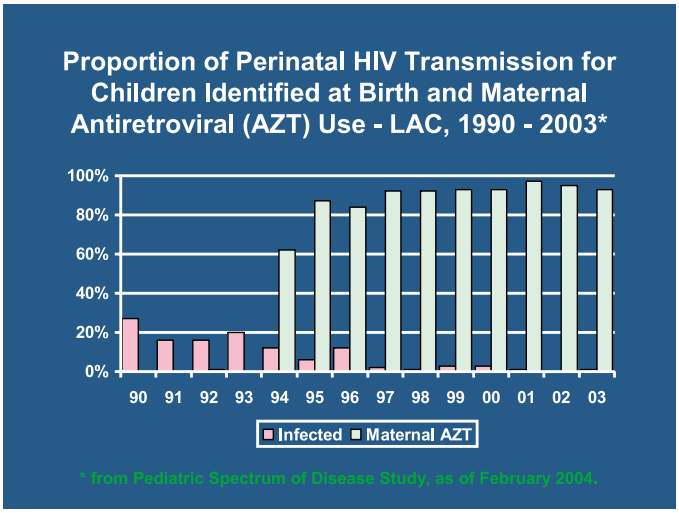

FIGURE 3.24

HIV Testing in Pregnant Women

PSD data suggest that HIV-infected women who do not receive prenatal care are more likely to transmit HIV vertically to their infants (28% vs. 7%) [21]. To maximize HIV prevention efforts, women must be identified as having HIV infection as early as possible during pregnancy and offered antiretroviral therapy. In 1998, PSD surveyed a sample of private obstetrical practices in Los Angeles County and found that while 96% of the practices were offering HIV testing to all pregnant women, only about half reported that 95-100% of their patients accepted the test. Implementation of mandatory prenatal HIV testing with an "opt out" clause has been shown to increase HIV testing of pregnant women [22].

In 2003, California enacted an "opt out" prenatal testing law (California Health and Safety Code Sections 125085, 125090, 125105, and 125107) which mandates that all prenatal care providers make HIV testing a routine part of the blood panel for pregnant women. The new testing law is intended to increase the number of pregnant women tested for HIV during their prenatal care. The woman must sign a consent form and has a right to refuse the test. The test must also be documented in the medical chart. Women presenting to labor and delivery with no documentation of a prenatal HIV test, must be HIV tested, again with her consent and right to refuse. It is recommended that a rapid HIV test be done in labor and delivery so that treatment can begin for the woman and her infant to prevent HIV transmission.

D. Persons Living with AIDS (PLWA)

As of June 30, 2004, there were 19,700 persons living with AIDS (PLWA) in Los Angeles County. This represents 35% of the 56,138 Californians living with AIDS and 5.1% of the 384,906 Americans living with AIDS.

Gender: The number of persons living with AIDS in LAC has increased steadily since the beginning of the epidemic (see Figure 3.3). This increase can be seen for both males and females, with males represented about 9 out of 10 (89%) PLWA in LAC by 2003 (see Figure 3.25).

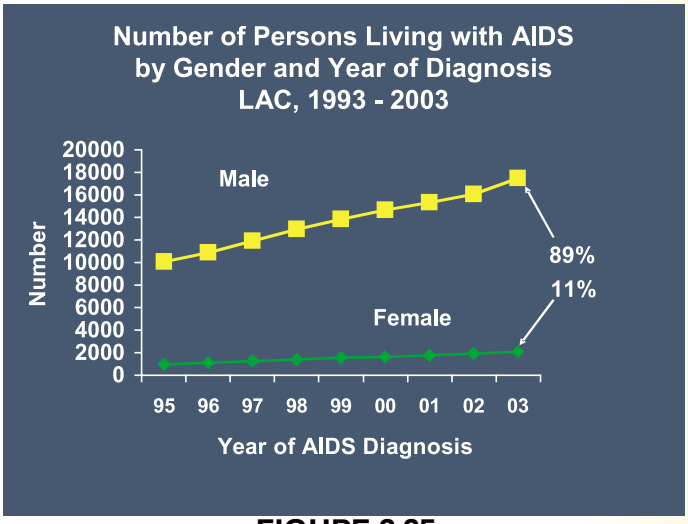

FIGURE 3.25

Age: Figure 3.26 shows the current age (as of June 2004) of persons living with AIDS in the county. Two-thirds of PLWA (67%) were 40 years of age or older, the majority of whom were age 40 - 49 years. The median current age of PLWA in LAC is 42 years. Less than 1% of PLWA were under the age of 20 years and 6% were age 60 years and older.

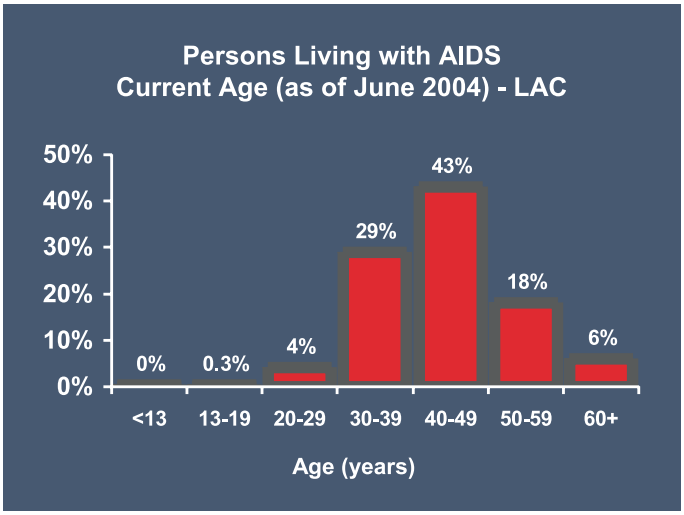

FIGURE 3.26

Race/Ethnicity: As seen in Figure 3.27, 38% of persons living with AIDS in LAC are Latino, 37% White, 22% Black, and 3% Asian/Pacific Islander. About 0.5% of LAC cases are American Indian/Alaskan Native. Among female PLWA, however, 36% are Black and only 20% are White (see Figure 3.28).

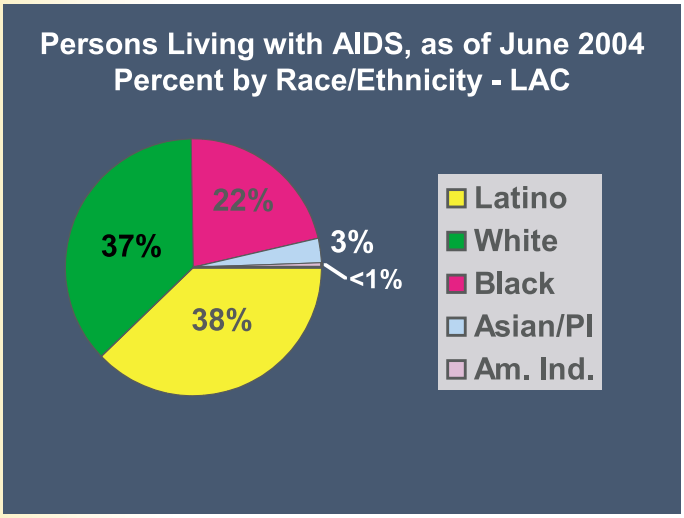

FIGURE 3.27

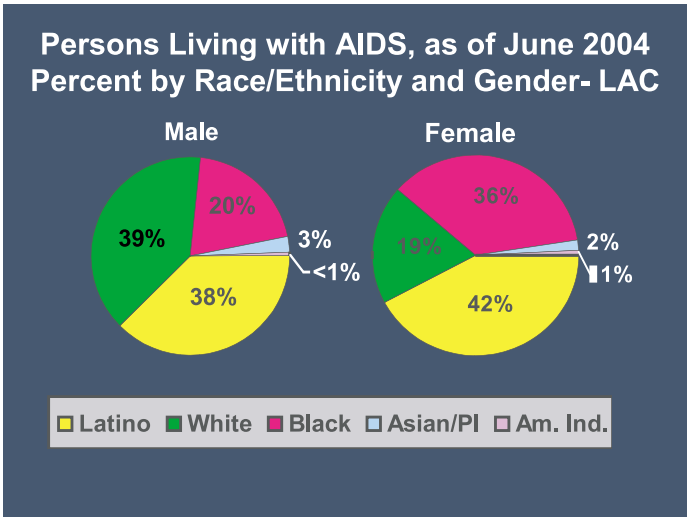

FIGURE 3.28

Figures 3.29 and 3.30 show the breakdown of PLWA by age group and race/ethnicity for males and females, respectively. Among male PLWA, Latinos are the predominant group for the younger age groups (under 40 years old), while Whites predominate in the older age groups. Among female PLWA, Latinos again predominate in the younger age groups, but Blacks account for about 40% PLWA in females age 30 - 59 years.

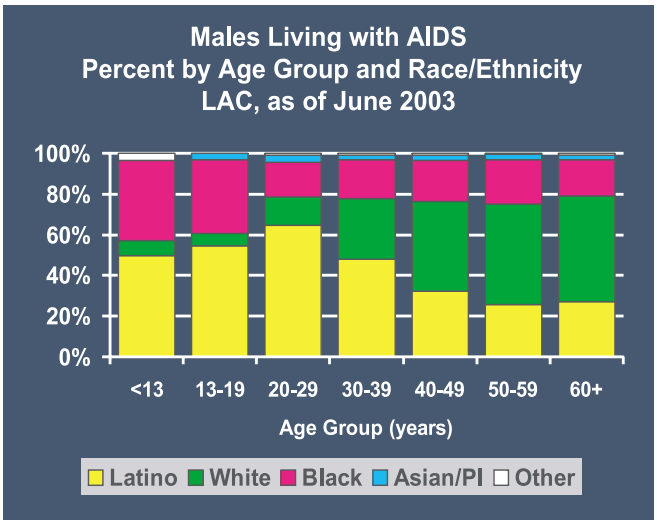

FIGURE 3.29

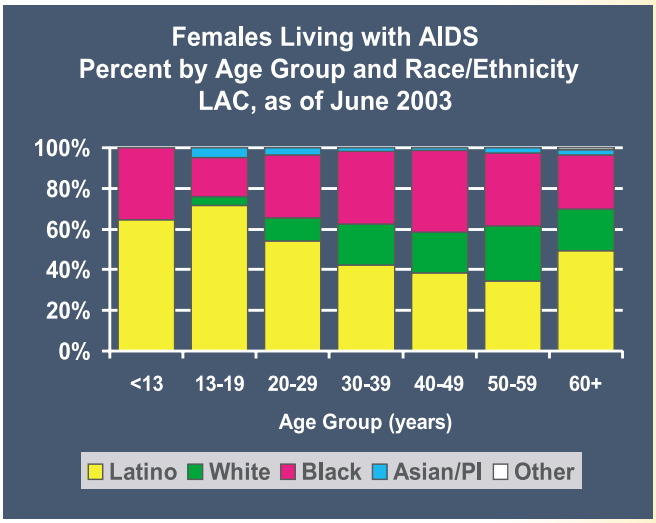

FIGURE 3.30

Mode of Exposure: About 78% of PLWA are men who have sex with men, 6% of whom also inject drugs. Other reported modes of exposure include 9% who report injection drug use, and 11% who report heterosexual contact (see Figure 3.31).

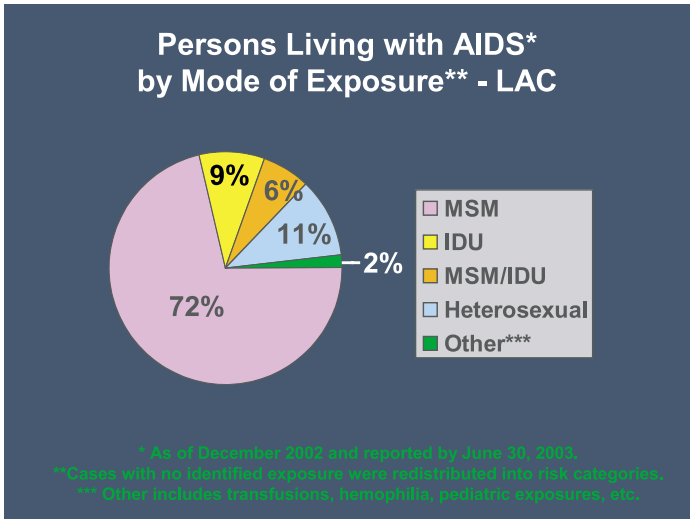

FIGURE 3.31

E. Persons Living With HIV Infection

In July 2002, the State of California mandated the reporting of persons infected with HIV using a non-name code. The regulation made it clear that both incident (new) and prevalent (existing) cases of HIV were to be reported. This Herculean task was to be accomplished by requiring laboratories that tested for HIV-antibodies to HIV, or any part of HIV, to report their results to the LAC HIV Epidemiology Program and for health care providers to report any of their unreported cases identified by the laboratories. Since July 2002, nearly 13,000 non-AIDS HIV cases have been reported in LAC and over 160,000 laboratory notifications have been received.

The number and distribution of HIV cases will not be available for analysis and publication until the non-name code has been validated and the system evaluated for completeness and accuracy. Until such time as these reported cases are available, the number of persons living with (non-AIDS) HIV must still be estimated.

CDC estimates 40,000 new HIV infections nationwide each year, of which about 5%, or 2,000, are estimated to occur in LAC. In 2003, HIV Epidemiology Program generated a range of estimates for persons living with HIV (including AIDS) using three methodologies: an updated version of estimates presented in the last *Profile,* an estimate based on the ratio of persons living with AIDS and HIV in jurisdictions similar to LAC who have been doing HIV surveillance for many years, and an estimate based on published CDC national estimates; this estimate was updated for 2004 (see Table 3.1).

In addition to the approximately 19,500 persons living with AIDS as of June 2004, there are an estimated 19 - 27,000 persons living with non-AIDS HIV. Added together, they represent the number of persons living with HIV and AIDS who would be aware of their infection/disease. CDC estimates that one of four persons living with HIV are unaware of their status. With this in mind, an estimated 12,300 - 15,000 persons in LAC are living with HIV and AIDS, but are unaware of their status. Altogether, we estimate that 49,400 - 60,000 persons in LAC are living with HIV and AIDS, a quarter of whom are not aware of their status.

Table 3.1 Estimates of persons living with HIV/AIDS in Los Angeles County, 2003 - 2004.

	Based on 2000 CDC National Estimate	Updated 1999 LAC Estimates	Based on Living Cases HIV:AIDS	2004 Estimate
Persons living with AIDS	18,000	18,000	18,000	19,500
Persons living with HIV	19,000	23,000	27,000	23,000
Persons living with HIV/AIDS, aware	37,000	41,000	45,000	42,500
Persons living with HIV/AIDS, unaware	12,500	13,500	15,000	14,200
PLWH/A overall	49,500	54,500	60,000	56,700

F. HARS-Based Estimates of HIV and AIDS

Estimates of persons living with HIV and AIDS are presented in Table 3.2. HIV estimates were based on AIDS cases reported to the HIV/AIDS Reporting System (HARS), as well as from rates of new HIV infection data at publicly-funded testing sites. Estimates were distributed by gender, age groups, race/ethnicity, and CDC-defined modes of exposure - including men having sex with men (MSM), injection drug use (IDU), MSM/IDU, heterosexual risk (male and female), and blood-borne risk (such as, hemophilia and blood transfusions).

While AIDS began as a disease mostly seen among Whites in the 1980's, it has transitioned in the 1990's to a disease predominantly affecting persons of color. Taken together, Latinos and Blacks now comprise 60% of persons living with AIDS, about 58% of all AIDS cases diagnosed in 2002 - 2003, and an estimated 67% of persons living with (non-AIDS) HIV in LAC. Whites comprise 37% of county residents living with AIDS, but only 31% of AIDS cases diagnosed in 2002 - 2003 and only an estimated 28% of persons living with (non-AIDS) HIV. Of persons estimated to be living with HIV and AIDS, most are Latino (40%), followed by White (32%), Black (24%), Asian/Pacific Islander (3%), and American Indian/Alaskan Native (0.7%).

Unlike in other parts of the US, the HIV/AIDS epidemic in LAC remains largely a male phenomenon. Women in LAC comprise only 11% of persons living with AIDS, 12% of newly diagnosed AIDS cases in 2002 - 2003, and an estimated 15% of persons living with (non-AIDS) HIV. Among adults and adolescents in LAC, men who have sex with men (MSM and MSM/IDU) continue to be the predominant mode of exposure for persons living with AIDS (79%), of newly diagnosed AIDS cases (74%), and estimated persons living with (non-AIDS) HIV (78%). Heterosexual transmission was the exposure risk for 10% of persons living with AIDS, 13% of new AIDS cases, and an estimated 11% of persons living with (non-AIDS) HIV.

Table 3.2. Newly Diagnosed Cases (Incidence) of AIDS for 2002-2003 and Estimated HIV/AIDS Number of Persons Living with HIV and AIDS in Los Angeles County Who are Aware of Their Disease (Prevalence).

Category	AIDS Incidence 2002-2003 [1]		AIDS Prevalence [1]		Estimated (non-AIDS) HIV Prevalence [2]		Estimated Prevalence of HIV and AIDS	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Race/Ethnicity								
White	915	31%	7,288	37.3%	6,440	28.0	13,700	32.2%
Black	646	22%	4,204	21.5%	5,830	25.4	10,000	23.5%
Latino	1,267	43%	7,395	37.8%	9,750	42.4	17,100	40.2%
Asian/PI	108	4%	500	2.6%	570	2.5	1,100	2.6%
Am Indian/AN	13	<0.5%	99	0.5%	150	0.6	300	0.7%
Multi-race	5	<0.5%	24	0.1%	120	0.5	100	<0.5%
Not specified	1	<0.5%	38	0.2%	140	0.6	200	0.5%
Gender								
Male	2,589	88%	17,463	89.3%	19,580	85.1%	37,000	87.0%
Female	366	12%	2,085	10.7%	3,420	14.9%	5,500	13.0%
Age (years)								
<13	3	<0.5%	79	0.4%	230	1.0%	300	0.7%
13 – 19	30	1.0%	156	0.8%	920	4.0%	1,100	2.6%
20 – 44	2,117	72%	15,643	80.0%	18,400	80.0%	34,000	80.0%
45+	805	27%	3,670	18.8%	3,450	15.0%	7,100	16.7%
Exposure Category, Adult/ Adolescent [3]								
MSM	2,010	68%	14,034	72.2%	16,500	72.6%	30,500	72.3%
IDU	276	9.3%	1,692	8.7%	1,900	8.4%	3,600	8.5%
MSM-IDU	174	5.9%	1,246	6.4%	1,300	5.5%	2,500	5.9%
Heterosexual	387	13%	2,012	10.4%	2,600	11.3%	4,600	10.9%
Other Blood-borne	57	1.9%	298	1.5%	200	0.9%	500	1.2%
No Identified Risk [3]	41	1.4 %	149	0.8%	300	1.3%	500	1.2%
Sub-total, Adult	**2,945**	**100%**	**19,431**	**100%**	**22,800**	**100.0%**	**42,200**	**100%**
Exposure Category, Pediatric								
Maternal risk for HIV	7	70%	73	62.4%	105	62.4%	200	67%
Other Blood-borne	2	20%	36	30.8%	52	30.8%	100	33%
No Identified Risk	1	10%	8	6.8%	11	6.8%	---	---
Sub-total, Pediatric	**10**	**100%**	**117**	**62.4%**	**168**	**100%**	**300**	**100%**
TOTAL	**2,955**	**100%**	**19,548**	**100%**	**~23,000**	**100%**	**~42,500**	**100%**

[1] Data from HARS as of June 2004, except pediatric exposure numbers from December 2003.
[2] These estimates are based on a 1.2:1 ratio of living HIV to AIDS cases based on June 2004 AIDS data and do not include persons who are not diagnosed or are not aware of their infection.
[3] Cases with no identified risk redistributed according to CDC protocol. (See Technical Note #2)

G. HIV Incidence Studies

A goal of HIV surveillance is to detect recent infections, in order to identify who is acquiring HIV and how they are acquiring it. It is important to identify trends in recent infections, so that prevention and testing efforts can be targeted more effectively. The ability to detect these recent cases has thus far been elusive. With the recent development of the less sensitive HIV antibody laboratory method, known as the "Serologic Testing Algorithm for Recent HIV Seroconversion" (STARHS), we can now determine whether or not persons with newly diagnosed HIV were likely to have been infected in the 12 months prior to their HIV test [23, 24].

In the near future, HIV Epidemiology Program's Seroepidemiology Unit will be measuring HIV incidence using STARHS in the Brothers y Hermanos Study, L.A. Men's Study, and HIV Incidence Surveillance study.

STARHS has already been used for the following studies: the STD Clinic Study, Young Men's Surveys I and II, Bathhouse Study, and Project One's Jail and Hotel studies. Some results from these studies follow.

STD Clinic Study and Alternative Testing Site database

Stored blood from a study conducted at LAC's Sexually Transmitted Disease (STD) clinics from 1993 to 1999 was tested using STARHS technology to get an idea of the level of recent infection among STD clinic clients.

HIV incidence was also estimated at state-funded "alternative testing sites" (ATS) among "repeat testers" - that is, those seeking testing who have a history of having a previous negative HIV test - using the ATS client database from 1995 to 2002.

A comparison of results from these two studies, stratified by gender and exposure mode, is presented in Table 3.3. Despite the differing methodologies, HIV incidence rates from the two studies appear comparable, with transgendered women, MSM and MSM-IDU having the highest rates (3 - 6% per year), while men who have sex with women (MSW) and women had much lower rates (<0.5% per year). The HIV incidence rate for MSM at STD clinics (5.9% per year) was twice that for MSM at alternative testing sites (2.9% per year). This difference is perhaps not surprising, when one considers that persons attending STD clinics have most likely engaged in unprotected sexual intercourse, whereas the same may not be true of those testing at ATS.

Table 3.3. Comparison of HIV incidence rate estimates by gender and exposure mode for LAC in STD Clinic Study (1993-1999) and Alternative Test Site data (1995-2002).

Exposure Group	STD Clinic Study, 1993-1999				Alternative Test Site, 1995-2002			
	No.[1] Recently Infected	No. Tested[2]	Incidence Rate[3]	95% Confidence Limits	No.[4] Newly Infected	Denomi-nator[5]	Incidence Rate[3]	95% Confidence Limits
MSM	48	2,100	5.9	(3.7, 9.2)	1,286	44,929	2.9	(2.7, 3.0)
MSM-IDU	3	139	--[6]	--[6]	64	1,707	3.7	(2.8, 4.7)
MSW-IDU	3	443	--[6]	--[6]	35	8,847	0.4	(0.3, 0.4)
MSW	40	29,750	0.4	(0.2, 0.6)	152	46,073	0.3	(0.3, 0.4)
Female IDU	0	264	--[6]	--[6]	18	6,114	0.3	(0.2, 0.5)
Females	20	19,394	0.3	(0.1, 0.5)	120	57,626	0.2	(0.2, 0.25)
Transgendered Women	--	--	--	--	36	645	5.6	(3.8, 7.6)

[1] The number of recently infected persons in the STD Clinic Study was calculated based on those HIV-positive specimens that were available for STARHS testing.

[2] The number tested for the STD Clinic Study is the number of clients who tested negative for HIV plus those recently infected; it excludes non-recent HIV-infected persons. This number is multiplied by the average time since clients' most recent prior tests to provide the denominator used to calculate an incidence rate.

[3] Incidence rate for both studies can be thought of as equivalent to the average number of individuals infected per 100 persons per year, over the study period.

[4] The number of new infections at Alternative Test Sites is the number of repeat testers who seroconverted since their previous self-reported negative HIV test; STARHS was not used.

[5] The denominator for Alternative Test Site data is the sum of all the time intervals between the two most recent HIV tests among clients who reported repeat HIV testing.

[6] Incidence rate and confidence limits based on zero observations are not definable and rates based on few observations are considered unreliable, so are not shown (see Technical Note #3).

Young Men's Survey I

Stored blood from a study conducted at public venues among young MSM, aged 15 - 22 years from 1994 to 1997, was tested using STARHS to find out the level of recent infection in that study group. Of 464 study subjects, 42 (8.3%) tested positive for HIV. Of the 32 positive specimens available for STARHS testing, 4 had evidence of recent infection. Therefore, the HIV incidence rate for this cohort was 2.4% per year (95%CL= 0.3%, 4.5%).

Young Men's Survey II

Stored blood from a study conducted from 1999 to 2000 at public venues among young MSM, aged 23 - 29 years, was tested using STARHS. Of 460 study subjects, 51 (11%) tested positive for HIV. Of the 45 HIV-positive specimens available for STARHS testing, 5 had evidence of recent infection. The HIV incidence for this cohort was of 2.9% per year (95%CL= 0.5%, 5.4%).

Los Angeles Bathhouse Study (HIV Incidence Study in Commercial Sex Venues)

There are 12 bathhouses and sex clubs currently operating in LAC. The Bathhouse Study estimated the HIV incidence rate among MSM patronizing either of two local bathhouses, who agreed to be interviewed and anonymously tested for HIV. Positive HIV tests were further evaluated for recent infection using STARHS. Of 914 subjects tested, 102 (11%) tested positive for HIV infection. Of the 40 HIV-positive specimens available for STARHS testing, 11 (27.5%) had evidence of recent infection. The HIV incidence rate for study participants is 7.2% per year (95%CL= 4.5%, 9.8%). This rate is higher than that found during any other LAC study to date.

