

AIDS IN BLACKS

COUNTY OF SAN DIEGO, 2010

**County of San Diego
Health and Human Services Agency**

**Epidemiology & Immunization Services
HIV/AIDS Epidemiology Unit**

COUNTY OF SAN DIEGO



HHSA

HEALTH AND HUMAN SERVICES AGENCY

AIDS IN BLACKS COUNTY OF SAN DIEGO 2010

County of San Diego
Health and Human Services Agency
Public Health Services



Contact us for more information at:

Epidemiology & Immunization
Services Branch
Epidemiology Program
1700 Pacific Highway, P577
San Diego, CA 92101

(619) 515-6620
(619) 515-6675 (fax)

This report is available on the web at:

www.sdhivaid.org

Nick Macchione, M.S., M.P.H., F.A.C.H.E.

Director, HHSA

Wilma Wooten, M.D., M.P.H.,

Public Health Officer

Karen Waters-Montijo, M.P.H.

Chief, Epidemiology & Immunization Services Branch

Michele Ginsberg, M.D.,

Medical Director, Epidemiology & Immunization
Services Branch

Michael Bursaw, M.P.H., (619) 515-6672

Ernie Awa, (619) 531-4818

Lorena Gonzalez-Fabiny, (619) 515-6757

Lorri Freitas, M.P.H., (619) 515-6764

Minda Johnson, (619) 515-6762

Francisco McGann, (619) 515-6763

Samantha Tweeten, Ph.D., (619) 515-6673

AIDS DATA

The first black resident of San Diego county with AIDS was diagnosed in 1984. Since then, blacks have made up 12.7% of individuals diagnosed with AIDS in the County; blacks have the third highest number of cases diagnosed each year following whites and Hispanics. Blacks constitute about 5% of the population of the County of San Diego and are, therefore, overrepresented in the local AIDS case population (see Table 1).

The proportion of AIDS cases in San Diego County diagnosed in blacks has been consistently about three times the proportion of blacks in the general population. Blacks make up about 14% (2009 estimate) of the US population which is higher than in the San Diego County (5%, 2009 estimate). The Centers for Disease Control and Prevention (CDC) estimates (2008) that 42.2% of cumulative and 49.3% of 2008 AIDS cases in the US are in blacks/African Americans; blacks make up 12.7% of cumulative and 13.1% of

2009 cases in San Diego County.

Whites have had the largest number of AIDS cases in San Diego County each year, but blacks have had the highest rate of AIDS cases since the mid-1980s. This rate, measured per 100,000 persons, more accurately reflects the relative disease burden in each group (i.e., race/ethnicity, age). The rate of AIDS in blacks is 2-3 times that of Hispanics and 2-4 times that of whites (see Table 2 and Figure 1). Like the proportion of cases in blacks, the rate of AIDS diagnoses in blacks in 2008 (32.5 per 100,000) in San Diego County is a third lower than the US rate (49.3 per 100,000) estimated by the CDC in the same year. It should be noted, that there has been a significant decline in the rate of black AIDS cases from 2001-2003 (47-48/100,000) to 2004-2008 (28-36/100,000).

Asian/Pacific Islander cases are not presented separately in the tables because of small numbers. They are included in “all case” data.

TABLE 1

Proportion of the Black Population in San Diego County and Among County AIDS Cases, 2003-2009, San Diego County

year	San Diego County		AIDS Cases	
	population*	% Black	diagnosed	% Black
2003	2,961,579	5	430	18
2004	3,014,204	5	411	13
2005	3,051,280	5	411	11
2006	3,066,820	5	399	13
2007	3,098,269	5	380	16
2008	3,146,274	5	344	16
2009	3,173,407	5	328**	13

*SANDAG population estimate.

