

Los Angeles County Department of Public Health

2015 Annual HIV/STD Surveillance Report



2015 Annual HIV/STD Surveillance Report

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Message from the Division of HIV and STD Programs

Dear Colleague:

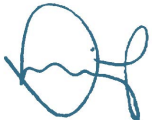
Enclosed please find the **2015 Annual HIV/STD Surveillance Report** for Los Angeles County (LAC), which includes data from the cities of Long Beach and Pasadena. The report is organized into sections by disease - each with a narrative that highlights key points from the tables and figures that follow. To provide timely data, measures for persons living with HIV (PLWH), syphilis, gonorrhea and chlamydia are for the 2015 calendar year. Due to reporting delay, data on HIV diagnoses, Stage 3 HIV diagnoses (AIDS) and deaths are for the 2014 calendar year.

From 2011-2014, the number of persons diagnosed with HIV in LAC increased slightly from 1,977 to 1,987. HIV diagnosis rates remain stable (20 per 100,000), while syphilis, gonorrhea and chlamydia rates are steadily rising with a 96% increase in primary and secondary syphilis, a 74% increase in gonorrhea and a 13% increase in chlamydia. Similar trends can be seen in other urban jurisdictions in the U.S. and may be attributed to increases in screening, disparities in access and utilization of healthcare, and decreases in self-perceived risk.

DHSP continues to support and enhance programs to reduce new HIV and STD infections including biomedical interventions such as pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) to prevent HIV; widespread HIV/STD testing to promote timely diagnosis and linkage to care; HIV re-engagement and retention programs to support treatment, improve individual health and reduce forward transmission; HIV/STD partner services to facilitate timely testing, treatment and contact tracing; and medical and ancillary services to promote individual and public health.

The Annual HIV/STD Surveillance Report is available online at the DHSP website, <http://publichealth.lacounty.gov/dhsp> by clicking the Reports link. We look forward to continued collaboration with our community partners to reduce new HIV and STD infections in LAC.

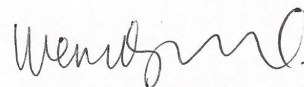
Sincerely yours,



Mario J. Pérez, MPH
Director



Virginia Hu, MPH
Acting Chief, HIV Surveillance



Wendy H. Garland, MPH
Chief, Research and Innovation

Overview of HIV and STDs in Los Angeles County, 2015

This overview summarizes case counts, rates and recent trends in Los Angeles County (LAC) for HIV, syphilis, gonorrhea and chlamydia (see Tables 1.1 and 1.2, and Figures 1.1A, 1.1B and 1.2). In 2014, there were a total of 75,932 cases of HIV and STDs reported in LAC in 2014.

Data for persons living with HIV (PLWH), syphilis, gonorrhea and chlamydia pertain to the 2015 calendar year. Due to a longer reporting delay, data for diagnoses of HIV infection and diagnoses of Stage 3 HIV infection (AIDS) pertain to the 2014 calendar year. More detailed information can be found in the respective disease-specific sections of the report. Data for 2014 and 2015 are preliminary and should be interpreted with caution.

Diagnoses of HIV infection in 2014

The number and rates of HIV diagnoses have been decreasing with a total of 1,987 LAC residents (20 per 100,000) reported as newly diagnosed with HIV infection in 2014 compared to a total of 2,192 LAC residents in 2009 (22 per 100,000).

Persons Living with HIV (PLWH)

There were a total of 49,976 reported PLWH in LAC as of December 31, 2015. Additionally, 1,500 persons with lab results were pending investigation and likely to result in unduplicated cases of HIV, and an estimated 8,943 persons were unaware of their infection (based on CDC's updated estimate of 14.6% of all PLWH in LAC are unaware).¹ If both pending labs and the estimate of persons who were unaware of their infection are added to reported cases, approximately 60,419 persons were living with HIV in LAC at the end of 2015. Note that the number of HIV cases reported in 2015 are provisional and thus the total number of PLWH in 2015, including unaware, is expected to increase for this time period.

Annual Diagnoses of Stage 3 HIV Infection (AIDS)

Stage 3 HIV infection is also known as Acquired Immunodeficiency Syndrome, or AIDS. The annual number of Stage 3 diagnoses in LAC has decreased substantially from a high of approximately 4,129 in 1992 to 949 in 2013. A total of 774 Stage 3 diagnoses were reported in 2014. Of these cases, 33% were diagnosed as Stage 3 less than one month after HIV diagnosis.

Syphilis

Syphilis rates have been rising in LAC for over a decade and a total of 5,050 cases of syphilis were reported in LAC in 2015, a 30% increase from 2014. Thirty-one percent (n=1,569; 15 per 100,000) of these cases were staged as primary and secondary (P&S), 36% (n=1,831; 18 per 100,000) as early latent (EL) and 32% (n=1,627; 16 per 100,000) as Late Latent or Late (LL/L). Since 2011, the number of reported P&S, EL and LL/L cases has risen by 96%, 68% and 51%, respectively. There has also been a 35% increase in congenital syphilis cases, which rose from 17 cases in 2011 to 23 cases in 2015.

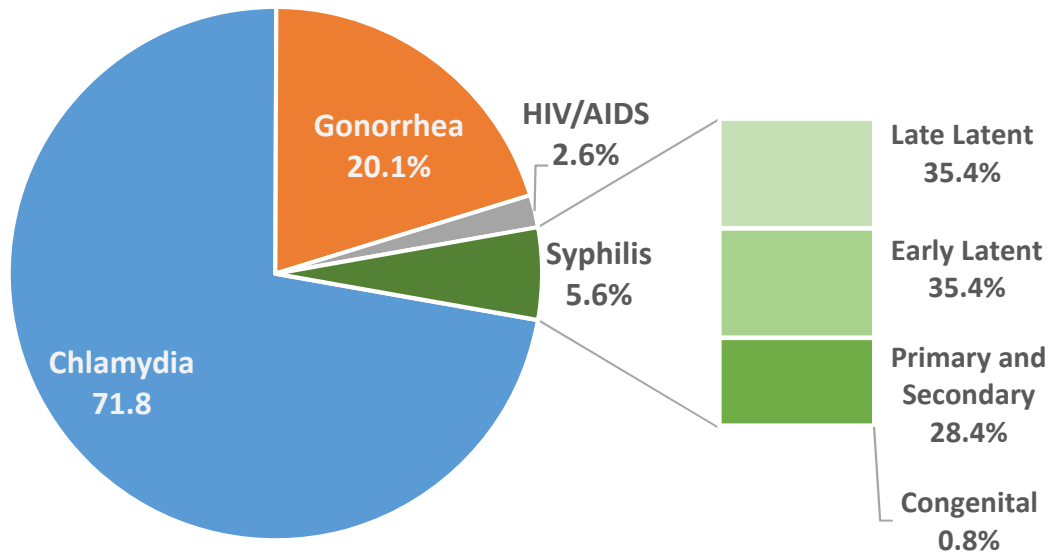
Gonorrhea

After decreasing from 2005 to 2008, gonorrhea rates have risen in LAC in subsequent years. A total of 17,442 cases of gonorrhea were reported in LAC in 2015 (171 per 100,000), resulting in a 74% increase in the number of reported cases from 2011 to 2015.

Chlamydia

After a decrease from 51,241 in 2012 to 50,521 in 2013, the number of chlamydia cases reported in LAC rose to 56,565 in 2015 (555 per 100,000). Chlamydia cases and rates have been steadily increasing in LAC for over a decade and from 2011 to 2015 there has been a 13% increase in the number of chlamydia cases reported in LAC.

Figure 1.1. Reported STD and HIV/AIDS Cases, Los Angeles County, 2014¹ (N=75,932)



¹ 2014 data are provisional due to reporting delay.

Table 1.1. HIV/STD Cases and Rates (per 100,000), Los Angeles County, 2011-2015

	2011 ¹		2012 ¹		2013 ¹		2014 ^{1,2}		2015 ^{1,2}	
	N	Rt	N	Rt	N	Rt	N	Rt	N	Rt
Total										
HIV										
Diagnoses of HIV Infection	1,977	20	2,006	20	1,756	18	1,987	20	-	-
Diagnoses of Stage 3 (AIDS)	1,007	10	1,102	11	949	9	774	8	-	-
Persons Living with HIV ³	45,373	460	47,005	473	48,613	485	49,717	494	49,976	490
Deaths in Persons with HIV Infection ⁴	589	6	545	5	534	5	549	5	-	-
Syphilis										
Primary & Secondary	801	8	933	9	1,084	11	1,195	12	1,569	15
Early Latent	1,088	11	1,330	13	1,374	14	1,488	15	1,831	18
Late Latent/Late	1,079	11	1,004	10	1,470	15	1,487	15	1,627	16
Congenital ⁵	17	13	8	12	9	7	33	25	23	19
Gonorrhea	10,043	102	11,911	120	12,949	129	15,230	151	17,442	171
Chlamydia	50,234	509	51,241	517	50,521	504	54,509	541	56,565	555
Male										
HIV										
Diagnoses of HIV Infection	1,743	36	1,771	36	1,522	31	1,750	35	-	-
Diagnoses of Stage 3 (AIDS)	868	18	964	20	840	17	664	13	-	-
Persons Living with HIV ³	39,569	813	41,047	837	42,484	860	43,474	875	43,678	869
Deaths in Persons with HIV Infection ⁴	500	10	460	9	466	9	468	9	-	-
Syphilis										
Primary & Secondary	786	16	904	19	1,034	21	1,137	23	1,472	29
Early Latent	1,023	21	1,241	25	1,272	26	1,342	27	1,697	34
Late Latent/Late	790	16	810	17	1,176	24	1,146	23	1,273	25
Gonorrhea	6,401	132	7,927	162	8,838	179	10,769	217	12,438	247
Chlamydia	17,075	351	17,891	366	17,853	361	20,481	412	21,739	432
Female										
HIV										
Diagnoses of HIV Infection	202	4	194	4	202	4	209	4	-	-
Diagnoses of Stage 3 (AIDS)	124	2	115	2	92	2	97	2	-	-
Persons Living with HIV ³	5,206	104	5,328	106	5,477	108	5,565	109	5,617	109
Deaths in Persons with HIV Infection ⁴	82	2	74	1	64	1	74	1	-	-
Syphilis										
Primary & Secondary	14	0	23	0	41	1	52	1	91	2
Early Latent	60	1	69	1	87	2	112	2	115	2
Late Latent/Late	281	6	190	4	284	6	315	6	337	7
Gonorrhea	3,604	72	3,932	78	4,049	80	4,401	86	4,941	96
Chlamydia	33,006	660	33,211	662	32,549	641	33,897	664	34,658	671
Transgender^{6,7}										
HIV										
Diagnoses of HIV Infection	32	-	41	-	32	-	28	-	-	-
Diagnoses of Stage 3 (AIDS)	15	-	23	-	17	-	13	-	-	-
Persons Living with HIV ³	598	-	630	-	652	-	678	-	681	-
Deaths in Persons with HIV Infection ⁴	7	-	11	-	4	-	7	-	-	-
Syphilis										
Primary & Secondary	<5	-	<5	-	9	-	6	-	6	-
Early Latent	5	-	17	-	15	-	33	-	19	-
Late Latent/Late	6	-	<5	-	9	-	25	-	17	-
Gonorrhea	8	-	28	-	44	-	41	-	49	-
Chlamydia	13	-	27	-	38	-	50	-	50	-

¹ Rates based on observations fewer than 12 may not be reliable (see Technical Notes).

² Data are provisional due to reporting delay.

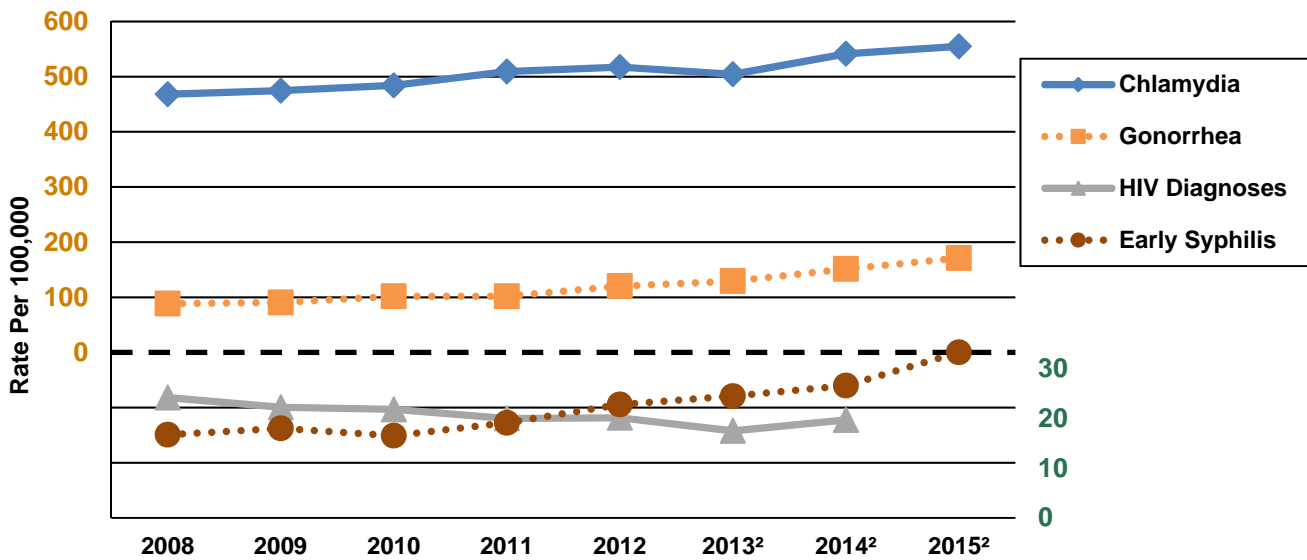
³ Based on most recent residential address in Los Angeles County.

⁴ Includes persons who died in Los Angeles County or whose most current residential address before death were in LAC when death place information is missing.

⁵ Rate calculated per 100,000 live births. 2014 and 2015 denominators are preliminary.

⁶ Rates cannot be calculated due to a lack of denominator data.

Figure 1.2. Rate of HIV Diagnoses, Early Syphilis, Gonorrhea, and Chlamydia, Los Angeles County, 2008-2015¹



¹ Early syphilis includes all cases staged as primary, secondary, or early latent; rates for 2008-2009 are based on smoothed population estimates for the same years prepared by the Office of Health Assessment and Epidemiology, LAC/DPH.

² 2013, 2014, and 2015 data are provisional due to reporting delay; data for HIV diagnoses in 2015 are not available due to reporting delay.

Table 1.2. HIV/STD Cases and Rates (per 100,000) for Los Angeles County and Other Large Urban US Counties and Independent Cities, 2014¹

County/Independent City	HIV ²		P&S Syphilis ^{3,4}		Gonorrhea ³		Chlamydia ³	
	N	Rt	N	Rt	N	Rt	N	Rt
Los Angeles County	1,987	20	1,195	12	15,230	151	54,509	541
Bronx County, NY	545	37	283	20	3,093	218	16,168	1,140
Cook County, IL	984	25	724	14	10,387	198	37,371	713
Harris County, TX	1,226	28	366	8	7,126	164	24,785	572
King County, WA	281	15	176	9	2,233	109	7,424	363
Kings County, NY	779	30	348	13	4,091	158	17,785	686
Miami-Dade County, FL	1,337	--	434	17	2,427	93	10,725	410
New York County, NY	693	36	497	31	4,550	280	12,551	772
Queens County, NY	506	20	185	8	2,169	95	12,063	525
San Francisco County, CA	309	58	470	56	3,328	397	6,041	721
Washington, D.C.	424	86	116	18	1,883	291	5,293	819

¹ Data are provisional due to reporting delay.

² Data for non-Los Angeles County areas are based on reports and/or data requests available from the respective jurisdictions. Rate calculations may have been conducted at different points in time between jurisdictions.

³ Data for non-Los Angeles County areas are based on Tables 3, 9, 15, 20, 26 and 33 of the CDC 2014 Sexually Transmitted Disease Surveillance report, which presents case counts and rates for counties and independent cities reporting the highest numbers of cases in the United States. The report can be found at <http://www.cdc.gov/std/stats14/surv-2014-print.pdf>

⁴ P&S syphilis includes all cases staged as primary and secondary.

HIV/AIDS in Los Angeles County

In this report, HIV infections are classified into stages of disease based on guidelines set forth by the Centers for Disease Control and Prevention (CDC).² In particular, HIV diagnosis refers to all diagnoses of HIV infection regardless of the stage of disease (stage 0 [Acute], 1, 2, 3 [AIDS], or unknown). Readers are encouraged to review the CDC “Revised Surveillance Case Definition for HIV Infection – United States, 2014” for further information on case classification.²

Included in this summary are reported HIV diagnoses, Stage 3 diagnoses (AIDS), persons living with diagnosed HIV infection (PLWH), and data pertaining to recommended indicators from the National HIV/AIDS Strategy.³ In an effort to provide the most recent data, measures for PLWH are as of December 31, 2015. Due to reporting delay, however, measures for HIV diagnoses, Stage 3 (AIDS), and indicators from the National HIV/AIDS Strategy are for the 2014 calendar year. Data presented in this report are still preliminary and should be interpreted with caution, particularly for estimates of trends over time. While comparisons of HIV cases counts, proportions, and rates between demographic groups utilize the most recent data available, trends over time interpret data through 2013.

Diagnosis of HIV Infection in 2014

HIV diagnosis rates have been decreasing in Los Angeles County (LAC) since 2007 (see Figure 2.1). In 2014, a total of 1,987 residents were reported as newly diagnosed with HIV infection in LAC, corresponding to a rate of 20 per 100,000 (see Table 2.1). Case counts and rates should be interpreted with caution as additional HIV diagnoses for 2014 continue to be identified. Despite LAC having the highest number of new HIV diagnoses in 2014 when compared to other large urban jurisdictions in the US, the rate was one of the lowest (see Table 1.2).

Gender: Among persons with a new HIV diagnoses in 2014, 1,750 (88%) were male, 209 (11%) were female, and 28 (1%) were transgender. Since 2009, there has been an overall decline in the number and rate of HIV diagnoses reported among males and females (see Table 2.2).

Age: Most cases of HIV infection in 2014 were diagnosed among persons 20-29 years of age (37%), followed by persons 30-39 years of age (29%), persons 40-49 years of age (19%), and persons 50 years and older (10%). Males had a younger age distribution than females; thirty-eight percent of cases among males were reported among individuals aged 20-29 years compared to 24% among females (see Table 2.1).

Overall, persons are being diagnosed at younger ages than they have been in the past. From 2006 through 2013, the rates among both males and females aged 20-59 years have been gradually decreasing, whereas rates for persons aged <13, 13-19, and 60 years and older remained relatively stable (see Figures 2.2A and 2.2B).

Race/Ethnicity: In 2014, while most new HIV cases were among Latinos (52%), the highest rate of HIV diagnoses was among African Americans (43 per 100,000), followed by Latinos (21 per 100,000), whites (15 per 100,000), and Asians (7 per 100,000). This disparity persists for African American females whose rate of HIV diagnoses in 2014 (14 per 100,000) was 7 times higher than that of white females (2 per 100,000) and 3.5 times higher than the rate for Latinas (4 per 100,000) (see Table 2.1). From 2009 through 2013, the rates for whites, African Americans, Latinos, and Asians decreased (see Table 2.2). A decreasing trend among most races/ethnicities from 2006 through 2013 is also seen when looking at adult/adolescent male and female rates separately (see Figures 2.3A and 2.3B).