Project One: Jail Study of HIV Incidence

The HIV Epidemiology Program (HEP) conducted a study to assess new HIV infections in SPA 4 and SPA 6 residents recently incarcerated in LA county jails. Preliminary analysis found evidence of new HIV infections among 3 of 1,447 study participants, who had not previously tested positive for HIV. All 3 newly identified HIV-infected persons were women. The HIV incidence for female participants was 0.9% per year (95%CL= 0.0%, 1.8%).

Project One: Low-income-hotel-based Study of HIV Incidence (Hotel Study)

HEP also recently conducted a study of 1,098 "skid row" residents who lived in single resident occupancy hotel rooms or other low-income housing and who identified themselves either as HIV-negative or of unknown HIV status. Most of the study participants (70%) were Black. Preliminary analysis found evidence of recent HIV infection in 3 of the participants who had not previously tested positive for HIV. All 3 recently infected persons were Black men. The HIV incidence for Black male study participants was 2.1% per year (95%CL= 0.0%, 4.4%).

IV. Geographic Distribution of AIDS in Los Angeles County

As is seen with other diseases, AIDS has not affected all areas of the county equally. In 1998, Health Districts in Los Angeles County were aggregated into eight Service Planning Areas, or SPAs, in an effort to address local health needs regionally. (Selected sociodemographic characteristics of each SPA are given in Table 2.1 of the Profile.) In this section, we look at the AIDS case distribution and persons living with AIDS (PLWA) by SPA and by select areas within each SPA.

Figure 4.1 is a map showing the number (in red), percent (in green), and rate per 100,000 population (in blue) of PLWA in LAC by Service Planning Area. SPA 4 (Metro) has the highest number (6,685), proportion (39%), and rate (569 per 100,000) of PLWA among SPAs in the county, followed by SPA 8 (South Bay) with over 3,000 PLWA (18%), and a rate of 196 per 100,000. SPA1 (Antelope Valley) has the lowest number (191), percent (1%), and rate (59 per 100,000) of PLWA in LAC. Figure 4.2 shows the number of PLWA for areas of the City of Los Angeles and other cities in LAC. Cities and areas with the greatest number of PLWA are shaded in dark red - including Hollywood, West Hollywood, Downtown, and Long Beach. Other cities and areas that have less, but still large numbers of PLWA (shaded in orange) are located in SPAs 6 (South), 5 (West), and parts of SPA 2 (San Fernando Valley).

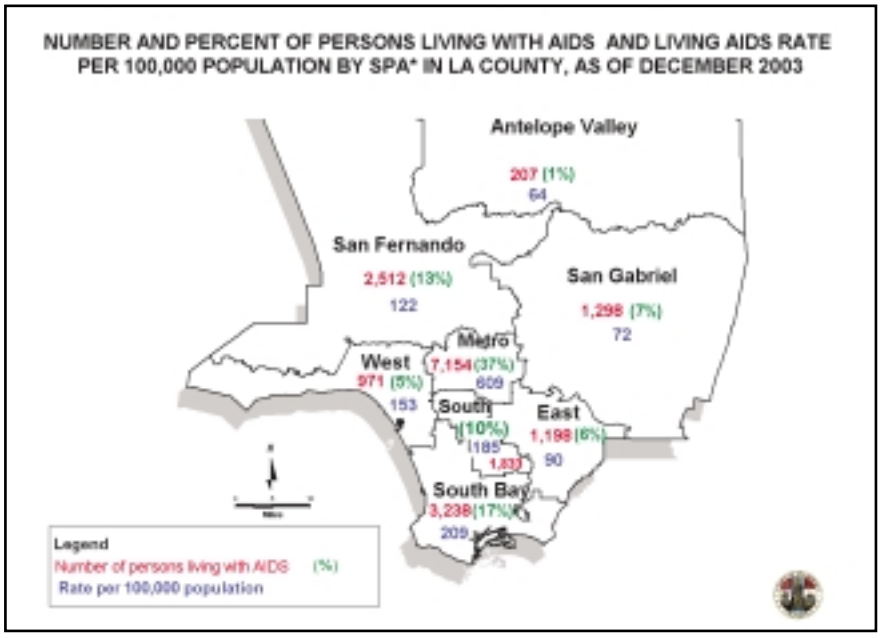

FIGURE 4.1

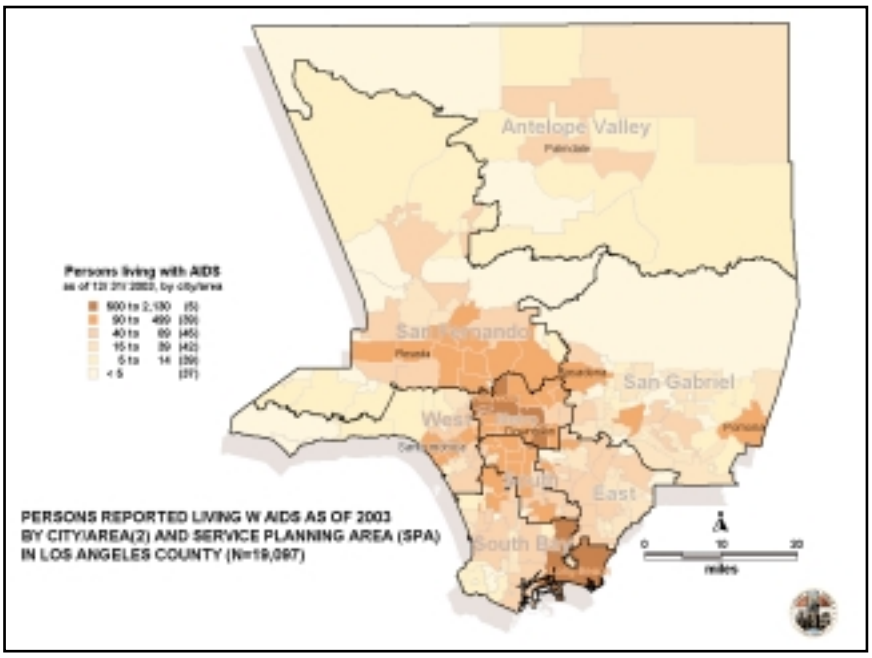

FIGURE 4.2

A. SPA 1: Antelope Valley

As of December 2003, there were 437 persons reported with AIDS whose residence at the time of AIDS diagnosis was the Antelope Valley. Among the 437 total AIDS cases reported in this SPA, 207 (47%) were still living with AIDS (PLWA). Most PLWA in SPA 1 were men (85%), while 45% were White, 30% Black, and 25% Latino (Figure 4.3). After redistributing cases without confirmed risk information, the mode of HIV exposure for two of every three PLWA was either MSM (58%) or MSM/IDU (8%) and, compared with other SPAs, SPA 1 had a relatively high proportion of cases with reported heterosexual IDU exposure (15%; Figure 4.4). AIDS cases and rate for Palmdale, Lancaster, and SPA 1 are given in Table 4.1.

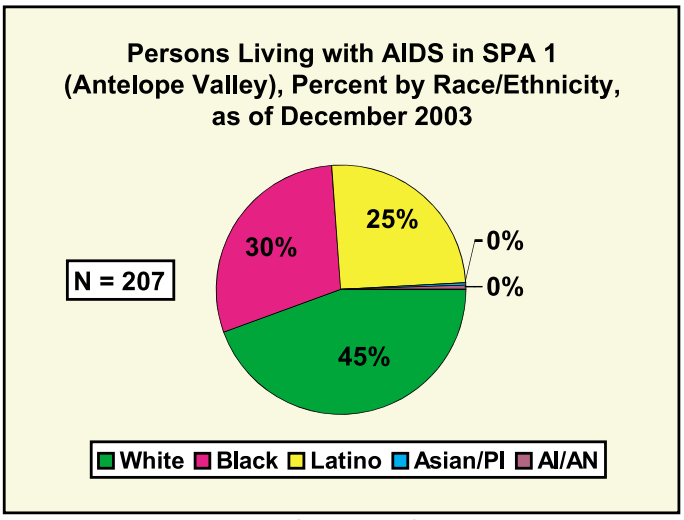

FIGURE 4.3

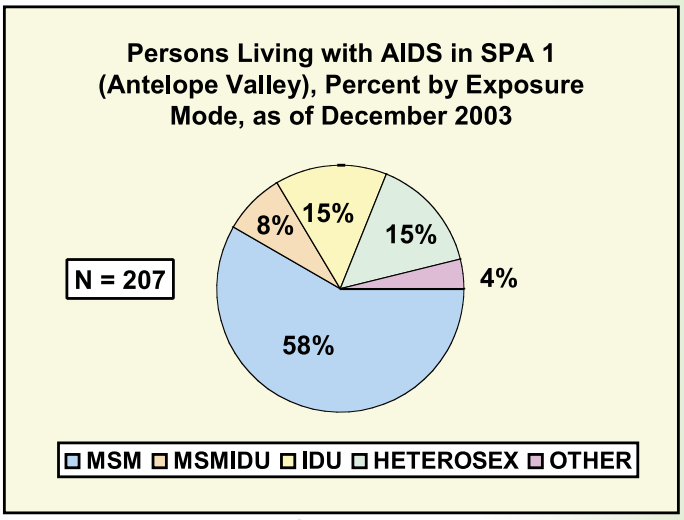

FIGURE 4.4

Table 4.1. Number of cumulative AIDS cases, number and rate of both new AIDS cases in 2002 and persons living with AIDS (PLWA) as of 2003 for select cities within LAC Service Planning Area 1.

City/Area	Cumulative Number of AIDS Cases	New cases in 2002		PLWA in 2003	
		Number	Rate per 100,000	Number	Rate per 100,000
Lancaster	172	7	6	78	61
Palmdale	140	10	8	71	58
SPA 1 Total	437	23	7	207	64

B. SPA 2: San Fernando Valley

A cumulative total of 6,753 persons with AIDS had been reported in the San Fernando Valley as of December 2003. Among all cases reported, 2,512 (37%) were still living with AIDS, giving San Fernando Valley the third highest number of PLWA, behind Metro and South Bay. Most cases were men (90%) and, as shown in Figure 4.5, most PLWA in SPA 2 were White or Latino (48% and 37%). As shown in Figure 4.6, the most common reported exposure to HIV was men who sex with men (72%). The highest numbers of cases and AIDS rates in SPA 2 were seen in North Hollywood, Van Nuys-Sherman Oaks, and Studio City (see Table 4.2).

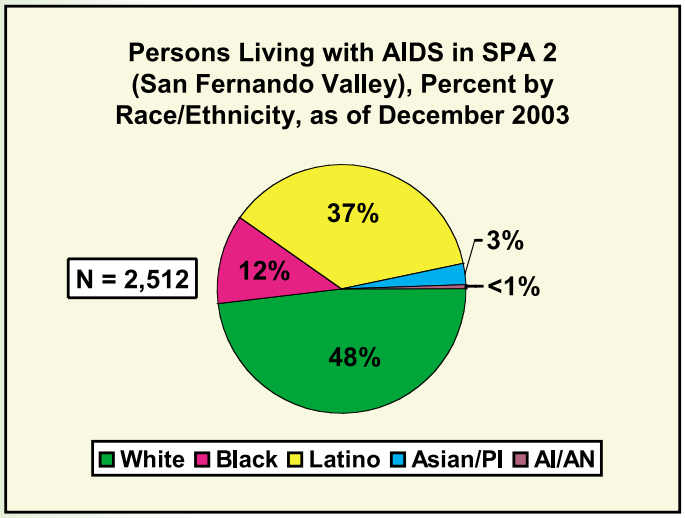

FIGURE 4.5

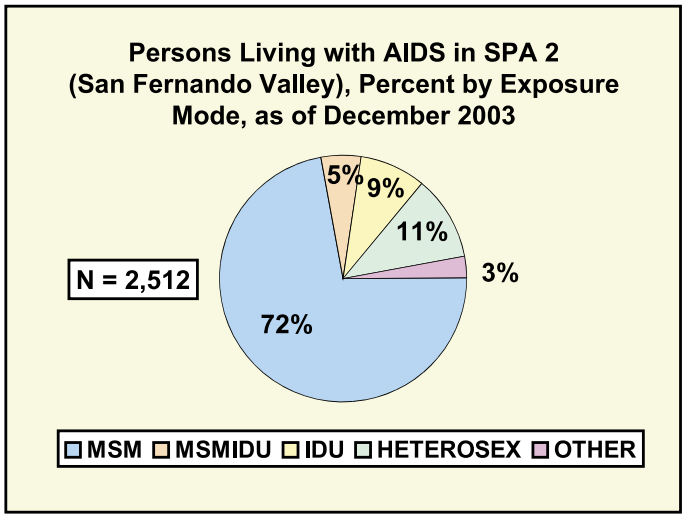

FIGURE 4.6

Table 4.2. Number of cumulative AIDS cases, number and rate of both new AIDS cases in 2002 and persons living with AIDS (PLWA) as of 2003 for cities and areas within LAC Service Planning Area 2.

City/Area	Cumulative Number of AIDS Cases	New cases in 2002		PLWA in 2003	
		Number	Rate per 100,000	Number	Rate per 100,000
Studio City	730	16	30	230	433
North Hollywood	1,232	36	28	441	340
Van Nuys-Sherman Oaks	933	34	17	377	187
Sepulveda	351	18	15	164	137
Sun Valley	240	11	14	102	132
SPA 2 Total	6,753	224	11	2,512	122

C. SPA 3: San Gabriel Valley

The total number of persons reported with AIDS in the San Gabriel Valley by December 31, 2003 was 3,450. Among all cases reported, 1,298 (38%) were still living with AIDS. In SPA 3, males accounted for 83% of PLWA, while Latinos accounted for about half (49%), Whites one-quarter (25%), and Blacks one-fifth (20%; Figure 4.7). (Note: While Asian/Pacific Islanders accounted for only 6% the percent of PLWA, they accounted for 9% of new AIDS diagnoses in 2002.) After redistributing cases without confirmed risk information, 65% of the SPA 3 residents living with AIDS at the end of 2003 were MSM, 4% MSM/IDU, 12% other IDU, and 15% heterosexual contact (Figure 4.8). Areas of the City of LA and other cities within SPA 3 that have higher living AIDS rates as of 2003 are shown in Table 4.3 below.

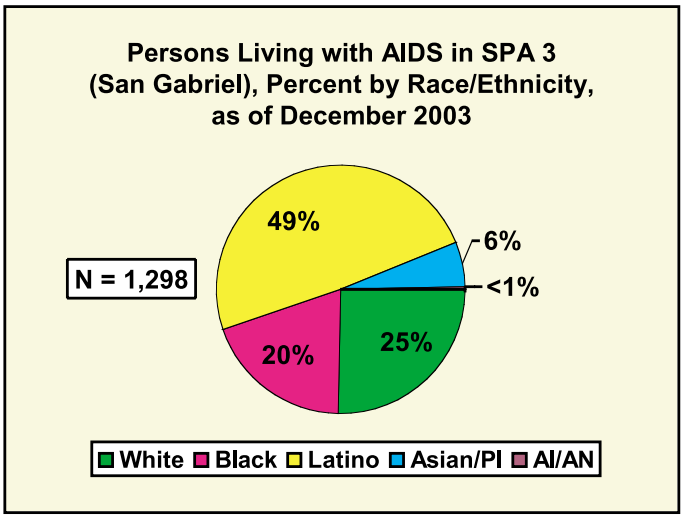

FIGURE 4.7

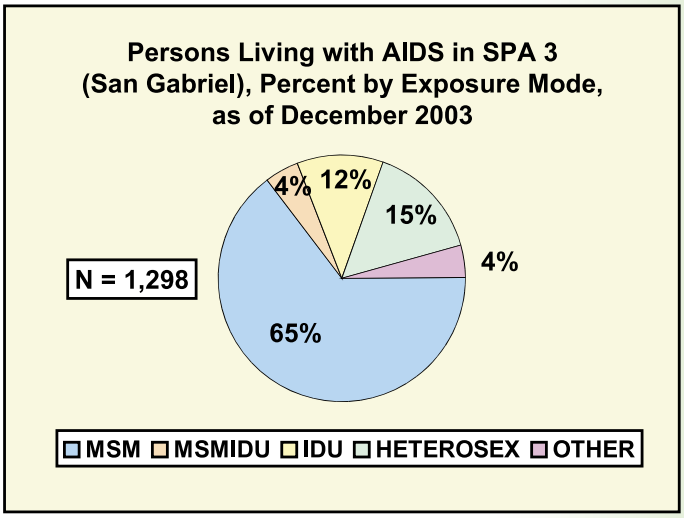

FIGURE 4.8

Table 4.3. Number of cumulative AIDS cases, number and rate of both new AIDS cases in 2002 and persons living with AIDS (PLWA) as of 2003 for cities and areas within LAC Service Planning Area 3.

City/Area	Cumulative Number of AIDS Cases	New cases in 2002		PLWA in 2003	
		Number	Rate per 100,000	Number	Rate per 100,000
Pasadena	634	11	8	219	161
Altadena	180	7	16	57	131
Pomona	390	16	10	179	117
South El Monte	45	6	29	19	93
El Monte	210	12	10	98	82
SPA 3 Total	3,450	133	7	1,298	72

D. SPA 4: Metropolitan Area

Since the beginning of the AIDS epidemic, Metro has been the SPA with the highest AIDS rate in the county. SPA 4 accounts for 39% of all cumulative AIDS cases. Of Metro's 18,408 total cases, 7,154 persons (39%) were living with AIDS as of December 2003. Of PLWA in SPA 4, 94% were male, while 43% were Latino, 37% White, and 18% Black (Figure 4.9). (Note: Although Blacks in Metro SPA only represented 18% of the persons living with AIDS in SPA 4, their AIDS incidence rate was 3 to 11 times that for Blacks in other SPAs.) MSM and MSM/IDU together represented 86% of PLWA in SPA 4 as of December 31, 2003 (Figure 4.10). Areas of the City of LA within SPA 4 that had the highest AIDS cases and rates as of 2003 are shown in Table 4.4 below.

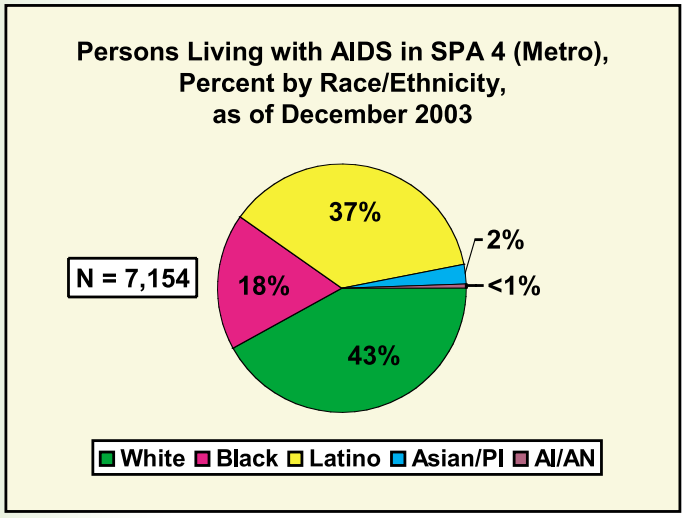

FIGURE 4.9

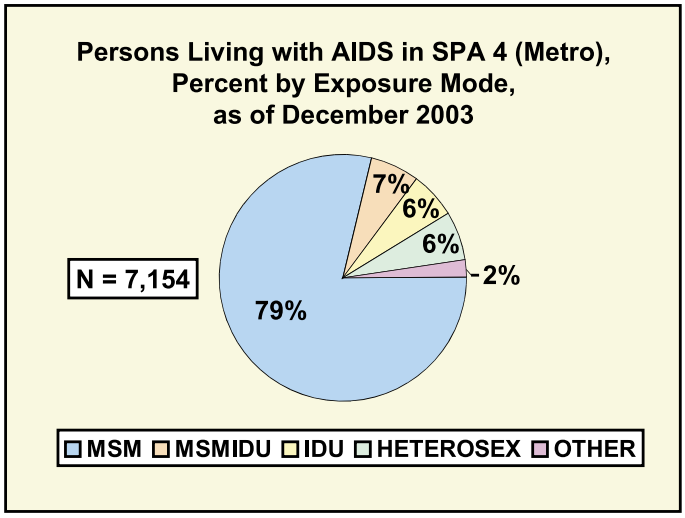

FIGURE 4.10

Table 4.4. Number of cumulative AIDS cases, number and rate of both new AIDS cases in 2002 and persons living with AIDS (PLWA) as of 2003 for cities and areas within LAC Service Planning Area 4.

City/Area	Cumulative Number of AIDS Cases	New cases in 2002		PLWA in 2003	
		Number	Rate per 100,000	Number	Rate per 100,000
West Hollywood	2,830	64	173	995	2,695
Wholesale	1,162	61	113	758	1,409
Hollywood	5,823	126	53	2,121	898
Los Feliz	1,165	27	63	367	860
Silver Lake-Chinatown	1,670	43	54	614	775
Downtown	324	8	38	147	702
SPA 4 Total	18,408	508	43	7,154	609

E. SPA 5: West

The West SPA accounts for 2,717 persons reported with AIDS since 1981. Among them, 971 (36%) were living as of December 2003. Persons living with AIDS in SPA 5 were predominantly male (91%) and White (60%; Figure 4.11). MSM and MSM/IDU together accounted for 83% of the living AIDS cases, while 7% of PLWA were other IDU and 7% were estimated to be infected through heterosexual contact (Figure 4.12). Cities/areas with the most AIDS cases are Venice and Santa Monica, with a living AIDS rate of 353 and 193 per 100,000 persons, respectively (see Table 4.5).

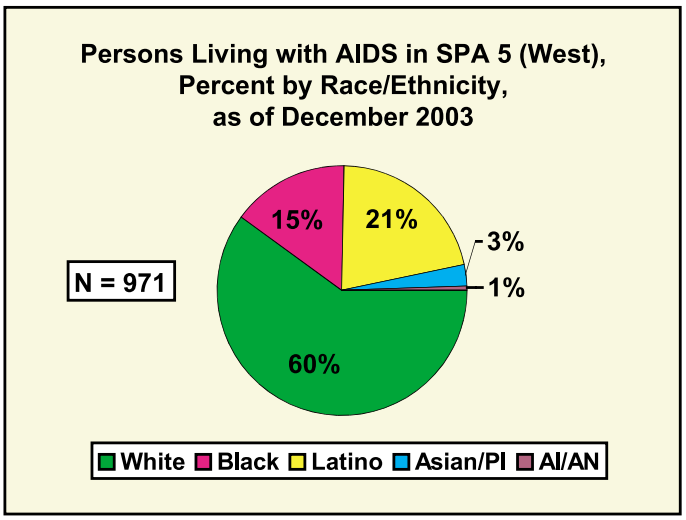

FIGURE 4.11

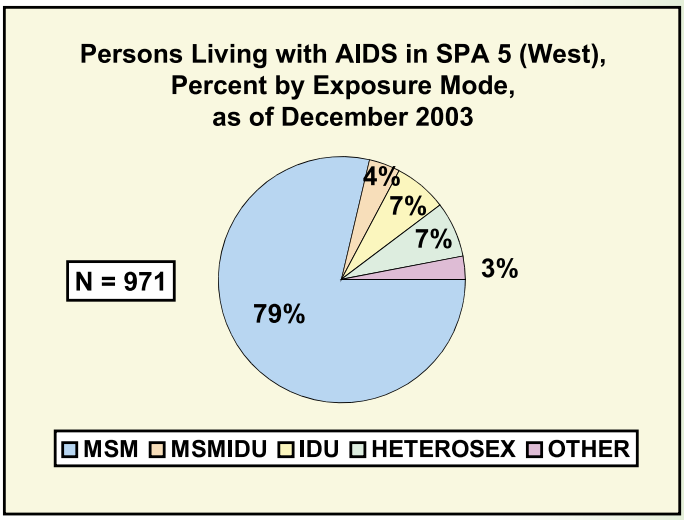

FIGURE 4.12

Table 4.5. Number of cumulative AIDS cases, number and rate of both new AIDS cases in 2002 and persons living with AIDS (PLWA) as of 2003 for cities and areas within LAC Service Planning Area 5.

City/Area	Cumulative Number of AIDS Cases	New cases in 2002		PLWA in 2003	
		Number	Rate per 100,000	Number	Rate per 100,000
Venice	392	11	29	135	353
Santa Monica	511	8	9	170	193
SPA 5 Total	2,717	51	8	971	153

F. SPA 6: South

A total of 4,540 persons had been reported with AIDS in the South SPA by the end of 2003. This SPA has the highest proportion of female cases (16%), which is twice that for LAC overall (8%). Of all cases, 1,833 were living as of December 2003 (40%). Among persons living with AIDS in the South SPA, 56% were Black and 38% Latino (Figure 4.13). While male-to-male sexual contact and its combination with IDU accounted for 63% of AIDS transmission in the South SPA, another 19% were estimated to be infected through heterosexual contact (with an HIV positive or high-risk partner) and 13% were other injection drug users (Figure 4.14). Areas with the highest concentrations of persons with AIDS in SPA 6 are shown in Table 4.6 below, with living AIDS rates ranging from 187 to 294 per 100,000 persons.