**Additional 2009 cases are expected to be reported in 2010.

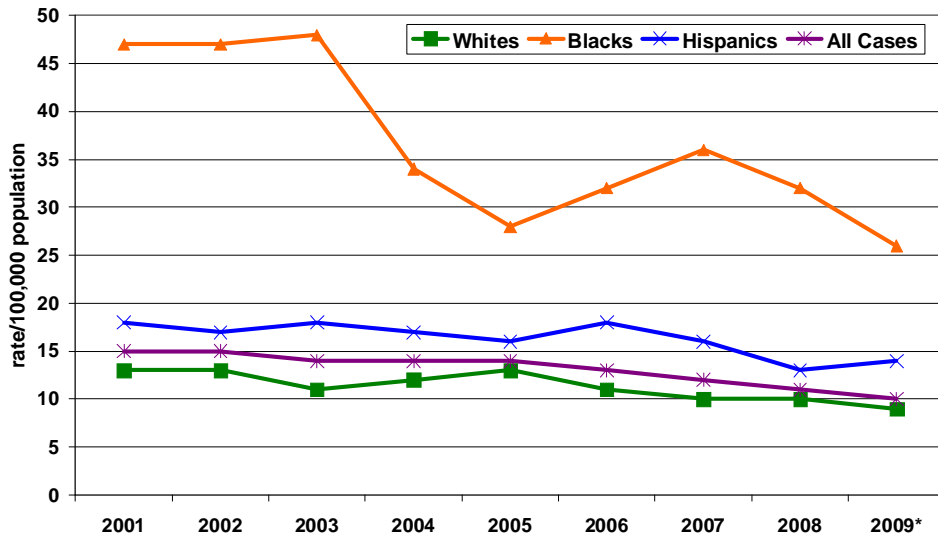
TABLE 2:
Number and Rate of AIDS Cases in Whites, Blacks, and Hispanics, 2001-2006, San Diego County

year	Race/Ethnicity						All Cases	
	White		Black		Hispanic			
	cases	rate**	cases	rate**	cases	rate**	cases	rate**
2001	204	13	78	47	146	18	446	15
2002	226	13	76	47	146	17	463	15
2003	184	11	81	48	161	18	442	14
2004	204	12	59	34	150	17	431	14
2005	210	13	45	28	142	16	411	14
2006	170	11	53	32	160	18	399	13
2007	158	10	60	36	143	16	380	12
2008	151	10	54	32	123	13	344	11
2009*	139	9	43	26	133	14	328	10

*Additional 2009 cases are expected to be reported through out 2010.

**Per 100,000 population.

FIGURE 1
Rate of AIDS cases in Whites, Blacks, and Hispanics, 2001-2006, San Diego County



*Additional cases expected to be reported in 2010.

GENDER

More men than women are diagnosed with AIDS each year in all racial/ethnic groups. The cumulative percent of females in black AIDS cases is higher than in whites

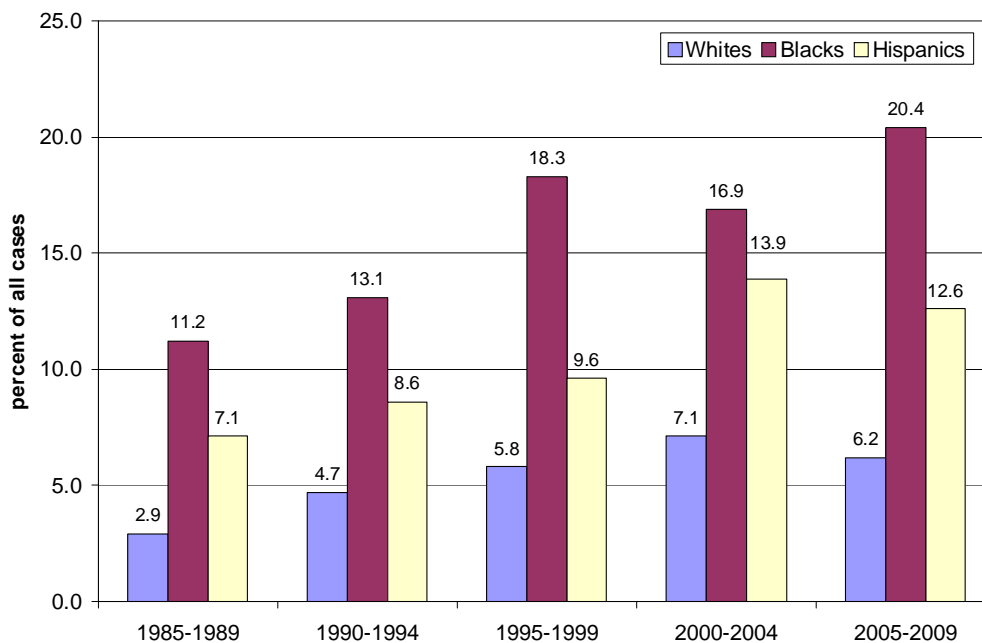
or Hispanics (see Table 3 and Figure 2). The proportion of female cases in each racial/ethnic group has been increasing over time. The increase over time periods is significant in whites ($p < 0.001$), blacks ($p = 0.002$), and