Transmission Category: The transmission category for HIV infection summarizes a person's HIV risk factors or how they likely contracted HIV. Because a substantial proportion of persons with HIV infection are reported without an identified risk factor, CDC-recommended multiple imputation methods are used to assign a transmission category (see Appendix 1: Technical Notes). With this adjustment, it is estimated that 84% of HIV diagnoses in 2014 were among men who have sex with men (MSM), 9% among heterosexuals (mostly females), 4% among heterosexual injection drug users, and 3% among MSM who also inject drugs (MSM/IDU) (see Table 2.1). Separate breakdowns of transmission categories for males and females can be seen in Figures 2.4A and 2.4B, respectively.

Geographic Distribution: New HIV diagnoses in 2012-2014 were heavily concentrated within specific regions of LAC (see Figure 2.5). The highest rate of new HIV infections in 2014 was among persons living in the Metro SPA (59 per 100,000) at the time of diagnosis, followed by the South (25 per 100,000) and South Bay (17 per 100,000) SPAs (see Table 2.3). From 2006 through 2013, rates in the Metro SPA have declined from 86 to 52 per 100,000, while a slower decrease was observed in most other SPAs. Rates in the East, San Gabriel, and San Fernando Valley SPAs have remained relatively stable (see Figure 2.6).

Persons Living with Diagnosed HIV Infection (PLWH)

From 2006 through 2015, the number of persons living with diagnosed HIV infection (PLWH) in Los Angeles County increased (see Figure 2.1). As of December 31, 2015 there were 49,976 PLWH in LAC. The prevalence rate of diagnosed HIV infection was 490 per 100,000. Demographic and risk factor data are presented in Table 2.1 and discussed below.

Gender: The number of PLWH in LAC has increased steadily since 2006, when name based HIV reporting began (see Figure 2.1). This increase can be seen among males, females, and transgender persons, resulting in 43,678 male, 5,617 female, and 681 transgender PLWH in LAC as of December 31, 2015 (see Table 1.1). Data on transgender persons should be interpreted with caution since there is likely to be underreporting of PLWH in this population. Males currently represent 87% of PLWH in LAC.

Age: The PLWH population is aging. Unlike new HIV diagnoses in 2014, which occurred primarily among persons younger than 40 years of age, almost three quarters (73%) of PLWH are aged 40 years or older (see Table 2.1). The median age of PLWH in LAC increased from 45 years in 2010 to 48 years in 2015. Less than 1% of PLWH are under 20 years of age, while 14% are 60 years and older.

Race/Ethnicity: As seen in Table 2.1, 43% of PLWH in LAC are Latino, 31% are white, 21% are African American, 3% are Asian/Pacific Islander, 2% are multi-race/unknown, and 1% are American Indian/Alaskan Native. The racial/ethnic distribution of PLWH differs by gender. Among female PLWH, 45% are Latina, 35% are African American, 15% are white, 3% are Asian/Pacific Islander, 2% are multi-race/unknown, and 1% are American Indian/Alaskan Native. Among male PLWH, 42% are Latino, 33% are white, 19% are African American, 3% are Asian/Pacific Islander, 2% are multi-race/unknown, and 1% are American Indian/Alaskan Native.

Transmission Category: Using multiple imputation methods to adjust for persons with an undetermined risk factor for HIV infection (see Appendix 1: Technical Notes), 77% of infections among PLWH were attributed to male-to-male sexual contact and 6% to male-to-male sexual contact *and* injection drug use (MSM/IDU). Other major transmission categories include non-MSM injection drug use (5%) and heterosexual contact with a person known to have, or to be at high risk for, HIV infection (10%) (see Table 2.1). Separate breakdowns of transmission categories for males and females can be seen in Figures 2.4A and 2.4B, respectively.

Geographic Distribution: PLWH as of December 31, 2015 were heavily concentrated within specific regions of the county (see Figure 2.7). The Metro SPA had the highest number, percentage, and rate (18,276; 37%; 1,566 per 100,000) of PLWH among all SPAs in LAC, followed by South Bay (7,848; 16%; 500 per 100,000), San Fernando (7,093; 14%; 318 per 100,000), and South (5,789; 12%; 552 per 100,000) SPAs (see Table 2.3).

Annual Diagnoses of Stage 3 HIV Infection (AIDS)

Stage 3 HIV Infection is also known as Acquired Immunodeficiency Syndrome, or AIDS. The annual number of stage 3 diagnoses in LAC has decreased substantially from a high of approximately 4,129 cases in 1992 to 949 cases in 2013. A total of 774 stage 3 diagnoses were reported in 2014 (see Table 2.1). This number should be interpreted with caution, however, as additional stage 3 HIV diagnoses in 2014 are still pending.

Gender: Eighty-six percent of stage 3 diagnoses in 2014 were among males, 12% were among females, and 2% were among transgender individuals. These proportions are roughly similar to the respective proportions by gender for HIV diagnoses in 2014 and PLWH as of December 31, 2015 (See Table 1.1).

Age: Ninety-two percent of stage 3 diagnoses in 2014 occurred among persons aged 20-59 years. Males had a younger age distribution than females; forty-nine percent of stage 3 diagnoses among males occurred among persons younger than 40 years of age compared to 37% among females (see Table 2.1). The introduction of antiretroviral therapy in 1996 greatly improved HIV treatment and contributed to a significant delay in the progression of HIV to stage 3 HIV infection for many individuals.

Race/ethnicity: While half of stage 3 diagnoses in 2014 occurred among Latinos, the highest rate of stage 3 diagnosis (19 per 100,000) was among African Americans (see Table 2.1). The rate of stage 3 diagnosis for African American females (8 per 100,000) was 8 times higher than the rate for white females (1 per 100,000) and 4 times higher than the rate for Latinas (2 per 100,000). Among males, the rate of stage 3 diagnosis for African Americans (32 per 100,000) was almost 3 times higher than the rate for whites (11 per 100,000) and over 2 times higher than the rate for Latinos (14 per 100,000). From 2006 through 2013, the annual number of infections classified as stage 3 (AIDS) in LAC decreased for all race/ethnicity groups: a decrease of 46% among whites, 32% among African Americans, and 28% among Latinos.

National HIV/AIDS Strategy (NHAS) Recommended Care Indicators

On July 30, 2015 the White House released the latest National HIV/AIDS Strategy (NHAS).³ This plan is the nation's comprehensive coordinated HIV/AIDS roadmap with clear and measurable targets to be achieved by the end of 2020. Key targets from the NHAS include: 1) increase the proportion of newly diagnosed patients linked to clinical care within one month of their HIV diagnosis from 70% to 85%; 2) increase the proportion of persons with diagnosed HIV infection who are retained in HIV medical care (a minimum of two VL, CD4, or HIV genotype tests at least 3 months apart in 12 months) from 51% to 90% by 2015 and 3) increase the proportion of persons with diagnosed HIV infection who are virally suppressed from 43% to 80%.

HIV viral load (VL) and T-Cell (CD4) testing are considered important clinical markers of successful treatment. Since the start of mandatory name-based HIV reporting in California in April 2006, laboratories have been required to report all VL tests to their local health department. In 2008, the reporting of all CD4 tests was mandated in California. The LAC Department of Public Health (DPH) uses the laboratory surveillance system to monitor initial linkage to care for newly diagnosed HIV-infected patients and to monitor engagement in care, retention in care, and degree of viral load suppression among PLWH in LAC. Please note that engagement in care, retention in care, and viral suppression can only be calculated for

those 47,739 PLWH who were diagnosed with HIV prior to January 1, 2014 and still living in LAC at the end of 2014 to allow for at least 12 months of follow-up (see Table 2.4).

Refer to LAC's presentation "2015 Los Angeles County HIV Cascades and PLWH Estimate" for additional information and in-depth statistical analyses regarding the HIV care indicators (<http://publichealth.lacounty.gov/dhsp/Presentations.htm>).

Linkage to Care (LTC): In this report, consistent with the NHAS, timely LTC is defined as having a VL, CD4, or HIV genotype test performed within one month of an HIV diagnosis in 2014. Trends in LTC show a steady increase since 2007 in the proportion of persons with HIV who were linked to care within 1, 3, 6, and 12 months – 69%, 79%, 82%, and 84% in 2014, respectively (see Figure 2.9). Crude estimates for LTC within 1 month can be found in Table 2.4.

In a multivariable regression model, differences in linkage to care were observed by race/ethnicity and age. African Americans and Latinos were less likely than whites and persons aged 17 years and younger were less likely than persons aged 50 years and older to be linked to care within 1 month of HIV diagnosis.

Engagement in Care: In this report, consistent with the NHAS, engagement in care is defined as having at least one VL, CD4, or HIV genotype test performed in 2014. Of the 47,739 persons diagnosed with HIV infection through 2013 and living in LAC at year-end 2014, 71% were engaged in care. Crude estimates for engagement in care among reported PLWH overall and by gender, age, race/ethnicities can be found in Figures 2.8A-2.8D.

In a multivariable regression model, differences in engagement in care were observed by race/ethnicity, HIV transmission category, and age. African Americans were less likely than whites to be engaged in care while Latinos, Asians/Pacific Islanders, and individuals who were multi-race/unknown race were more likely than whites to be engaged in care. Injection drug users and persons with infection attributed to heterosexual contact were less likely to be engaged in care than MSM. Persons aged 18-29 and 30-49 years were less likely to be engaged in care than persons aged 50 years and older.

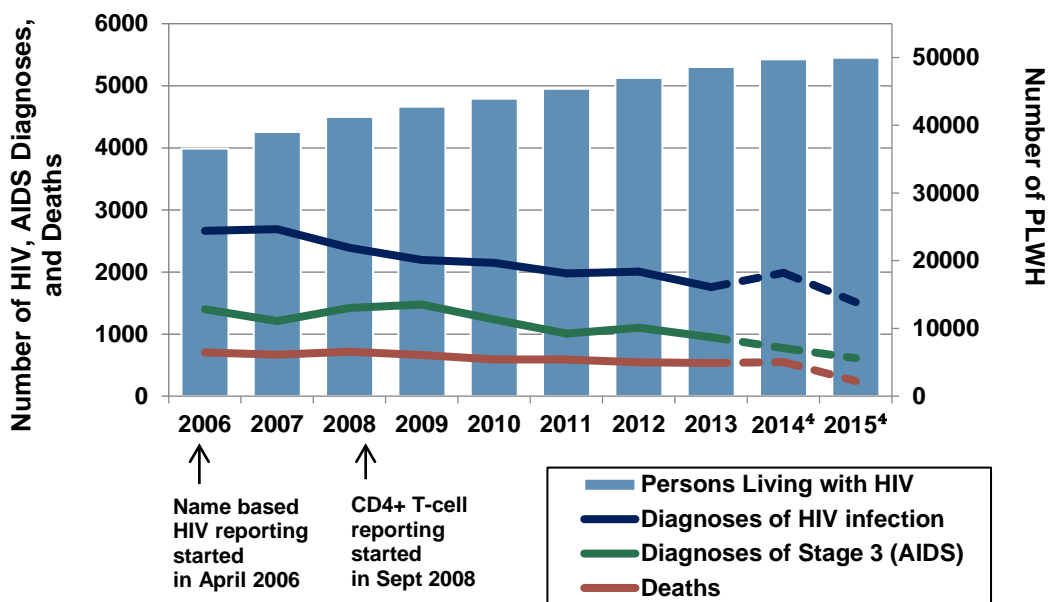
Retention in Care: In this report, consistent with the NHAS, retention in care is defined as having two or more VL, CD4, or HIV genotype tests performed at least 3 months apart during a 12-month period. Of the 47,739 persons diagnosed with HIV infection through 2013 and living in LAC at year-end 2014, 58% were retained in care. Crude estimates for retention in care among reported PLWH overall and by gender, age and race/ethnicity can be found in Table 2.4 and Figures 2.8A-2.8D.

In a multivariable regression model, differences in retention in care were observed by race/ethnicity, gender, HIV transmission category and age. African Americans were less likely than whites to be retained in care while Latinos, Asians/Pacific Islanders, and individuals who were multi-race/unknown race were more likely than whites to be retained in care. Transgender persons were more likely to be retained in care than males. Injection drug users were less likely to be retained in care than MSM. Persons aged 18-29 and 30-49 years were less likely to be retained in care than persons aged 50 years and older.

HIV Viral Load Suppression: In this report, consistent with the NHAS, viral load suppression is defined as having one or more VL tests performed in 2014 with a result indicating <200 viral copies per milliliter of blood plasma. Of the 47,739 persons diagnosed with an HIV infection through 2013 and living in LAC at year-end 2014, 60% were virally suppressed. Crude estimates for viral suppression among reported PLWH overall and by gender, age and race/ethnicity can be found in Table 2.4 and Figures 2.8A-2.8D.

In a multivariable regression model, differences in viral load suppression were observed by race/ethnicity, gender, HIV transmission category and age. Asians/Pacific Islanders were more likely than whites to be virally suppressed while African Americans and American Indians/Alaskan Natives were less likely than whites to be virally suppressed. Transgender individuals were less likely to be virally suppressed than males. Injection drug users were less likely to be virally suppressed than MSM. Persons aged 18-29 and 30-49 years were less likely to be virally suppressed than persons aged 50 years and older.

Figure 2.1. Annual Diagnoses of HIV Infection¹, Stage 3 HIV Infection (AIDS), Persons Living with HIV², and Deaths³ among Persons Diagnosed with HIV Infection, Los Angeles County, 2006-2015



¹ Based on named reports for persons with a diagnosis of HIV infection regardless of the disease stage at time of diagnosis.
² Includes persons whose address at the end of each specified year was in Los Angeles County (LAC).
³ Includes persons whose residence at death was in LAC or whose most recent known address before death was in LAC if residence at death was missing.
⁴ Data are provisional due to reporting delay (as indicated by the dashed lines).

Table 2.1. 2014 HIV, Stage 3 (AIDS) Diagnoses and Deaths, Persons Living with HIV (PLWH) as of 2015 by Gender, Age Group, Race/Ethnicity, and Transmission Category, Los Angeles County, Reported by December 31, 2015

Age Group(Yr) ⁵	Male ¹												Female ¹												Total											
	2014 HIV Diagnoses ²			2014 AIDS Diagnoses ²			PLWH as of 2015 ^{3,4}			2014 Deaths ^{5,6}			2014 HIV Diagnoses ²			2014 AIDS Diagnoses ²			PLWH as of 2015 ^{3,4}			2014 Deaths ^{5,6}														
	No.	(%)	Rt	No.	(%)	Rt	No.	(%)	Rt	No.	(%)	Rt	No.	(%)	Rt	No.	(%)	Rt	No.	(%)	Rt	No.	(%)	Rt	No.	(%)	Rt									
<13	<5	(-)	-	<5	(-)	-	12	<1	1	<5	(-)	-	<5	(-)	-	18	<1	2	<5	(-)	-	<5	(-)	-	<5	(-)	-									
13-19	46	(3)	9	<5	(-)	-	87	<1	18	<5	(-)	-	41	(1)	9	<5	(-)	-	60	(3)	6	<5	(-)	-	128	<1	13	<5	(-)	-						
20-29	679	(38)	86	143	(21)	18	3,756	(8)	478	17	(4)	2	51	(24)	7	12	(12)	2	730	(37)	47	155	(20)	10	4,197	(8)	272	18	(3)	1						
30-39	523	(29)	72	183	(27)	25	8,092	(18)	1,095	48	(10)	7	48	(23)	7	24	(24)	3	571	(29)	39	207	(27)	14	9,125	(18)	624	56	(10)	4						
40-49	332	(19)	47	179	(27)	26	12,091	(27)	1,718	130	(27)	19	37	(18)	5	28	(28)	4	369	(19)	26	207	(27)	15	13,731	(27)	971	150	(27)	11						
50-59	150	(8)	24	117	(17)	18	14,004	(32)	2,150	162	(34)	25	42	(20)	6	22	(22)	3	192	(10)	15	139	(18)	11	15,590	(31)	1,168	185	(34)	14						
60+	46	(3)	6	50	(7)	7	6,290	(14)	784	118	(25)	16	17	(8)	2	12	(12)	1	63	(3)	4	62	(8)	4	7,175	(14)	398	139	(25)	8						
Race/Ethnicity																																				
White	399	(22)	28	163	(24)	11	14,688	(33)	1,014	154	(32)	11	26	(12)	2	14	(14)	1	425	(21)	15	177	(23)	6	15,528	(31)	539	164	(30)	6						
African American	307	(17)	75	130	(19)	32	8,346	(19)	2,049	116	(24)	28	66	(31)	14	38	(38)	8	373	(19)	43	168	(22)	19	10,304	(21)	1,189	152	(28)	18						
Latino	934	(53)	39	347	(51)	14	18,717	(42)	759	172	(36)	7	107	(51)	4	39	(39)	2	1,041	(52)	21	386	(50)	8	21,247	(43)	430	190	(35)	4						
Asian/Pi ⁶	103	(6)	15	20	(3)	3	1,535	(3)	220	9	(2)	1	7	(3)	1	5	(5)	1	110	(6)	7	25	(3)	2	1,715	(3)	115	12	(2)	1						
Asian	98	(6)	14	16	(2)	2	1,393	(3)	203	5	(1)	1	6	(3)	1	5	(5)	1	104	(5)	7	21	(3)	1	1,557	(3)	106	7	(1)	<1						
Pacific Islander	<5	(-)	<5	(-)	-	-	47	<1	385	<5	(-)	-	<5	(-)	-	7	<1	56	<5	(-)	-	<5	(-)	-	54	<1	218	<5	(-)	-						
Unspecified	5	<1	-	<5	(-)	-	95	<1	-	<5	(-)	-	<5	(-)	-	9	<1	-	6	<1	-	<5	(-)	-	104	<1	-	5	(1)	-						
American Indian/Alaskan Native	<5	(-)	-	<5	(-)	-	240	(1)	2,501	<5	(-)	-	<5	(-)	-	32	(1)	317	<5	(-)	-	<5	(-)	-	272	(1)	1,381	5	(1)	25						
Multi-race/Unknown	30	(2)	-	14	(2)	-	806	(2)	-	21	(4)	-	<5	(-)	-	104	(2)	-	34	(2)	-	17	(2)	-	910	(2)	-	26	(5)	-						
Transmission Category⁷																																				
MSM	1,673	(94)	-	608	(90)	-	38,633	(87)	-	368	(78)	-	-	(-)	-	-	(-)	-	1,673	(84)	-	608	(79)	-	38,633	(77)	-	368	(67)	-	-					
IDU	37	(2)	-	24	(4)	-	1,503	(3)	-	19	(4)	-	40	(19)	-	25	(25)	-	77	(4)	-	50	(6)	-	2,709	(5)	-	42	(8)	-	-					
MSM/IDU	51	(3)	-	33	(5)	-	3,039	(7)	-	72	(15)	-	-	(-)	-	-	(-)	-	51	(3)	-	33	(4)	-	3,039	(6)	-	72	(13)	-	-					
Hemophi/Transfusion	<5	(-)	-	<5	(-)	-	71	<1	-	<5	(-)	-	<5	(-)	-	53	(1)	-	<5	(-)	-	<5	(-)	-	124	<1	-	<5	(-)	-	-					
Heterosexual contact	15	(1)	-	9	(1)	-	942	(2)	-	14	(3)	-	169	(80)	-	70	(71)	-	184	(9)	-	79	(10)	-	5,182	(10)	-	64	(12)	-	-					
Perinatal exposure	<5	(-)	-	<5	(-)	-	127	<1	-	<5	(-)	-	<5	(-)	-	136	(2)	-	<5	(-)	-	<5	(-)	-	263	(1)	-	<5	(-)	-	-					
Other/Undetermined	<5	(-)	-	<5	(-)	-	17	<1	-	<5	(-)	-	<5	(-)	-	9	<1	-	<5	(-)	-	<5	(-)	-	26	<1	-	<5	(-)	-	-					
Total⁸	1,777	[89]	36	675	[87]	14	44,332	[89]	882	475	[87]	10	210	[11]	4	99	[13]	2	5,644	[11]	109	74	[13]	1	1,987	[100]	20	774	[100]	8	49,976	[100]	490	549	[100]	5

¹ Male and female categories are based on biological sex at birth.
² Data are provisional due to reporting delay. Rates based on fewer than 12 observations may not be reliable (see Technical Note).
³ Persons living with HIV are based on most recent known address at the end of 2015 in Los Angeles County.
⁴ Includes persons whose residence at death was in Los Angeles County (LAC) or whose most recent known address before death was in LAC if residence at death is missing.
⁵ Age distributions for HIV and AIDS diagnoses are based on age at time of respective diagnoses. Age distribution for persons living with diagnosed HIV infection is based on age as of December 31, 2015. Age distribution for deaths is based on age at death.
⁶ Percent for Asian, Pacific Islander (PI) and unspecified races are calculated based on total cases.
⁷ Persons without an identified risk factor are assigned a risk factor using multiple imputation (MI) methods (see technical notes). Rate for transmission category is not calculated, because of the lack of denominator data.
⁸ Percent of total cases that are male and female are shown in this row.