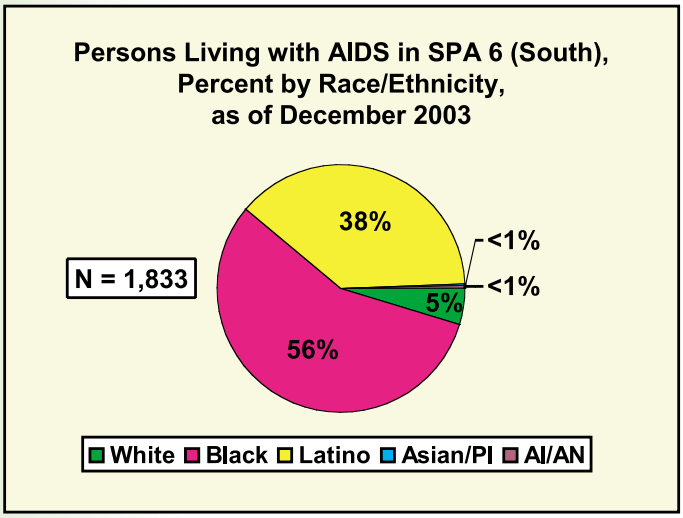

FIGURE 4.13

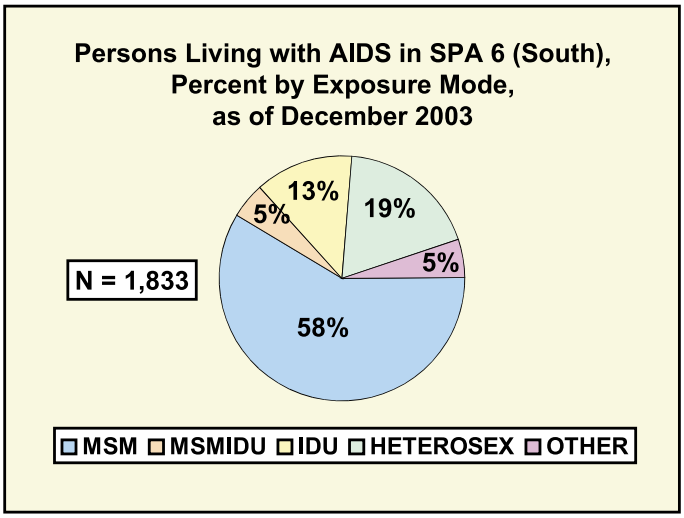

FIGURE 4.14

Table 4.6. Number of cumulative AIDS cases, number and rate of both new AIDS cases in 2002 and persons living with AIDS (PLWA) as of 2003 for cities and areas within LAC Service Planning Area 6.

SPA 6 City/Area	Cumulative Number of AIDS Cases	New cases in 2002		PLWA in 2003	
		Number	Rate per 100,000	Number	Rate per 100,000
Crenshaw	573	28	39	210	294
Adams-La Brea	393	15	27	143	257
West Adams-Exposition	748	14	11	291	227
South Vermont	509	25	24	226	221
Vermont Square	401	12	17	155	214
Green Meadows	273	13	23	112	194
Watts	159	10	28	68	187
SPA 6 Total	4,540	178	18	1,833	90

G. SPA 7: East

Of the 2,709 cumulative AIDS cases reported from the East SPA, 1,198 (44%) persons were living as of December 2003, of which 86% were male. PLWA in SPA 7 were predominately Latino (74%), with only 16% White, 7% Black, and 2% Asian/Pacific Islander (Figure 4.15). By the end of 2003, 73% of PLWA reported MSM or MSM/IDU as their exposure mode, 13% were estimated to be infected through heterosexual exposure, and 9% through IDU (Figure 4.16). Cities with the highest living AIDS rate in this SPA are shown in Table 4.7..

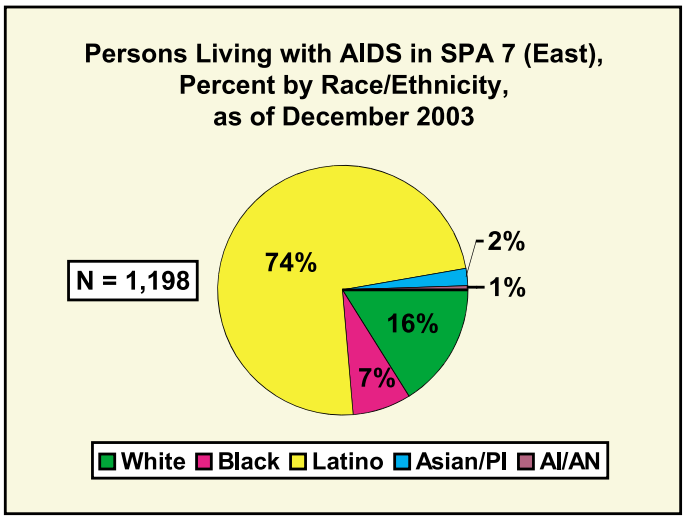

FIGURE 4.15

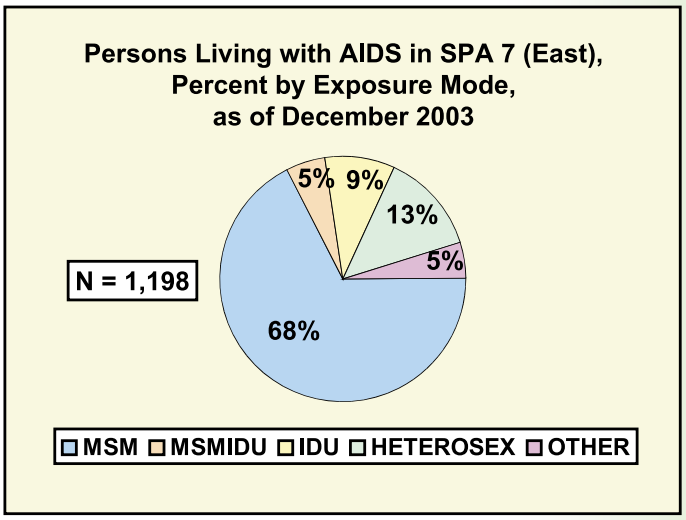

FIGURE 4.16

Table 4.7. Number of cumulative AIDS cases, number and rate of both new AIDS cases in 2002 and persons living with AIDS (PLWA) as of 2003 for cities and areas within LAC Service Planning Area 7.

City/Area	Cumulative Number of AIDS Cases	New cases in 2002		PLWA in 2003	
		Number	Rate per 100,000	Number	Rate per 100,000
Huntington Park	183	7	11	103	163
City Terrace	162	7	16	64	142
Belvedere Gardens	193	10	15	91	135
Bell	97	5	13	45	121
Bell Gardens	88	6	13	53	117
Cudahy	63	6	24	27	107
SPA 7 Total	2,709	116	9	1,198	90

H. SPA 8: South Bay

South Bay SPA has the second highest AIDS rates in LAC. By the end of 2003, the cumulative number of persons reported with AIDS in the South Bay SPA was 7,270, of which 3,238 were living (45%). Among PLWA in SPA 8, 89% were male, while 42% were White, 28% Latino, 26% Black, and 3% Asian/Pacific Islander (Figure 4.17). Among PLWA in SPA 8, 77% were either MSM (69%) or MSM/IDU (8%), while 10% were other IDU and 11% were reported to be infected through high-risk heterosexual contact (Figure 4.18). In 2003, the City of Long Beach had the highest living AIDS rate (443 per 100,000 persons) in SPA 8. Long Beach, other cities and several areas of the City of LA within SPA 8, with high AIDS prevalence are shown in Table 4.8 below.

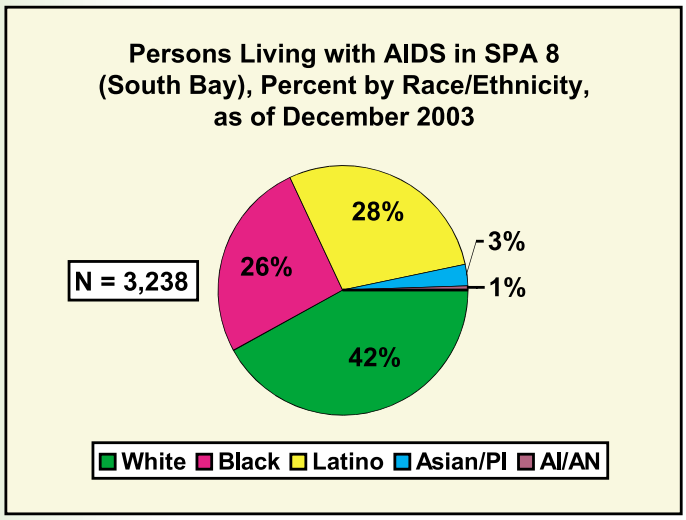

FIGURE 4.17

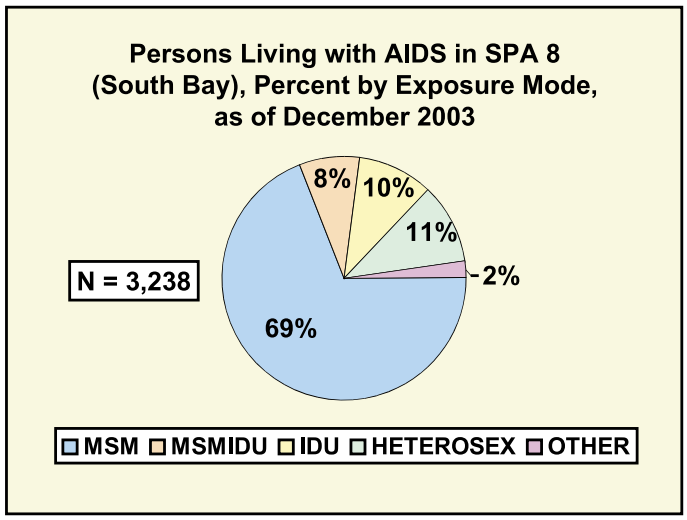

FIGURE 4.18

Table 4.8. Number of cumulative AIDS cases, number and rate of both new AIDS cases in 2002 and persons living with AIDS (PLWA) as of 2003 for cities and areas within LAC Service Planning Area 8.

City/Area	Cumulative Number of AIDS Cases	New cases in 2002		PLWA in 2003	
		Number	Rate per 100,000	Number	Rate per 100,000
Long Beach	4,570	195	41	2,116	444
Westmont-West Athens	198	12	28	86	202
Inglewood	526	30	26	228	198
Hawthorne	246	18	20	118	131
San Pedro	200	11	15	83	109
Wilmington	133	8	14	61	106
SPA 8 Total	7,270	319	21	3,238	209

V. Behavioral Risk Groups

In characterizing persons at risk of acquiring HIV, the HIV Prevention Planning Committee (PPC) emphasizes behavioral risk groups (BRGs) in addition to demographic groups. Seven mutually exclusive BRG categories have been defined as follows: men who have sex with men, or "MSM"; men who have sex with men and women, or "MSM/W"; men who have sex with men and inject drugs, or "MSM/IDU"; heterosexual male injection drug users, or "HMIDU"; female injection drug users, or "FIDU"; women at sexual risk, or "WSR"; and transgendered persons, or "TGs", which includes TG injection drug users and partners of TGs.

For all BRGs, unprotected sexual intercourse and sharing contaminated injection drug paraphernalia place individuals at risk for HIV infection. Epidemiologic data and population estimates for each BRG are summarized in Table 5.1. There is no data on race/ethnicity for transgendered persons by time of this report. The last group addressed in this section is American Indians and Alaskan Natives, a population identified to be of special interest by the PPC.

A. Estimates of Persons in BRG Living with HIV and AIDS

The number and racial/ethnic distribution of prevalent and incident HIV and AIDS cases for the seven Behavioral Risk Groups (BRGs) were estimated by the HIV Epidemiology Program (HEP). BRG categories are mutually exclusive; so, aside from MSM/IDU, persons with multiple risk categories are only counted in one risk category. The methodologies employed by HEP to arrive at these estimates and group population estimates are outlined in the *Profile's* Technical Note #4 - including data sources, assumptions, and limitations.

In order to assess the impact of HIV and AIDS on each BRG, the population size of each BRG and their race/ethnicity breakdown were estimated using a variety of sources - including the 2000 US census, the 1999 Los Angeles Health Survey, the HIV/AIDS Reporting System (HARS), the State-funded Alternate Testing Site database, Alcohol and Drug Prevention Administration data, Sexually Transmitted Disease Clinic data, and information from epidemiological studies performed by HEP.

Figures 5.1 shows the relative estimated population size of each BRG, while Figure 5.2 shows the number of persons living with AIDS as reported in HARS. While MSM and WSR have similarly large populations (over 200,000 persons each), MSM have over eight times the number of persons living with AIDS (10,461 vs. 1,235). Similarly, while female IDU have nearly three times the estimated population as MSM/IDU (58,100 vs. 19,800), they have less than half the number of persons living with AIDS (514 vs. 1,161).

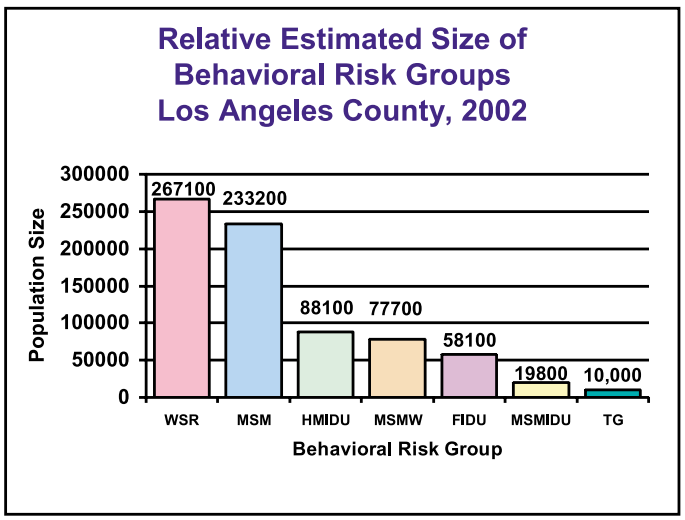

FIGURE 5.1

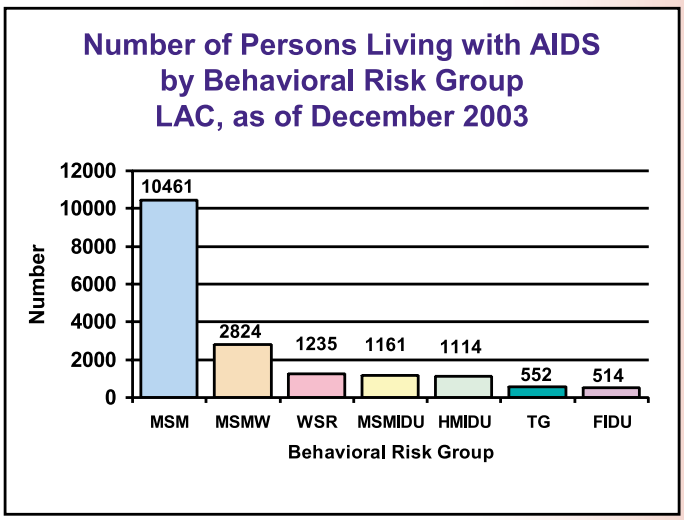

FIGURE 5.2

Figure 5.3 shows the estimated proportion of persons living with HIV and AIDS in LAC. Notice that 6% of persons living with HIV and AIDS in LAC do not fall within a BRG; these include recipients of transfused blood or blood products, pediatric exposures, men who reported mode of exposure to be heterosexual contact, and persons without any identified mode of exposure. Summary estimates of persons living with HIV and AIDS in BRGs are stratified by race/ethnicity in Table 5.1. Figure 5.4 shows, for each BRG, the estimated HIV seroprevalence - that is, the percent of each BRG estimated to be living with HIV infection. A relatively high seroprevalence is estimated for transgendered persons (TG) and for the three BRGs that comprise men who have sex with men (MSM, MSM/W, MSM-IDU).

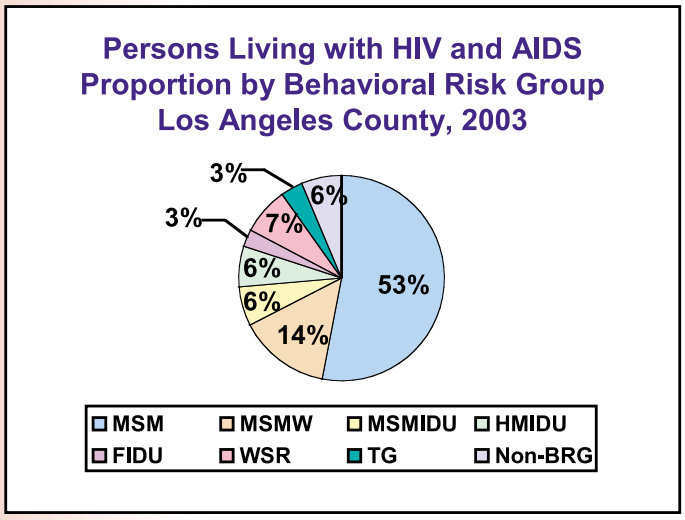

FIGURE 5.3

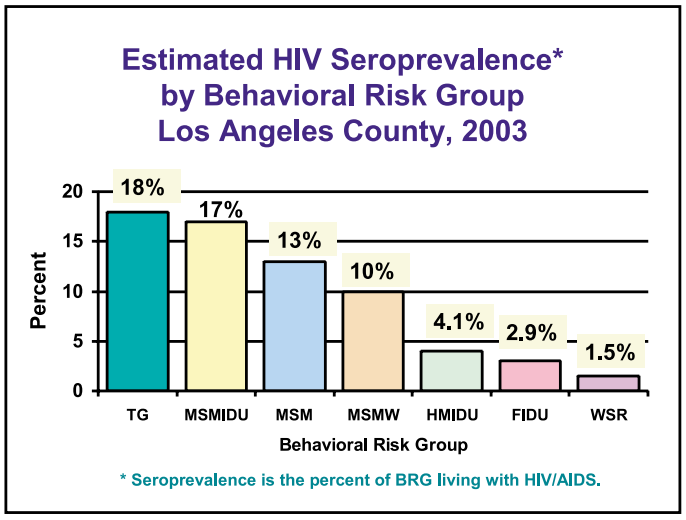

FIGURE 5.4

B. Estimated Rates of New HIV Infection by BRG

Eighteen community-based organizations in LAC offer state-funded anonymous and confidential HIV testing. Rates of seroconversion among repeat testers (testing positive following a previous negative HIV test) at these sites is given by BRG in Figure 5.5. The highest rate was seen among TG, MSM/IDU, followed by MSM and MSM/W. As shown in Figure 5.6, among MSM and MSM/W, Blacks and Latinos had significantly higher seroconversion rates than did Whites, while among WSR and FIDU, Blacks had higher rates than did either Latinas or Whites.

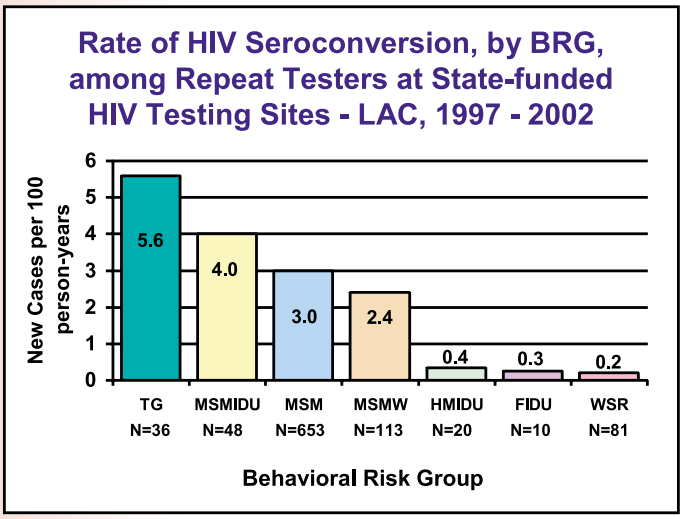

FIGURE 5.5

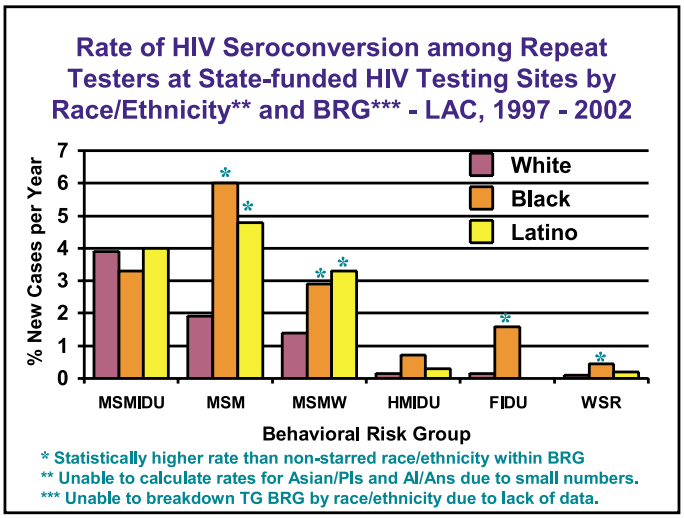

FIGURE 5.6

Table 5.1. Estimates of persons living with HIV/AIDS in LAC by Behavioral Risk Group* as of 12/31/2003.

BRG Race/ Ethnicity	Estimated Population for BRG	Estimated Number of PLWH/A in BRG	Proportion of PLWH/A In LAC	Estimated HIV Seroprevalence in Group*
MSM	**233,200**	**22,300**	**53.1%**	**12.8%**
White	83,100	8,800	20.9%	14.2%
Black	17,800	3,900	9.3%	28.9%
Latino	100,900	8,600	20.5%	11.4%
Asian/PI**	31,400	700	1.7%	3.1%
Other***	<100	300	0.7%	---
MSMW	**77,700**	**6,100**	**14.5%**	**10.4%**
White	18,300	1,600	3.8%	11.7%
Black	8,400	1,500	3.6%	23.8%
Latino	39,300	2,700	6.4%	9.3%
Asian/PI**	11,000	200	<0.5%	2.5%
Other***	700	100	<0.5%	---
MSM/IDU	**19,800**	**2,500**	**6.0%**	**17.1%**
White	6,700	1,200	2.9%	23.1%
Black	2,500	600	1.4%	32.1%
Latino	8,900	700	1.7%	10.3%
Asian/PI**	1,400	<100	<0.5%	5.7%
Other***	300	<50	<0.5%	---
HMIDU	**88,100**	**2,700**	**6.4%**	**4.1%**
White	30,500	600	1.4%	2.5%
Black	15,600	800	1.9%	7.2%
Latino	39,100	1,200	2.9%	4.0%
Asian/PI**	1,400	<100	<0.5%	5.6%
Other***	1,500	<50	<0.5%	---
FIDU	**58,100**	**1,300**	**3.1%**	**2.9%**
White	24,100	400	1.0%	2.0%
Black	9,800	500	1.2%	7.2%
Latino	22,200	300	0.7%	1.9%
Asian/PI**	500	<50	<0.5%	6.8%
Other***	1,500	<100	<0.5%	---
WSR	**267,100**	**3,100**	**7.4%**	**1.5%**
White	100,100	500	1.2%	0.6%
Black	33,600	1,000	2.4%	3.8%
Latino	101,300	1,500	3.6%	2.0%
Asian/PI**	29,200	100	<0.5%	0.3%
Other***	2,900	<50	<0.5%	---
TG ****	**10,000**	**1,400**	**3.3%**	**18%**
BRG Total	**754,000**	**39,300**	**93.6%**	**6.9%***
Non-BRG	9,254,000	2,700	6.4%	0.04%*
LAC Total	**10,008,000**	**42,000**	**100%**	**0.55%***

* Estimates in this column includes those persons unaware of their HIV infection (N=56,000).
** PI represents persons of Pacific Islander ancestry.
*** Other race/ethnicity includes American Indians and Alaskan Natives, as well as persons of mixed or unknown ancestry. HIV estimates were not shown for American Indians and Alaskan Natives due to small numbers.
**** Race/ethnicity data not available for transgendered persons.

C. Behavioral Risk Groups

Men Who Have Sex with Men (MSM)

Of the 233,200 men in LAC estimated to be having sex with other men and not injecting drugs, 43% are Latino, 36% White, 13% Asian, 8% Black, and 3%.

Evidence in the recent scientific literature suggests that sexually transmitted diseases (STD), most notably syphilis, are on the rise among MSM, especially among HIV-infected MSM [25]. There is concern that the presence of STDs increases the transmissibility of HIV. Also, there is concern that HIV-infected men are having unprotected sexual intercourse with men, which then facilitates the continued transmission of HIV or the superinfection of men already HIV infected. (See discussion of this topic in Section VII of the *Profile* on Syphilis-HIV co-morbidity.)

SHAS (Supplement to HIV/AIDS Surveillance)

In SHAS interviews from 2000 to 2003, MSM respondents living with AIDS were asked about both unprotected anal intercourse (UAI) and having 10 or more sexual partners in the last 12 months. As shown in Figure 5.7, the proportion of men who have sex with men in SHAS reporting UAI more than doubled from 11% in 2000 to 26% in 2003. Similarly, the number who reported having 10 or more sexual partners increased significantly from 11% in 2001 to 26% in 2003 [26].