TABLE 3:
Proportion of Female AIDS Cases by Race/Ethnicity, San Diego County

Time period	Race/Ethnicity						All Cases	
	White		Black		Hispanic		total cases	%*
	total cases	%* female	total cases	%* female	total cases	%* female		
1981-1984	72	1.4	1	0	6	0	79	1.3
1985-1989	1,598	2.9	187	11.2	239	7.1	2,057	4.3
1990-1994	3,239	4.7	548	13.1	868	8.6	4,774	6.5
1995-1999	1,793	5.8	449	18.3	866	9.6	3,214	9.1
2000-2004	1,028	7.1	366	16.9	765	13.9	2,242	11.1
2005-2009	828	6.2	255	20.4	701	12.6	1,862	10.7
cumulative	8,558	5.0	1,806	16.0	3,442	10.7	14,228	8.0

*Percent of all cases diagnosed in the time period and race.

FIGURE 2:
Percent of White, Black, and Hispanic AIDS Cases Diagnosed in Women Over Time, San Diego County



Hispanics ($p < 0.001$).

The AIDS case rate in black males (45.1/100,000 in 2008) is almost three times that seen in white males (17.6/100,000 in

2008) and almost twice that in Hispanic males (23.8/100,000 in 2008). Differences in rates in female cases are even more pronounced. The rate in black female cases

(18.8/100,000 in 2008) is more than ten times that seen in white female cases (1.4/100,000 in 2008) and more than seven times that seen in Hispanic female cases (2.5/100,000 in 2008). The rate of black female cases in San Diego County (18.8/100,000 in 2008) is half the national estimate reported by the CDC (39.9/100,000).

Over the course of the epidemic, the proportion of female black AIDS cases is about three times greater than that seen in whites and 50% higher than in Hispanics.

AGE AT DIAGNOSIS

The mean age at diagnosis of cumulative AIDS cases in blacks, 37.2 years, is statistically significantly younger than in whites (39.1 years, $p < 0.001$), but significantly older than in Hispanics (36.3 years, $p = 0.022$) (see Table 4). In recent years, 2005-2009, blacks have remained significantly younger at diagnosis than whites ($p < 0.001$), but not significantly older than Hispanics ($p = 0.984$).

Cumulatively, age at diagnosis is most often in the 30-39 year age range and

blacks have a greater proportion in this group than whites or Hispanics (see Figure 3). Over time however, the mean age at diagnosis has increased in all racial/ethnic groups so that there has been a shift in mean age to the 40-49 year range for all cases. When grouped by race/ethnicity, only whites are, on average, in the 40-49 age range (see Table 4).

The number of cumulative pediatric cases (diagnosis in those under thirteen years of age) is the same for blacks and whites, but the proportion in blacks (1.5%) is almost four times that seen in whites (0.4%). This proportion in blacks is lower than that seen in Hispanics (2.0%). Small numbers of pediatric cases mean that the significance of these differences cannot be determined and these data should be interpreted with caution.

It should be noted that although there are statistical differences in mean age at diagnosis across race/ethnicities, it is unlikely that these represent clinically significant differences.

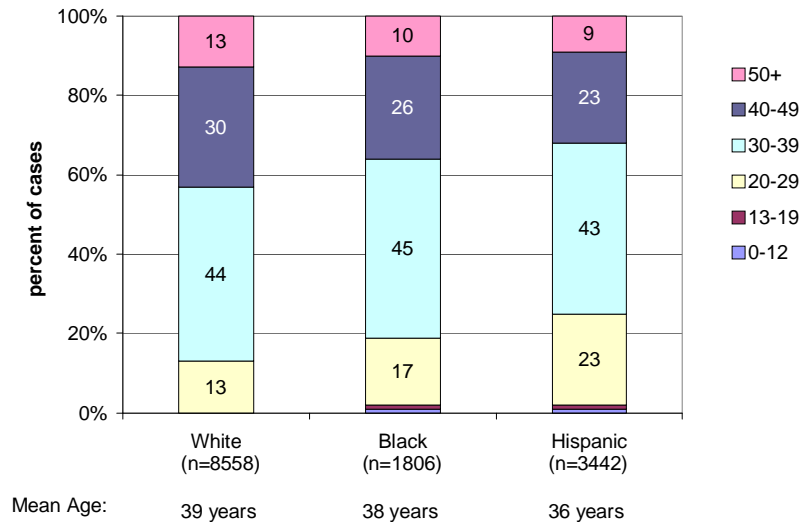
TABLE 4:
Mean and Median, and Age Range at Time of AIDS Diagnosis in Whites, Blacks, and Hispanics, Recent and Cumulative Cases, San Diego County