Table 2.2. HIV Diagnoses and Rates¹ (per 100,000) by Gender, Age Group, Race/Ethnicity, Transmission Category, and Service Planning Area (SPA), Los Angeles County, 2009-2014, Reported by December 31, 2015

	Year of Diagnosis																	
	2009			2010			2011			2012			2013			2014 ²		
	No.	(%)	Rt	No.	(%)	Rt	No.	(%)	Rt	No.	(%)	Rt	No.	(%)	Rt	No.	(%)	Rt
Gender																		
Male	1,907	(87)	39	1,879	(87)	39	1,743	(88)	36	1,771	(88)	36	1,522	(87)	31	1,750	(88)	35
Female	258	(12)	5	249	(12)	5	202	(10)	4	194	(10)	4	202	(12)	4	209	(11)	4
Transgender ³	27	(1)	-	21	(1)	-	32	(2)	-	41	(2)	-	32	(2)	-	28	(1)	-
Age Group (Yr)																		
<13	<5	(-)	-	9	<1	1	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-
13-19	77	(4)	8	77	(4)	8	54	(3)	5	73	(4)	7	67	(4)	7	60	(3)	6
20-29	653	(30)	43	679	(32)	45	655	(33)	44	698	(35)	46	581	(33)	37	730	(37)	47
30-39	649	(30)	45	612	(28)	43	593	(30)	42	554	(28)	39	490	(28)	34	571	(29)	39
40-49	518	(24)	36	491	(23)	35	415	(21)	29	423	(21)	30	375	(21)	26	369	(19)	26
50-59	231	(11)	19	224	(10)	18	208	(11)	17	199	(10)	16	184	(10)	14	192	(10)	15
60+	64	(3)	4	57	(3)	4	50	(3)	3	56	(3)	3	55	(3)	3	63	(3)	4
Race/Ethnicity																		
White	551	(25)	19	538	(25)	19	453	(23)	16	454	(23)	16	408	(23)	14	425	(21)	15
African American	496	(23)	58	485	(23)	57	426	(22)	50	408	(20)	48	401	(23)	47	373	(19)	43
Latino	1,004	(46)	22	972	(45)	21	944	(48)	20	997	(50)	21	822	(47)	17	1,041	(52)	21
Asian/PI ⁴	93	(4)	7	87	(4)	6	88	(4)	6	96	(5)	7	81	(5)	6	110	(6)	7
Asian	89	(4)	7	80	(4)	6	78	(4)	6	92	(5)	7	73	(4)	5	104	(5)	7
Pacific Islander	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-
Unspecified	<5	(-)	-	<5	(-)	-	8	<1)	-	<5	(-)	-	6	<1)	-	6	<1)	-
American Indian/Alaskan Native	14	(1)	70	14	(1)	73	19	(1)	99	9	<1)	46	7	<1)	36	<5	(-)	-
Multi-race ³	34	(2)	-	53	(2)	-	47	(2)	-	42	(2)	-	37	(2)	-	34	(2)	-
Transmission Category^{3,5}																		
MSM	1,789	(82)	-	1,748	(81)	-	1,660	(84)	-	1,688	(84)	-	1,442	(82)	-	1,673	(84)	-
IDU	89	(4)	-	96	(4)	-	74	(4)	-	75	(4)	-	87	(5)	-	77	(4)	-
MSM/IDU	83	(4)	-	73	(3)	-	63	(3)	-	66	(3)	-	47	(3)	-	51	(3)	-
Heterosexual contact	231	(11)	-	222	(10)	-	178	(9)	-	173	(9)	-	176	(10)	-	184	(9)	-
Perinatal exposure	<5	(-)	-	9	<1)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-
Other/Undetermined	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-	<5	(-)	-
Service Planning Area																		
Antelope Valley[1]	59	(3)	16	51	(2)	13	38	(2)	10	34	(2)	9	30	(2)	8	41	(2)	10
San Fernando[2]	296	(14)	14	264	(12)	12	271	(14)	13	262	(13)	12	232	(13)	11	278	(14)	13
San Gabriel[3]	173	(8)	10	153	(7)	9	154	(8)	9	179	(9)	10	151	(9)	8	179	(9)	10
Metro[4]	783	(36)	70	787	(37)	70	643	(33)	57	674	(34)	60	589	(34)	52	679	(34)	59
West[5]	97	(4)	15	116	(5)	18	96	(5)	15	106	(5)	17	83	(5)	13	96	(5)	15
South[6]	284	(13)	29	265	(12)	26	282	(14)	28	237	(12)	23	232	(13)	23	259	(13)	25
East[7]	154	(7)	12	170	(8)	13	178	(9)	14	160	(8)	12	146	(8)	11	167	(8)	13
South Bay/LB[8]	336	(15)	22	334	(16)	22	309	(16)	20	339	(17)	22	276	(16)	18	270	(14)	17
Unknown	10	<1)	-	9	<1)	-	6	<1)	-	15	(1)	-	17	(1)	-	18	(1)	-
Total	2,192	[100]	22	2,149	[100]	22	1,977	[100]	20	2,006	[100]	20	1,756	[100]	18	1,987	[100]	20

¹ Rates for 2009 are based on smoothed population estimates for the same year prepared by the Office of Health Assessment and Epidemiology, LAC/DPH. Rates for 2010-2014 are based on Census 2010 population estimate for 2010-2014. Rates based on fewer than 12 observations may not be reliable (see Technical Notes).

² Data are provisional due to reporting delay.

³ Rates for transgender, transmission category, and multi-race and unknown race are not calculated because of the lack of denominator data.

⁴ Percentages for Asian, Pacific Islander (PI) and unspecified races are calculated based on the total cases.

⁵ Persons without an identified risk factor are assigned a risk factor using multiple imputation (MI) methods (see Technical Notes).

Figure 2.2A. Rates of HIV Diagnoses among Males by Age Group, Los Angeles County, 2006-2014

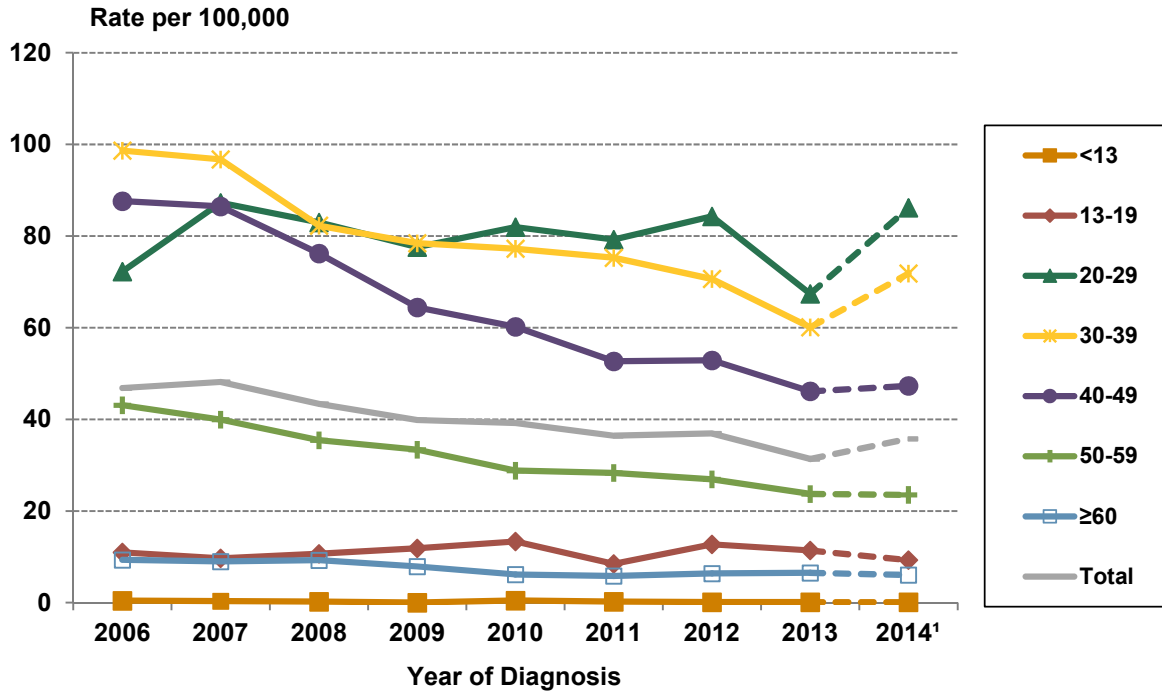
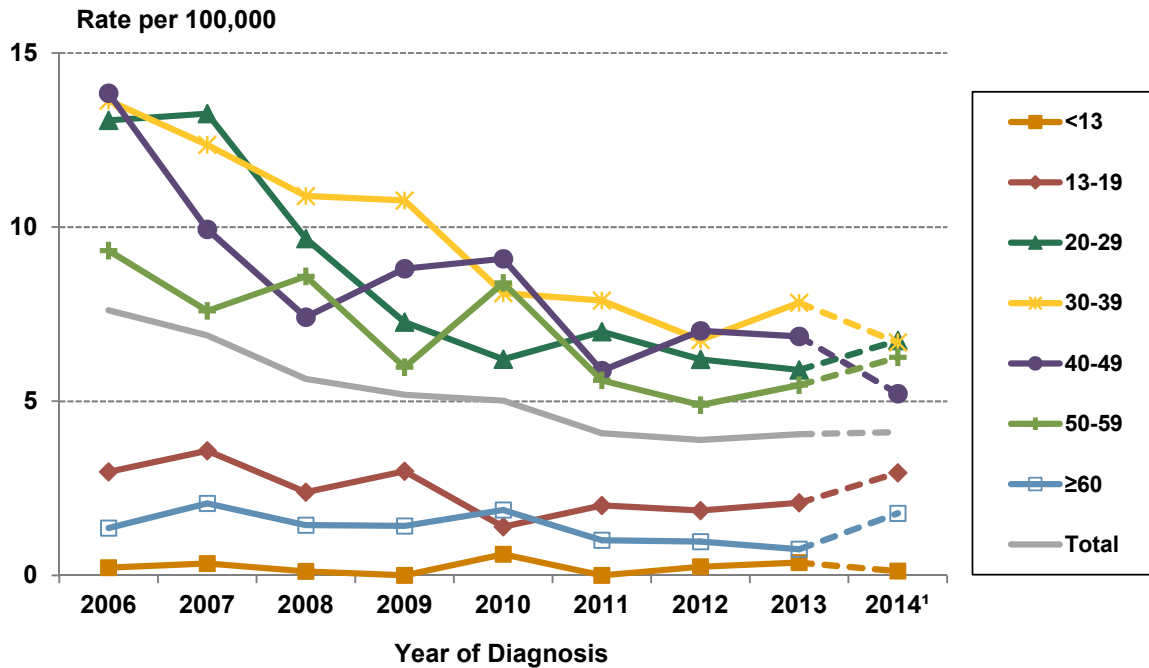


Figure 2.2B. Rates of HIV Diagnoses among Females by Age Group, Los Angeles County, 2006-2014



¹ Data are provisional due to reporting delay.

Figure 2.3A. Rates of HIV Diagnoses among Adult/Adolescent Males by Race/Ethnicity¹, Los Angeles County, 2006-2014

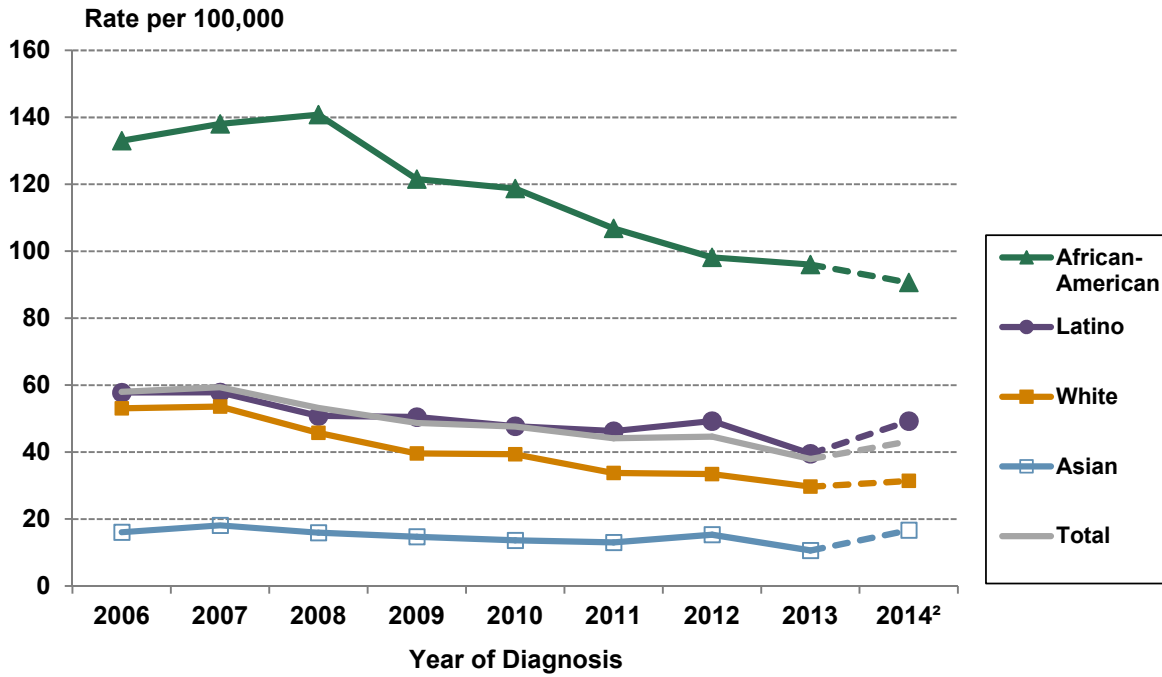
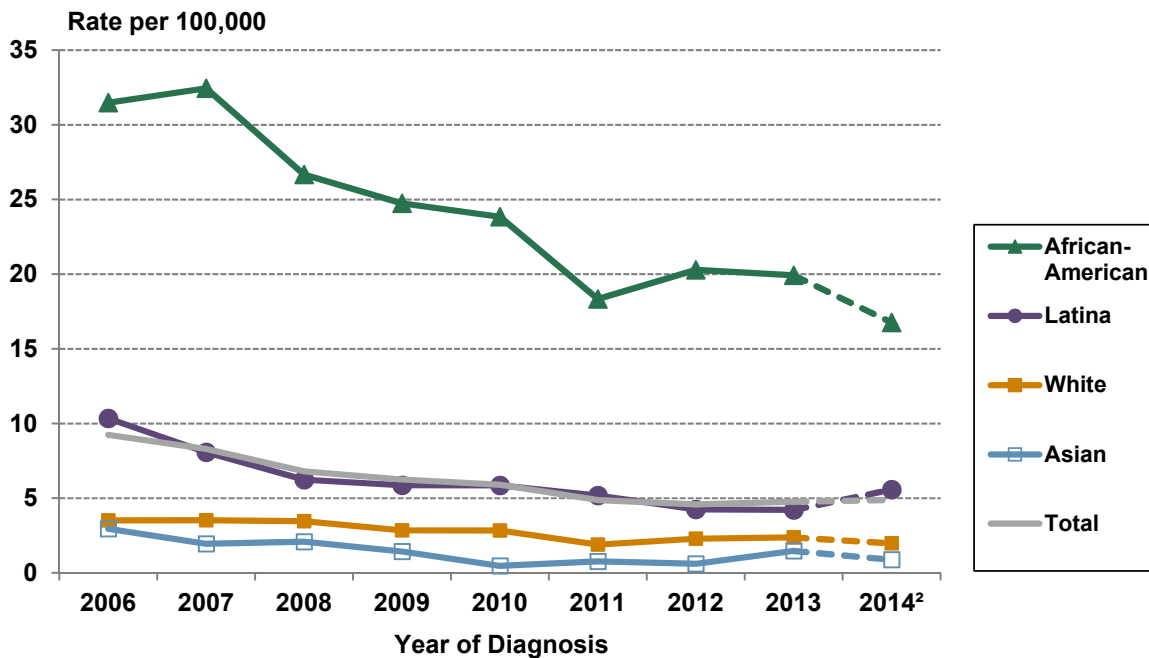


Figure 2.3B. Rates of HIV Diagnoses among Adult/Adolescent Females by Race/Ethnicity¹, Los Angeles County, 2006-2014



¹ Data for Pacific Islanders and American Indians/Alaskan Natives are not presented due to small numbers that may result in unstable estimates.

² Data are provisional due to reporting delay.