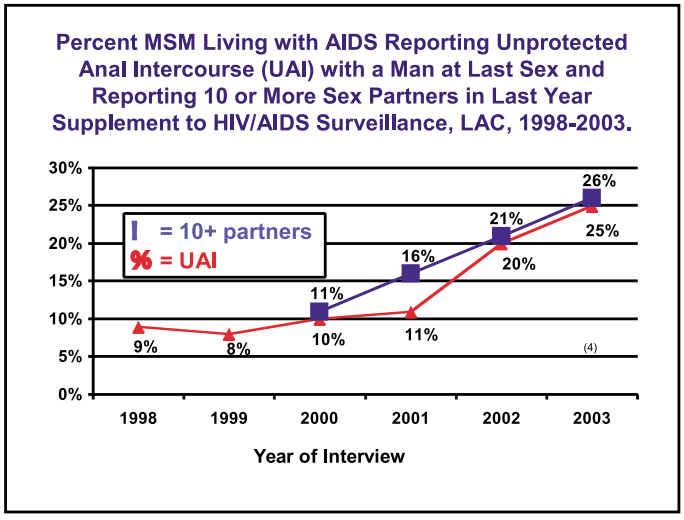

FIGURE 5.7

Men Who Have Sex With Men Who Also Inject Drugs (MSM/IDU)

MSM/IDU comprise an estimated 6% of all men who report having sex with men. Of the estimated 19,800 MSM injection drug users (MSM/IDU) thought to reside in LAC, 45% are Latino, 34% White, 13% Black, 6% Asian, and 1% mixed race and others. As this is the only BRG defined by more than one suspect mode of exposure, it is not surprising that MSM/IDU have among the highest estimated HIV seroprevalence and incidence rates of any BRG (Figures 5.4 and 5.5) and Black MSM/IDU have the highest seroprevalence of any socio-demographic group at 32% (Table 5.1).

As shown in "Comparison of Male Same Sex BRGs" below, compared with other men who have sex with men, MSM/IDU reported engaging in high-risk behaviors more frequently. One San Francisco study specifically targeting MSM/IDU in 2000 found both a very high seroprevalence (42%) and over a third of respondents reporting recent high-risk behaviors, such as unprotected anal sex and sharing needles [27]. Preliminary findings from another MSM-IDU-specific San Francisco study suggest an HIV seroprevalence of 25%, with 67% of participants having engaged in exchange sex - that is, sex for money, food, lodging, drugs, or the like - in the 6 months prior to interview [28].

Men Who Have Sex With Men and Women (MSM/W)

Overall, about 25% of men who reported having sex with men also reported having sex with women. Of the estimated 77,700 MSM/W thought to reside in LAC, 50% are Latino, 24% White, 14% Asian, 11% Black, and 1% mixed race and others. As presented in the HIV risk behavior studies below, MSM/W were consistently less likely to engage in risky behavior than were MSM or MSM/IDU. Estimates of HIV seroprevalence and rates of new HIV infection were also markedly lower among MSM/W, compared with either MSM or MSM/IDU (Figures 5.4 and 5.5).

Reported MSM/W behavior varies widely between race/ethnicities and between studies, and is highest among Black and Latino MSM [29]. In a recent study of HIV-infected heterosexual Black men conducted by HIV Epidemiology Program, 31% of self-identified heterosexual cases and 16% of HIV-negative heterosexual neighborhood controls reported having anal sex with men; further, 46% of HIV-positive self-identified heterosexual respondents reported "infrequent condom use" when having anal sex with women [30]. In another recent study of Latino men who have sex with men conducted by HIV Epidemiology Program (HEP), foreign-born Latinos were more likely than US-born to be married (12% vs. 3.2%; $p < 0.001$) and to have had sex with women as well as with men (27% vs. 21%; $p = 0.025$), but less likely to have tested for HIV (61% vs. 73%; $p < 0.001$) [31]. A recent HEP behavioral survey of Los Angeles MSM found a significantly higher level of self-reported bisexual behavior among younger men, age 18 - 29 years than among men age 30 and over (18% vs.11%; OR= 1.8; 95%CL= 1.2, 2.7) [32].

Heterosexual Male Injection Drug Users (HMIDU)

Of the estimated 88,100 heterosexual male injection drug users (HMIDU) thought to reside in LAC, 44% are Latino, 35% White, 18% Black, 2% Asian, and 2% mixed race. Men who report injection drug use and report only sex with women comprise 6% of all persons in LAC living with HIV/AIDS. HMIDU have only the fifth highest seroprevalence among BRGs (4.1%), yet Black HMIDU have an estimated 7% seroprevalence.

An HIV Epidemiology Program study conducted at LAC methadone treatment clinics found that, at least among male IDU, HIV infection was associated with the frequency of cleaning needles, frequency of injection, frequency of using unclean needles, number of people sharing a needle, and the frequency of needle sharing [33].

Female Injection Drug Users (FIDU)

Of the estimated 58,100 female injection drug users (FIDU) thought to reside in LAC, 41% are White, 38% Latino, 17% Black, 1% Asian, and 3% mixed race and others. Women who report injection drug use comprise about 3% of persons living with HIV and AIDS in LAC, and about one quarter of women living with HIV and AIDS. While overall, HIV seroprevalence is relatively low in this BRG, Black FIDU have a higher estimated seroprevalence of 7%.

As mentioned above, FIDU living with AIDS were more likely than any other BRG to have had an STD. In a recent local study of young injection drug users, FIDU reported more frequent needle sharing, more needle exchange use, and carrying clean syringes than did male IDU respondents [34]. A San Francisco study had similar findings, but also found FIDU to be more likely than males to report having been injected by a partner, having recent intercourse, and having a sexual partner who was also an IDU; in fact, the most significant risk factor for HIV infection among FIDU in this study was having an injection partner who was also a sexual partner [35]. A study of drug-using women-who-have-sex-with-women found that, in the 30 days prior to interview, over half of respondents had shared syringes and/or shared drug supplies and had also had sexual intercourse with men, over 70% of which was unprotected [36].

Women at Sexual Risk (WSR)

The greatest challenge in estimating the relative impact of HIV and AIDS on women in this BRG is identifying just which women are at risk. All agree that unprotected sex with multiple male sexual partners, a partner with HIV, a partner who also has sex with men, or an HIV-infected partner, puts a woman at risk for HIV. However, many women with HIV infection in LAC who reported being monogamous or married, have shown up in hospitals with AIDS having never suspected that they were at risk for HIV. This scenario was especially prevalent among Latinas, as shown in the SHAS section below.

Of the estimated 267,100 women at sexual risk (WSR) thought to reside in LAC, 38% are Latino, 37% White, 13% Black, 11% Asian, and 1% mixed race and others. Women who identified sexual intercourse with a man as their mode of exposure are estimated to comprise 7% of persons living with HIV and AIDS in LAC. Rates of new infection for repeat testers at state-funded counseling and testing sites were similarly low for WSR and FIDU (0.2% and 0.3% per year, respectively). WSR have the lowest estimated seroprevalence of any BRG (1.5%).

When distributed by race/ethnicity, Black and Latino women were estimated to have higher HIV seroprevalence than White or Asian women (see Table 5.1). One reason for this may be the higher degree of bisexual behavior reported by Black and Latino men (see MSM of Color in Section V).

In a recent study conducted at UCLA, HIV seropositivity in a community sample of HIV infected and uninfected women was found to be associated with unemployment, less education, the number of sexual partners, the number of sexually transmitted diseases, and a history of traumatic life experiences [37]. Young women who have older male sex partners have also been shown to be at risk for HIV [38].

SHAS (Supplement to HIV/AIDS Surveillance)

In SHAS interviews from 2000 to 2003, women at sexual risk (WSR) were less likely than FIDU to have engaged in unprotected receptive anal intercourse (2% vs. 8%, respectively), half as likely to ever have had an STD (34% vs. 64%), and much less likely to have had sex while high on alcohol or drugs (4% vs. 16%). Among non-injection drug using female respondents, Latinas were 4 times more likely than non-Latinas to have first tested positive for HIV while an inpatient in the hospital and twice as likely to have reported illness as the primary reason for being tested for HIV for the first time [39].

Transgendered Persons and Their Partners (TG)

Historically, transgendered women (male-to-female) and transgendered men (female-to-male) have been ignored in population enumerations - such as the US Census - and other population-based surveys - such as the HIV/AIDS Reporting System (HARS). And while the LAC HIV Epidemiology Program and the California Office of AIDS have been able to record male-to-female and female-to-male transgender as gender reporting options in HARS since July 2002, these data have yet to be evaluated for completeness and accuracy. For these reasons, the transgendered population and the impact of HIV and AIDS on this population must still be estimated. Finally, there is as yet no data available on the partners of transgendered persons.

The 2001 Consensus Meeting on HIV/AIDS Incidence and Prevalence estimated the transgendered population in LAC to be around 10,000 persons [40]. In local studies, the HIV seroprevalence for transgendered women ranged from 7% to 22%, while in local state-funded HIV testing sites, transgendered men (female-to-male transgender) had a much lower seroprevalence (2%). Overall, 17% of transgendered persons in LAC are estimated to be HIV-infected, including those with AIDS (see Table 5.1).

Although relatively little objective HIV risk information is available on this population [41], recent studies indicate that transgendered women continue to be at high risk for HIV [42]. An incidence of new HIV infections of 5.6% per year was found among transgendered women who received repeat HIV testing at state-funded counseling and testing sites in Los Angeles - higher than for any other socio-demographic group. At counseling and testing sites in San Francisco, an HIV seroconversion rate of 7.8% per year was found in transgendered women and a seroprevalence of 35% [43].

Los Angeles Transgender Health Study

Recent HEP analysis of data from the Los Angeles Transgender Health Study - a collaborative study with the Van Ness Recovery House [44] - demonstrated significant differences in risk behaviors between transgendered women for whom sex work was their primary source of income in the prior 6 months and those for whom it was not. Transgendered women for whom sex work was their primary source of recent income were more likely to report having engaged in receptive anal intercourse (98% vs. 65%), having had more than 10 sex partners in the last 6 months (83% vs. 11%), having had sex while high on drugs or alcohol (74% vs. 33%), and having used street-bought needles to inject hormones (84% vs. 57%; see Figure 5.8). Reported illicit drug use was infrequent among all study participants (less than 10%) and no difference was seen in sharing the needles and syringes used for injecting illicit drugs between groups based on source of income.

Table 5.2 illustrates the higher likelihood of being HIV-infected for older transgendered women whose primary source of income was exchange sex when compared with other older transgendered women and younger study participants. As such, younger transgendered women whose primary source of income is exchange sex, then, whose seroprevalence is relatively low, represent a subgroup who could be intensively targeted with HIV prevention messages and support services, because they are likely at very high risk of infection. Results from further analysis of this study will soon be published [45].

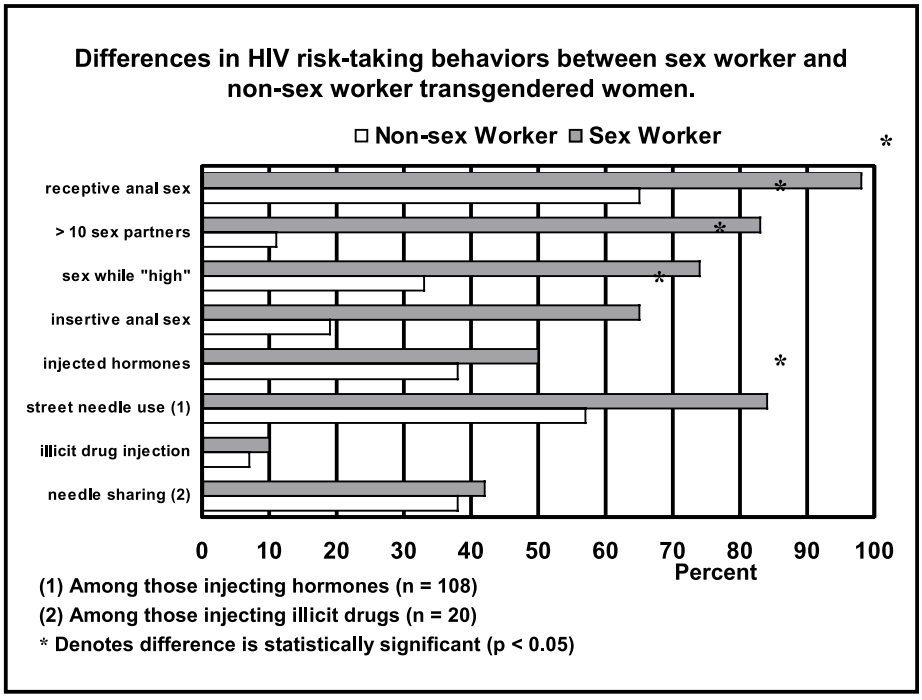

FIGURE 5.8

Table 5.2. Comparison of HIV seroprevalence among older and younger transgendered women by primary source of income = Exchange Sex — Los Angeles Transgender Health Study, 2001.	
Older (≥30 years) transgendered women whose primary source of income is exchange sex: **48%**	**Younger (18-29 years) transgendered women whose primary source of income is exchange sex:** **14%**
Other older transgendered women: **22%**	**Other younger transgendered women:** **13%**

D. Comparison of Male Same-Sex BRGs: MSM, MSM/W, MSM-IDU

Of the over 3 million adult males in LAC over the age of 15 years of age in LAC, an estimated 10% (n= 330,700) either identify as gay or bisexual and/or engage in sex with other men. Taken together, men who report having sex with men-including those who have also had sex with women (MSM/W) and/or have injected drugs (MSM/IDU) - continue to be the socio-demographic group most highly impacted by HIV in LAC, representing three out of every four persons living with HIV and AIDS. MSM (men who do not report having sex with women nor injecting drugs) is the BRG that comprises the largest portion of LAC cases (53%), while MSM/W comprise the second largest group (14%).

Aside from transgendered women, the BRGs with the highest estimated seroprevalence of HIV and AIDS were MSM/IDU (16%), MSM (13%) and MSM/W (8.4%; see Figure 5.4). Finally, as shown in Figure 5.5, rates of seroconversion among repeat testers (new infections) at state-funded testing sites in LAC were ten times higher for these three BRGs (2.4 - 4% per year) compared with the three non-MSM, non-transgender BRGs (0.2 - 0.4% per year).

What follows are some selected results from some local studies that have assessed the risk behaviors of men who reported having sex with men. A comparison of study results shows that, among men who have sex with men, MSM/IDU are most likely to engage in high-risk behaviors.

SHAS (Supplement to HIV/AIDS Surveillance)

In SHAS interviews from 2000 to 2003, the recent increases in both unprotected anal intercourse and number of partners among MSM, as seen in Figure 5.7, differed by BRG, with 12% of MSM/IDU reporting UAI (receptive and insertive), compared with 7% of MSM and none of the MSM/W. Similarly, while 14% of MSM/IDU reported having had 10 or more sex partners in the last 12 months, only 6% of MSM reported as much, and only 2% of MSM/W. Among other high-risk behaviors, a higher proportion of MSM/IDU (23%) reported being "high" on alcohol or drugs at last sexual intercourse than did either MSM (16%) or MSM/W (13%) and over half of MSM/IDU (57%), MSM (52%) and MSM/W (52%) reported ever having had an STD.

Los Angeles Bathhouse Study (HIV Incidence Study in Commercial Sex Venues)

In the Bathhouse Study, 50% MSM/IDU reported UAI in the last 6 months, compared with 38% of MSM and 25% of MSM/W. Also, the median number of reported total male sex partners in the previous 6 months ranged from 20 for MSM/IDU to 15 for MSM, to 11 for MSM/W. Finally, twice as many MSM/IDU reported ever having has an STD (79%) as did either MSM (40%) or MSM/W (34%).

Young Men's Survey II

A majority of young men, aged 23 to 29 years, who were interviewed about risk behaviors at gay-identified public venues reported having engaged in insertive UAI (72% of MSM/IDU, 59% of MSM, 58% of MSM/W) and receptive UAI (67% of MSM/IDU, 55% of MSM, 51% of MSM/W) in the 6 months prior to interview. The mean number of male sex partners in the last 6 months ranged from 14 for MSM/IDU to 9 for MSM/W to 6 for MSM. The proportion who ever had an STD was highest for MSM/IDU (44%), followed by MSM (28%) and MSM/W (18%). MSM/IDU were also nearly twice as likely to report being "high" on alcohol or drugs at last sex (50%) than either MSM/W (28%) or MSM (26%).

AIDS Project Los Angeles (APLA) Client Survey, 2001

In a recent APLA client survey, 54% of MSM/IDU, 25% of MSM, and 10% of MSM/W reported having UAI with a casual partner in the last 6 months [46]. During the same time period, 54% of MSM/IDU, 40% of MSM, and 19% of MSM/W reported having more than 6 casual sex partners. Having sex in a bathhouse was reported by 52% of MSM/IDU, 26% of MSM, and 16% of MSM/W. Exchanging sex for money, drugs, or food was reported by 22% of MSM/IDU, 6% of MSM, and 3% MSM/W. Finding a sex partner on the internet was reported by 30% of MSM/IDU, 17% of MSM, and 2% MSM/W. Finally, 81% of MSM/IDU, 43% of MSM, and 29% of MSM/W reported sometimes or always using drugs or alcohol during sex in the last 6 months.

E. Comparison of Injection Drug Risk Groups: MSM-IDU, HMIDU, FIDU

Taken together, MSM/IDU, heterosexual male (HMIDU) and female (FIDU) injection drug users represent 17% of persons living with HIV and AIDS in LAC. Of the estimated 130,000 injection drug users residing in LAC, about 19,800 (12%) are also MSM. Rates of new infection for repeat testers at state-funded counseling and testing sites were significantly higher for MSM/IDU (4% per year) than for either HMIDU (0.4% per year) or FIDU (0.3% per year).

SHAS (Supplement to HIV/AIDS Surveillance)

In SHAS interviews from 2000 to 2003, similarly smaller proportions of HMIDU (15%) and FIDU (16%) living with AIDS reported having been "high" on alcohol or drugs the last time they had sex, compared with MSM/IDU (23%). In the 12 months prior to interview, 64% of MSM/IDU, 42% of HMIDU, and 31% of FIDU reported using non-injection drugs. Only half of FIDU (52%) had ever enrolled in a drug treatment program, compared with 61% of HMIDU and 72% of MSM/IDU. FIDU were more likely than any other BRG to report ever having an STD (64%), followed by MSM/IDU (57%), and HMIDU (55%). Another high-risk behavior, unprotected receptive anal intercourse, was reported by 12% MSM/IDU, 8% of FIDU, and none of the HMIDU in the last 12 months.

F. American Indians and Alaskan Natives

Nationally, American Indians and Alaskan Natives (AI/AN) suffer with AIDS at a higher rate than any other race/ethnicity [47]. In LAC, 3.4 out of every 1,000 of AI/AN are living with AIDS, with the impact of the disease on this population second only Blacks (Figure 5.9). Eighty-five percent of AI/AN AIDS cases were among men. By mode of exposure, nearly three out of four AI/AN AIDS cases are among men who have sex with men (MSM), including those who also inject recreational drugs (MSM-IDU; Figure 5.10). Together, IDU and MSM-IDU accounted for 20% of AI/AN cases.

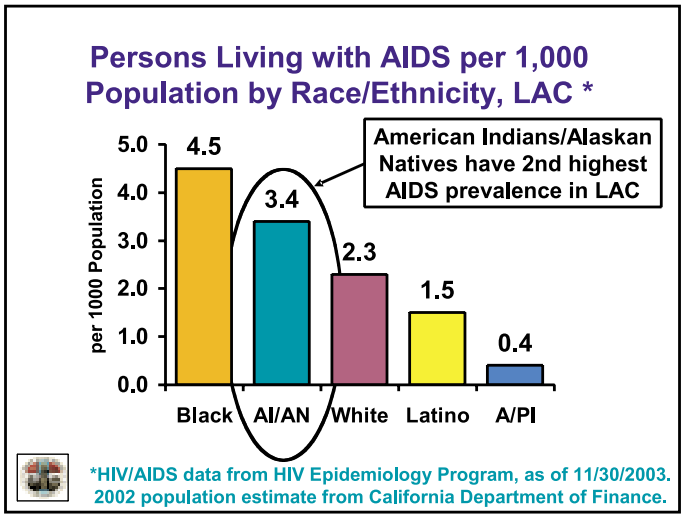

FIGURE 5.9

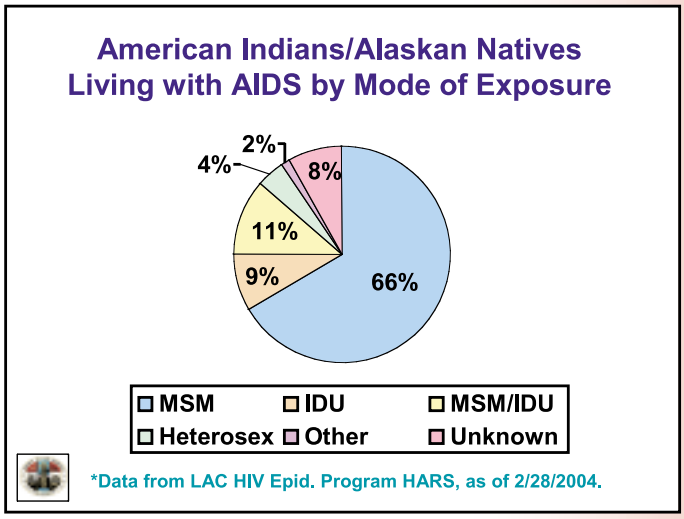

FIGURE 5.10

Of the approximately 30,000 American Indians and Alaskan Natives (AI/AN) living in Los Angeles County in 2002, the largest concentration live in SPA 2 (30%), followed by SPA 3 (18%), SPA 8 (17%), SPA 7 (15%), and SPA 4 (12%; see Figure 5.10). In contrast, of the 96 AI/AN estimated to be living with AIDS in LAC, the greatest number reside in SPA 4 (39%), followed by SPA 8 (24%), and SPA 2 (13%; see Figure 5.12).

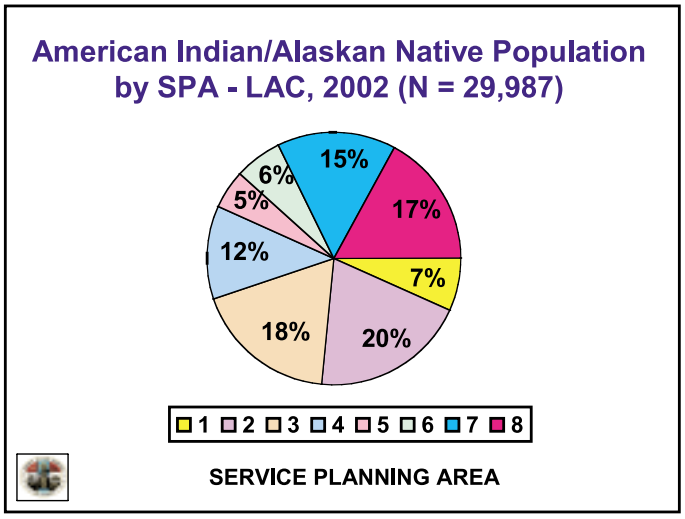

FIGURE 5.11

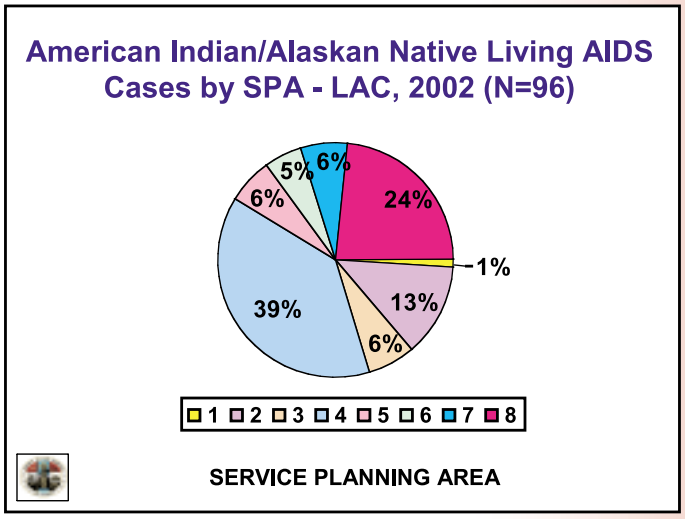

FIGURE 5.12

American Indian/Alaskan Native Validation Project of 2002

Because routine methods for ascertaining race/ethnicity information in the HIV/AIDS Reporting System (HARS) might lead to a pronounced underestimation of AI/AN living with AIDS due to racial misclassification, the HIV Epidemiology Program's core surveillance units undertook a study in conjunction with the US Indian Health Service (IHS) and CDC to validate race/ethnic data using the IHS database and the LAC Vital Records mortality database, and the Office of AIDS Programs and Policy's Ryan White CARE Act client database.

In HARS, AI/AN cases were misclassified in HARS as follows: 67% as White, 22% as Latino, 5% as African-American, 3% as Asian, and 3% as unknown. AIDS cases reported at private facilities were significantly more likely to have AI/AN misclassification (68%) than were those reported at public facilities (33%). After the correction of misclassified cases in HARS, the average annual AIDS rate for AI/AN increased 29% in HARS, from 2.1 to 2.7 per 1,000. When adjusted for misclassification based on all data sources, AI/AN cases increase even more to 3.1 per 1,000, a 48% increase. As of December 2003, the rate of AI/AN living with AIDS was 3.4 per 1,000 (Figure 5.9).

VI. Special Needs Population

The LAC Commission on HIV/AIDS Health Services (CHHS) has identified eleven populations with special HIV care and service needs. These include: MSM of Color; White MSM; Injection Drug Users; Non-injection Drug Users; Transgendered Persons and Their Partners; Recently Incarcerated; Chronically Mentally Ill; Homeless; Undocumented Immigrants; Women of Child-bearing Age; and Youth, aged 13 - 24 years. In this section, Epidemiologic data are presented for each group and are summarized in Table 6.1. Note, unlike Behavioral Risk Groups presented in Section V, these special needs populations are not mutually exclusive. Therefore, some persons may fit into more than one category. Methods for estimating the size of the population for each group are presented in Technical Note #5.

A. Transgendered Persons and Their Partners

This population is discussed in *Section V: Behavioral Risk Groups*.