	Race/Ethnicity							
	White		Black		Hispanic		All Cases	
	recent*	all**	recent*	all**	recent*	all**	recent*	all**
mean age (years)	42.7	39.1	39.1	37.2	38.0	36.3	40.2	38.1
median age (years)	42.0	38.0	39.0	36.5	37.0	35.0	40.0	37.0
range (years)	16-85	0-92	5-69	0-71	0-83	0-83	0-85	0-92
number of cases	828	8,558	255	1,806	701	3,442	1,862	14,228

*Diagnosed in 2005-2009.
**Diagnosed in 1981-2009.

FIGURE 3:

Percent of Cumulative AIDS Cases by Age Groups in Whites, Blacks, and Hispanics, San Diego County



CURRENT AGE

About half, 50.8%, of the individuals who were diagnosed with AIDS in San Diego County were deceased by December 31, 2006. In black cases alive in 2006, the mean age was 45.0 years (see Table 5). Among those alive in 2006, blacks were significantly younger than whites ($p < 0.001$) and significantly older than Hispanics ($p < 0.001$).

Again, it should be noted that al-

though there are statistical differences in current age across races/ethnicities, these differences are not likely to be clinically significant.

MODE OF HIV TRANSMISSION

Men who have sex with men (MSM) has been and continues to be the most commonly reported mode of HIV transmission among men with AIDS, regardless of race/ethnic group (see Table 6). Although the

TABLE 5:

Current (2009) Age of White, Black, and Hispanic Individuals Living with AIDS, San Diego County

Age Measure	Race/Ethnicity			All Cases
	White	Black	Hispanic	
Mean age (years)	49.4	46.5	44.5	47.4
Median age (years)	49.0	47.0	44.0	47.0
Range (years)	10-86	10-79	4-88	4-88
Total cases	3,649	940	2,177	7,006

TABLE 6:

Mode of HIV Transmission Among Adult/Adolescent White, Black, and Hispanic Males with AIDS, San Diego County

	Race/Ethnicity							
	White		Black		Hispanic		All Cases	
	recent*	1981-2009	recent*	1981-2009	recent*	1981-2009	recent*	1981-2009
MSM	77%	82%	68%	65%	77%	77%	76%	79%
IDU	7%	4%	12%	16%	6%	9%	7%	7%
MSM+IDU	13%	11%	10%	14%	8%	10%	11%	11%
Heterosexual	3%	1%	9%	4%	8%	3%	6%	2%
Other**	<1%	2%	1%	1%	1%	1%	<1%	1%
Total in group	777	8,124	201	1,507	612	3,058	1,659	13,052

*2005-2009

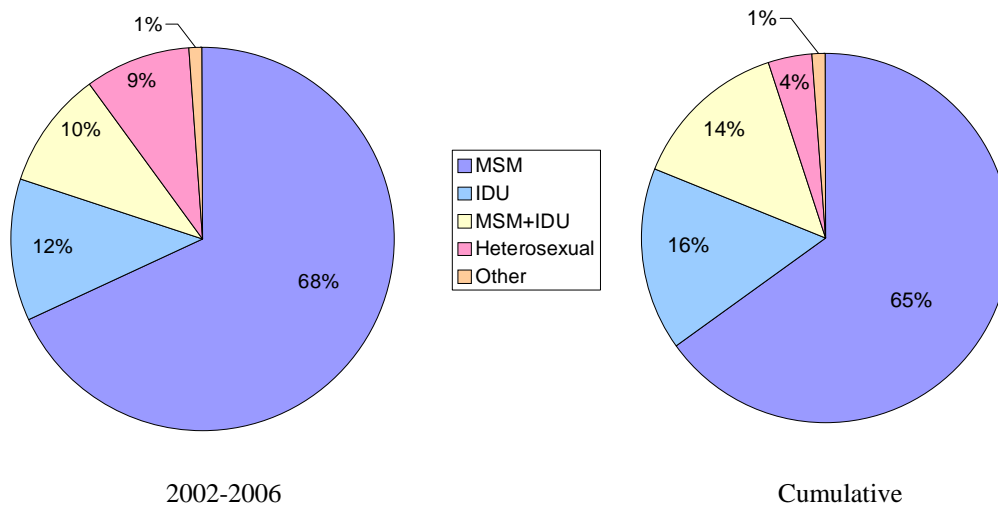
**Includes transfusion, transplantation, hemophilia, and not specified.