Figure 2.4A. Transmission Risk Category¹ among Males Living with HIV² at Year-end 2015 and HIV Diagnoses in 2014, Los Angeles County

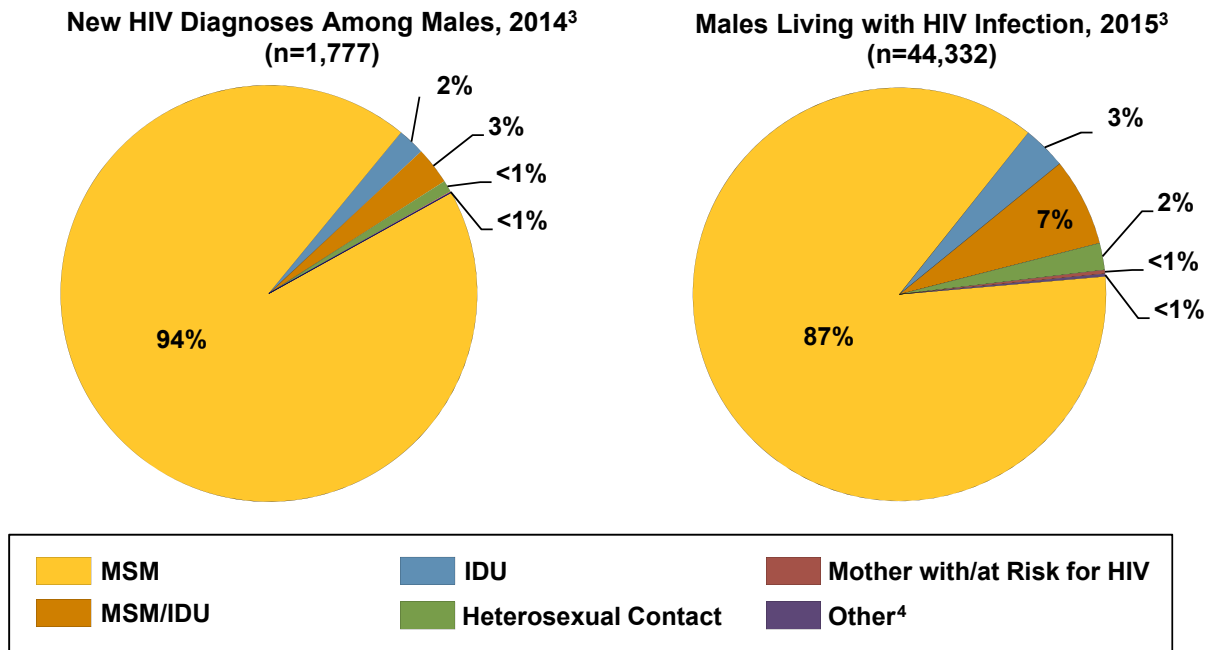
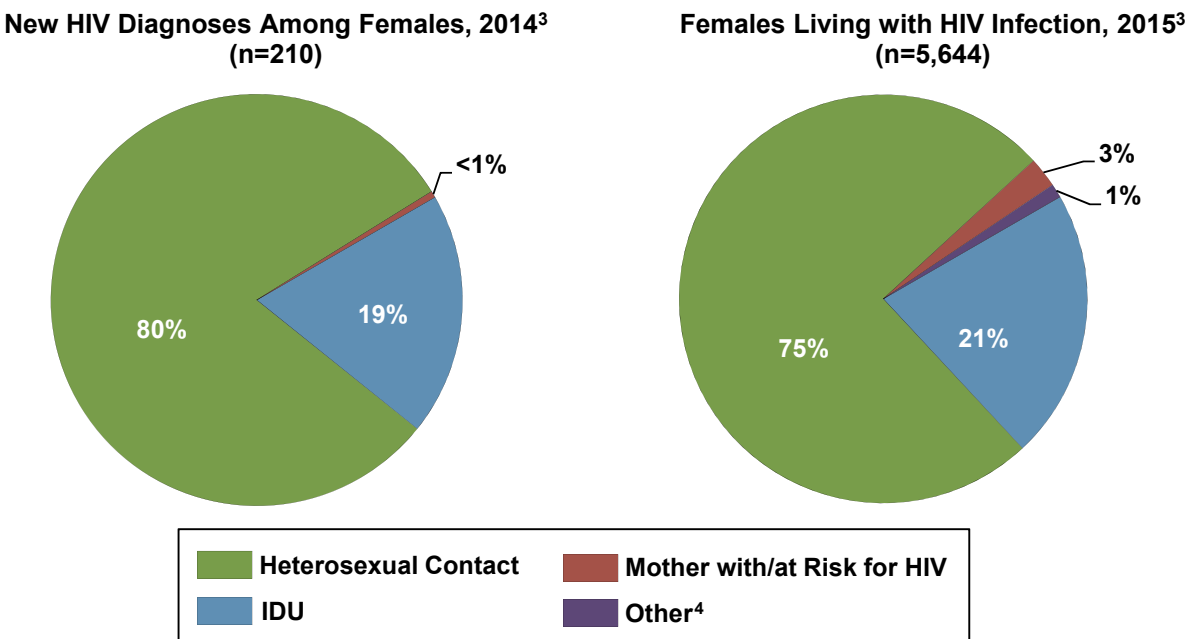


Figure 2.4B. Transmission Risk Category¹ among Females Living with HIV² at Year-end 2015 and HIV Diagnoses in 2014, Los Angeles County



¹ Persons without an identified risk factor are assigned a risk factor using CDC-recommended multiple imputation (MI) methods.
² Based on most recent residential address in Los Angeles County.
³ Data are provisional due to reporting delay.
⁴ Other risk categories includes hemophilia, coagulation disorder, blood transfusion, and risk factor not reported/identified.

Table 2.3. HIV Diagnoses from 2010-2014 and Persons Living with HIV (PLWH) as of 2015 by Service Planning Area (SPA)/Health District (HD) of Residence, Los Angeles County, Reported by December 31, 2015

SPA/HD ¹	Year of Diagnosis												PLWH as of 2015 ^{2,4}					
	2010			2011			2012			2013			2014 ²			No.	(%)	Rt ³
	No.	(%)	Rt ³	No.	(%)	Rt ³	No.	(%)	Rt ³	No.	(%)	Rt ³	No.	(%)	Rt ³	No.	(%)	Rt ³
Antelope Valley[1]	51	(2)	13	38	(2)	10	34	(2)	9	30	(2)	8	41	(2)	10	1,014	(2)	256
Antelope Valley	51	(2)	13	38	(2)	10	34	(2)	9	30	(2)	8	41	(2)	10	1,014	(2)	256
San Fernando[2]	264	(12)	12	271	(14)	13	262	(13)	12	232	(13)	11	278	(14)	13	7,093	(14)	318
East Valley	82	(4)	19	98	(5)	22	93	(5)	21	74	(4)	16	82	(4)	18	2,444	(5)	529
Glendale	27	(1)	8	22	(1)	7	34	(2)	10	23	(1)	7	31	(2)	9	890	(2)	256
San Fernando	35	(2)	7	41	(2)	8	34	(2)	7	31	(2)	6	37	(2)	7	766	(2)	147
West Valley	120	(6)	14	110	(6)	13	101	(5)	12	104	(6)	12	128	(6)	15	2,993	(6)	334
San Gabriel[3]	153	(7)	9	154	(8)	9	179	(9)	10	151	(9)	8	179	(9)	10	3,595	(7)	200
Alhambra	27	(1)	8	30	(2)	9	34	(2)	10	21	(1)	6	31	(2)	9	556	(1)	158
El Monte	40	(2)	9	34	(2)	8	45	(2)	10	36	(2)	8	52	(3)	12	891	(2)	201
Foothill	26	(1)	9	30	(2)	10	21	(1)	7	26	(1)	8	39	(2)	13	572	(1)	184
Pasadena	19	(1)	14	13	(1)	9	25	(1)	18	23	(1)	16	22	(1)	15	565	(1)	393
Pomona	41	(2)	8	47	(2)	9	54	(3)	10	45	(3)	8	35	(2)	6	1,011	(2)	184
Metro[4]	787	(37)	70	643	(33)	57	674	(34)	60	589	(34)	52	679	(34)	59	18,276	(37)	1566
Central	271	(13)	81	210	(11)	62	242	(12)	72	223	(13)	65	240	(12)	70	6,520	(13)	1,860
Hollywood-Wilshire	430	(20)	90	373	(19)	78	360	(18)	74	296	(17)	60	367	(18)	74	9,903	(20)	1,976
Northeast	86	(4)	28	60	(3)	20	72	(4)	23	70	(4)	23	72	(4)	23	1,853	(4)	587
West[5]	116	(5)	18	96	(5)	15	106	(5)	17	83	(5)	13	96	(5)	15	2,515	(5)	381
West	116	(5)	18	96	(5)	15	106	(5)	17	83	(5)	13	96	(5)	15	2,515	(5)	381
South[6]	265	(12)	26	282	(14)	28	237	(12)	23	232	(13)	23	259	(13)	25	5,789	(12)	552
Compton	52	(2)	19	65	(3)	23	35	(2)	12	48	(3)	17	56	(3)	20	980	(2)	342
South	49	(2)	26	55	(3)	29	48	(2)	25	41	(2)	21	45	(2)	23	1,025	(2)	519
Southeast	41	(2)	25	37	(2)	22	35	(2)	20	37	(2)	21	50	(3)	29	892	(2)	498
Southwest	123	(6)	33	125	(6)	33	119	(6)	32	106	(6)	28	108	(5)	28	2,892	(6)	750
East[7]	170	(8)	13	178	(9)	14	160	(8)	12	146	(8)	11	167	(8)	13	3,351	(7)	253
Bellflower	43	(2)	12	37	(2)	10	31	(2)	9	44	(3)	12	39	(2)	11	749	(2)	207
East Los Angeles	30	(1)	15	35	(2)	17	32	(2)	16	23	(1)	11	24	(1)	12	657	(1)	317
San Antonio	69	(3)	16	68	(3)	16	58	(3)	14	48	(3)	11	63	(3)	15	1,258	(3)	293
Whittier	28	(1)	9	38	(2)	12	39	(2)	12	31	(2)	10	41	(2)	13	687	(1)	211
South Bay[8]	334	(16)	22	309	(16)	20	339	(17)	22	276	(16)	18	270	(14)	17	7,848	(16)	500
Harbor	38	(2)	19	20	(1)	10	20	(1)	10	16	(1)	8	31	(2)	15	617	(1)	296
Inglewood	103	(5)	25	90	(5)	22	93	(5)	23	85	(5)	21	78	(4)	19	1,799	(4)	428
Long Beach	150	(7)	32	161	(8)	35	192	(10)	41	139	(8)	29	127	(6)	27	4,626	(9)	970
Torrance	43	(2)	10	38	(2)	8	34	(2)	7	36	(2)	8	34	(2)	7	806	(2)	174
Total⁵	2,149	[100]	22	1,977	[100]	20	2,006	[100]	20	1,756	[100]	18	1,987	[100]	20	49,976	[100]	490

¹ Service Planning Area and Health District are based on 2012 boundaries.

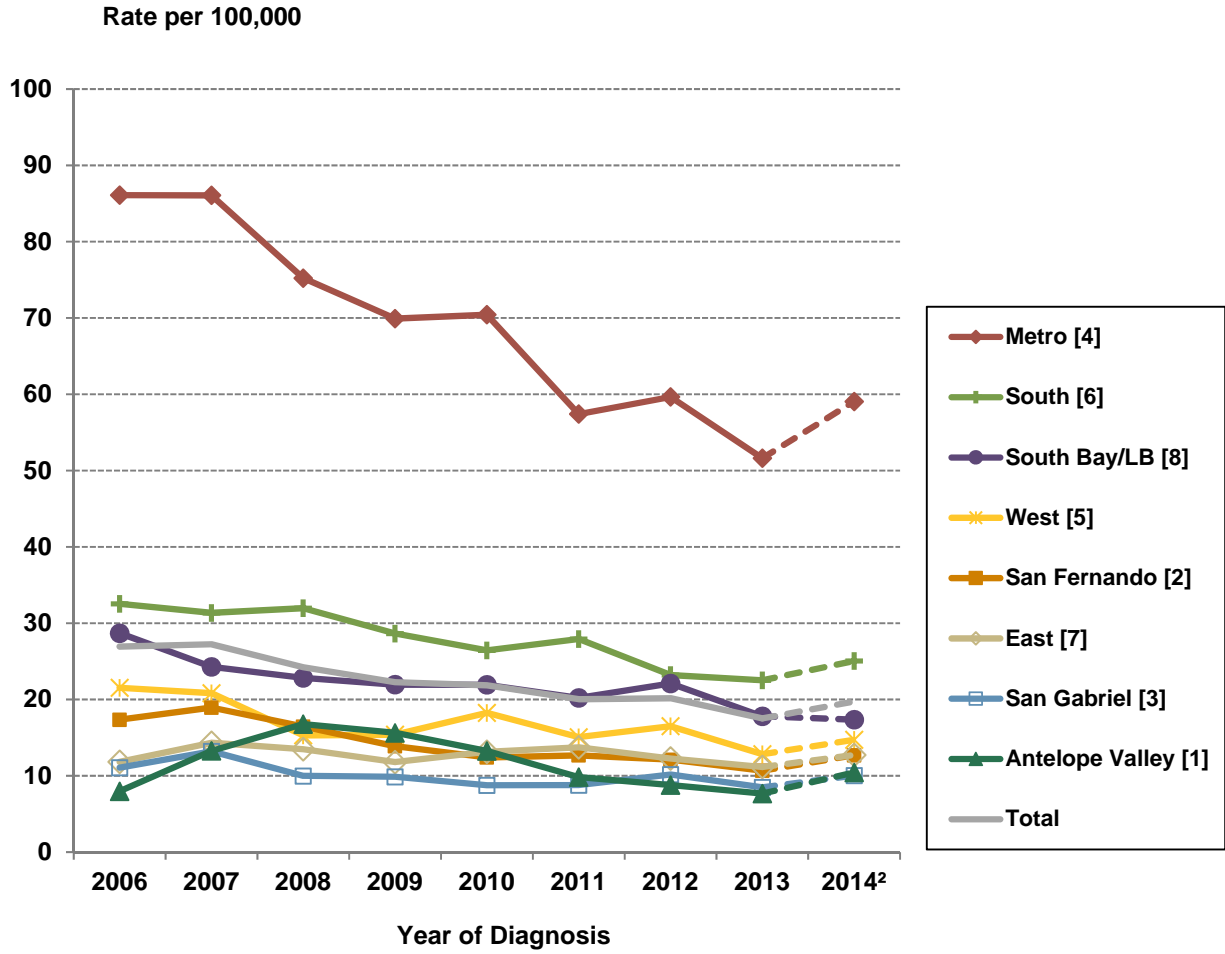
² Data are provisional due to reporting delay.

³ Rate per 100,000. Rates for 2010-2014 and PLWH as of 2015 are based on Census 2010 population estimate for 2010-2015. Rates based on fewer than 12 observations may not be reliable (see Technical Notes).

⁴ Persons living with HIV were based on most recent known address at the end of 2015 in Los Angeles County.

⁵ Total includes persons with no information on Service Planning Area/Health District.

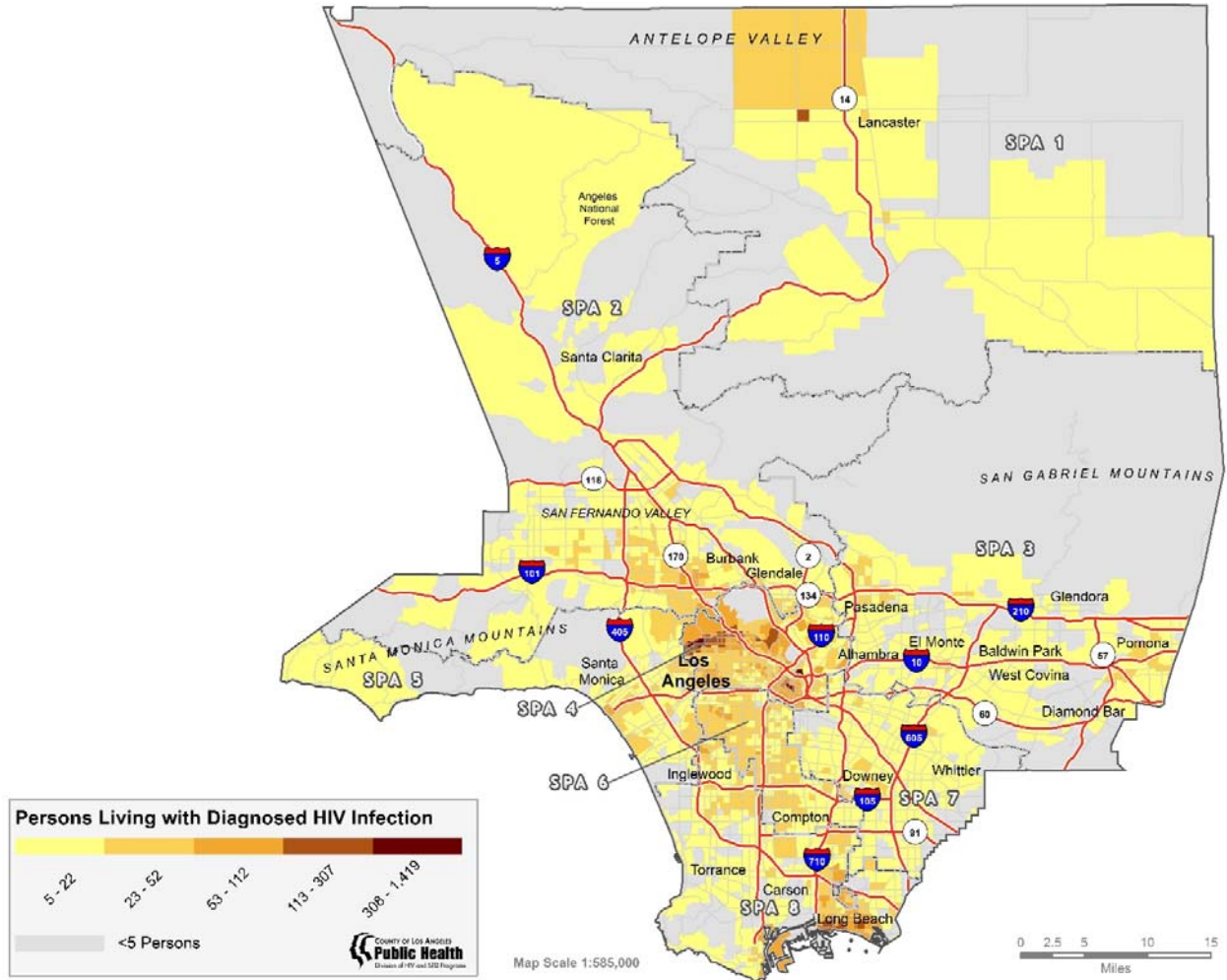
Figure 2.6. Rates of HIV Diagnoses by Service Planning Area¹, Los Angeles County, 2006-2014



¹ Service Planning Areas are based on residence at the time of HIV or AIDS diagnosis.

² Data are provisional due to reporting delay.

Figure 2.7. Persons Living with Diagnosed HIV Infection as of 12/31/2015 by Census Tract and Service Planning Area (SPA), Los Angeles County



Census Tract information is based on a person's most recent known address as of 12/31/2015. In the case of an unavailable street address, the most recent ZIP Code is used to assign Census tract based on residential proportion (13.5%). Map does not include 1.1% of persons with insufficient location information. Data are provisional due to reporting delay.

Source: HIV Surveillance data as of December 31, 2015; U.S. Department of Commerce, 2010 U.S. Census Tract; U.S. Department of Housing and Urban Development, HUD USPS ZIP Code – Census Tract Crosswalk Files, 4th quarter 2015.