B. MSM of Color

As of 2002, an estimated 8,300 MSM of Color - defined here as MSM of Black, Latino, American Indian/Alaskan Native, or Asian/Pacific Islander race/ethnicity - were reported living with AIDS in LAC. Seroprevalence estimates for this group varied from 6% of MSM of Color who tested in state-funded counseling and testing sites, to 7% of those testing at STD clinics, to 20% in mostly Latino and Black MSM in the Young Men's Survey II. Seroprevalence for MSM of Color used in the *Profile*, 10%, was based on these and other data.

In data from repeat testers at state-funded counseling and testing sites in LAC from 1995 through 2002, MSM of Color - specifically, Black, Latino, and American Indian MSM - had the highest rates of new positive tests (4-5% per year) of any demographic group other than transgendered women. Asian/PI MSM, on the other hand, had the lowest rate (2%).

One reason for the higher seroprevalence among Black MSM, as well as the lower seroprevalence among Asian/PI MSM, may be their choice of sexual partners. A study of Asian MSM postulates that, while Asian/Pacific Islander MSM engage in relatively high rates of unprotected anal intercourse, they are doing so predominantly with other Asian/Pacific Islanders, who have a relatively lower prevalence of HIV [48]. Partner characteristics of Black MSM are discussed in the YMS section below. From another recent study in LAC, other factors associated with an increased high-risk behavior among Black MSM included lower socioeconomic status, older age, having sex with both men and women, and having significant "psychological distress" [49].

One local study suggests that prevention efforts targeting gay and bisexual men may not be reaching many Latino and Black men who, while engaging in sex with other men, do not identify as gay or bisexual; reasons postulated for this "nondisclosure" include fear of discrimination, stigma, and marginalization - from families, from communities of color, and from the White gay community [51]. Also, in many studies, MSM of Color were more likely than White MSM to report having sex with women; this can lead to HIV transmission to women of color who are unaware of their risk [29].

Young Men's Survey II

In the second YMS, young men aged 23 to 29 years were interviewed at public venues between 1999 and 2000. Young Black men were found to have engaged in similar or fewer risk behaviors than did young White men, yet had 7 times the odds of being HIV-infected [50]. The authors postulated that having older and mainly Black partners - that is, partners with a higher likelihood of being HIV-infected - may place these young Black men at increased risk for HIV.

Los Angeles Men's Survey (LMS)

National HIV Behavioral Surveillance is an interviewer-administered survey measuring HIV-related risk behaviors among high-risk groups. The first survey, Los Angeles Men's Survey, was conducted from 2003 - 2004 and included men who have sex with men (MSM). Preliminary results from this survey indicate that about 10% of MSM of Color self-reported being HIV-infected, half of whom (53%) reported having had unprotected anal intercourse in the last year. Only 3% of MSM of Color reported ever having injected drugs.

C. White MSM

As of 2002, an estimated 6,100 White MSM were reported living with AIDS in LAC. Seroprevalence estimates for this group varied from 3% who tested in state-funded counseling and testing sites and STD clinics to 14% in the Urban Men's Health Study. The seroprevalence rate for White MSM, 9.5%, used in the *Profile* is based on these and other data.

While the number of White MSM diagnosed with AIDS each year continues to decrease, recent statistics from CDC showed a 17% increase in newly reported HIV infections among MSM, in general, and an 8% increase among White MSM. While LAC was not included in this data, there is reason to believe that White MSM in LAC - both HIV-infected and non-infected - are increasingly engaging in the high-risk behaviors that can transmit HIV.

Supplement to HIV/AIDS Surveillance Project (SHAS)

In SHAS interviews from 2000 to 2003, MSM respondents living with AIDS were asked about both unprotected anal intercourse (UAI) and having 10 or more sexual partners in the last 12 months. Preliminary analysis reveals that White MSM were twice as likely as other racial/ethnic groups to report 10 or more partners (OR= 2.1; 95%CL= 1.1, 4.1) and to engage in unprotected anal intercourse (OR= 2.2; 95%CL= 1.1,4.3).

Los Angeles Men's Survey (LMS)

National HIV Behavioral Surveillance is an interviewer-administered survey measuring HIV-related risk behaviors among high-risk groups. The first survey, Los Angeles Men's Survey, was conducted from 2003 - 2004 and included men who have sex with men (MSM). Preliminary results from this survey indicate that about 15% of White MSM self-reported being HIV-infected, two-thirds of whom (66%) reported having had unprotected anal intercourse in the last year. White MSM were three times more likely than MSM of Color to report ever injecting recreational drugs (10% vs. 3%; OR=3.3; 95%CL= 1.9, 5.9) and nearly twice as likely to have found their most recent casual sex partner via the Internet (18% vs. 11%; OR=1.8; 95%CL= 1.1, 2.3).

STD Program

In the LAC *Early Syphilis Surveillance Summary* of January 15, 2004, the number of early syphilis cases reported in LAC for 2003 remained high (n=720). MSM (including MSM/W) accounted for 65% of all cases (n=470), with Whites accounting for 53% of MSM cases. Among newly reported MSM syphilis cases, 57% were co-infected with HIV.There is concern that these statistics point to at least a subgroup of White MSM who continue to engage in high-risk behaviors that are known to transmit HIV. (See discussion of this topic in Section VII on Syphilis-HIV co-morbidity.)

D. Homeless and Unstably Housed Persons

As of 2002, 3,300 homeless persons were estimated to be living with AIDS in LAC. HIV seroprevalence estimates for this group varied from 1.4% in a recent study of LAC shelter and street persons [52], to 3.7% in an HEP study of downtown Los Angeles' "skid row" residents, to 5.4% of homeless persons who tested in state-funded counseling and testing sites. The seroprevalence of 3.5% for homeless persons used in the *Profile* was based on these data.

Little else has been published on homeless persons with HIV and AIDS in LAC. A recent study of homeless women in LAC found that 68% of these women reported having been tested for HIV, including 75% of those who had risk factors for HIV [53]. Of women tested, 1.6% reported testing positive for HIV.

Project One: Low-income-hotel-based Study of HIV Incidence (Hotel Study)

The HIV Epidemiology Program (HEP) recently conducted a study of 1,098 mostly Black (70%) "skid row" residents who lived in single occupancy hotel rooms or other low income housing and who identified themselves either as HIV-negative or of unknown HIV status. Preliminary results found evidence of unidentified HIV infection among 1.6% of all study participants who had not previously tested positive for HIV. All but 1 of the 18 participants newly diagnosed as HIV-infected were Black. HIV seroprevalence was 2.1% for previously undiagnosed Black women, 2.3% for all Black men, 17% for Black MSM, 4.1% for Black men and women who exchanged sex for drugs or money, and 3.3% for Black men who reported having recently paid for sex. (See also "HIV Incidence Studies" in Section III).

E. Persons Who Inject Drugs

As of 2002, about 2,800 persons living with AIDS were reported with injection drug use (IDU) as the mode of HIV exposure in LAC. Seroprevalence estimates for this group varied from 1.3% of injection drug users tested in state-funded counseling and testing sites to 5.5% for injection drug users (IDU) who participated in the Collaborative Intravenous Drug Users Study (CIDUS) [54]. The seroprevalence of 3.7% for IDU used in the *Profile* was based on these and other data.

In LAC, 17% of recently reported AIDS cases were among IDU; this is substantially lower than the over 40% of HIV and AIDS cases in both metropolitan and rural areas of the Northeastern US attributable to IDU [55]. Similar regional differences were seen in a study of HIV in IDU in six US cities, in which 3 - 5% of IDU in Western cities were infected with HIV compared with 28 - 29% in Northeastern cities [56]. One explanation postulated for the lower infection rates is the common use of black tar heroin on the West Coast compared with white powder heroin more commonly used in the East [57]. Black tar heroin is gummy, so needles and syringes need to be "cleaned thoroughly" between uses. Black tar heroin also must be "cooked" at higher temperatures which may kill the HIV virus. Also, because tar causes veins to collapse and scar more quickly, users are more likely to inject it into muscles and subcutaneous tissue, which may pose a lesser risk of HIV transmission than intravenous injection [57]. (For more discussion of IDU, see Section IV: Behavioral Risk Groups.)

F. Recently Incarcerated Persons

As of 2002, there were an estimated 1,500 county residents living with AIDS who have been recently incarcerated in federal, state, or county jail or prison in LAC in the last 12 months. The California Department of Corrections and the Los Angeles Sheriff's Department estimates a seroprevalence rate of 2.4% for incarcerated men, 3.2% for women and 3% for incarcerated IDU. The *Profile* identifies a seroprevalence of 2.7% for recently incarcerated persons based on these and other data.

A recent survey of men who have sex with men who were kept segregated in LAC's Men's Central Jail found a 12% HIV seroprevalence [58]. Another recent study showed, that among recently incarcerated Black men, more anal intercourse was reported outside the jail setting (45%) than within jail (16%) and that there was no association between HIV transmission and either anal sex or injection drug use in jail; in fact, the study found that the longer one spent incarcerated, the less likely one was to be HIV-infected [59].

Project One: Jail Study of HIV Incidence

HIV Epidemiology Program conducted a study to assess new HIV infections among persons recently incarcerated in LA county jails who reside in SPA 4 and SPA 6. Preliminary analysis found an HIV seroprevalence of 1.8% among 1,447 male and female participants who did not know their HIV status. The seroprevalence for men was 2.4% and 1.1% for women. Among men, HIV seroprevalence was 9.8% for MSM and 0.6% for non-MSM. (see also "HIV Incidence Studies" in Section III).

G. Persons Who Use Non-injection Drugs

As of 2002, 1,100 non-injection drug users (not including alcohol) were estimated to be living with AIDS in LAC. The California Department of Health Services estimates that 2.3% of the state's population use illicit non-injection drugs. The only estimate of HIV seroprevalence for non-injection drug users in LAC comes from state-funded counseling and testing sites, in which 1.5% were positive.

While the prevalence of HIV is relatively low among illicit non-injection drug users, being high on drugs or alcohol while having sex has been associated with an increase in high-risk behaviors that can transmit HIV, such as unprotected anal intercourse [60], and is associated with an increased likelihood of getting infected (see also YMS results below). The Urban Men's Health Study found that a majority of urban MSM, from Los Angeles and three other cities, engaged in both alcohol and recreational drug use [61]. Recent articles in the *New York Times* [62] and the *Miami Herald* [63] conclude that recent infections were caused by risky sexual behaviors associated with the use of "crystal meth" (see also YMS results below). Even among heterosexuals, the association between having sex while under the influence of drugs or alcohol shows an increased probability of HIV infection. For example, one San Francisco study found a much higher HIV seroprevalence among heterosexuals in alcohol treatment than among similar community-based heterosexuals [64]. Also, a recent local study found alcohol use among HIV-infected patients to be twice that of the general population [65].

Young Men's Survey II (YMS)

Phase two of YMS revealed that, among MSM aged 23 - 29 years, the 51% of participants who reported having intercourse while high on non-injection drugs were twice as likely to have tested positive for HIV than those who did not engage in drug use when having sex (OR=2.1; 95%CL= 1.1, 4.1). Also, the 13% of participants who reported having intercourse while high on non-injection "crystal" in the prior 6 months were nearly 3 times more likely to have tested positive for HIV than those who did not use drugs when having sex (OR=2.8; 95%CL= 1.4, 5.7).

Los Angeles Men's Survey (LMS)

National HIV Behavioral Surveillance is an interviewer-administered survey measuring HIV-related risk behaviors among high-risk groups. The first survey, Los Angeles Men's Survey, was conducted from 2003 - 2004 and included adult men who have sex with men (MSM). Among study participants, 12% reported using "crystal meth" in the 12 months prior to interview. These recent crystal users were nearly 4 times as likely as non-crystal users to report being HIV-infected (OR= 4.1; 95%CL= 2.7, 6.3) and over twice as likely to report having engaged in unprotected anal intercourse in the past 12 months (OR= 2.5; 95%CL= 1.7, 3.6). Other non-IDU drugs reportedly used by participants in the 12 months prior to interview included: marijuana (30%), cocaine (12%), ecstasy (9%), GHB or ketamine (4%), and "crack" cocaine (2%) [32].

H. Persons with Serious Mental Illness

As of 2002, 1,100 seriously mentally ill persons were estimated to be living with AIDS in LAC. Seroprevalence estimates for this demographic group varied from 0.75% by the LAC Mental Health Department to 1.1% among seriously mentally ill persons tested in a 1997 LAC-based study. The HIV seroprevalence for seriously mentally ill used in the *Profile*, 0.9%, was based on these data.

In contrast to the low HIV seroprevalence among persons with serious mental illness, less serious mental illness was found to be very prevalent among adults receiving HIV care services in the US, with nearly half of those screened found to have depression, dysthymia, generalized anxiety disorders, or panic attacks [66]. In a study of urban MSM, an association was found between psychosocial disorders, high-risk behaviors, and high prevalence of HIV infection [67]. Further, co-morbidity with substance abuse and psychiatric illness was found to be prevalent among HIV-positive persons and MSM in Los Angeles [68, 69].

I. Women of Childbearing Age

As of 2002, 1,500 women of childbearing age, aged 15 - 49 years, were reported living with AIDS in LAC. Seroprevalence estimates for this demographic group varied from 0.1% in a 1995 LAC Survey of Childbearing Women to 0.5% among women tested in state-funded counseling and testing sites. The seroprevalence of 0.2% for women of childbearing age used in the *Profile* was based on these and other data. For further discussion, see "Women at Sexual Risk" and "Female Injection Drug Users" in *Section VI: Behavioral Risk Groups.*

J. Youth, Age 13 - 24 Years

As of 2002, 200 youth, between 13 and 24 years old, were reported living with AIDS in LAC. Other than those infected at or around birth, youth infected with HIV are less likely than older persons to have progressed to AIDS. In Colorado, which has been reporting HIV infections for many years, there are 8 times as many youth reported with (non-AIDS) HIV than with AIDS. In LAC, seroprevalence in youth tested in state-funded counseling and testing sites was 0.8%, compared with 0.2% for those youth testing at STD clinics. The 0.1% seroprevalence for youth in the *Profile* was lower than that for either site and is based on these and other data.

"Runaway" youth have been found to be much more likely to be HIV infected than other youth populations [70]. Compared with San Diego, Los Angeles youth were nearly twice as likely to have been tested for HIV, with 78% reported having been tested. [71]. In the most recent study of incarcerated youth in Los Angeles, HIV infection was rarely found, even though 96% reported being sexually active, and the vast majority were not using a condom consistently [72]. Preliminary results of some recent studies found that 25% of youth at one drop-in center in San Diego reported engaging in sex while high on drugs or alcohol [73] and that young Latino males have more sex partners than other youth, have higher anxiety about getting tested for HIV, and are less likely to test for HIV [74].

Los Angeles Men's Survey (LMS)

National HIV Behavioral Surveillance is an interviewer-administered survey measuring HIV-related risk behaviors among high-risk groups. The first survey, Los Angeles Men's Survey, was conducted from 2003 - 2004 and included adult men who have sex with men (MSM). Preliminary results from this survey indicate that 15% of MSM youth, age 18 - 24 years, reported having had sex with both men and women in the 12 months prior to interview compared with only 10% of older participants. Younger participants were one-tenth as likely as older participants to report being HIV-infected (2% vs. 14%; OR=0.1; 95%CI=0.03, 0.3). Few surveyed youth reported having injected drugs in the prior 12 months (2%).

K. Undocumented Immigrants

As of 2002, 800 undocumented immigrants were estimated to be living with AIDS in LAC. There is evidence that foreign-born clients at LAC STD clinics have HIV seroprevalence rates similar to their US-born counterparts (1.6% vs. 1.8%, respectively) [75]. The seroprevalence for undocumented immigrants (0.3%) was based on a weighted average of the seroprevalence of racial/ethnic populations believed to make up the great bulk of undocumented immigrants - that is Latinos and Asians.

In a recent HIV Epidemiology Program analysis, foreign-born immigrants with HIV tended to have come to the United States at a relatively young age and were most likely to be infected after immigration [75]. Another study found that 44% of illegal immigrants attending LAC STD clinics had no access to alternative medical care [76].

Table 6.1 Summary of HIV and AIDS Estimates for Selected Populations – LAC, as of December 2003.

Category	Estimated Population Size	Estimated No. Persons Living with AIDS	Estimated No. Persons Living with HIV & AIDS	Estimated HIV Seroprevalence (includes AIDS)*
Transgendered persons	10,000	550	1,700	17%
MSM of Color	222,000	8,300	23,000	10%
White MSM	108,000	6,100	10,300	9.5%
Homeless and Unstably Housed	236,000	3,300	8,300	3.5%
Injection Drug Users	166,000	2,800	6,100	3.7%
Recently Incarcerated	165,000	1,500	4,400	2.7%
Non-injection Drug Users	219,000	1,100	3,300	1.5%
Serious Mental Illness	343,000	1,100	3,200	0.9%
Women of Childbearing Age	2,449,000	1,500	4,900	0.2%
Youth, age 13-24 yrs	1,560,000	220	2,100	0.1%
Undocumented Immigrants	733,000	800	2,500	0.3%

* For estimated percent (%) of population infected with non-AIDS HIV only, subtract number in 2nd column from number in 3rd column, divide by population in 1st column, and multiply by 100.

VII. Co-Morbid Communicable Deseases

A. Tuberculosis

Tuberculosis disease (TB) is one of the opportunistic infections that identifies an HIV-infected person as being diagnosed with AIDS. HIV has been characterized as the most significant risk factor for progression of latent *Mycobacterium tuberculosis* infection to active TB [77]. While approximately 10% of persons infected with *M. tuberculosis* will develop active TB in their lifetimes, about 50% of all persons compromised by HIV infection will develop active TB [78]. Not only does infection with HIV increase a person's susceptibility for becoming infected with *M. tuberculosis* and progression to active TB disease, TB has detrimental effects on the course of HIV disease as well; the risk of death in an HIV-infected person with TB is twice that of an HIV-infected person without TB, even with similar CD4 cell counts [79].

Statistics from the 2002 LAC Tuberculosis Control Program show a decreasing trend in the number of annual TB cases - from 1,299 in 1998 to 1,025 in 2002. Among active TB cases who had an HIV test performed, a decreasing trend was also seen in the proportion that tested positive for HIV - from 15% in 1998 to 11% in 2002. TB cases reported during this 5-year period were predominantly male (62%), Latino (46%) or Asian/Pacific Islander (33%), and 45 years of age or older (53%). Asian/Pacific Islanders were the most impacted racial/ethnic group in 2002, with an active TB incidence rate of 30 new diagnoses for every 100,000 population, followed by Blacks (12 per 100,000) and Latinos (11 per 100,000); Whites were the least impacted with 2.5 new diagnoses per 100,000.

Compared with Whites, Black TB cases had twice the odds of being co-infected with HIV, while Asian/Pacific Islander TB cases had only one-tenth the odds (Table 7.1). Compared to male cases, female TB cases had one-fifth the odds of being co-infected with HIV. The age group most likely to be co-infected with HIV was that of persons age 30 - 39 years, with 15 times the odds of infection compared with cases older than 60 years of age.

HIV/AIDS Reporting System (HARS)

Overall, 5.5% of AIDS cases reported in HARS also had TB. White AIDS cases had the lowest prevalence of TB (2.3%), while American Indian/Alaskan Natives, Latinos, Asian/Pacific Islanders, and Blacks had 1.7 - 4.6 times greater odds of having have had TB than Whites (Table 7.2). Female AIDS cases had a 20% increased odds of having had active TB than did male cases (6.5% versus 5.4%). There was little difference in TB co-morbidity between age groups. By mode of exposure, male AIDS cases who reported sex with men (MSM) as their exposure for HIV had the lowest prevalence of TB (4%), while those exposed to HIV through injection drug use (IDU) had 3 times as much active TB (12.4%), and MSM-IDU twice as much (9.3%), as MSM cases. Lastly, foreign-born AIDS cases had more than twice the odds of having had TB than did US-born cases (9.9% versus 4.4%).

Table 7.1. Number, percent, and unadjusted odds ratios of HIV-TB co-infection among active tuberculosis (TB) cases, by demographic variables, Los Angeles County, 1998-2002.[1]

Demographic	Active TB Cases		TB-HIV Co-infection		Odds of TB-HIV Co-infection [2]
	Number	Percent	Number	Percent	
Gender [3]					
Male	3,471	62	394	84	Referent
Female	2,124	38	62	16	**0.2 (0.2, 0.3)**
Race/Ethnicity					
White	510	9.1	50	11	Referent
Asian/Pacific Isl.	1,862	33	21	4.6	**0.1 (0.1, 0.2)**
Latino	2,570	46	270	59	1.1 (0.8, 1.5)
Black	653	12	115	25	**2.0 (1.4, 2.9)**
American Indian	10	0.2	--- [4]	--- [4]	--- [4]
Age Group					
<13 years	270	4.8	2	0.4	0.4 (0.1, 1.8)
13-19 years	208	3.7	0	0.0	0.0 (0.0, 1.4)
20-29 years	786	14	49	11	**3.9 (2.4, 6.5)**
30-39 years	871	16	175	38	**15 (9.7, 23)**
40-49 years	1,028	18	144	32	**9.7 (6.2, 15)**
50-59 years	813	15	59	13	**4.7 (2.9, 7.7)**
60+ years	1,629	29	27	5.9	Referent
TOTAL	5,605	100	456	100	

[1] Data provided by the Epidemiology Unit of the LAC TB Control Program excludes the cities of Pasadena and Long Beach.
[2] Odds ratio followed by 95% confidence limits in parentheses (see Technical Note #6).
[3] Total does not include 10 American Indian active TB cases.
[4] Not enough information provided for analysis.

Table 7.2. Number, percent, and unadjusted odds ratios of HIV-TB co-infection among AIDS cases, by demographic variables, as reported in Los Angeles County HARS.[1]

Demographic	Total Number of AIDS Cases	Number of AIDS Cases with TB	Percent with TB	Odds Ratio [2]
Gender				
Male	44,162	2,397	5.4	Referent
Female	3,782	245	6.5	**1.2 (1.1, 1.4)**
Race/Ethnicity				
White	22,622	531	2.3	Referent
Latino	14,187	1,208	8.5	**3.9 (3.5, 4.3)**
Asian/PI	1,021	82	8.0	**3.6 (2.8, 4.7)**
Black	9,778	794	8.1	**1.7 (1.5, 1.9)**
AI/AN	200	20	10	**4.6 (2.8, 7.5)**
Other	136	7	5.1	**---**
Age Group				
<13 years	246	4	1.6	**---**
13-19 years	225	15	6.7	1.3 (0.7, 2.2)
20-29 years	7,760	512	6.6	1.3 (1.1, 1.4)
30-39 years	21,281	1,137	5.3	Referent
40-49 years	12,473	649	5.2	1.0 (0.9, 1.1)
50-59 years	4,428	241	5.4	1.0 (0.9, 1.2)
60+ years	1,531	84	5.5	1.0 (0.8, 1.3)
Exposure Mode				
MSM [3]	33,379	1,320	4.0	Referent
IDU [3]	3,363	418	12	**3.5 (3.1, 3.9)**
MSM-IDU	3,103	290	9.3	**2.5 (2.2, 2.9)**
Heterosexual	2,410	124	5.1	**1.3 (1.1, 1.6)**
Hemophilia	187	7	3.7	**---**
Transfusion	624	33	5.3	1.4 (0.9, 2.0)
Other	4,878	450	9.2	2.5 (2.2, 2.8)
Place of Birth				
US-born	31,917	1,408	4.4	Referent
Foreign-born	11,182	1,111	9.9	**2.4 (2.2, 2.6)**
Unknown	4,845	123	2.5	**---**
TOTAL	47,944	2,642	5.5	

[1] HARS is the HIV/AIDS Reporting System of the LAC; reported as of February 29, 2004.
[2] Odds ratio followed by 95% confidence limits in parentheses. Statistically significant differences given in bold; "**---**" denotes inability to calculate valid confidence limits (see Technical Note #6).
[3] MSM = men who have sex with men; IDU = injection drug use.

B. Sexually Transmitted Diseases

Many sexually transmitted diseases (STDs) can facilitate the transmission of HIV. Those that cause an open ulcer on the genitalia - such as syphilis, herpes, and chancroid - as well as those that do not - such as gonorrhea, chlamydia, and trichomoniasis - decrease the protective mucosal/skin barrier and/or increase HIV viral shedding and thereby increase the odds of transmission by 2 to 5 fold [80]. Some STDs are also markers of unprotected sexual intercourse - such as syphilis, gonorrhea, and chlamydia.

Finally, there are some infections not commonly considered STDs that nonetheless may be transmitted between sexual partners; examples include "Hepatitis A" and shigellosis - both spread via the fecal-oral route - and *Staphylococcus* skin infections - spread via skin-to-skin contact. Small outbreaks of, and increased risk for, these diseases have been reported among MSM in recent years, according to the LAC Acute Communicable Disease Control Unit.

In LAC, diseases reportable to STD Program include syphilis, gonorrhea, and chlamydia. Unless otherwise noted, the following data have been abstracted and/or summarized from LAC's *Sexually Transmitted Disease Morbidity Report 1998 - 2002*.

Chlamydia

In LAC, chlamydial infections increased 40%, from 275 cases per 100,000 population in 1998 to 386 per 100,000 in 2002. LAC chlamydial rates for 2002 were 23% higher than the rate in California (313 per 100,000) and 30% higher than the US rate (297 per 100,000) for the same year. The highest chlamydial rates by demographic classification include women, youth (age 15 - 24 years), Blacks, and residents of SPA 6 (Table 7.3).