proportion of MSM AIDS cases has significantly declined in whites over time, it has remained relatively stable in blacks with about two-thirds of cases attributed to this mode of transmission. Black men/adolescents have the lowest proportion of AIDS cases diagnosed in MSM, but injecting drug use (IDU) is significantly more

commonly reported as mode of transmission for HIV in black male AIDS cases than in whites ($p < 0.001$) or Hispanics ($p < 0.001$) cases, although this proportion decreased somewhat in recent years. The proportion of black adult/adolescent AIDS cases with MSM+IDU, has also decreased over time (see Figure 4). Heterosexual transmission

FIGURE 4:

Recent (2002-2006) and Cumulative Modes of HIV Transmission in Black Males, San Diego County



among males has increased significantly over time intervals in all races/ethnicities. Only two recent cases (2005-2009) have resulted from receiving blood products, both received out of the country.

The proportion of MSM in black AIDS cases in recent years, 68%, is higher in San Diego County than the CDC 2008 national estimate (52%). The CDC 2008 estimates for IDU (17%) and heterosexual transmission (24%) in black males were higher than the proportions seen in the County (16% and 4% respectively).

In adult/adolescent women, heterosexual contact is the most commonly reported mode of HIV transmission (see Table 7). The proportion of cumulative AIDS cases in black women listing heterosexual contact as mode of transmission has increased significantly ($p < 0.001$) over time while the proportion with IDU has decreased significantly ($p < 0.001$). In recent years, the proportion of black female cases with heterosexual transmission is higher than that in whites ($p < 0.001$), but is similar to that seen in Hispanics ($p = 0.760$). The proportion of cu-

mulative and recent IDU in black adult/adolescent female cases is lower than that seen in whites; cumulatively, the proportion of female black IDU cases is higher than in Hispanics, but the proportions are the same in recent years. Unlike cases in black men, the CDC 2008 estimate for black female AIDS cases for proportion of heterosexual (77%) is lower than in the County (88%), but the CDC estimate for IDU (21%) is higher than the County (16%).

COUNTRY OF ORIGIN

The vast majority (94.2%) of black cases, like white cases, were born in the United States (see Table 8). Of the 103 black cases not born in the US or a US dependency, 72% were born in sub-Saharan Africa. Sub-Saharan countries of origin include Ethiopia, Kenya, the Somali Republic, Uganda, the Democratic Republic of Congo, Burundi, and others. Thirteen percent (13%) of black cases born outside the US are of Caribbean origin. An additional 1-3% of cases each are from Asia, Europe, Central America, or South America. In recent years, the

TABLE 7

Mode of HIV Transmission Among Adult/Adolescent White, Black, and Hispanic Women with AIDS, San Diego County

	Race/Ethnicity						All Cases	
	White		Black		Hispanic		recent*	cumulative
	recent*	cumulative	recent*	cumulative	recent*	cumulative		
Heterosexual	65%	46%	82%	57%	80%	69%	76%	57%
IDU	33%	43%	16%	39%	16%	24%	21%	35%
Blood/tissue#	0%	9%	2%	3%	0%	5%	1%	6%
Other**	2%	2%	0%	1%	4%	2%	2%	2%
Total in group	51	420	51	284	86	349	197	1,110

* 2005-2009

**Includes partner with known HIV, maternal transmission, and risk not specified.

#Includes recipients of blood, blood products, tissues in transfusions/transplantations, and artificial insemination.

TABLE 8:
Country of Origin of Cumulative White, Black, and Hispanic AIDS Cases, San Diego County

	Race/Ethnicity			All
	White	Black	Hispanic	Cases*
USA	97.7%	94.2%	39.3%	81.8%
US Dependency	0.1%	0.1%	2.0%	0.6%
Other/Unknown	2.2%	5.7%	58.6%	17.5%
Total in group	8,556	1,801	3,442	14,228

*Diagnosed 1981-2009.

proportion of black cases born outside of the US has increased to 13%, of which 88% are from Sub-Saharan African countries. In contrast, the majority of whites born outside the US or a US dependency were born in Europe and Canada, and the majority of Hispanic cases born outside the US or a US dependency, are primarily from Mexico.

It is beyond the scope of the current database to determine how long a person with AIDS born outside the US or its territories has been a resident of the US. It is possible that a case born outside the US has lived here for all but a few months of his or her life. It

is therefore not possible, with the current data set, to assess acculturation or how being born outside the US impacts risk factors.