Table 2.4. Linkage to Care^{1,2} among Persons of All Ages with an HIV Diagnosis in 2014² and Retention in Care and Viral Suppression¹ among Persons of All Ages Diagnosed with HIV Infection through 12/31/2013 and Living with HIV in Los Angeles County as of 2014³, by Selected Characteristics, Reported by December 31, 2015

Characteristics	No. of persons of all ages diagnosed with HIV infection in 2014 ²			Linked to care in 1 month ^{1,2}			Linked to care in 3 months ^{1,2}			No. of persons of all ages living with HIV as of 2014 (Overall Population) ³			Retained in care in 2014 ¹			No. of persons with ≥ 1 VL test in 2014			Viral Suppression ¹ (VL < 200)						
	No.	%		No.	%		No.	%		No.	%		No.	%		No.	%		No.	%		No.	%		
Gender																									
Male	1,750		1,242	71.0	1,400	80.0	41,737		24,338	58.3	29,387		25,271		60.5	25,271		60.5	25,271		25,271		86.0		86.0
Female	209		116	55.5	144	68.9	5,357		3,065	57.2	3,610		2,982		55.7	2,982		55.7	2,982		2,982		82.6		82.6
Transgender	28		18	64.3	20	71.4	645		398	61.7	456		313		48.5	313		48.5	313		313		68.6		68.6
Age Group (Yr)																									
< 18	15		<5	-	7	46.7	97		73	75.3	78		58		59.8	58		59.8	58		58		74.4		74.4
18-29	777		539	69.4	610	78.5	4,381		2,249	51.3	2,991		2,268		51.8	2,268		51.8	2,268		2,268		75.8		75.8
30-49	940		649	69.0	744	79.1	24,148		13,641	56.5	16,632		13,884		57.5	13,884		57.5	13,884		13,884		83.5		83.5
≥ 50	255		184	72.2	203	79.6	19,113		11,838	61.9	13,752		12,356		64.6	12,356		64.6	12,356		12,356		89.8		89.8
Race/Ethnicity																									
African American	373		240	64.3	279	74.8	9,815		5,267	53.7	6,493		4,943		50.4	4,943		50.4	4,943		4,943		76.1		76.1
Latino	1,041		700	67.2	802	77.0	19,857		11,854	59.7	13,744		11,741		59.1	11,741		59.1	11,741		11,741		85.4		85.4
White	425		326	76.7	359	84.5	15,355		9,010	58.7	11,189		10,130		66.0	10,130		66.0	10,130		10,130		90.5		90.5
Asian/Pacific Islander	110		83	75.5	94	85.5	1,575		957	60.8	1,159		1,069		67.9	1,069		67.9	1,069		1,069		92.2		92.2
American Indian/Alaskan Native ⁴	<5		<5	-	<5	-	263		144	54.8	179		131		49.8	131		49.8	131		131		73.2		73.2
Multi-race	34		24	70.6	26	76.5	874		569	65.1	689		552		63.2	552		63.2	552		552		80.1		80.1
Adjusted Transmission Category⁵																									
Male-to-male sexual contact	1,673		1,191	71.2	1,337	79.9	36,693		21,452	58.5	26,020		22,560		61.5	22,560		61.5	22,560		22,560		86.7		86.7
Injection drug use (IDU)	77		52	66.7	58	75.3	2,617		1,395	53.3	1,594		1,282		49.0	1,282		49.0	1,282		1,282		80.4		80.4
MSM and IDU	51		31	61.0	42	81.9	3,058		1,844	60.3	2,184		1,661		54.3	1,661		54.3	1,661		1,661		76.0		76.0
Heterosexual contact ⁶	184		102	55.2	125	67.8	4,962		2,854	57.5	3,347		2,832		57.1	2,832		57.1	2,832		2,832		84.6		84.6
Other/unknown	<5		<5	-	<5	-	410		256	62.4	309		231		56.3	231		56.3	231		231		74.8		74.8
Service Planning Area																									
Antelope Valley [1]	41		28	68.3	32	78.0	914		551	60.3	574		465		50.9	465		50.9	465		465		81.0		81.0
San Fernando [2]	278		202	72.7	234	84.2	6,537		4,071	62.3	4,848		4,308		65.9	4,308		65.9	4,308		4,308		88.9		88.9
San Gabriel [3]	179		131	73.2	152	84.9	3,248		2,075	63.9	2,444		2,195		67.6	2,195		67.6	2,195		2,195		89.8		89.8
Metro [4]	679		479	70.5	521	76.7	16,823		9,375	55.7	11,361		9,671		57.5	9,671		57.5	9,671		9,671		85.1		85.1
West [5]	96		68	70.8	77	80.2	2,336		1,258	53.9	1,594		1,428		61.1	1,428		61.1	1,428		1,428		89.6		89.6
South [6]	259		154	59.5	183	70.7	5,269		3,171	60.2	3,777		2,956		56.1	2,956		56.1	2,956		2,956		78.3		78.3
East [7]	167		118	70.7	139	83.2	3,055		1,959	64.1	2,272		1,976		64.7	1,976		64.7	1,976		1,976		87.0		87.0
South Bay [8]	270		184	68.1	214	79.3	7,300		4,250	58.2	5,047		4,323		59.2	4,323		59.2	4,323		4,323		85.7		85.7
Total	1,987		1,376	69.3	1,564	78.7	47,739		27,801	58.2	33,453		28,566		59.8	28,566		59.8	28,566		28,566		85.4		85.4

¹ Persons are considered linked to care if there is at least one viral load, CD4+ T-cell, or genotype test within 1 or 3 months of an HIV diagnosis; persons are considered retained in care if they have >2 viral load, CD4+ T-cell, or genotype tests at least 3 months apart, reported from 01/01/2014 through 12/31/2014; persons are considered virally suppressed when last VL test in 2014 was <200 copies/ml.

² Denominator for linkage to care include only persons who were reported with a new HIV diagnosis in 2014; does not include estimated persons unaware of HIV infection.

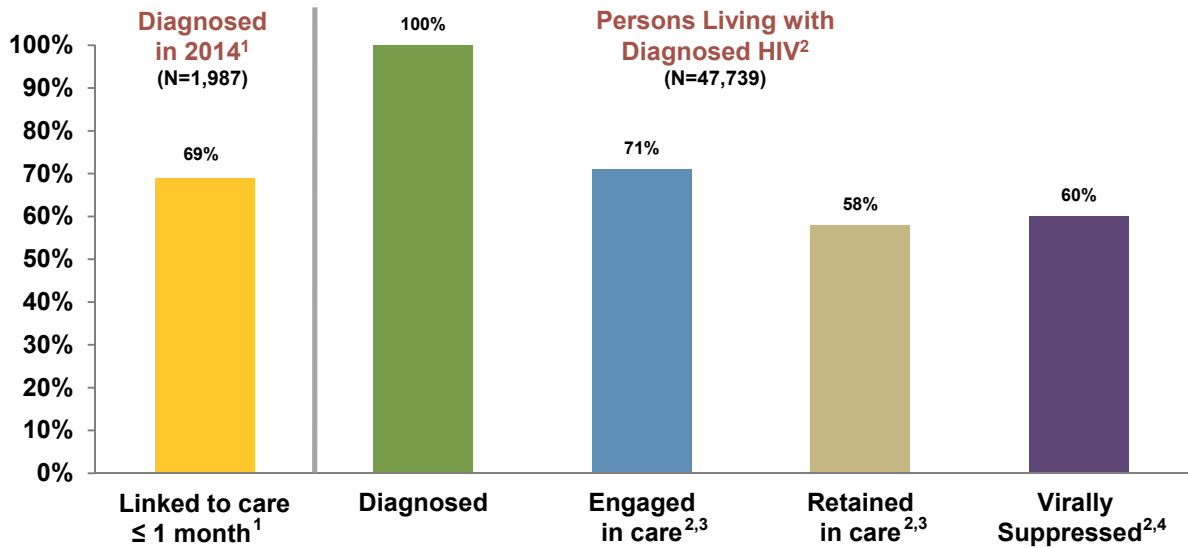
³ Includes persons diagnosed through 2013 and living in LAC as of 12/31/2014 based on most recent residence and who moved to LAC after their initial diagnosis; excludes persons who no longer live in LAC.

⁴ Includes all non-Latino persons who have been reported with American Indian/Alaskan Native race, regardless of whether any other racial/ethnic information is reported.

⁵ Persons with no reported risk information are re-distributed to a valid risk category using multiple imputation (MI) methods.

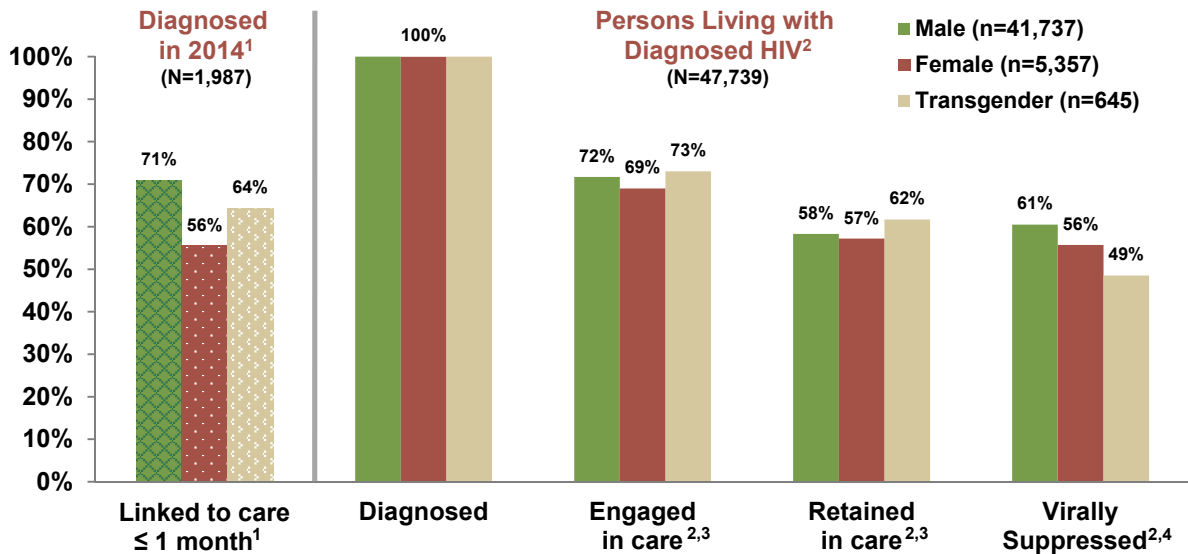
⁶ Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

Figure 2.8A. HIV Care Continuum, Los Angeles County, 2014



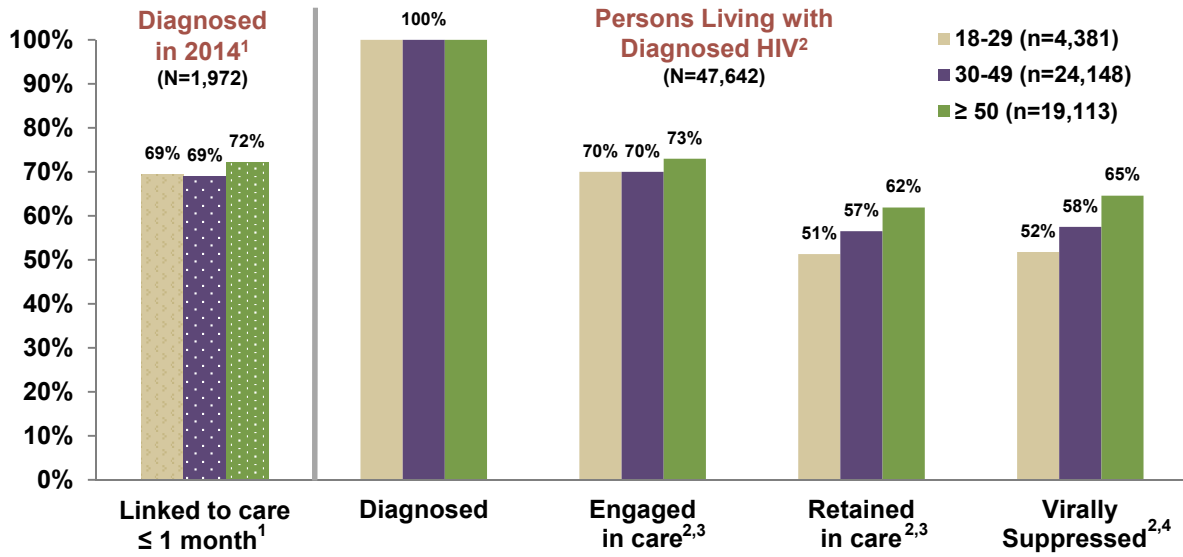
¹ Denominator includes persons who were diagnosed with HIV in 2014; numerator includes persons reported with HIV in 2014 with ≥ 1 CD4/VL/Geno tests reported within 1 month of HIV diagnosis. 2014 data are provisional due to reporting delay.
² Denominator includes persons diagnosed through 2013 and living in LAC as of 12/31/2014 based on most recent residence.
³ Engaged in care: ≥ 1 CD4/VL/Geno tests in 2014; retained in care: ≥ 2 CD4/VL/Geno tests at least 3 months apart in 2014.
⁴ Viral suppression is defined as < 200 copies/ml.

Figure 2.8B. HIV Care Continuum by Gender, Los Angeles County, 2014



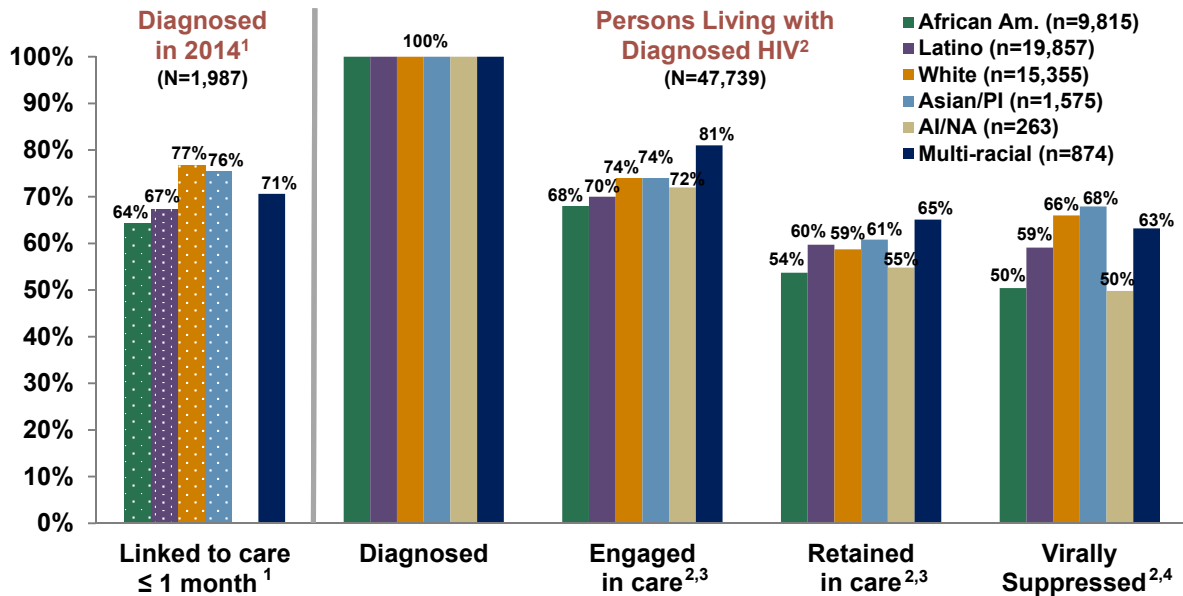
¹ Denominator includes persons who were diagnosed with HIV in 2014; numerator includes persons reported with HIV in 2014 with ≥ 1 CD4/VL/Geno tests reported within 1 month of HIV diagnosis. 2014 data are provisional due to reporting delay.
² Denominator includes persons diagnosed through 2013 and living in LAC as of 12/31/2014 based on most recent residence.
³ Engaged in care: ≥ 1 CD4/VL/Geno tests in 2014; retained in care: ≥ 2 CD4/VL/Geno tests at least 3 months apart in 2014.
⁴ Viral suppression is defined as < 200 copies/ml.

Figure 2.8C. HIV Care Continuum by Age Group, Los Angeles County, 2014



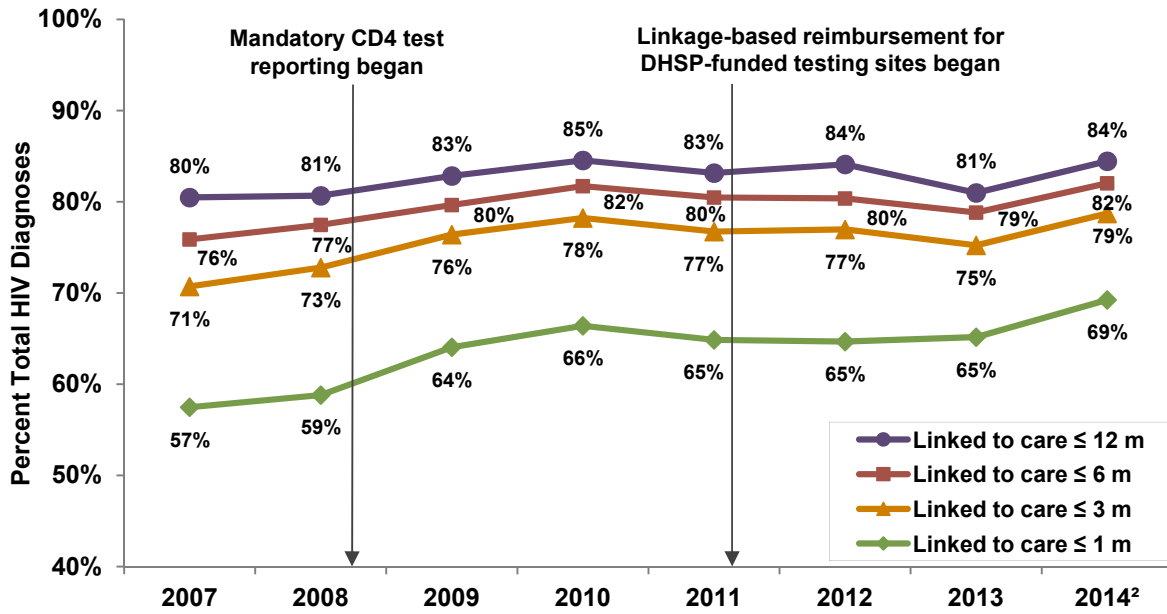
¹ Denominator includes persons age 18 and above who were diagnosed with HIV in 2014; numerator includes persons reported with HIV in 2014 with ≥ 1 CD4/VL/Geno tests reported within 1 month of HIV diagnosis. 2014 data are provisional due to reporting delay.
² Denominator includes persons diagnosed through 2013 and living in LAC as of 12/31/2014 based on most recent residence; persons <18 years of age (n=99) were not included due to unstable estimates.
³ Engaged in care: ≥ 1 CD4/VL/Geno tests in 2014; retained in care: ≥ 2 CD4/VL/Geno tests at least 3 months apart in 2014.
⁴ Viral suppression is defined as <200 copies/ml

Figure 2.8D. HIV Care Continuum by Race/Ethnicity, Los Angeles County, 2014



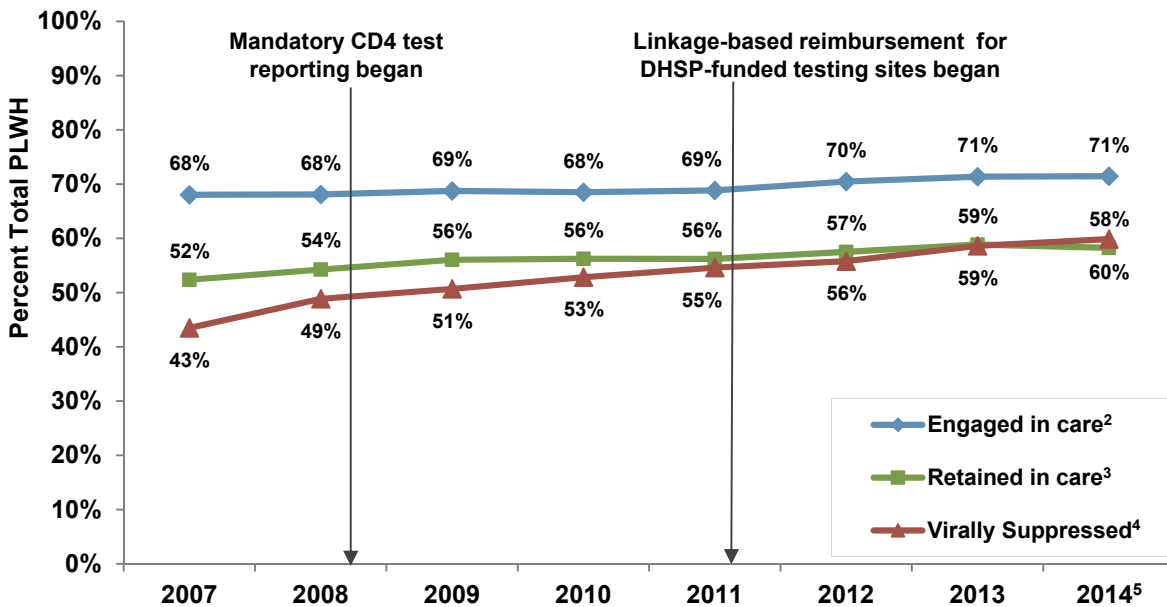
¹ Denominator includes persons who were diagnosed with HIV in 2014; excludes AI/NA (n<5) because numbers were too small; numerator includes persons reported with HIV in 2014 with ≥ 1 CD4/VL/Geno tests reported within 1 month of HIV diagnosis. 2014 data are provisional due to reporting delay.
² Denominator includes persons diagnosed through 2013 and living in LAC as of 12/31/2014 based on most recent residence.
³ Engaged in care: ≥ 1 CD4/VL/Geno tests in 2014; retained in care: ≥ 2 CD4/VL/Geno tests at least 3 months apart in 2014.
⁴ Viral suppression is defined as VL <200 copies/ml.