Gonorrhea

From 1998 to 2002, gonorrhea rates have decreased slightly, from 132 to 125 per 100,000. For 2002, LAC gonorrhea rates were 49% higher than that for California (84 per 100,000) and 79% higher than the US rate (70 per 100,000). In LAC, the highest number of gonorrhea case reports was among men, youth (age 15 - 24 years), Blacks, and residents of SPA 6 (Table 7.3).

Syphilis

Recently reported syphilis case rates in LAC have nearly quadrupled, from 1.0 per 100,000 in 1999 to 3.9 per 100,000 in 2002. Once lower than US rates, the 2002 LAC syphilis rate was 63% higher than that of the US and 30% higher than the California rate. Unlike chlamydia and gonorrhea, the highest syphilis rates were seen among adults aged 35 - 44 years, Whites, and residents of SPA 4 (Table 7.3).

In 2002, men had 19 times the rate of "early syphilis" - that is, primary, secondary, and early latent cases - than did women (95 vs. 5 per 100,000). From 1998 to 2002, the syphilis rate in White men increased 17 fold, from 0.7 to nearly 12 per 100,000. This recent increase of early syphilis seen in LAC was first recognized in 2000 as an outbreak among men who have sex with men (MSM) throughout Southern California [81]. This, in turn, prompted a multifaceted outbreak response lead by LAC STD Program that included a media campaign ("Stop the Sores"), increased provider awareness and community outreach, and initiated studies targeting incarcerated transmission and internet partner notification [82].

A decline in new syphilis cases has yet to be realized. In STD Program's January 2004 issue of Early Syphilis Surveillance Summary, the number of reported early syphilis cases rose from 371 cases in 2002 to 398 cases in 2003. A similar trend was seen for California, with 1,797 early syphilis cases reported in 2002 and 1,991 cases for 2003 [83].

Of syphilis cases reported in LAC for 2003, 90% were male, three-quarters of the cases were either White (41%) or Latino (36%), and 58% were aged 30 - 44 years. Men who have sex with men (MSM) accounted for about a third of all cases in 2000 to over two-thirds of cases in 2002 - 2003 (Figure 7.1). In 2003, over half of syphilis cases among MSM were also HIV-infected, two-thirds (67%) reported having anonymous sex, and only one-quarter 25% reported use of a condom during sexual intercourse.

Public health implications of the recent early syphilis outbreak in LAC among MSM, half of whom are HIV-infected and half HIV-uninfected, are unclear. The rise in syphilis was not accompanied by a concomitant increase in new HIV cases at STD clinics during this period [84]. Some believe that these men may be engaging in sexual intercourse exclusively with "seroconcordant partners" - that is, sex between two infected men or between two uninfected men [85] - and one study has found evidence for this [86].

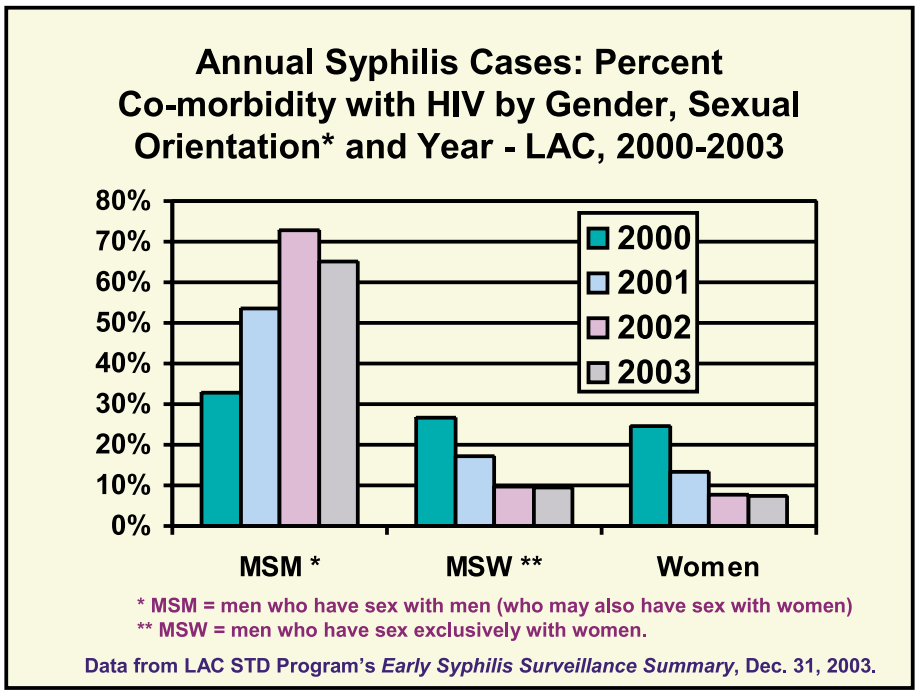

FIGURE 7.1

Table 7.3. Comparison of selected sexually transmitted diseases by demographic subgroup and Service Planning Area (SPA), Los Angeles County, 2002.[1]

Demographic	Chlamydia			Gonorrhea			Syphilis		
	No.	%	Rate[2]	No.	%	Rate[2]	No.	%	Rate[2]
Gender and Race/Ethnicity									
Male	**9,949**	**28**	**218**	**4,366**	**56**	**96**	**346**	**95**	**7.6**
White	763	7.7	78	646	15	63	168	49	12
Black	2,212	22	795	1,589	36	545	45	13	12
Latino	3,578	36	241	832	19	42	108	31	5.2
Asian-Pacific Isle	294	3.0	74	82	1.9	20	13	3.8	2.3
Other[3]	33	0.3	---	14	0.3	---	<5	--	---
Female	**25,691**	**72**	**547**	**3,420**	**44**	**73**	**18**	**4.9**	**0.4**
White	1,461	5.7	148	227	6.6	21	<5	--	---
Black	4,569	18	1,436	1,507	44	435	11	61	2.4
Latina	10,587	41	723	733	21	46	6	33	0.3
Asian-Pacific Isle	919	3.6	211	61	1.8	13	<5	--	---
Other[3]	105	0.4	---	28	0.8	---	<5	--	---
Age Group									
<15 years	446	1.2	21	86	1.1	3.9	1	0.3	0.0
15-19 years	9,729	27	1,397	1,620	21	233	6	1.6	0.9
20-24 years	11,709	33	1,785	1,971	25	300	29	8.0	4.4
25-29 years	6,488	18	943	1,308	17	190	41	11	6.0
30-34 years	3,483	9.8	464	963	12	128	70	19	9.3
35-44 years	2,725	7.6	191	1,292	17	90	150	41	11
45-54 years	669	1.9	58	386	4.9	34	57	16	5.0
55-64 years	105	0.3	15	62	0.8	8.7	6	1.6	0.8
60+ years	47	0.1	4.8	22	0.3	2.2	3	0.8	0.3
SPA									
Antelope Valley, 1	888	2.5	273	257	3.3	79	<5	--	---
San Fernando, 2	5,069	14	245	772	9.9	37	42	12	2.0
San Gabriel, 3	4,216	12	254	571	7.3	35	14	3.8	0.8
Metro, 4	5,468	15	466	1,471	19	125	206	57	18
West, 5	1,187	3.3	187	340	4.4	53	27	7.4	4.2
South, 6	8,482	24	858	2,416	31	244	25	6.9	2.5
East, 7	4,770	13	358	531	6.8	40	20	5.5	1.5
South Bay, 8	3,831	11	357	951	12	89	25	6.9	2.3
TOTAL[4]	**35,688**	**--**	**386**	**7,800**	**--**	**84.3**	**364**	**--**	**3.9**

[1] Data from LAC STD Program's *Sexually Transmitted Disease Morbidity Report, 1998-2002*.
[2] Rate = adjusted rate in cases per 100,000 population; rates based on <19 cases are unreliable.
[3] Includes data for race/ethnicity reported as "Other" and "Native American".
[4] "Total" category includes cases with unknown demographic information not otherwise shown.

C. Hepatitis C Virus

Infection with hepatitis C virus (HCV) is the most common bloodborne infection the United States, with an estimated 1.8% of all Americans infected [87]. HCV is predominantly transmitted through contact with contaminated blood and blood products. Persons at high risk for HCV include those receiving clotting factors made before 1989 and injection drug users (IDU); at intermediate risk are those who received a blood transfusion or solid organ transplant prior to 1992, hemodialysis patients, persons with undiagnosed liver problems, and infants born to infected mothers [88]. While HCV has been shown not to be easily transmitted through sexual contact [89, 90], it may account for up to 15% of cases.

Once established, HCV is not cleared from the blood of its human host in 85% of infected persons and leads to chronic illness, such as cirrhosis, liver failure, and liver cancer, in 60 - 70% of those infected [91]. Unlike hepatitis A and B viruses, there is currently no vaccine for HCV. Although recent advances have been made, HCV disease in persons co-infected with HIV is especially difficult to treat [92]. Lastly, in one recent study, HIV-HCV co-infected patients were found to have a significantly higher proportion of depression and other psychiatric problems (70%) than did mono-infected persons (57%) [93].

HIV/AIDS Reporting System (HARS)

To get a crude assessment of the co-morbidity of HCV and AIDS in LAC, we recently matched our living AIDS cases in HARS with LAC Acute Communicable Disease Control Program's HCV database (see Technical Note #7). Of the approximately 19,794 persons living with AIDS at the end of July 2004, 901 also had evidence of HCV infection (4.6%). Among the 10,634 non-AIDS cases reported to LAC HARS by July 2004, 360 were also identified in the HCV Registry, for a co-morbidity of 3.4%.

These co-infection proportions are much lower than the 40% co-morbidity among HIV-infected persons reported in New York City [94] and lower than CDC's estimate that 25% of US HIV-infected persons are co-infected with HCV [95]. Injection drug users have never accounted for more than 18% of LAC AIDS cases by mode of exposure in HARS; this is in contrast to the Northeastern US, where IDU was a reported mode of exposure for over 40% of AIDS cases [55]. Therefore, it is not surprising to observe lower HIV-HCV co-morbidity in LAC than in areas of the nation with higher IDU exposure risk. When analysis is limited to HIV and AIDS cases that reported injection drug use, however, HCV co-infection was estimated to be between 46 - 65% in LAC, which is similar to CDC's national estimate of 50 - 90% co-infection among HIV-infected IDU [95].

Finally, preliminary findings from a recent local study of 679 current and former IDU in LAC found a low HIV seroprevalence (4.0%), a high HCV seroprevalence (70%), and a low HIV-HCV co-infection (2.6%) [96]. Reasons postulated for the relatively low observed HIV seroprevalence among IDU in LAC are discussed in Section VI, E.

Satellite Testing Office for Research and Education (STORE)

In 1996, HIV Epidemiology Program started a counseling and testing site in West Hollywood (the city in LAC with the highest AIDS rate). Before its closure in 2001, the Satellite Testing Office for Research and Education, or "STORE", screened 1,044 clients for HCV, of whom 5% were positive for antibodies to HCV. Clients who tested positive for HIV had an equal HCV seroprevalence as those who tested negative for HIV (5%). Regardless of gender, race/ethnicity, or sexual orientation, injection drug users had 20 times the odds of testing positive for HCV (OR=20; 95%CL=11, 37), with an HCV seroprevalence of 31% for IDU compared with only 2.2% for non-IDU clients.

Collaborative Injection Drug User Study (CIDUS III)

Health Research Association of Los Angeles conducted the third Collaborative Injection Drug User Study in collaboration with CDC and four other cities from 2002 - 2004. Injection drug users, age 15 - 30 years, were interviewed and tested for both HIV and hepatitis C. Preliminary analysis found 27% of these young IDU participants from Los Angeles to be infected with HCV, 6.3% with HIV, and 1.8% to be co-infected with HIV and HCV; other participating cities - New York, Baltimore, Seattle, and Chicago - had similar low co-infection levels [97].

VIII. Care Services Utilization

In this new section of the *Profile*, results from the AIDS Drug Assistance Program (ADAP) database and from three local long-term studies will be presented to help characterize care utilization among persons living with HIV and AIDS in LAC. The three studies are the "Supplement to HIV/AIDS Surveillance" project (SHAS), and the "Adult/Adolescent Spectrum of HIV Disease" study (ASD), which have both been conducted by HIV Epidemiology Program for the last 14 years, and the 4 year old "Directly Administered Antiviral Treatment" Project (DAART).

A. AIDS Drug Assistance Program (ADAP)

The AIDS Drug Assistance Program, or ADAP, was authorized under the 1990 Ryan White CARE Act to cover some or all of the costs associated with HIV/AIDS medications for uninsured and underinsured persons living with HIV and AIDS. Prior to that, in 1987, ADAP had been implemented in California as a state-funded county-run system; it was restructured in 1997 as a centralized state-funded program administered through the California Department of Health Services [98].

Table 8.1. Characteristics of ADAP enrollees in Los Angeles County (including Long Beach and Pasadena), from June to August 2003 (N= 9,170).

Characteristic	Percent	Characteristic	Percent
Gender		**Language**	
Male	90%	English	81%
Female	10%	Spanish	18%
Transgender	0.4%	Other	0.2%
Age Group		**Income**	
18 – 30 years	11%	0 - $8,980	48%
31 – 40 years	40%	$8,981 – 17,960	33%
41 – 50 years	35%	$17,961 - $26, 940	12%
51 – 60 years	11%	$26, 941 – $35,920	7%
61 – 75 years	3%	$35,921 - $50,000	0.8%
Race/Ethnicity		**Insurance**	
Latino	47%	None	78%
White	32%	Private	16%
Black	16%	MediCal	7%
Asian/PI	2%		
American Indian	0.3%		

During June - August 2003, 9,170 of the 20,359 clients enrolled in ADAP in California (45%) were LAC residents, with LAC accounting for half of all State ADAP costs for the period [98]. Sociodemographic characteristics of ADAP enrollees living in LAC are presented in Table 8.1. The vast majority of enrollees were male (90%), 31 - 50 years of age (75%), either White or Latino (79%), reported English as their preferred language (81%), had an annual income of less than $18,000 (81%), and did not have any health insurance (78%).

B. Supplement to HIV/AIDS Surveillance Project (SHAS)

The SHAS Project was a cross-sectional interview study that ran from 1990 through June 2004 to supplement information routinely collected through the national HIV/AIDS Reporting System (HARS). Information in SHAS was collected from persons with newly reported cases of AIDS reported to the local health department. SHAS used a standardized questionnaire administered by trained interviewers. The objective of SHAS was to improve our understanding of sexual and drug-using behaviors, health care access, minority issues, utilization and adherence to therapies, geographic differences, and disability as related to HIV infection. Overall, 81% of enrollees were male, 65% were between the age of 30 and 49 years, and 50% were Latino.

Table 8.2. Proportion of SHAS participants enrolled from 2000–2004 who use health care, laboratory services, prophylactic and antiretroviral drugs by demographic group (N= 845). Significant differences within demographic groups, shown in red, are explained in the text.

Characteristic	All	Sex		Age group (years)			Race/Ethnicity			
		M	F	<30	30-49	50+	Asian	Black	Latino	White
In care	99.9%	100%	99.9%	100%	100%	99.9%	100%	100%	100%	100%
In private care	16%	18%	9%	13%	17%	20%	21%	12%	7%	40%
Hospitalized in last yr.	35%	35%	35%	33%	36%	37%	14%	30%	44%	23%
On A.R.T. ever	88%	90%	84%	86%	90%	87%	100%	86%	89%	89%
On PCP prophylaxis	68%	69%	63%	73%	69%	58%	86%	67%	66%	70%
CD4 count "<200"	36%	37%	35%	40%	37%	25%	10%	38%	44%	24%
CD4 "Don't know"	26%	25%	33%	22%	26%	31%	29%	27%	31%	17%
VL ">50,000"	10%	9%	11%	19%	8%	15%	0%	8%	11%	9%
VL "Don't know"	32%	31%	39%	29%	32%	38%	43%	31%	42%	16%
Percent of Total Cases	100%	81%	19%	23%	65%	12%	2%	23%	50%	23%

Table 8.2 shows the proportion of SHAS participants who use health care and laboratory services, prophylactic and antiretroviral drugs. Nearly all SHAS participants were in medical care at the time of interview. Only 16% of participants were receiving care from a private physician. Men were twice as likely to have a private provider as were women (18% vs. 9%; OR= 2.2; 95%CI= 1.1, 4.3) and Whites were over 6 times more likely to have a private physician as non-Whites (40% vs. 10%; OR= 6.3; 95%;CI= 4.2, 9.5). Overall, 35% of participants were hospitalized in the year prior to interview; Latinos were twice as likely as non-Latinos to have been hospitalized (44% vs. 27%; OR= 2.0; 95%CI= 1.5, 2.8). Females tended to be less likely to report ever having been on antiretroviral therapy than were males (84% vs. 89%, respectively), but the difference was not "statistically significant" (see Glossary). The percent of participants taking prophylaxis for the opportunistic infection PCP was 68%. Participants under 30 years of age were twice as likely as those 50 years of age and older to have been on PCP prophylaxis (73% vs. 58%; OR= 2.0; 95%CI= 1.1, 3.4). Of those who knew their CD4 count, 36% reported a CD4 count under 200. Whites were half as likely as other racial/ethnic groups to report they did not know their CD4 count (17% vs. 29%; OR= 0.5; 95%CI= 0.3, 0.8) and a third as likely as others to report they didn't know their viral load (16% vs. 38%; OR= 0.3; 95%CI= 0.2, 0.5).

Table 8.3. Need for services, and the proportion of those in need who received services, for case management, mental health counseling, home health care, and social services among SHAS participants living with AIDS enrolled from 2000–2004, by demographic group. Significant differences within demographic groups, shown in red, are explained in the text.

Service Needed/Received	All	Sex		Age group (years)			Race/Ethnicity			
		M	F	<30	30-49	50+	Asian	Black	Latino	White
Need Case Management	45%	46%	40%	46%	45%	41%	36%	39%	47%	45%
Received Services	92%	91%	92%	93%	91%	93%	80%	86%	92%	97%
Need Mental Health	35%	35%	35%	40%	34%	30%	29%	33%	31%	42%
Received Services	85%	85%	80%	82%	84%	91%	75%	85%	80%	93%
Need Social Services	35%	34%	40%	38%	36%	24%	0%	32%	41%	29%
Received Services	82%	84%	75%	86%	80%	88%	---	82%	80%	93%
Need Home Health	11%	9%	19%	11%	11%	10%	7%	16%	9%	9%
Received Services	77%	82%	64%	67%	83%	64%	100%	66%	78%	94%

Table 8.3 shows the proportion of SHAS participants enrolled from 2000 - 2004 who needed select services, as well as the proportion of those in need who reported receiving these services. Of the 45% of participants who reported needing case management, 92% reported receiving those services; of the 35% who needed mental health services, 85% received them; of the 82% who needed social services, 82% received them; and of the 11% who needed home health care, 77% received it. Whites were approximately 3 times more likely to have received both mental health (93% vs. 81%; OR= 2.8; 95%CI= 1.1, 8.5) and social services (93% vs. 80%; OR= 3.3; 95%CI= 1.1, 13) when needed than were non-Whites. No other differences within demographic subgroups were statistically significant.

The time between when persons first learn that they are HIV-infected and when they are diagnosed with AIDS is one measure of how early the disease has been detected or of how late one gets tested for HIV. Here, as in a previous SHAS analysis, "early" detection is defined as greater than 5 years between time of first reported HIV test and an AIDS diagnosis, and "late" detection as between 1 - 5 years [99]. Here, we also defined "very late" detection as less than 1 year between time of first reported HIV test and an AIDS diagnosis. In SHAS interviews from 2000 - 2004, Whites living with AIDS were over 5 times more likely to have their HIV infection detected "early" than were non-Whites (OR=5.6; 95%CI= 3.7, 8.3). Conversely, Latinos living with AIDS were nearly 3 times more likely to have been detected "very late" in their infection (OR= 2.7; 95% CI= 2.0, 3.7). These differences are graphically illustrated in Figure 8.1, which shows 72% of Latinos with AIDS having learned of their HIV infection only within 1 year of AIDS diagnosis, while 49% of Whites learned of their infection 5 or more years before their AIDS diagnosis.

Finally in SHAS, while there was no significant difference in early or late detection between males and females, but participants less than 30 years of age were only half as likely to have their HIV infection detected "early" than were older participants (OR= 0.45; 95%CI= 0.2, 0.9).

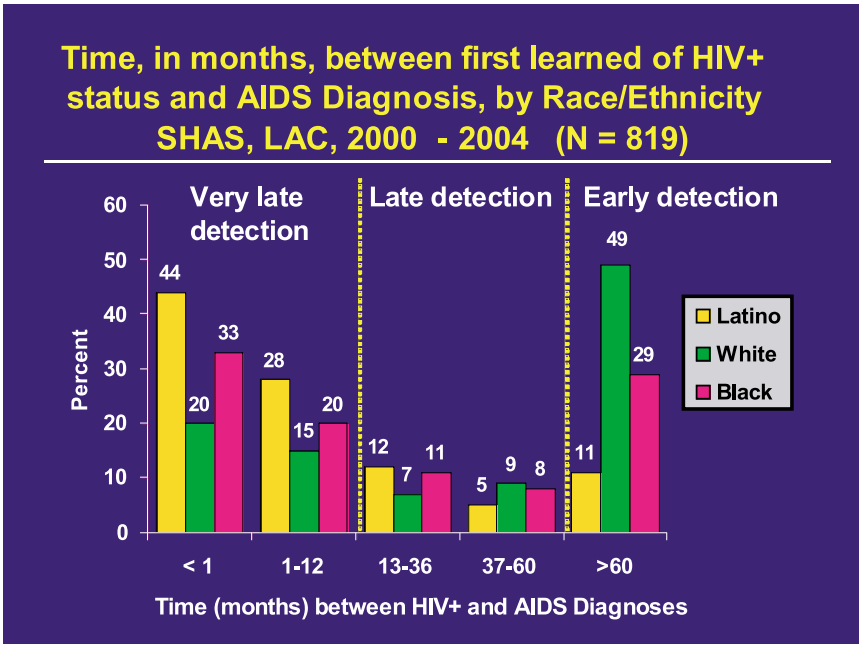

FIGURE 8.1

C. Adult/Adolescent Spectrum of HIV Disease Study (ASD)

The HIV Epidemiology Program, in collaboration with CDC, conducted ASD from 1990 to 2004 to better define the spectrum of HIV-related diseases. LAC was one of ten municipal areas participating in the study. The objective of the study was to evaluate trends in the clinical course, treatment and health care utilization of persons living with HIV infection in LAC, by collecting data from the medical records of HIV-infected patients 13 years of age and older receiving medical care at three outpatient clinics at 6-month intervals. Data collected include basic demographics, HIV-exposure category, AIDS-defining conditions, other infections and conditions, treatment and prophylaxis history, CD4 lymphocyte count, and viral load.

Nearly 5,000 persons were included in the LAC ASD study, three-fourths of whom were male (76%), two-thirds of whom were under the age of 40 years at intake (68%), with 41% Latino, 29% Black, and 30% White (Table 8.4). In the last year of the study, Latinos comprised nearly half of all participants (48%), two-thirds of whom were also foreign-born (67%). Asian/Pacific Islanders and American Indian/Alaskan Natives altogether comprised only 5% of participants.

Table 8.4. Selected care service utilization characteristics of ASD study participants, by demographic subgroups – Los Angeles County, 1998-2002 (N= 4,651).

	All	Sex		Age (years)		Race/Ethnicity		
		M	F	13-39	40+	Black	Latino	White
Percent of Total cases	100%	76%	24%	68%	32%	29%	41%	30%
% Lowest CD4 < 200	35%	40%	26%	35%	36%	38%	34%	31%
Viral Load ">100,000"	19%	21%	14%	20%	16%	21%	18%	16%
Average Annual OI* Rate (Percent/Year)	---	8.8%	6.5%	8.0%	8.0%	8.9%	7.9%	7.7%
For All Patients:								
# Hospitalizations/Year	---	0.31	0.38	0.34	0.33	0.39	0.31	0.32
# Hospital Days/Year	---	2.3	2.0	2.1	2.5	2.7	2.1	1.8
# Outpatient Visits/Year	---	12.5	13.2	12.2	13.9	11.8	13.4	12.9
For CD4 < 200 patients:								
# Hospitalizations/Year	---	0.60	0.77	0.65	0.64	0.71	0.53	0.66
# Hospital Days/Year	---	4.9	5.2	4.7	5.4	5.3	5.0	4.4
# Outpatient Visits/Year	---	15.0	15.6	14.7	15.9	14.1	16.2	15.6

*OI= Opportunistic Infection (see Glossary).

From Table 8.4, we can see the proportion of cases that had CD4 counts less than 200 (an indication of AIDS) was higher for males than females (40% vs. 26%), as was the proportion with viral loads counts greater than 100,000 (21% vs. 14% respectively). Among the three major race/ethnicities in ASD, Blacks had the highest proportion of participants with a low CD4 count (38%) and with a high viral load (21%). The average rate of opportunistic infections diagnosed each year was higher for males than females (8.8% vs. 6.5%) and higher for Blacks (8.9%) than for either Latinos or Whites (7.9% and 7.7%, respectively).

Average hospitalization rates ranged from 2 - 3 hospital days per person per year for all patient subgroups and from 4 - 5 days per person per year for patients with low CD4 counts. Average outpatient visits ranged from 12 - 14 per year for all patients and 15 - 16 per person per year for patients with low CD4 counts. Regardless of CD4 count, Blacks and older patients tended to average more hospital days each year, while, on average, Latinos and older patients required more outpatient visits.