RESIDENCE AT DIAGNOSIS

The city of San Diego encompasses a wide geographic area, extending outward from the Health and Human Services Agency (HHSA) Central Region. Almost 70% of cumulative black cases were living in the Central Region at the time of their diagnosis, somewhat more than the 60% of white cases in this Region (see Table 9). The North Central and South Regions had about

TABLE 9:
HHSA Region of Residence at Diagnosis in Cumulative and Recent AIDS Cases, by Race/Ethnicity, San Diego County

Region	Race/Ethnicity						All Cases	
	White		Black		Hispanic			
	cumulative	recent*	cumulative	recent*	cumulative	recent*	cumulative	recent*
Central	59.2%	56.2%	68.3%	62.4%	46.4%	36.8%	56.9%	48.9%
East	7.7%	8.8%	7.1%	9.0%	6.2%	7.0%	7.3%	8.4%
South	4.6%	7.0%	8.3%	10.6%	27.4%	35.7%	10.8%	18.5%
North Coastal	7.9%	8.3%	5.9%	5.5%	7.2%	8.3%	7.5%	8.0%
North Inland	5.0%	5.3%	1.8%	1.6%	4.9%	5.7%	4.6%	5.2%
North Central	15.9%	14.4%	8.6%	11.0%	7.9%	6.6%	12.9%	11.0%
Total	8,558	828	1,806	255	3,442	701	14,228	1,862

*2005-2009

Note: Percentages may not total 100 due to rounding.

8% of black cases each, while the North Coastal Region had about 6% of cases. The East Region had about 7% of black cases and the North Inland Region had only about 2% of black cases at the time of diagnosis. There has been some shift in the proportion of black cases from the Central region to the East, South, and North Central regions.

FACILITY OF DIAGNOSIS

AIDS is one of over 80 diseases which must, by law, be reported by the diagnosing health care provider to the local health department. Individual cases are reported from hospitals, private medical offices, public clinics, prisons, and other locations. More diagnoses have been made in the inpatient or outpatient hospital setting than in any other setting. Cumulatively, a significantly ($p < 0.001$) greater proportion of blacks (59%) were diagnosed in the hospital setting than whites (47%) or Hispanics (44%). A smaller proportion of blacks (15%) were diagnosed by private medical providers or HMOs than whites (27%; $p < 0.001$) or Hispanics (18%; $p = 0.011$). A similar pattern is seen in recent cases (2005-2009) although the proportion of cases being reported from hospital settings has increased across races/ethnicities.

In cumulative cases, blacks cases are three times as likely to be diagnosed in a correctional facility than white cases ($p < 0.001$), but are not significantly more likely than Hispanic cases ($p = 0.100$). These cases comprise only 2.6% of all black cases. In recent cases, those diagnosed in a correctional facility comprise 3.9% of black cases, but this is

only 14 cases and there are no significant differences between black, white, and Hispanic cases.