Figure 2.9. Linkage to Care for Persons Reported with HIV¹ in Los Angeles County, 2007-2014



¹ Includes persons diagnosed with HIV infection in each calendar year and living through the following 12 months with ≥ 1 CD4/VL/Geno tests reported within 1, 3, 6 or 12 months of diagnosis; data as of December 31, 2015.
² Data are provisional due to reporting delay.

Figure 2.10. Engagement, Retention and Viral Suppression for Persons Living with HIV¹, Los Angeles County, 2007-2014



¹ Includes persons diagnosed with HIV infection through 2013 and living in LAC as of 12/31/2014 based on most recent residence.
² Engaged in care: ≥ 1 CD4/VL/Geno tests in 2014.
³ Retained in care: ≥ 2 CD4/VL/Geno tests at least 3 months apart in 2014.
⁴ Viral suppression is defined as < 200 copies/ml.
⁵ Data are provisional due to reporting delay.

Syphilis in Los Angeles County

A total of 5,050 cases of syphilis were reported in LAC in 2015. Thirty-one percent (n=1,569; 15 per 100,000) of these cases were staged as either primary or secondary (P&S), 36% (n=1,831; 18 per 100,000) as early latent (EL) and 32% (n=1,627; 16 per 100,000) as late latent or late syphilis with clinical manifestations (henceforth referred to as late). Since 2011, the number of reported P&S, EL and late cases has risen by 96%, 68% and 51%, respectively. There has also been an increase in congenital syphilis which, although based on small numbers, rose 35% from 17 cases in 2011 to 23 cases in 2015 (see Table 1.1). As shown in Figures 3.1A and 3.1B, P&S and EL syphilis rates are higher in Los Angeles County (LAC) compared to California and the US. While the rate of syphilis in LAC is 12 per 100,000, syphilis rates in other large urban jurisdictions in the US range from 8 (Harris County, TX) to 56 (San Francisco County, CA) per 100,000 (see Table 1.2).

Although a few tables and figures in this report present syphilis cases by P&S, EL and late stages, the majority of data is reported for early syphilis (ES), which includes all cases staged as primary, secondary and early latent. ES represents infectious cases that occurred within the past year, and is used to describe the epidemiology of recent syphilis infections in LAC to help plan and direct syphilis control programs. The P&S, EL and late classifications are consistent with those used by the Centers for Disease Control and Prevention (CDC)⁴ and most suitable for making comparisons between LAC and state or national data.

Gender: As shown in Table 3.1, most cases of ES in 2015 were among males (93%), followed by females (6%) and individuals who identified as transgender (1%).

Age: ES morbidity occurred over a broad age range; ninety-four percent of cases in 2015 were among individuals aged 15-54 years (see Table 3.1). Among both males and females, ES rates were highest among individuals aged 25-29 years, 142 per 100,000 and 15 per 100,000, respectively (see Figures 3.2A and 3.2B).

Race/Ethnicity: While almost half of all ES cases in 2015 occurred among Latinos (46%), the rate of ES among African Americans (69 per 100,000) was over 2 times higher than the rate among Latinos (32 per 100,000) and whites (33 per 100,000). Among males, African Americans had a 2015 ES rate (129 per 100,000) that was 2 times higher than white (64 per 100,000) and Latinos (59 per 100,000) (see Figure 3.3A). Among females, African Americans 2015 ES rate (15 per 100,000) was 8.6 times higher than white females (2 per 100,000), and 3.9 times higher than Latinas (4 per 100,000) (see Figure 3.3B).

Sexual Behavior: Among males with ES in 2015, 79% of cases occurred among men who have sex with men (MSM) or men who have sex with men and women (MSMW), after excluding missing data (see Table 3.1).

Geographic Distribution: ES cases were concentrated within specific regions of LAC in 2015 (see Figure 3.5). Among males, the Metro SPA had the highest number (1,169), proportion (37%) and rate of ES (195 per 100,000) among all SPAs in the county. Among females, the South SPA had the highest number (48), proportion (23%) and rate of ES (9 per 100,000) among all SPAs in the county (see Table 3.1).

HIV Co-infection: Based on self-report during field services interviews and laboratory data, 60% of MSM/MSMW with ES in 2015 were co-infected with HIV. From 2014 to 2015, the number of ES cases among MSM/MSMW who are co-infected with HIV increased 29%; the number of ES cases among MSM/MSMW who are not co-infected with HIV increased 31% over this same time period (see Figure 3.6).

Field Services: In LAC, attempts are made to follow-up with syphilis cases in order to ensure proper treatment and to elicit sexual partners and other contacts who may also need treatment. In 2015, excluding cases reported from the cities of Long Beach and Pasadena, treatment was verified for 96% of all syphilis cases, 71% were interviewed and 23% provided information on a least one contact (see Figure 3.7). Treatment was verified for 53% of those contacts (see Figure 3.8).

Figure 3.1A. Primary & Secondary Syphilis Rates in the United States, California and Los Angeles County, 2010-2014¹

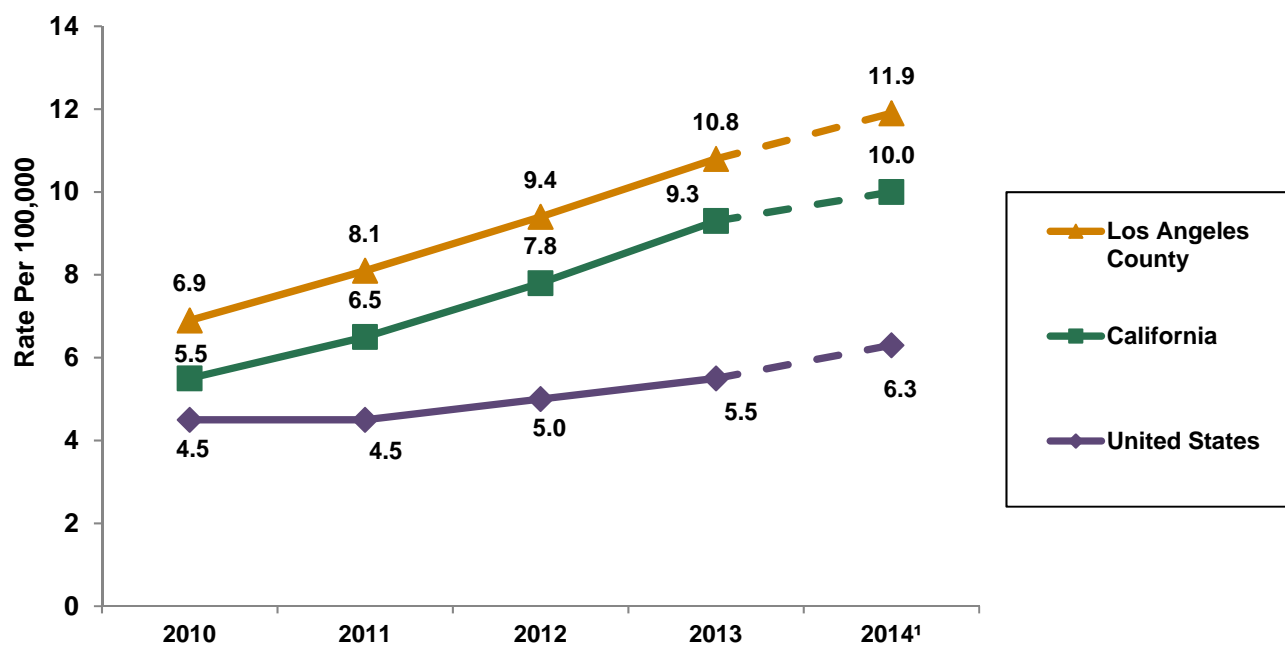
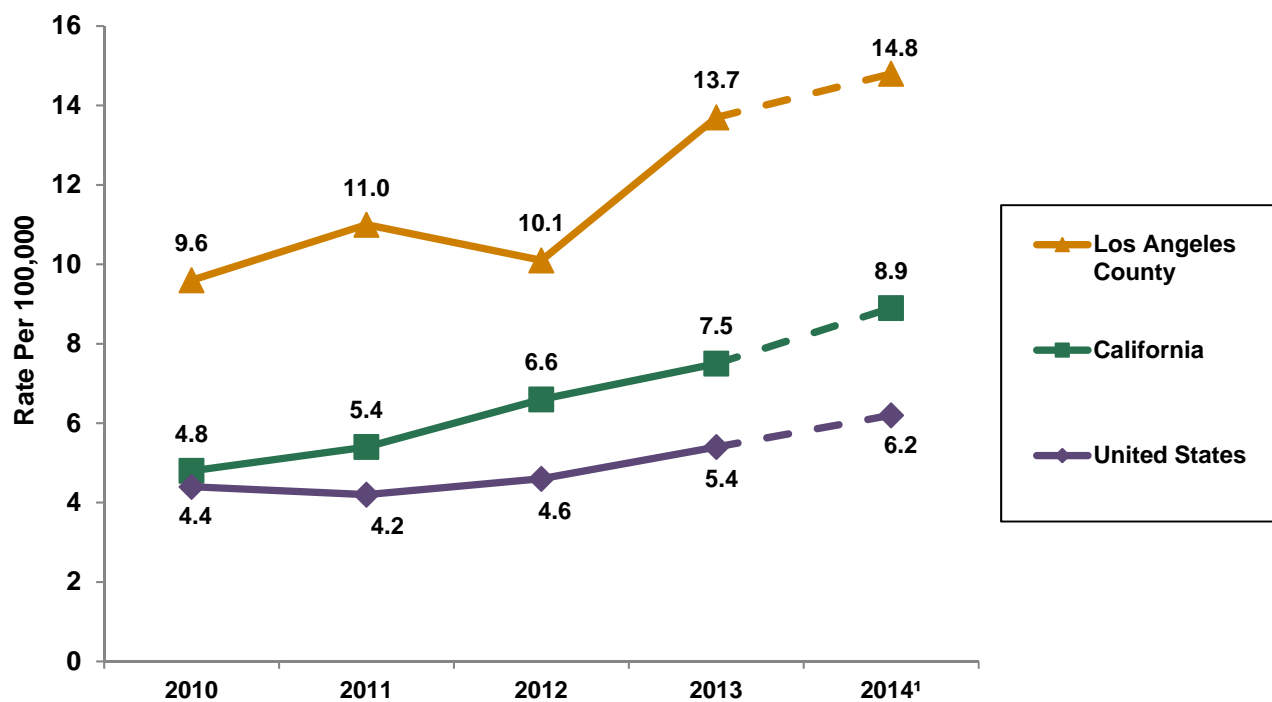


Figure 3.1B. Early Latent Syphilis Rates in the United States, California and Los Angeles County, 2010-2014¹



¹ 2014 data are provisional due to reporting delay.

Table 3.1. Early Syphilis Cases and Rates (per 100,000) by Gender, Sexual Behavior, Age Group, Race/Ethnicity, and Service Planning Area (SPA), Los Angeles County, 2015¹

	Male			Female			Total ^{2,3}		
	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt
Gender									
Male	3,169	(100)	63	-	-	-	3,169	(93)	63
Female	-	-	-	206	(100)	4	206	(6)	4
Transgender ³	-	-	-	-	-	-	25	(1)	-
Missing ³	-	-	-	-	-	-	0	(0)	-
Sexual Behavior (males only)³									
MSM	2,391	(75)	-	-	-	-	-	-	-
MSMW	125	(4)	-	-	-	-	-	-	-
MSW	265	(8)	-	-	-	-	-	-	-
Missing	388	(12)	-	-	-	-	-	-	-
Age Group (Yr)									
0-14	<5	-	-	<5	-	-	<5	-	-
15-19	78	(2)	22	24	(12)	7	102	(3)	14
20-24	419	(13)	105	40	(19)	10	461	(14)	59
25-29	551	(17)	142	57	(28)	15	612	(18)	81
30-34	515	(16)	134	29	(14)	8	552	(16)	73
35-39	436	(14)	123	18	(9)	5	459	(14)	65
40-44	348	(11)	99	10	(5)	3	360	(11)	51
45-54	635	(20)	92	15	(7)	2	653	(19)	47
55-64	170	(5)	30	9	(4)	1	180	(5)	15
65+	15	(0)	3	1	-	-	16	(0)	1
Missing ³	<5	-	-	<5	-	-	<5	-	-
Race/Ethnicity									
White	919	(29)	63	25	(12)	2	948	(28)	33
African American	526	(17)	129	69	(33)	15	601	(18)	69
Latino	1,453	(46)	59	95	(46)	4	1,559	(46)	32
Asian	122	(4)	18	11	(5)	1	133	(4)	9
Pacific Islander	17	(1)	139	<5	-	-	17	(1)	69
American Indian/Alaskan Native	11	-	-	<5	-	-	11	(0)	56
Other/Multi-race ³	38	(1)	-	<5	-	-	41	(1)	-
Missing ³	83	(3)	-	<5	-	-	90	(3)	-
Service Planning Area									
Antelope Valley [1]	49	(2)	25	12	(6)	6	61	(2)	15
San Fernando [2]	458	(14)	41	14	(7)	1	477	(14)	21
San Gabriel [3]	257	(8)	29	34	(17)	4	291	(9)	16
Metro [4]	1,169	(37)	195	26	(13)	5	1,208	(36)	103
West [5]	150	(5)	47	2	(1)	1	152	(4)	23
South [6]	337	(11)	66	48	(23)	9	389	(11)	37
East [7]	272	(9)	42	25	(12)	4	299	(9)	23
South Bay [8]	443	(14)	58	38	(18)	5	481	(14)	31
Missing ³	34	(1)	-	7	(3)	-	42	(1)	-
Total	3,169	(100)	63	206	(100)	4	3,400	(100)	33

¹ Data are provisional due to reporting delay. Rates based on observations fewer than 12 may not be reliable (see technical notes).

Early Syphilis includes all cases staged as either primary, secondary, or early latent.

² Includes missing gender, male-to-female transgender and female-to-male transgender.

³ Rates cannot be calculated due to a lack of reliable denominator data.

Figure 3.2A. Early Syphilis Rates among Males by Age Group, Los Angeles County, 2011-2015¹

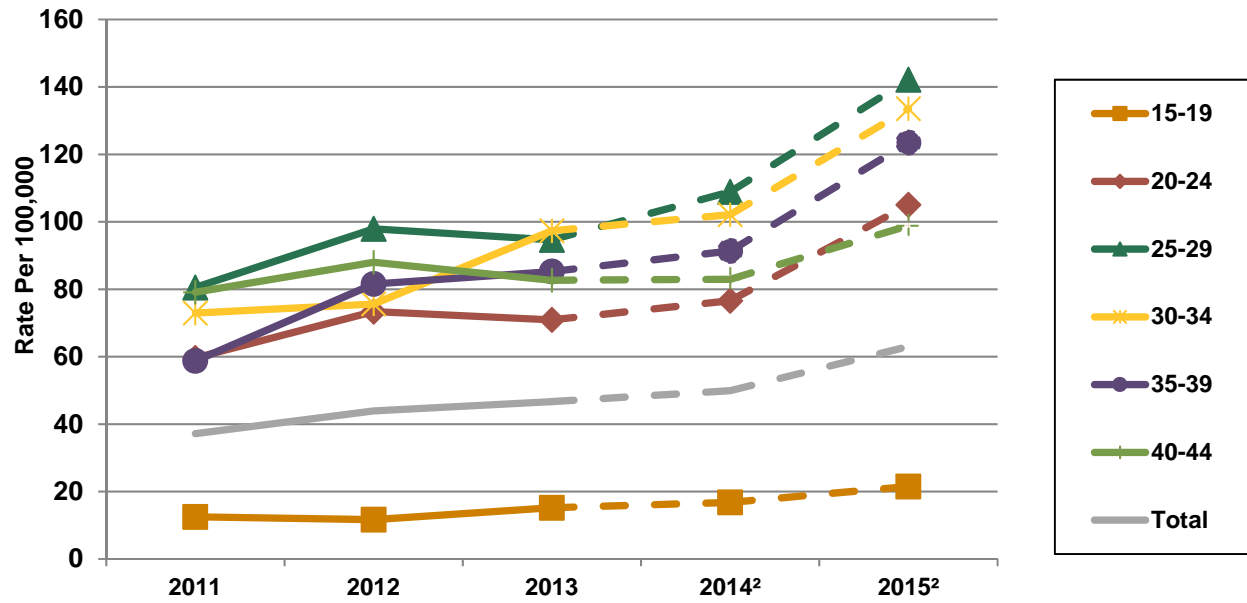
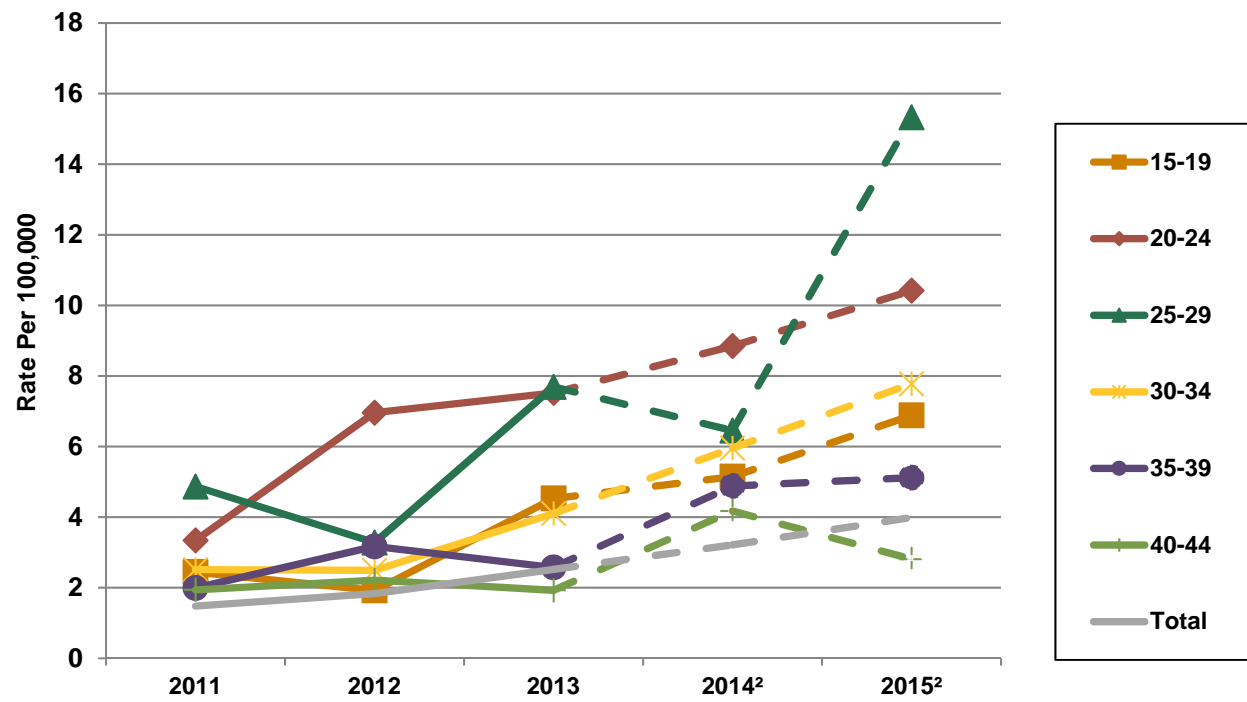


Figure 3.2B. Early Syphilis Rates among Females by Age Group, Los Angeles County, 2011-2015¹



¹ Early Syphilis includes all cases staged as primary, secondary, or early latent.