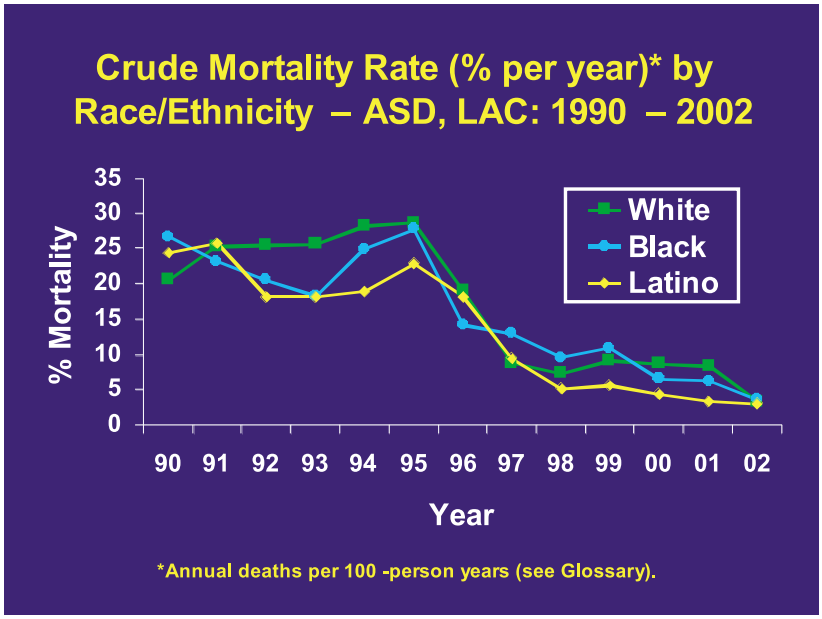

FIGURE 8.2

Figure 8.2 shows the percent per year of ASD participants who have died from 1990 to 2002 by race/ethnicity. Mortality rates remained high (20 - 30% per year) from 1990 to 1995 then fell, in the HAART era, to less than 5% per year for all race/ethnic groups by 2002. From 1998 to 2002, however, Latinos in ASD did have a significantly lower average annual mortality rate (4.3% per year) than either Whites or Blacks (7.4% per year).

Of the non-AIDS-indicator malignancies suffered by ASD participants throughout the study period, the most common for women was genitourinary cancer and, for men, skin cancer, followed by lymphoma and then lung cancer (Table 8.5).

Table 8.5. Number, mean age at diagnosis, and mean CD4 count at diagnosis of the five most common non-AIDS-indicator primary malignant neoplasms for ASD participants by gender, Los Angeles County, 1990-2002.

FEMALE				MALE			
Cancer Type	No.	Mean Age at Diagnoses	Mean CD4 at Diagnoses	Cancer Type	No.	Mean Age at Diagnoses	Mean CD4 at Diagnoses
Genitourinary	50	36	287	Skin	46	45	244
Breast	7	49	216	Lymphoma	28	37	122
Anorectal	6	46	381	Lung	22	43	140
Colonic	5	42	329	Anorectal	12	41	252
Skin	5	52	252	Oropharyngeal	10	41	143

D. Directly-Administered Antiretroviral Treatment Project (DAART)

The CDC-funded Directly-Administered Antiretroviral Treatment Project (DAART) evaluated interventions for improving adherence to Highly Active Antiretroviral Treatment (HAART) from 2001 - 2004 at 3 public HIV clinics. The necessarily complex HAART drug regimens provide challenges for optimal adherence for many individuals. Participants were randomized to one of three adherence models: 1) the DAART model in which participants receive daily delivery and observation of the ingestion of HAART once-daily, five days per week by a community worker; 2) a clinic-based intensive case management intervention to overcome barriers to HAART adherence; or, 3) standard care provided at the clinics. The major objective of the DAART project was to determine if the three models of adherence support affected the virologic, immunologic and clinical outcomes of HIV disease and the development of drug resistance.

Preliminary results from DAART indicate that adherence to HAART at baseline did not differ by race/ethnicity, gender, age, income, foreign born status, or cigarette, alcohol or drug use [101]. Sociodemiographic factors were also not found to be associated with reasons for non-adherence.

Adherence support delivered as part of standard care practice was also evaluated. Initial findings suggest that most health care providers at the 3 public clinics provide adherence support for HAART to their patients as part of routine care. Most providers also reported referring a high proportion of their patients (64% - 96%) to a number of other HIV/AIDS services for additional support, underscoring the perceived need for these services [100]. In addition, providers reported increasing the frequency which they provided HAART education adherence over the course of the study.

APPENDIX A: Glossary of Terms

AIDS	Acquired Immunodeficiency Syndrome. Most often caused by chronic infection with the human immunodeficiency virus, or HIV, a syndrome diagnosed when the host immune system is depressed or damaged to such an extent that the CD4+ lymphocyte cell count is below 200 cells per microliter, or when an *Opportunistic Infection* is present.
AIDS Commission	The Los Angeles County Commission on HIV/AIDS Health Services (CHHS) serves as the planning body for Title I of the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act and all other publicly funded HIV services and programs administered by the Office of AIDS Programs and Policy (OAPP).
Anonymous HIV testing	Testing a person for HIV without the person having to give personal identifying information; all specimens are marked with a code number and cannot be linked to the person. Positive anonymous HIV tests are not reportable. (Compare *Confidential HIV testing*)
Antibody	Protein molecule produced by white blood cells to bind up and disable infectious agents, such as viruses and bacteria.
Antigen	Substance - such as a virus or bacterium - that provokes an immune (antibody) response when introduced into the body. (See *Antibody*)
Antiretroviral therapy	Drugs used specifically for the treatment of HIV disease. (See *HAART, NNRTI, NRTI* and *Protease inhibitors*)
Asymptomatic	Showing or having no symptoms. (See *Incubation period)*
Behavioral Risk Group (BRG)	For prevention planning purposes, 7 mutually exclusive subpopulations identified to be at high risk for HIV; they are men who have sex with men (MSM); men who have sex with men and women (MSM/W); MSM and MSM/W who also inject drugs (MSM/IDU); heterosexual men who inject drugs (HMIDU); women at sexual risk (WSR), female injection drug users (FIDU); and transgendered men and women and their sexual/injection partners (TG).
Bias	Error not caused by chance that leads to a distorted result in a study.
CD4 ("helper T") cell	Type of white blood cell that oversees the action of the human immune system and is the main target of HIV.
Candidiasis	Fungus that usually infects the mucous membranes, commonly occurring in the mouth (thrush) or in the vagina (yeast infection). These infections usually result in painful or burning red lesions with or without white spots.
Case	Occurrence of the disease or event of interest in a person.
Case fatality rate	The proportion of persons with a particular disease who die from that disease within a year, compared with the number of new cases of the disease reported in the same year.
CDC	The national Centers for Disease Control and Prevention in Atlanta, Georgia.
Chlamydia	Sexually transmitted disease (STD) caused by the bacteria *Chlamydia trachomatis*. In men, chlamydia is characterized by a discharge from the urethra (penis). In women, most will have no symptoms; if left untreated, however, pelvic inflammatory disease (PID) can develop, which can lead to chronic pain or infertility. Chlamydia is curable when treated with appropriate antibiotics.
Cohort	Group of persons who share a common attribute - such as birth in a particular year - which is followed over time.

Cohort study	Epidemiologic study in which a specified population (the *Cohort*) is observed for long enough to calculate reliable disease incidence or mortality rates.
Combination therapy	Use of two or more drugs to fight infections. Combinations may be more effective in some ways than single-drug treatment and help prevent drug-resistance.
Confidence interval (CI)	Range of values for an estimate, such as a proportion or rate, that is believed to contain the true value within a specified level of certainty. For example, "95%CI=2-5" suggests that we have 95% confidence that the true rate lies between 2 and 5. Similar to *Confidence Limit*.
Confidence limit (CL)	Similar to *Confidence Interval*. The values for an estimate, such as a proportion or rate, between which the true value can be found within a specified level of certainty. For example, "95%CL=2, 5" suggests that we have 95% confidence that the true rate lies between 2 and 5.
Confidential HIV testing	Testing a person for HIV where his or her name is known or given; specimens are marked with a code number, but can be linked to a name. Positive confidential HIV tests are reportable. (Compare with *Anonymous HIV testing*)
Confounding	Systematic error in a study in which the effect of an exposure on the study outcome is distorted due to the exposure of other factor(s) that also have an influence on the outcome.
Convenience sample	Sample of study subjects selected without using probabilistic methods needed to obtain a "random sample." Generalizing from the results of a survey based upon a convenience sample is problematic, as there is no way of knowing what sorts of biases may have been operating.
Correctional institution	Prison or jail.
Cross-sectional study	Study that examines the relationship between diseases and other variables of interest as they exist in a defined population at one particular time - such as a one-time survey.
Crude Mortality Rate	An estimate of the proportion of a population that dies within a given time period. It is calculated by dividing the number of persons dying during the time period by the number of persons living in the time period. (Also called the "Crude Death Rate")
Cumulative	Pertaining to the total number of persons/cases reported.
Cumulative incidence	Risk of developing a particular disease within a specified period of time.
Cumulative AIDS	The cumulative number of persons reported with AIDS during a specified period divided by the total population at risk for AIDS at the midpoint of that period.
Death Rate	See Crude Mortality Rate.
Demographic	Pertaining to characteristics of a population - such as age, race/ethnicity and gender.
ELISA test	Blood or oral fluid test which indicates the presence of antibodies to HIV. The HIV ELISA test does not detect the disease AIDS, but only indicates if HIV infection has occurred. (See also *Western Blot test*)
Epidemic	Dramatic increase above the usual or expected rate of occurrence of a particular disease in a population.
Epidemiology	Study of the distribution and determinants of disease in a specified population in order to promote, protect and restore health in that population.
Exposure	Contact with a factor that is suspected to influence the risk for a person developing a particular disease.
Gender	Term or variable to classify persons as male or female; recent gender categories may now include both male-to-female and female-to-male transgendered persons.

Gonorrhea	Common sexually transmitted disease caused by the organism *Neisseria gonorrheae*; it is often abbreviated "GC". GC is often used as a surrogate to identify persons at sexual risk for HIV transmission. GC is curable when treated with appropriate antibiotics.
HAART	"Highly Active Antiretroviral Therapy;" Combination of three or more anti-HIV drugs, of which at least one is usually a protease inhibitor.
HARS	"HIV/AIDS Reporting System;" surveillance database containing HIV and AIDS reports.
HEP	See "HIV Epidemiology Program" of the Los Angeles County Department of Health Services; often also called "HIV Epi" for short.
Hepatitis	Inflammation of the liver; often caused by viruses, drugs, or other chemicals.
Hepatitis A	Called "infectious hepatitis. " Form of viral hepatitis caused by the hepatitis A virus (HAV). HAV may be transmitted through oral contact with infected feces (stool) or surfaces and objects recently contaminated with infected feces. Usually causes mild illness that resolves within weeks.
Hepatitis B	Called "serum hepatitis. " More severe form of viral hepatitis caused by the hepatitis B virus (HBV). HBV may be transmitted through contact with infected blood, saliva, seminal fluid, vaginal secretions, and breast milk. With persistent disease, may lead to cirrhosis, liver failure, and/or death.
Hepatitis C	Once called "Non-A/non-B hepatitis." Severe form of viral hepatitis caused by the hepatitis C virus (HCV). HCV is most often transmitted through contact with infected blood, but may also be transmitted through contact with other body fluids. Persists for decades, leading to cirrhosis, liver failure, and/or death.
Hepatocellular carcinoma	Liver cancer. Often associated with chronic hepatitis B or C disease.
HIV	Human immunodeficiency virus. Infection with HIV is the usual cause of Advanced HIV Disease, or AIDS. (See *AIDS*)
HIV Epidemiology Program	Los Angeles County program that collects, analyzes, and disseminates HIV/AIDS surveillance and epidemiologic study data essential for the planning, implementation, and evaluation of programs and policies involving HIV and AIDS care, prevention, education, and research in Los Angeles County.
IDU	Injection drug user. Person who injects illicit drugs into their body, usually to get high.
Immunology	Study of the body's response to foreign organisms and how humans and other animals fight off disease-causing microorganisms, such as viruses and bacteria.
Immunosuppressed	State of the body where immune system defenses do not work normally. This can be the result of an immune deficiency from birth, an illness such as cancer or AIDS, or from the administration of certain drugs.
Incarcerated person	Person who is in prison or jail.
Incidence rate	Rate at which new events, such as cases of a particular disease, arise in a given population - for instance, the number of new cases diagnosed in a year divided by the population at risk in that same year.
Incubation period	Period of time between contact with an infectious agent and the first clinical evidence of illness resulting from that infection.
Independent variables	Variables that are thought to explain or predict an outcome or event.
Infant Mortality Rate	The rate of the number of deaths in a year among children less than one year old for every 1,000 live births in that year.

LAC	Los Angeles County.
Latent period	See *Incubation period*.
Longitudinal study	See *Cohort study*.
Marker	Substitute measure, or proxy, for an event or disease that cannot readily be measured by any other method.
Median	That value which divides a set of measurable values into 2 equal halves, such that half of all values are above the median, and half are below. For example, the median age of study participants was 35 years.
Migration	Movement from one area or jurisdiction to another.
MSM	Men who have sex with men, no matter how they identify themselves; by definition, includes MSM/W (see next listing), unless MSM/W are counted separately. (See *Behavior Risk Groups*).
MSM/W	Men who have sex with men and women, no matter how they self-identify.
NIR	No identified risk; cases of HIV or AIDS in which no risk behavior for infection was identified.
NRTI ("nuke")	Nucleoside/nucleotide Reverse Transcriptase Inhibitor. Antiretroviral drug that works by interfering with the elongation of the viral chain during viral DNA synthesis; includes ddI, ddC, D4T, 3TC, AZT, abacavir, lamivudine, tenofovir.
NNRTI ("non-nuke")	Non-Nucleoside Reverse Transcriptase Inhibitor. Antiretroviral drug that works by interfering with the elongation of the viral chain during viral DNA synthesis; includes nevirapine, efavirenz, delavirdine.
Non-named code	Code required by regulation for use when reporting new cases of HIV infection in California; includes alphanumeric code (based on last name), date of birth, gender, and last four digits of social security number.
Non-gonococcal urethritis	NGU. Sexually transmitted disease that causes inflammation of the urethra, but is not caused by gonorrhea - most commonly, it is caused by *Chlamydia*.
OAPP	The Los Angeles County Office of AIDS Programs and Policy was established in 1985 in the Department of Health Services, Public Health. The office directs the overall response to the HIV/AIDS epidemic in L.A. County.
Odds ratio	Odds of a person with a disease of interest having a particular exposure divided by the corresponding odds of a person without the disease of interest having the same particular exposure.
Opportunistic Infection (OI)	OIs are diseases caused by agents commonly present in our bodies or environment but only cause illness when the host immune system becomes damaged or depressed - as in AIDS.
Pandemic	Epidemic occurring over a very wide area, crossing international boundaries and usually affecting a large number of people.
PPC	The Los Angeles County HIV Prevention Planning Committee makes ongoing evidence-based recommendations concerning populations targeted for HIV prevention services, types of prevention services provided, and the equitable distribution of funds to support publicly-funded prevention services in LAC.
Prevalence	Number or proportion of persons in a given population who have a particular disease at a specified point or interval of time.
Probability sample	See *Random sample*.
Proportion	Ratio of a part of the whole to the whole - e.g. 45% of Angelenos are Latino.

Prospective study	See *Cohort study*.
Protease inhibitor (PI)	Antiretroviral drug that works by binding to and blocking HIV protease thus preventing the assembly and release of new infectious viral particles from an infected white blood cell; includes indinavir, ritonavir, saquinavir, nelfinavir, lopinavir, and amprenavir.
Random sample	Sample in which all individuals have a precisely defined and equal chance of being selected.
Rate	Measure of the frequency of a disease in a specified population during a specified period of time; used to compare the impact of a disease on one subpopulation compared with others; also to monitor the impact on groups across time. (See *Incidence rate*)
Report delay	Period between the date a reportable disease is diagnosed by a physician and the date that the diagnosis is reported to public health officials. Reliable and accurate data are only available after a period of months to years after diagnosis due to report delay.
Risk ratio	Likelihood of a particular disease occurrence among persons exposed to a given risk factor divided by the corresponding likelihood among persons not exposed.
Sample	Subset of a population that is chosen for investigation. (See *Convenience sample* and *Random sample*)
Serology	Study of the components and properties of a patient's blood serum - for example, serum antibodies to HIV.
Seroprevalence	Proportion of a specified population who have antibodies to a particular organism in their blood serum - for instance, HIV.
Seroconvert	Positive blood serum test indicative of HIV infection in a person with a history of having been negative at last HIV test.
Serorevert	In an uninfected infant born to an HIV-infected mother, process in which maternal HIV antibodies that were measurable in the infants blood at birth disappear over time, thereby reverting to HIV negative.
Serostatus	Status with respect to being seropositive or seronegative for a particular antibody - for example, for HIV.
Service Planning Area (SPA)	One of eight geographic subdivisions of Los Angeles County established to decentralize public health service administration into regional areas more responsive to local needs.
Sexual risk	Person is said to be at sexual risk for HIV when engaging in sexual intercourse - penile-vaginal, penile-anal, or penile-oral - with a partner who is either HIV-infected or at high risk for being HIV-infected, and without the use of a protective barrier, such as a condom.
Sexually exposed	Exposure to an infectious agent as a result of sexual intercourse with an infected partner.
STD	Sexually transmitted disease; disease spread from one sexual partner to another as a result of sexual activity - usually through sexual intercourse.
Statistically significant	The finding of an observed difference between two or more samples is described as statistically significant when it can be demonstrated that the probability of obtaining such a difference by chance alone, is low. It is customary to describe one's finding as statistically significant, when the observed result would occur by chance no more than 5 times out of 100.
Superinfection	The recent transmission of a new and different strain of HIV to an already HIV-infected person. The risk for the superinfected person is that this new strain of HIV may have a different drug-resistance pattern than their original infection and that this may result in their HIV disease progressing more rapidly.

Surveillance	Systematic and ongoing collection and analysis of information about a disease within a population, followed by the timely distribution of that information to those who need to know so that action can be taken.
Syphilis	Infectious disease - spread either sexually or from an infected mother to her newborn - caused by the bacterial organism *Treponema pallidum*. Syphilis is curable when treated with appropriate antibiotics.
Trichomonas vaginitis	STD caused by the one-celled protozoan, *Trichomonas vaginalis*. In women, disease may produce no symptoms or cause a vaginal discharge. In men, infection is usually without symptoms, but can survive and hide in the male urethra or prostate, allowing for further sexual transmission of the organism. Trichomonas vaginitis often co-exists with other STDs, and is curable when treated with the appropriate antibiotic.
Tuberculosis (TB)	Disease caused by the highly infectious microorganism, *Mycobacterium tuberculosis*; spread through spitting and coughing of infected mucus or from ingestion of unpasteurized infected cow's milk. TB is an AIDS-defining opportunistic infection.
Unique identifier	A code used as a substitute for a person's identifying information - such as name, birthdate, and address - and that can be retraced to a unique person. (Compare *Anonymous HIV testing* and *Non-name code*)
Unlinked HIV test	Test in which all blood specimens tested for HIV are marked with a code that cannot be linked to the patient's name. (See also *Anonymous HIV testing*)
Urethra	The canal in humans and other mammals that carries off urine from the bladder; in the mammalian male, the urethra also functions as a duct for semen transit during ejaculation.
Venue	In epidemiological research, a place or location for the observation or interviewing of subjects in a study. For example, a sex club or a bathhouse
Western Blot test	Blood or oral fluid test used to detect HIV antibody; most often used to confirm the results of a positive ELISA test. (See also *ELISA test*)
Window period	Time period between initial infection with a disease and the time when the antibodies can be measured. In HIV infection, the window period is usually between 2 - 12 weeks after infection.

Sources:

- Merriam Webster Medical Dictionary, at Intelihealth.com, copyright 1997 by Merriam Webster, Inc.
- *A Dictionary of Epidemiology, Third Edition*. Edited by John M. Last, Oxford University Press, 1995, New York, Oxford, Toronto
- The Internet Glossary of Statistical Terms: http://www.animatedsoftware.com/statglos/sgsignif.htm
- Merriam Webster Collegiate Dictionary: http://www/m-w.com/cgi-bin/dictionary

APPENDIX B: Technical Notes

1. Population Pyramids (Section II)

The age-sex distribution of a population is an important feature to analyze if you wish to understand a country's demographic situation. A good way to illustrate the structure of a population is to graph the number of males and females for various ages. A horizontal bar graph with data for males on the left and females on the right is called a "population pyramid". Vivian Z. Klaff describes age structure models (in *Dem-Lab: Teaching Demography Through Computers*, 1992 Prentice Hall) that range from an "expansive" population - with a high proportion of children, a rapid rate of population growth, and a low proportion of older people - to "stable" growth, to "declining" population-with a high proportion of older persons and declining numbers. Modified from the Canadian Statistical Reference Centre Web site at: http://www.statcan.ca/english/kits/animat/pyone.htm.

2. Mode of Exposure and the redistribution of AIDS cases with "no identified risk" (Section III)

Exposure categories are assigned in a hierarchical fashion, so that cases for which more than one exposure category have been identified are assigned to the category listed highest in the hierarchy. For example, a man who reports having sexual contact with another man and also reports having "heterosexual" contact with an injection drug using woman would be classified as "male-male sexual contact", because that is the highest risk exposure category. The only exposure category that includes two risk exposures is the MSM-IDU category - that is, men who report both sexual contact with another man (MSM) and who also engage in injection drug use (IDU). The "Undetermined" exposure category includes persons with no history of exposure to HIV through one of the defined exposure categories. If subsequent case investigation identifies a mode of exposure, the case is reclassified into the corresponding exposure category. For analysis, the number of cases with no identified risk (NIR) is distributed into one of the defined exposure categories proportionately, based upon the past pattern of reclassification of undetermined exposure cases.

3. Reliability of rates calculated from a small number of observations (Section III)

All vital statistics rates, including incidence rates, are subject to random variation. This variation is inversely related to the number of events used to calculate the rate. Small frequency in the occurrence of an event results in the greater likelihood that random fluctuations will be found within a specified time period. The observation and enumeration of rare events is beset with uncertainty. The "standard error" of a death rate and "coefficient of variation" (or relative standard error) provide a rational basis for determining which rates may be considered "unreliable." Although reliability of a rate is not either-or/on-off, in this report, rates with a relative standard error of greater than or equal to 23 percent of the rate - that is, rates based on less than 20 observations - are marked with an asterisk (*). The observation of no vital events is especially hazardous, regardless of the size of the population. Rates of zero, based on no events, are not shown in the *Profile*, because the standard error cannot be calculated. These criteria conform to standards used by the National Center for Health Statistics in determining the reliability cut-off for rates. (Modified from *County Health Status Profiles, 2004* available at California Department of Health Services Web site at: http://www.dhs.ca.gov/chs/PHweek/CProfile2004/CProfile2004.htm.)

4. Estimation of population size and HIV prevalence in Behavioral Risk Groups (Section V)

Population sizes for BRGs were estimated using a variety of sources, including the 2002 population estimate based on the 2000 Census provided by the Data Collection and Analysis Unit of the LAC Health Assessment and Epidemiology Program, and from data smoothed and projected by Dr. John Hedderson and Joyce Bixler of Walter R. McDonald & Associates of Sacramento, California. Other population estimate sources include the LA Health Survey, the HIV Counseling and Testing database kept by Office of AIDS Programs and Policy, the 2001 Consensus Meeting on HIV/AIDS Incidence and Prevalence in California, and the LAC Alcohol and Drug Program Administration. In addition, a variety of local research studies involving these behaviors and groups were used. Because not all HIV cases have been reportable in LAC until recently, HIV prevalence for BRGs had to be estimated as well. These estimates were based on a CDC-recommended formula for estimating all persons living with HIV from the number of persons living with AIDS. Using this formula, we estimate about 50,000 - 60,000 persons to be living in LAC with HIV/AIDS, of whom one in four are either unaware of their infection or have only tested anonymously. Again, a variety of sources were used to estimate HIV prevalence within each BRG. For further information on how population size and HIV prevalence were estimated for BRGs, please call Dr. Douglas Frye at HIV Epidemiology Program (ph. 213-351-8196).

5. Estimation of population size in Special Populations of the Commission on HIV/AIDS Health Services, including Incarcerated Persons, Women of Childbearing Age, and Youth (Section VI)

Youth and Women of childbearing age populations were estimated from 2002 updated census data provided by the California Department of Finance. Estimates for Transgender and Injection Drug Using populations were based on presentations at the 2001 Consensus Meeting on HIV/AIDS Incidence and Prevalence in California. The non-injection drug using population was based on a statewide estimate provided by the California State Alcohol and Drug Programs. MSM of Color and White MSM estimates were based on 2002 census estimates and 1999 LA Health Survey results. The estimate for Homeless and Unstably Housed persons was obtained from the LA Homeless Services Authority. LAC Sheriff's Department provided an estimate of Incarcerated persons in the last year. The estimate of persons living with Serious Mental Illness was based on data from both Medi-Cal and the California State Department of Mental Health. The number of Undocumented persons in LAC was based on a statewide estimate from the federal Immigration and Naturalization Service. HIV prevalence estimates for these populations were based on many sources, including the Alternative Test Site database, the Confidential Testing Site database, Colorado HIV surveillance data on youth, the LAC Survey of Childbearing Women study, HEP's Collaborative Intravenous Drug Users Study, the Young Men's Survey, Urban Men's Health Study, HEP's "skid row" study, LA Transgender Health Study, the California Department of Corrections, and other sources. For further information on how population size and HIV prevalence were estimated for BRGs, please call Dr. Douglas Frye at HIV Epidemiology Program (ph. 213-351-8196).