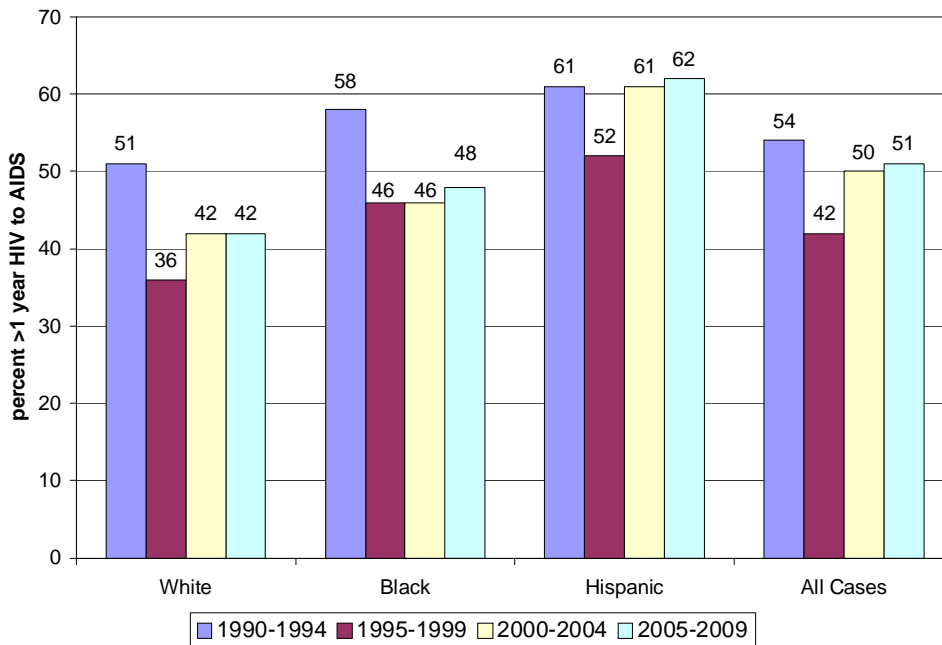
TIME FROM HIV TO AIDS

The time from HIV to AIDS diagnosis varies somewhat across races/ethnicities. The mean number of months from HIV to AIDS diagnosis is similar in whites (35 months) and blacks (34 months), but significantly lower in Hispanics (26 months). The number of months in recent cases is increased, but differences remain not significant in whites (62 months) and blacks (49 months) and significantly lower in Hispanics (31 months). Because these data are somewhat skewed it may be more appropriate to look at the proportion of cases with fewer than 12 months between HIV and AIDS diagnosis. When this proportion is looked at in cumulative cases, there is no significant difference between whites (53%) and blacks (54%), but both have significantly smaller proportions with fewer than 12 months from HIV to AIDS diagnosis than Hispanics (61%; $p < 0.001$).

When the proportion of cases with less than one year from HIV to AIDS diagnosis is examined over five-year time periods from 1987 to 2006, significant increases are seen in whites ($p < 0.001$), Hispanics ($p < 0.001$), and in all cases combined ($p < 0.001$) but not in blacks ($p = 0.606$) (see Figure 5). Hispanics have a significantly greater proportion of cases with fewer than 12 months between diagnoses than whites or blacks and blacks have a significantly higher proportion than

FIGURE 5

Percent of Cases with Less Than 1 Year from HIV to AIDS Diagnosis by Race/Ethnicity and Five-Year Time Periods, San Diego County



whites in each time period, but the difference between blacks and whites is decreasing over time.

Over the last 10 years, the proportion of cases with less than 12 months between HIV and AIDS diagnosis has been relatively stable across races/ethnicities (see Figure 6). There is little difference between blacks and whites, but Hispanics have a consistently greater proportion with less than 12 months between diagnoses. Half of all AIDS cases in the County have had less than a year between HIV and AIDS diagnosis, indicating a large proportion of cases testing later in their infection.

SURVIVAL

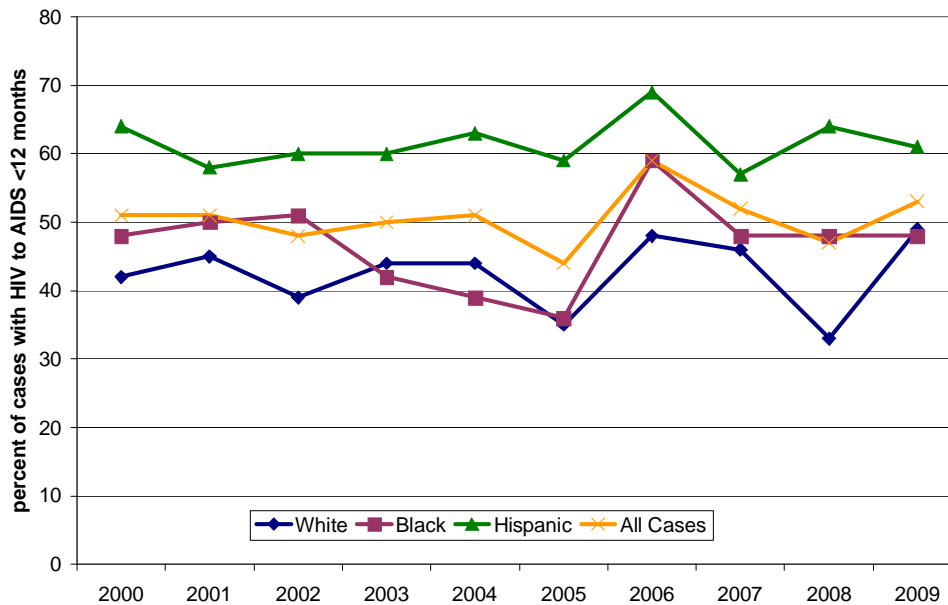
By the end of 2009, 48% of all black AIDS case diagnosed in the County, 57% of

white cases, and 37% of Hispanic cases had died.