² 2014-2015 data are provisional due to reporting delay

Figure 3.3A. Early Syphilis Rates among Males by Race/Ethnicity, Los Angeles County, 2011-2015¹

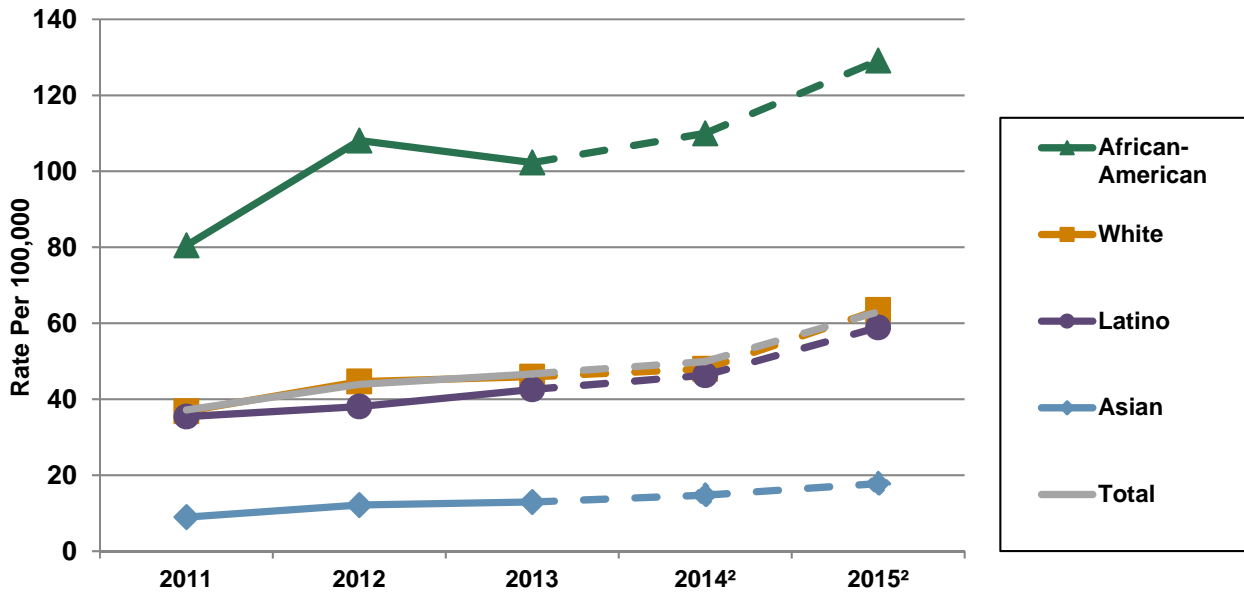
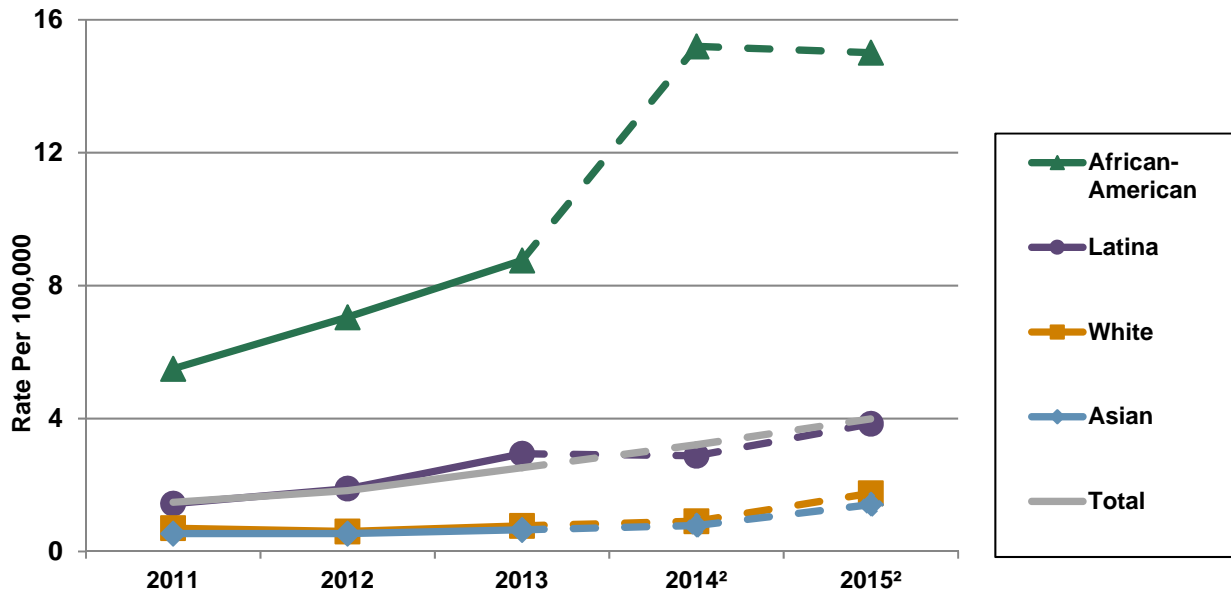


Figure 3.3B. Early Syphilis Rates among Females by Race/Ethnicity, Los Angeles County, 2011-2015¹



¹ Data excludes cases with unknown race/ethnicity; Early Syphilis includes all cases staged as primary, secondary, or early latent; rates for Pacific Islanders and American Indians/Alaskan Natives are not presented due to small numbers that may cause unstable estimates.

² 2014-2015 data are provisional due to reporting delay.

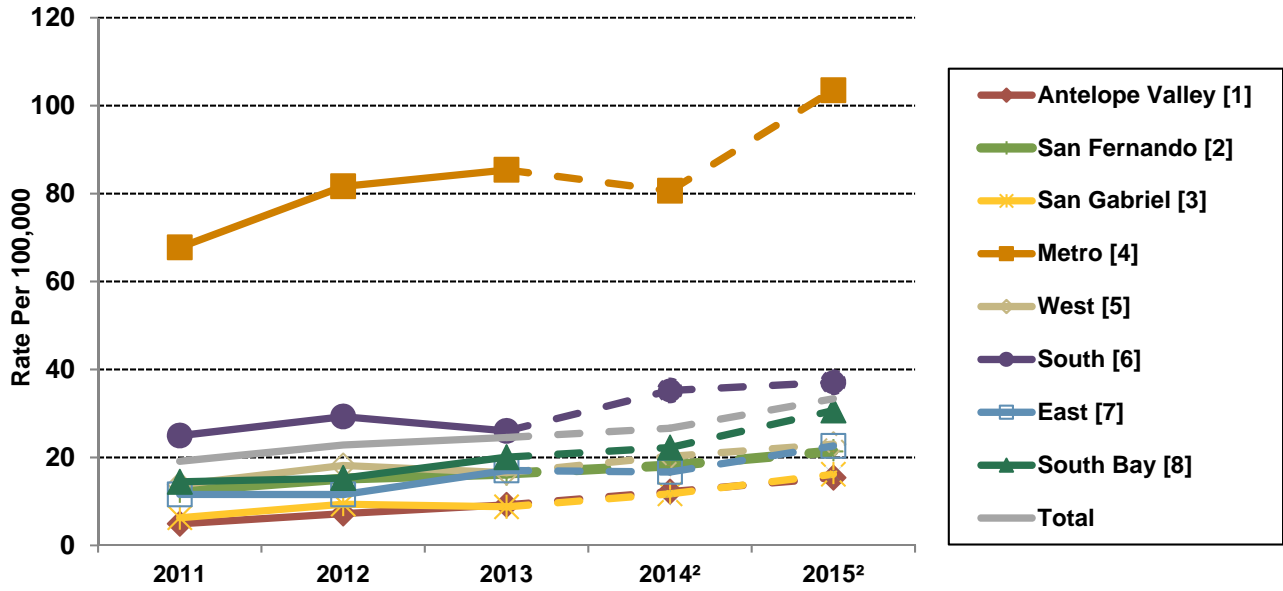
Table 3.2. Early Syphilis Cases and Rates (per 100,000) by Service Planning Area (SPA) and Health District (HD), Los Angeles County, 2011-2015¹

SPA/HD	2011			2012			2013			2014			2015		
	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt
Antelope Valley [1]	19	(1)	5	28	(1)	7	36	(1)	9	48	(2)	12	61	(2)	15
Antelope Valley	19	(1)	5	28	(1)	7	36	(1)	9	48	(2)	12	61	(2)	15
San Fernando [2]	265	(14)	12	326	(14)	15	355	(14)	16	398	(15)	18	477	(14)	21
East Valley	102	(5)	23	120	(5)	27	124	(5)	28	137	(5)	30	170	(5)	37
Glendale	23	(1)	7	50	(2)	15	46	(2)	14	61	(2)	18	74	(2)	21
San Fernando	36	(2)	7	39	(2)	8	53	(2)	10	55	(2)	11	59	(2)	11
West Valley	104	(6)	12	117	(5)	14	132	(5)	15	145	(5)	16	174	(5)	19
San Gabriel [3]	110	(6)	7	165	(7)	10	156	(6)	10	209	(8)	13	291	(9)	16
Alhambra	15	(1)	4	29	(1)	8	24	(1)	7	37	(1)	11	47	(1)	13
El Monte	25	(1)	6	34	(2)	8	48	(2)	11	60	(2)	14	84	(2)	19
Foothill	20	(1)	7	36	(2)	12	21	(1)	7	29	(1)	9	41	(1)	13
Pomona	38	(2)	7	38	(2)	7	52	(2)	10	68	(3)	13	88	(3)	16
Pasadena	12	(1)	9	28	(1)	20	11	(0)	8	15	(1)	11	31	(1)	22
Metro [4]	759	(40)	68	917	(41)	82	974	(40)	85	927	(35)	81	1,208	(36)	103
Central	199	(11)	59	255	(11)	76	258	(10)	75	283	(11)	82	334	(10)	95
Hollywood-Wilshire	492	(26)	102	558	(25)	116	630	(26)	129	559	(21)	113	750	(22)	150
Northeast	68	(4)	22	104	(5)	34	86	(3)	28	85	(3)	27	124	(4)	39
West [5]	88	(5)	14	116	(5)	18	107	(4)	17	132	(5)	20	152	(4)	23
West	88	(5)	14	116	(5)	18	107	(4)	17	132	(5)	20	152	(4)	23
South [6]	252	(13)	25	298	(13)	29	268	(11)	26	364	(14)	35	389	(11)	37
Compton	50	(3)	18	51	(2)	18	52	(2)	18	67	(2)	24	62	(2)	22
South	49	(3)	26	63	(3)	33	52	(2)	27	71	(3)	37	70	(2)	35
Southeast	34	(2)	20	40	(2)	23	41	(2)	24	62	(2)	36	52	(2)	29
Southwest	119	(6)	32	144	(6)	38	123	(5)	32	164	(6)	43	205	(6)	53
East [7]	150	(8)	12	150	(7)	12	223	(9)	17	219	(8)	17	299	(9)	23
Bellflower	25	(1)	7	26	(1)	7	63	(3)	18	49	(2)	14	65	(2)	18
East Los Angeles	23	(1)	11	35	(2)	17	45	(2)	22	34	(1)	17	65	(2)	31
San Antonio	65	(3)	15	69	(3)	16	65	(3)	15	83	(3)	19	106	(3)	25
Whittier	37	(2)	12	20	(1)	6	50	(2)	16	53	(2)	16	63	(2)	19
South Bay [8]	221	(12)	21	235	(10)	22	311	(13)	29	346	(13)	32	481	(14)	31
Harbor	13	(1)	6	19	(1)	9	29	(1)	14	26	(1)	13	33	(1)	16
Inglewood	80	(4)	20	88	(4)	21	97	(4)	23	94	(4)	23	124	(4)	30
Torrance	29	(2)	6	28	(1)	6	38	(2)	8	43	(2)	9	54	(2)	12
Long Beach	99	(5)	21	100	(4)	21	147	(6)	31	183	(7)	39	270	(8)	57
Missing	25	(1)	-	28	(1)	-	28	(1)	-	40	(1)	-	42	(1)	-
Total	1,889	(100)	20	2,263	(100)	24	2,458	(100)	26	2,683	(100)	28	3,400	(100)	33

¹ Rates based on observations fewer than 12 may not be reliable (see technical notes). Early Syphilis includes all cases staged as primary, secondary, or early latent

² Data are provisional due to reporting delay.

Figure 3.4. Early Syphilis Rates by Service Planning Area (SPA), Los Angeles County, 2011-2015¹



¹ Early syphilis includes all cases staged as primary, secondary, or early latent. Data excludes cases with unknown/missing SPA.

² 2014-2015 data are provisional due to reporting delay.

Figure 3.5. Early Syphilis Cases By Census Tract and Service Planning Area (SPA), Los Angeles County, 2015

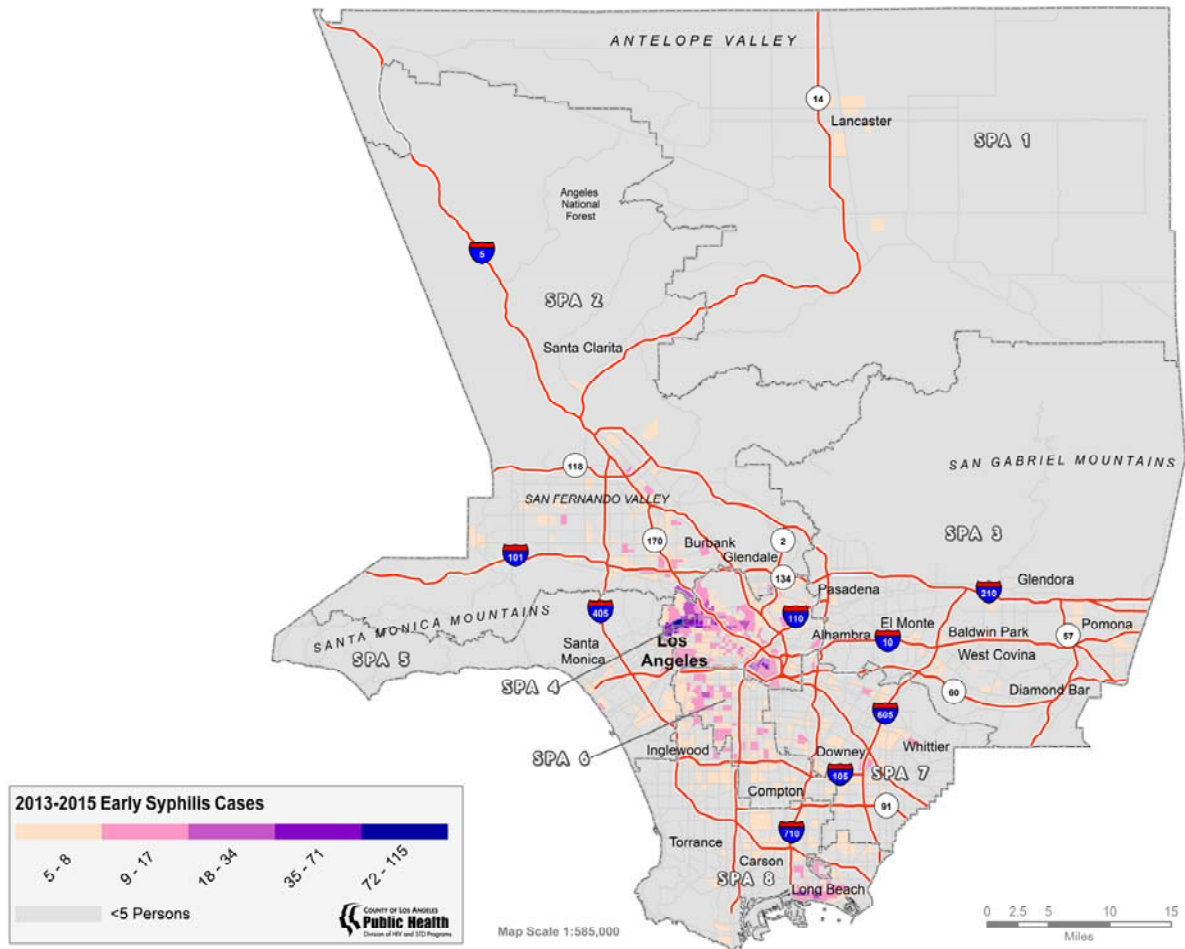
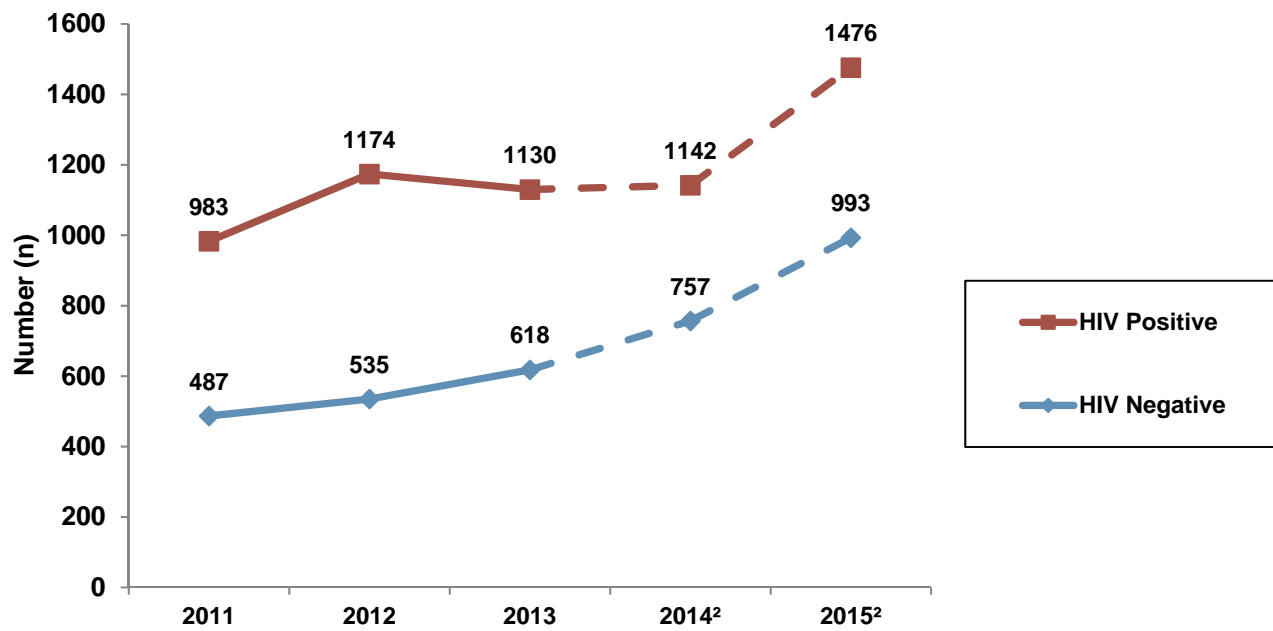