6. Comparing the odds of infection with TB and HIV for demographic groups (Section VII)

The Odds Ratio describes the odds a person in one demographic group has of being co-infected with HIV and TB compared with a person in the referent group. Since the odds ratio is a statistical estimate, it is not exact. To account for this inherent error, a "95% confidence interval" is used to give a range of odds within which the "true" odds ratio will be 95% of the time. If the confidence interval does not include 1.0 (or even odds), then a person in one demographic group has a "statistically significant" higher or lower odds of being co-infected than a person in the referent group. For example, in Table 7.1, Blacks with active TB have a statistically significantly higher odds of being co-infected with HIV than do the referent group, Whites, because the 95% confidence interval of their odds ratio (1.4 - 2.9) is greater than 1.0. Similarly, in Table 7.2, among persons reported with AIDS, injection drug users have a statistically significantly higher odds of being co-infected with TB than do the referent group, MSM, because the 95% confidence interval of their odds ratio (3.1 - 3.9) is greater than 1.0.

7. The Hepatitis C - HARS Database Match (Section VII)

HIV Epidemiology Program worked with Acute Communicable Disease Control staff to do a match of persons reported in the HIV/AIDS Reporting System (HARS) database with persons reported with any laboratory evidence of having been infected with the hepatitis C virus. The match was conducted within the premises of HIV Epidemiology Program's core surveillance unit after deduplication of hepatitis cases was performed. To estimate prevalence of HIV/HCV co-infection for persons reported in HARS, HCV cases were matched against all cases in HARS, against those still living with AIDS, against those diagnosed with non-AIDS HIV, and against those reporting injection drug use. Matching criteria included last and first names (for AIDS cases), soundex, date of birth, gender, social security number, etc. If you have any questions about the methods or results of this match, please contact either Dr. Douglas Frye at HIV Epidemiology Program (ph. 213-351-8196) or Virginia Hu, Data Analysis Unit Chief (ph. 212-351-8142).

APPENDIX C: References

1. United Way of Greater Los Angeles. *State of the County Report: Los Angeles 2003*.
2. Social Science Data Analysis Network. Charts and Trends: Los Angeles County. CensusScope Web site. Available at: http://www.censusscope.org/us/s6/c37/chart_popl.html.
3. Los Angeles County, Department of Health Services, Maternal, Child, and Adolescent Health Programs. Crude Birth Rates: 1990-2000. Web site. Available at: http://lapublichealth.org/mch/fhop/fhop01/individuals01/FHOP01_1.pdf.
4. State of California, Employment Development Department. County Snapshot: Los Angeles 2002. Labor Market Information Division Web site. Available at: http://www.calmis.ca.gov/file/cosnaps/laSnap.pdf. Last accessed: 09/09/2004.
5. State of California, Employment Development Department. Los Angeles-Long Beach Metropolitan Statistical Area (unemployment rates). Labor Market Information Division Press Release: August 8, 2003.
6. State of California, Employment Development Department. Unemployment Rates for Labor Force Groups in California by Race and Ethnicity. Labor Market Information Division Web site. Available at: (http://www.calmis.ca.gov/file/lfother/fig8.htm).
7. Weingart Center, Institute for the Study of Homelessness and Poverty. Homelessness in Los Angeles. *Just the Facts*, August 2004.
8. California Health Interview Survey 2001. Any insurance in the past 12 months by race - UCLA CHPR. Web site. Available at www.chis.ucla.edu.
9. Los Angeles County Department of Health Services. Key Indicators of Public Health by Service Planning Area, 1999/2000. Public Health Web site. Available at: http://lapublichealth.org/wwwfiles/ph/hae/ha/keyhealth.pdf.
10. California Department of Health Services, Center for Health Statistics. Vital Statistics, 1990-2001. Web site. Available at: http://www.dhs.ca.gov/hisp/chs/OHIR/vssdata/2003data/2003NCountyPDF.htm.
11. National Center for Vital Statistics. Deaths and percent of total deaths for the 10 leading causes of death: United States 1000-2000. *National Vital Statistics Report* 2002; 50: 8-9.
12. LAC-DHS. Personal communication with Loren Lieb of Health Assessment and Epidemiology Unit on 09/10/2003.
13. Los Angeles County Office of Education Communications. Facts about the County of Los Angeles Office of Education and the Public Schools of Los Angeles County 2002-2003. LACOE pamphlet. Downey, CA.
14. Merl, Jean. "Study finds rampant illiteracy in L.A. County." *Los Angeles Times*, 09/09/2004.
15. Federal Bureau of Prisons. Weekly Population Report. Web site. Available at: http://wwwbop.gov/weekly.html.
16. California Department of Corrections, Estimates and Statistical Analysis Branch. Weekly Report of Population. Web site. Available at: http://www.corr.ca.gov/OffenderInfoServices/Reports/WeeklyWed/TPOP1A/TPOP1Ad040901.pdf.
17. Los Angeles Sheriff's Department. Racial Demographics for all Custody Divisions, September 5, 2003. Web site. Available at: www.lasd.org.
18. Personal correspondence with Kathy Styc, CA Department of Mental Health on 09/18/03.
19. California Department of Mental Health. Statistics on Severe and Persistent Mental Illness for Los Angeles County. September 18. 2003. Statistical Reports. Web site. Available at: http://www.dmh.ca.gov/SADA/default.asp.
20. Los Angeles County, Department of Mental Health. Client Characteristics, FY 2002-2003. LAC-DMH Planning Files, 2003.
21. Los Angeles County, Department of Health Services. *The Prevention of Perinatal HIV Transmission in Los Angeles County: Where We Are in 2002*. Los Angeles County Acute Communicable Disease Control, 2003.
22. Jayaraman GC, Preiksaitis JK, Larke B. Mandatory Reporting of HIV Infection and Opt-out Perinatal Screening for HIV Infection: Effect on Testing Rates. *Canadian Medical Association Journal.* 2003; 168: 679-682.
23. Kothe D, Byers RH, Caudill SP, Satten GA, Janssen RS, Hannon WH, and Mei JV. Performance Characteristics of a New Less Sensitive HIV-1 Enzyme Immunoassay for Use in Estimating HIV Seroincidence. *JAIDS*. 2003; 33: 625-634.
24. Janssen, RS, Satten GA, Stramer SL, Rawal BD, O'Brien TR, Weiblen BJ, Hecht FM, Jack N, Cleghorn FR, Khan OK, Chesney MA, Busch MP. New Testing Strategy to Detect Early HIV-1 Infection for Use in Incidence Estimates and for Clinical and Prevention Purposes. *Journal of the American Medical Association*. 1998; 280:42-49.

25. Centers for Disease Control and Prevention. Advancing HIV Prevention: New Strategies for a Changing Epidemic - United States, 2003. *MMWR.* 2003; 52: 329-332.

26. Wohl AR, Johnson DF, Lu S, Frye D, Bunch G, Simon P. Recent Increase in High-Risk Behaviors among Sexually Active Men who have Sex with Men Living with AIDS in Los Angeles County (Letter). *Acquired Immune Deficiency Syndrome*. 2004; 35: 209-210.

27. Bluthenthal RN. Trends in HIV Seroprevalence and Risk Among Gay and Bisexual Men Who Inject Drugs in San Francisco - 1988 to 2000. *JAIDS*, 2001; 28: 264-269.

28. Cohan D, Lum PJ. Preventing AIDS in Young MSM-IDU, The Saint UFO Study (Abstract). 20th California AIDS Investigators' Meeting, 6th Conference on AIDS Research in California. February 20, 2004: Los Angeles, CA.

29. Montgomery JP, Mokotoff ED, Gentry AC, and Blair JM. The Extent of Bisexual Behavior in HIV Infected Men and Implications for Transmission to Their Female Partners. *AIDS Care*. 2003; 15: 829-837.

30. Wohl AR, Johnson DF, Lu S, Jordan W, Beall G, Currier J and Simon PA. HIV Risk Behaviors Among African American Men in Los Angeles County Who Self-Identify as Heterosexual. *Journal of Acquired Immune Deficiency Syndromes.* 2002; 31: 354-360.

31. Harawa NT, Bingham TA. In What Country Were You Born? Differences in identity and behavior between US- and Foreign-born Latino MSM (Abstract). Presentation at the 131st Annual Meeting of APHA, San Francisco, November 17, 2003.

32. Personal communication with Trista Bingham of Los Angeles County HIV Epidemiology Program on August 31 and October 22, 2004: preliminary results of the Los Angeles Men's Study.

33. Cheng FK, Ford WL, Weber MD, Cheng SY, Kerndt PR. A Probability-Based Approach for Predicting HIV Infection in a Low Prevalent Population of Injection Drug Users. *Annals of Epidemiology*. 1997; 7: 28-34.

34. Montgomery SB, Hyde J, De Rosa CJ, Rohbach LA, Ennett S, Harvey SM, Clatts M, Iverson E, Kepke MD. Gender Differences in HIV Risk Behaviors among Young Injector and Their Social Network Members. *Am. Journal of Drug and Alcohol Abuse*. 2002; 28(3): 453-75.

35. Evans JL, Hahn JA, Pafe-Shafer K, Lum PJ, Stein ES, Davidson PJ and Moss AR. Gender Differences in Sexual and Injection Risk Behavior among Active Young Injection Drug Users in San Francisco (the UFO Study) *Journal of Urban Health: Bulletin of the New York Academy of Medicine*. 2003; 80(1): 137-46.

36. Kral AH, Lorvick J, Bluthenthal RN, Watters JK. HIV Risk Profile of Drug-Using Women Who Have Sex with Women in 19 United States Cities. *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology*. 1997; 16:211-217.

37. Wyatt GE, Myers HF, Williams JK, Kitchen CR, Loeb T, Carmona JV, Wyatt LE, Chin D, and Presley N. Does a History of Trauma Contribute to HIV Risk for Women of Color? Implications for Prevention and Policy. AJPH. 2002; 94(4): 660-665.

38. Centers for Disease Control and Prevention. Heterosexual Transmission of HIV - 29 States, 1999-2002. *Morbidity and Mortality Weekly Report*. 2004; 53(6): 125-129.

39. Lash B, Wohl A, Johnson D, Frye D, Wolfe M. Socio-demographic Information and Risk Behaviors of Latino Women with HIV and AIDS - LA County: 2000-2002. (Unpublished)

40. California Department of Health Services. *Consensus Meeting on HIV/AIDS Incidence and Prevalence in California.* December 2001.

41. Boehmer, U. Twenty Years of Public Health Research: Inclusion of Lesbian, Gay, Bisexual, and Transgender Populations. *American Journal of Public Health*. 2002; 92: 1125-1130.

42. Clements-Nolle K, Marx R., Guzman R, Katz M. HIV Prevalence, Risk Behaviors, Health Care Use, and Mental Health Status of Transgender Persons: Implications for Public Health Intervention. *American Journal of Public Health*. 2001; 91: 915-921.

43. Kellog TA, Clements-Nolle K, Dilley J, Katz MH, and McFarland W. Incidence of Human Immunodeficiency Virus among Male-to-Female Transgendered Persons in San Francisco. *Journal of Acquired Immune Deficiency Syndromes*. 2001; 28: 380-384.

44. Reback CJ, Simon PA, Bemis CC, Gatson B. *The Los Angeles Transgender Health Study: Community Report*. May 2001.

45. Reback, CJ, Lombardi EL, Simon PA, and Frye DM. HIV Seroprevalence and Risk Behaviors Among Transgendered Women Who Exchange Sex in Comparison with Those Who do not. *Journal of Psychology and Human Sexuality* (In process).

46. Personal communication with Matt Muchler of AIDS Project Los Angeles (APLA) on April 15, 2003 concerning results of 2001APLA Client Survey.

47. Associated Press. "American Indians See Rapidly Climbing Infection Rates." Dec. 29, 2003.

48. Choi KH, Operario D, Gregorich SE, Han L. Age and Race Mixing Patterns of Sexual Partnerships among Asian Men Who Have Sex with Men: Implications for HIV Transmission and Prevention. *AIDS Education and Prevention*. 2003; 15 (Supp A): 53-65.

49. Myers HF, Javanbakht M, Martinez M, Obediah S. Psychosocial Predictors of Risky Sexual Behaviors in African American Men: Implications for Prevention. *AIDS Educ and Prevention*. 2003; 12 (Suppl A): 66-79.

50. Bingham TA, Harawa NT, Johnson SF, Secura GM, MacKellar DA, Valleroy LA. The Effect of Partner Characteristics on HIV Infection Among African American Men Who Have Sex With Men in the Young Men's Survey, Los Angeles, 1999-2000. *AIDS Educ and Prevention*. 2003; 15 (Suppl A): 39-52.

51. Brooks, R, Rotheram-Borus MJ, Bing EG, Ayala G., and Henry CL. HIV and AIDS among Men of Color who have Sex with Men and Women: An Epidemiological Profile. AIDS Educ and Prevention. 2003; 15 (Suppl A):1-6.

52. Nyamanthi, AM, Dixon EL, Robbins W, Smith C, et al. Risk Factors for Hepatitis C Virus Infection among Homeless Adults. *Journal of General Internal Medicine*. 2002; 17: 134-143.

53. Herndon B, Asch SM, Kilbourne AM, Wang M, Lee M, Wenzel SL, Andersen RL, and Gelberg L. Prevalence and predictors of HIV Testing among a probability sample of homeless women in Los Angeles County. *Public Health Reports*. 2003; 118: 261-269.

54. Health Research Associates. *Collaborative Injection Drug Users Study II: Summary Report*. 2004; Los Angeles.

55. Centers for Disease Control and Prevention. HIV/AIDS in Urban and Nonurban Areas of the United States. *Morbidity and Mortality Weekly Report*. 2000; 6 (SS-2).

56. Murrill CS, Weeks H, Castrucci BC, Weinstock HS, Bell BP, Spruill C., and Gwinn Marta. Age Specific Seroprevalence of HIV, Hepatitis B Virus, and Hepatitis C Virus Infection among Injection Drug Users Admitted to Drug Treatment in 6 US Cities. *American Journal of Public Health*. 2002; 92: 385-387.

57. Ciccarone D and Bourgeois P. Explaining the Geographical Variation of HIV among Injection Drug Users in the US. *Substance Abuse and Misuse*. 2003; 38: 2049-2063.

58. Chen JL, Bovee MC, Kerndt PR. Sexually Transmitted Disease Surveillance Among Incarcerated Men Who Have Sex With Men - An Opportunity for HIV Prevention. *AIDS Education Prevention*. 2003; 15 (Supplement A): 117-26.

59. Wohl AR, Johnson D, Jordan W, Lu Sharon, Beall G, Currier J, and Kerndt PR. High-Risk Behaviors during Incarceration in African-American Men Treated for HIV at three Los Angeles Public Medical Centers. *JAIDS*. 2000; 24: 386-392.

60. Stueve A, O'Donnell L, Duran R, San Doval A, Geir J. Being High and Taking Sexual Risks: Findings from a Multisite Survey of Urban Young Men Who Have Sex With Men. *AIDS Education and Prevention*. 2002; 14(6): 482-95.

61. Stall R, Paul JP, Greenwood G, Pollack LM, Bein E, Crosby GM, Mills TC, Binson D, Coates TJ, Catania JA. Alcohol Use, Drug Use and Alcohol-related Problems among Men Who Have Sex with Men: The Urban Men's Study. *Addiction*. 2001; 96(11): 1589-601.

62. Jacobs, Andrew. "The Beast in the Bathhouse." *New York Times*, 01/12/04.

63. Robinson, Andrea. "Methamphetamine Taking a Toll on Gays." *Miami Herald,* 03/22/04.

64. Woods WJ, Lindan CP, Hudes ES, Boscarino JA, Clark WW, Avins AL. HIV Infection and Risk Behaviors in Two Cross-sectional Surveys of Heterosexuals in Alcoholism Treatment. *Journal of Studies in Alcohol*. 2000; 61(2): 262-6.

65. Galvan FH,Bing EG, Felishman JA, London AS, Caetano R, Burnam MA, Longshore D, Morton SC, Orlando M, Shapiro M. The Prevalence of Alcohol Consumption and Heavy Drinking among People with HIV in the United States: Results from the HIV Cost and Services Utilization Study. *Journal of Studies in Alcohol*. 2002; 63:179-186.

66. Bing EG, Burnam MA, Longshore D, Fleishman JA, Sherbourne CD, London AS, Turner BJ, Eggan F, Beckman R, Vitiello B, Morton SC, Orlando M, Bozette SA, Ortiz-Barron L, Shapiro M. Psychiatric Disorders and Drug Use Among Human Immunodeficiency Virus-Infected Adults in the United States. *Archives of General Psychiatry*. 2001; 58(8): 721-8.

67. Stall R, Mills TC, Williamson J, Hart T, Greenwood G, Paul J, Pollack I, Binson D, Osmond D, Catania JA. Association of Co-occurring Psychosocial Health Problems and Increased Vulnerability to HIV/AIDS among Urban Men Who Have Sex With Men. *American Journal of Public Health*. 2003; 93(6): 939-42.

68. Galvan FH, Burnam MA, Bing EG. Co-occurring psychiatric symptoms and drug dependence or heavy drinking among HIV-Positive People. *Journal of Psychoactive Drugs*. 2003; 35 (Supplement 1): 153-60.

69. Shoptaw S, Peck J, Reback CJ, Rotheram-Fuller E. Psychiatric and Substance Dependence Comorbidities, Sexually Transmitted Diseases, and Risk Behaviors Among Methamphetamine-Dependent Gay and Bisexual Men Seeking Outpatient Drug Abuse Treatment. *Journal of Psychoactive Drugs.* 2003; 35 (Suppl 1):161-8.

70. Rotheram-Borus MJ, Song J, Gwadz M, Lee M, Van Rossem R, Koopman C. Reductions in HIV Risk among Runaway Youth. *Prevention Science*. 2003; 4(3): 173-87.

71. De Rosa CJ, Montgomery SB, Hyde J, Iverson E, and Kipke MD. HIV Risk Behavior and HIV Testing: A Comparison of Rates and Associated Factors among Homeless and Runaway Adolescents in Two Cities. *AIDS Education and Prevention*. 2001; 13 (2): 131-148.

72. Morris RE, Baker CJ, Valentine M, Pennisi AJ. Variations in HIV Risk Behaviors of Incarcerated Juveniles during a Four-Year Period: 1989-1992. *Journal of Adolescent Health*. 1998; 23(1): 39-48.

73. Shillington A, Clapp JD, Lehman SJ, Blumberg EJ, Sipan CL, Hovell MF, and Mueller K. A Comparison of Youth reporting risky sex while under the Influence and Youth reporting to have Sex Sober (Abstract). 20th California AIDS Investigators' Meeting, 6th Conference on AIDS Research in California. February 20, 2004: Los Angeles, CA.

74. Matich B. Where are the High-Risk Teenage Guys? An Analysis of Their Sexual Practices and Perceived Barriers to HIV Testing (Abstract). 20th California AIDS Investigators' Mtg., 6th Conference on AIDS Research in California. February 20, 2004: Los Angeles, CA.

75. Harawa NT, Bingham TA, Cochran SD, Greenland S, Cunningham WE. HIV Prevalence among Foreign- and US-Born Clients of Public STD Clinics. *American Journal of Public Health*. 2002; 92(12): 1958-1963.

76. Asch S, Rulnick S, Todoroff C, Richwald G. Potential Impact of Restricting STD/HIV care to Immigrants in Los Angeles County. *Int. Journal of STD and AIDS*. 1996; 7(7): 532-5.

77. Rieder HL, Cauthen GM, Comstock GW, Snider DE Jr. Epidemiology of Tuberculosis in the United States. *Epidemiology Reviews*. 1989; 11: 79-98.

78. Shafter RW and Montoya JG. Tuberculosis. *Textbook of AIDS Medicine*. Editor, Broder et al. 1994; Williams and Wilkins,. Baltimore, MD. Pp. 259-284.

79. Barnes PF, David MD, Lakey DL and Burman WJ. Tuberculosis in Patients with HIV Infection. *Infectious Disease Clinics of North America*. 2002; 16 (1): 107-108.

80. Fleming DT and Wasserjeit J. From epidemiological synergy to public health policy and practice: The contribution of other sexually transmitted diseases to sexual transmission of HIV infection. *Sex Transmission and Infection*. 1999; 75: 3-17.

81. Centers for Disease Control and Prevention. Outbreak of Syphilis among Men Who Have Sex with Men - Southern California, 2000. *Morbidity and Mortality Weekly Report*. 2001; 50: 117-20.

82. Chen JL, Kodagoda D, Lawrence AM, and Kerndt PR. Rapid Public Health Interventions in Response to an Outbreak of Syphilis in Los Angeles. *STD*. 2002; 29: 277-284.

83. California Department of Health Services, STD Control Branch. Sexually Transmitted Diseases, Weekly Report. March 2004. Web site. Available at: http://www.dhs.ca.gov/ps/dcdc/STD/stdindex.htm.

84. Centers for Disease Control and Prevention. Trends in Primary and Secondary Syphilis and HIV Infection in Men Who Have Sex with Men - San Francisco and Los Angeles, California, 1998 - 2002. *Morbidity and Mortality Weekly Report*. 2004; 53: 575-578.

85. San Francisco serosorting may explain odd HIV data. STD's have risen, but not new HIV infections. *AIDS Alert*. May 2004; 19(5): 55-6.

86. Golden MR, Devon DB, Kurth A, et al. Importance of Sex Partner HIV Status in HIV Risk Assessment Among Men Who have Sex with Men. *JAIDS.* 2004; 36:734-742.

87. Centers for Disease Control and Prevention. Recommendations for Prevention and Control of Hepatitis C Virus (HCV) Infection and HCV-Related Chronic Disease. *Morbidity and Mortality Weekly Report*. 1998; 47 (RR-19): 1-38.

88. Centers for Disease Control and Prevention. Recommendation for testing based on risk for HCV infection. Hepatitis C Fact Sheet. Web site. Available at: www.cdc.gov/nci/dod/diseases/hepatitis/c/fact.htm.

89. Hammer GP, Kellogg TA, McFarland WC, Wong E, Louie B, Williams I, Dilley J, Page-Shafer K, and Klausner JD. Low Incidence and Prevalence of Hepatitis C Virus Infection among Sexually Active Non-Intravenous Drug-Using Adults, San Francisco, 1997-2000. *Sexually Transmitted Diseases*. 2003; 30 (12): 919-924.

90. Vandelli C, Renzo F, Romano L, Tisminetzky S, de Palma M, Stroffolini T, Ventura E, Zanetti A. Lack of Evidence of Sexual Transmission of Hepatitis C among Monogamous Couples: Results of a 10-year Prospective Follow-up Study. *American Journal of Gastroenterology*. 2004; 99 (5): 855-859.

91. Alter MJ, Mast EE, Moyer LA, and Margolis HS. Hepatitis C. *EID*. 1998; 12 (1): 13-26.

92. Pawlotsky J. Treating Hepatitis C in "Difficult-to-Treat" Patients. *New England Journal of Medicine*. 2004; 351 (5): 422-423.

93. "Depression High among HIV-Positive Patients: Rates are more than five times greater." *AIDS Alert*. March 2004; 19(3): 34.

94. Feldman D. HIV/Hepatitis C Coinfection: Confronting Twin Epidemics. *AIDS Community Research Initiative of America Forum Summary*. January 2000. Web site. Available at: http://www.criany.org/treatment/treatment_edu_forumjan1200.html.

95. Centers for Disease Control and Prevention. Frequently asked questions and answers about Coinfection with HIV and Hepatitis C Virus. Web site. Available at: http://www.cdc.gov/hiv/pubs/facts/HIV-HCV_Coinfection.htm.

96. Fisher DG, Reynolds GL, Branson CM, Itatani C, Willey C, and Mendez A. Hepatitis and HIV among IDUs in Los Angeles County, CA (Abstract). American Public Health Association. Web site. Available at: http://apha.confex.com/apha/131am/techprogram/paper_62983.htm; and personal communication with Dennis Fisher of California State University, Long Beach on 9/232/04.

97. Personal communication with Sharon Hudson of Health Research Association of Los Angeles on May 19, 2004.

98. World Institute on Disability. AIDS Drug Assistance Program (ADAP): Program Description. September 2004. Web site. Available at: http://www.disabilitybenefits101.org/ca.

99. Johnson DF, Sorvillo FJ, Wohl AR, Bunch G, Harawa NT, Carruth A, Castillon M and Jimenez B. Frequently Failed Early HIV Detection in a High Prevalence Area: Implications for Prevention. *AIDS Patient Care and STDs*. 2003; 17 (6): 277-282.

100. Garland WH, Wohl AR, Squires K, Witt M, Kovacs A, Larsen R. Characterizing adherence support for highly-active antiretroviral therapy (HAART) in three public clinics in Los Angeles, California (Abstract). XV Int. AIDS Conference, July, 2004, Bangkok, Thailand.

101. Wohl AR, Garland W, Cheng S., Squires K, Kovacs A, Larsen R, Witt M., Hader S., and Weidle P. Reasons for Non-Adherence to Highly Active Antiretroviral Therapy (HAART) Among Public Clinic Patients (Unpublished abstract accepted for presentation at the Infectious Disease Society of America Conference, Boston, MA in November 2004).

HIV Epidemiology Program
600 S. Commonwealth Avenue • Suite 1920 • Los Angeles, CA 90005
Phone (213) 351-8196 • Fax (213) 487-9386
www.lapublichealth.org/hiv