The proportion of cases diagnosed in 2000-2004 in San Diego County surviving more than 12, 24, and 36 months does not differ significantly across races/ethnicities (see Table 10). The years 2000-2004 were chosen for comparison to CDC results for the same time period; the proportions of whites and blacks surviving more than 12 months ($p=0.010$ and $p=0.024$ respectively) and 24 months ($p=0.013$ and $p=0.034$) were significantly greater than that reported by the CDC, but the proportion in Hispanics did not differ. The proportion of cases diagnosed in San Diego County and surviving more than 36 months was significantly greater for whites ($p=0.003$), blacks ($p=0.025$) and Hispanics ($p=0.002$) than that reported

FIGURE 6:

Percent of Cases with Less than 1 Year from HIV to AIDS Diagnosis by Race/Ethnicity in Recent (2000-2009) Years, San Diego County

**TABLE 10:**

Proportion of AIDS Cases Diagnosed in 2000-2004 Surviving More Than 12, 24, and 36 Months, by Race/Ethnicity, National (CDC) and San Diego County Data

Race/ Ethnicity	Survival in Months (Proportion)					
	>12		>24		>36	
	CDC	County of San Diego	CDC	County of San Diego	CDC	County of San Diego
White	0.89	0.92	0.86	0.89	0.83	0.86
Black	0.87	0.91	0.83	0.87	0.80	0.85
Hispanic	0.90	0.91	0.87	0.89	0.85	0.88

by the CDC.

The mean length of time from AIDS diagnosis varies over the span of the epidemic. There has been a general increase in survival time over 5-year intervals. Part of this results from increased therapy options prolonging the lives of cases after diagnosis. Changes in case definition to include condi-

tions that arise earlier in HIV disease, such as lowered CD4 counts, also increase survival times by providing earlier diagnoses. Use of proportion surviving categorical time periods (i.e., >12, 24, and 36 months) may provide a less biased representation of survival over all (see Table 10).

In 1993, the AIDS case definition was

changed to include lowered CD₄ counts or percentages. This case definition change meant AIDS could be diagnosed earlier in the course of the disease and, in combination with more therapy options, contributed to increased survival time.

LIMITATIONS

The data contained in this report are dependent on accurate reporting from health-care providers, laboratories and patients. Patients, for many reasons, may not wish to provide accurate information to their health-care providers for reporting. Healthcare providers may not report complete information, or data entry errors may occur. These inaccuracies may impact analysis.

Caution should be exercised in the analysis of the most recent time period because additional cases are likely to be reported over time. Retrospective case finding will continue and it is expected that cases diagnosed in 2009 will be reported in 2010 and into 2011. Case reports are also updated as new information becomes available. When, for example, more information on risks is obtained, the database is updated. This may impact proportions and rates used in analysis.

Some of the variables under study do not have sufficient numbers of occurrences to make statistical inferences. It is the policy of the County of San Diego, Health and Human Services Agency not to report fewer than five individuals for any given variable, and when small numbers are presented, caution should be exercised in the interpretation of data. This is particularly true for pediatric

AIDS cases.

In 1993 the AIDS case definition was modified by the CDC to include those HIV positive patients in whom the CD₄ absolute count dropped below 200 or in whom the percent of CD₄ cells fell below 14%. This increased the number of cases substantially and allowed for the identification of cases earlier in their disease progress. It is probable that this has increased both the number of surviving cases and the length of survival from diagnosis to death.

Whenever possible, case information is updated as to vital status of cases. However, it is possible that some cases may have died but the death not reported to the HIV/AIDS Epidemiology Unit. Some of these cases may have left the area or state and died. This may result in inaccurate assumptions and survival calculations.

Differences in area population, particularly in comparison to the rest of the US, may make comparisons to national data difficult. In the County, blacks make up about 5% of the population, but make up 13% of the national population, and may therefore have a greater impact on national than local statistics.

DATA SOURCES:

County of San Diego, HIV/AIDS Epidemiology Unit database and Annual Report.

SANDAG population estimates.

HIV/AIDS Surveillance Report, 2008 (Vol. 20), Centers for Disease Control and Prevention.

HIV/AIDS SURVEILLANCE

EPIDEMIOLOGY & IMMUNIZATION SERVICES BRANCH

EPIDEMIOLOGY PROGRAM

1700 PACIFIC HWY, RM 107, MS P577

SAN DIEGO CA 92101

COUNTY OF SAN DIEGO



HHSA

HEALTH AND HUMAN SERVICES AGENCY