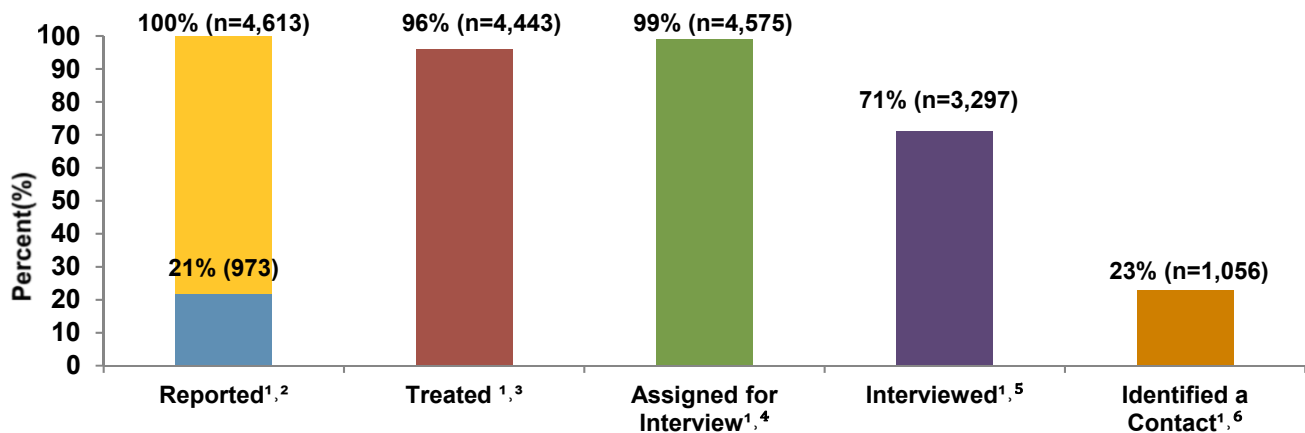
Figure 3.6. Number of Cases of Early Syphilis among MSM/MSMW by HIV Status, Los Angeles County, 2011-2015¹



¹ MSM/MSMW=men who have sex with men/men who have sex with men and women; based on self-reported gender and gender of sex partners; HIV positive status includes cases that were either self-reported and/or laboratory confirmed.

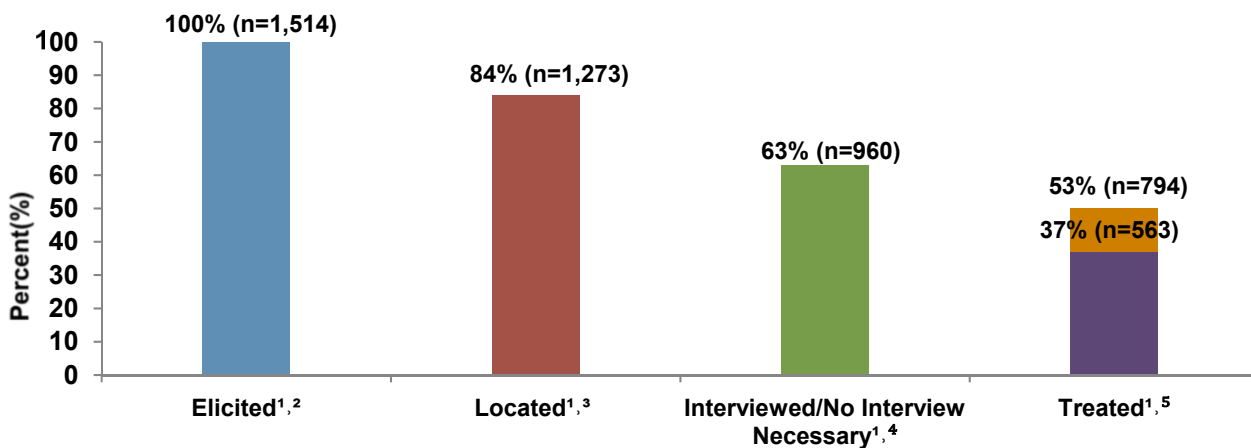
² 2014-2015 data are provisional due to reporting delay.

Figure 3.7. Syphilis Index Case Continuum, Los Angeles County, 2015



1. Denominator is 4,613 syphilis (SY) cases reported in Los Angeles County (LAC) in 2015, after excluding cases that were out of jurisdiction (OOJ). These cases were staged as: primary or secondary (n=1,425), early latent (n=1,674), and late latent/late (n=1,514).
2. Numerator is # SY cases reported in LAC in 2015 after excluding cases that were OOJ; 17% were reported by county-run STD clinics and 5% were reported by county-run hospitals.
3. Numerator is # SY cases with documented treatment information.
4. Numerator is # SY cases assigned to a field services staff member for investigation.
5. Numerator is # SY cases interviewed by field services.
6. Numerator is # SY cases who identified at least one sexual and/or cluster contact; does not include cases that notified contacts themselves or that received provider-delivered partner services.

Figure 3.8. Syphilis Elicited Contact Continuum, Los Angeles County, 2015



1. Denominator is 1,514 contacts elicited from 1,056 syphilis (SY) index cases in 2015. Of these contacts: 1,341 were sexual partners, 153 were clusters, and 20 were missing information on contact type.
2. Numerator is # of contacts identified by index cases in 2015.
3. Numerator is # of contacts located by field services; excludes contacts with a disposition of “unable to locate,” “insufficient information to begin investigation,” “administrative/system closure,” or that were missing a disposition.
4. Numerator is # of contacts who were either interviewed or had a disposition which indicated that their infection and/or treatment status was confirmed. A total of 256 new cases of syphilis were identified from these interviews. These new cases were staged as: primary (n=42), secondary (n=46), early latent (n=126), and late latent/late (n=42).
5. Numerator is total # of partners with documented treatment information; 37% of contacts had a disposition of “infected – brought to treatment” (n=256) or “preventative treatment – new” (n=307).

Gonorrhea in Los Angeles County

A total of 17,442 cases of gonorrhea were reported in Los Angeles County (LAC) in 2015. The number of reported cases rose in each of the past 5 years, resulting in a 74% increase from 2011 to 2015. The overall gonorrhea rate in LAC in 2015 was 171 per 100,000 (see Table 1.1). As shown in Figure 4.1, based on the most recent year for which national data are available, the gonorrhea rate in LAC in 2014 (151 per 100,000) was 27% higher than the rate in California (119 per 100,000) and 36% higher than the rate in the US (111 per 100,000). While the rate of gonorrhea in LAC is 151 per 100,000, gonorrhea rates in other large urban jurisdictions in the US range from 93 (Miami-Dade County, FL) to 397 (San Francisco County, CA) per 100,000 (see Table 1.2).

Gender: Seventy-one percent of gonorrhea cases in 2015 were among males and 28% were among females (see Table 4.1). Although transgender individuals accounted for less than 1% of the overall gonorrhea cases in 2015, there were 49 cases reported. While 49 cases is a substantial increase from the 8 cases reported in 2011, it is unclear to what extent gonorrhea morbidity is underreported in this population; caution should therefore be taken when interpreting overall case counts and trends over time among transgender individuals.

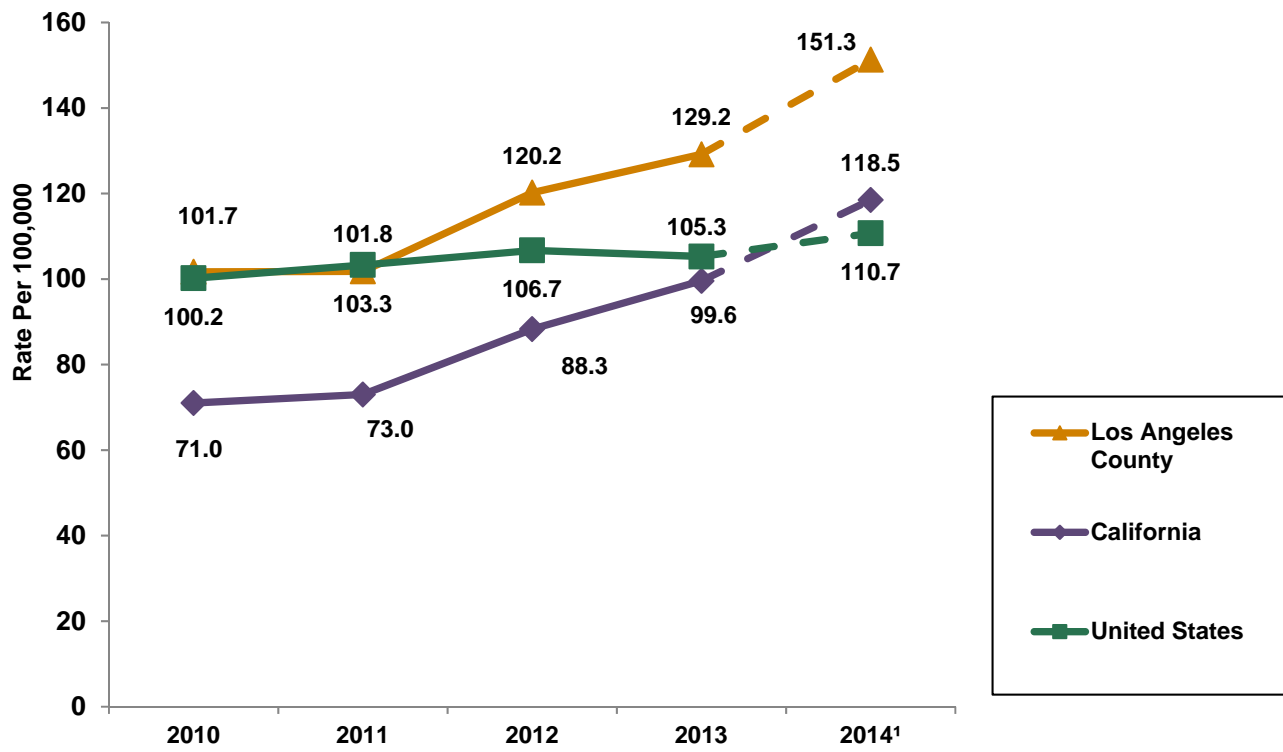
Age: Most cases of gonorrhea in 2015 occurred among individuals aged 15-34 years (74% - see Table 4.1). Females had a younger age distribution than males; fifty-eight percent of cases among females were reported among individuals aged 15-24 years compared to 30% among males. Since 2011, the largest increases in gonorrhea rates have occurred among males aged 35-39 years (135%), 30-34 years (118%), and 25-29 years (107%) (see Figure 4.2A). Among females, the largest increases in gonorrhea rates occurred among females aged 35-39 (67%) and 40-44 years (67%), and females aged 25-29 (59%) and 30-34 years (59%) (see Figure 4.2B).

Race/Ethnicity: While the largest proportion of gonorrhea cases in 2015 occurred among Latinos (36%), African Americans had the highest rate of disease (554 per 100,000 - see Table 4.1). This is especially true for African American females whose 2015 gonorrhea rate (387 per 100,000) was over 9 times higher than white females (41 per 100,000) and 4.7 times higher than Latinas (83 per 100,000). Since 2011, gonorrhea rates increased by 94% among Latinas, 40% among white females, and 22% among Asian females, while remaining fairly stable for African American females (see Figure 4.3B). Among males, African Americans had a 2015 gonorrhea rate (738 per 100,000) that was 4.3 times higher than Latinos (171 per 100,000) and 3.3 times higher than whites (222 per 100,000). Since 2011, gonorrhea rates increased by 98% for Latino males, 95% for Asian males, 108% for white males and 48% for African American males (see Figure 4.3A). Similarly, the highest rates of gonorrhea were among young African American males (aged 20-29) and females (aged 15-29) compared to other race/ethnicities (see Figures 4.4A and 4.4B).

Geographic Distribution: Gonorrhea cases were heavily concentrated within specific regions of LAC in 2015 (see Figure 4.6). Among males, the Metro SPA had the highest number (4,094), proportion (33%) and rate of gonorrhea (683 per 100,000) of all SPAs in the county. Among females, the South SPA had the highest number (1,375), proportion (28%) and rate of gonorrhea (256 per 100,000) of all SPAs in the county (see Table 4.1). Countywide, the largest increases in gonorrhea rates from 2014 to 2015 occurred in the South Bay (23% increase), San Gabriel Valley (18% increase) and San Fernando Valley (17% increase) SPAs (see Figure 4.5).

Field Services: In LAC, attempts are made to follow-up with gonorrhea cases in order to ensure proper treatment and to elicit sexual partners and other contacts who may also need treatment. In 2015, treatment was verified for 91% of cases, 39% were interviewed and 13% provided information on a least one contact (see Figure 4.7). Among the contacts identified, 80% were located and 70% were either interviewed or it was determined that no interview was necessary because existing data indicated that the contact was either not infected or had already received treatment. Treatment was verified for 63% of all elicited contacts (see Figure 4.8).

Figure 4.1. Gonorrhea Rates in the United States, California and Los Angeles County, 2010-2014¹



¹2014 data are provisional due to reporting delay.

Table 4.1. Gonorrhea Cases and Rates (per 100,000) by Gender, Age Group, Race/Ethnicity, and Service Planning Area (SPA), Los Angeles County, 2015¹

	Male			Female			Total ²		
	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt
Gender									
Male	12,438	(100)	247	-	-	-	12,438	(71)	247
Female	-	-	-	4,941	(100)	96	4,941	(28)	96
Transgender ³	-	-	-	-	-	-	49	(0)	-
Missing ³	-	-	-	-	-	-	14	(0)	-
Age Group (Yr)									
0-14	8	(0)	1	47	(1)	5	55	(0)	3
15-19	815	(7)	225	1,165	(24)	334	1,981	(11)	278
20-24	2,820	(23)	707	1,659	(34)	432	4,488	(26)	573
25-29	2,934	(24)	757	969	(20)	261	3,923	(22)	517
30-34	2,114	(17)	548	473	(10)	127	2,602	(15)	343
35-39	1,299	(10)	368	266	(5)	76	1,570	(9)	223
40-44	864	(7)	245	148	(3)	42	1,016	(6)	144
45-54	1,212	(10)	175	145	(3)	20	1,363	(8)	97
55-64	321	(3)	57	49	(1)	8	372	(2)	32
65+	41	(0)	7	7	(0)	1	48	(0)	4
Missing ³	10	(0)	-	13	-	-	24	(0)	-
Race/Ethnicity									
White	3,208	(26)	222	585	(12)	41	3,802	(22)	132
African American	3,005	(24)	738	1,776	(36)	387	4,804	(28)	554
Latino	4,208	(34)	171	2,042	(41)	83	6,265	(36)	127
Asian	437	(4)	64	117	(2)	15	557	(3)	38
Pacific Islander	51	(0)	417	15	(0)	120	66	(0)	267
American Indian/Alaskan Native	35	(0)	365	5	(0)	49	40	(0)	203
Other/Multi-race ³	229	(2)	-	82	(2)	-	312	(2)	-
Missing ³	1,265	(10)	-	319	(6)	-	1,596	(9)	-
Service Planning Area									
Antelope Valley [1]	290	(2)	147	287	(6)	144	578	(3)	146
San Fernando [2]	1,664	(13)	151	567	(11)	50	2,236	(13)	100
San Gabriel [3]	964	(8)	110	546	(11)	59	1,515	(9)	84
Metro [4]	4,094	(33)	683	545	(11)	96	4,665	(27)	400
West [5]	667	(5)	208	148	(3)	44	816	(5)	124
South [6]	1,958	(16)	383	1,375	(28)	256	3,342	(19)	319
East [7]	879	(7)	135	504	(10)	75	1,391	(8)	105
South Bay [8]	1,540	(12)	201	888	(18)	111	2,435	(14)	155
Missing ³	382	(3)	-	81	(2)	-	464	(3)	-
Total	12,438	(100)	247	4,941	(100)	96	17,442	(100)	171

¹ Data are provisional due to reporting delay. Rates based on observations fewer than 12 may not be reliable (see technical notes).

² Includes missing gender, male-to female-transgender and female-to-male transgender.

³ Rates cannot be calculated due to a lack of reliable denominator data.

Figure 4.2A. Gonorrhea Rates among Males by Age Group, Los Angeles County, 2011-2015

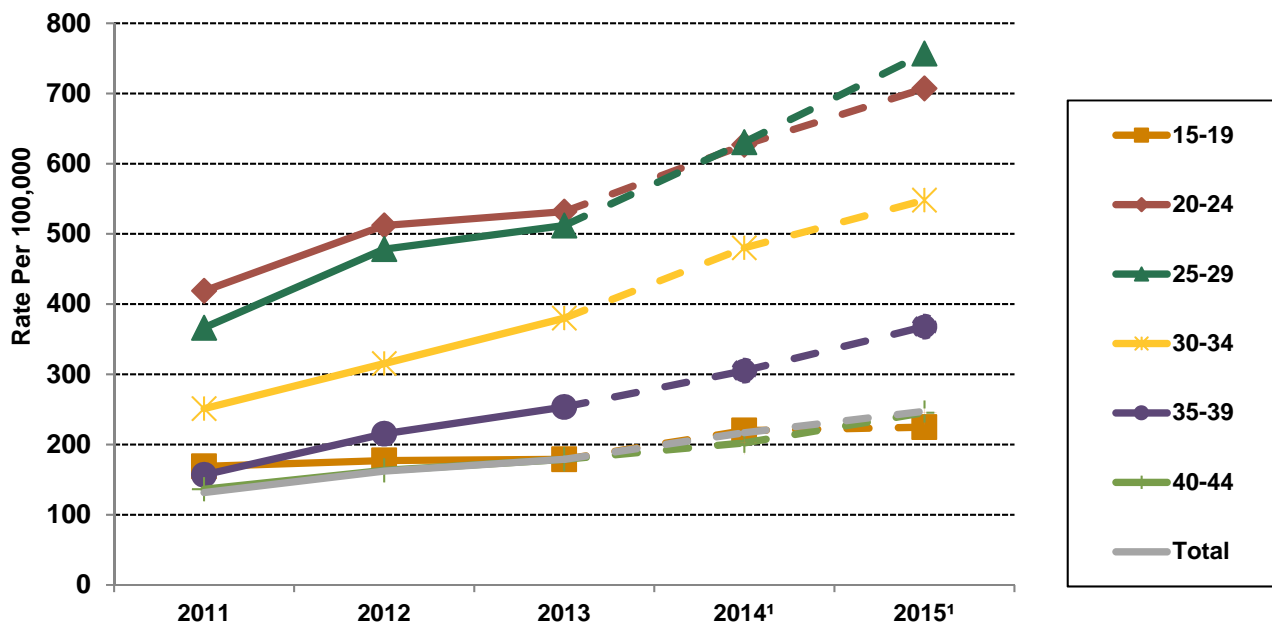
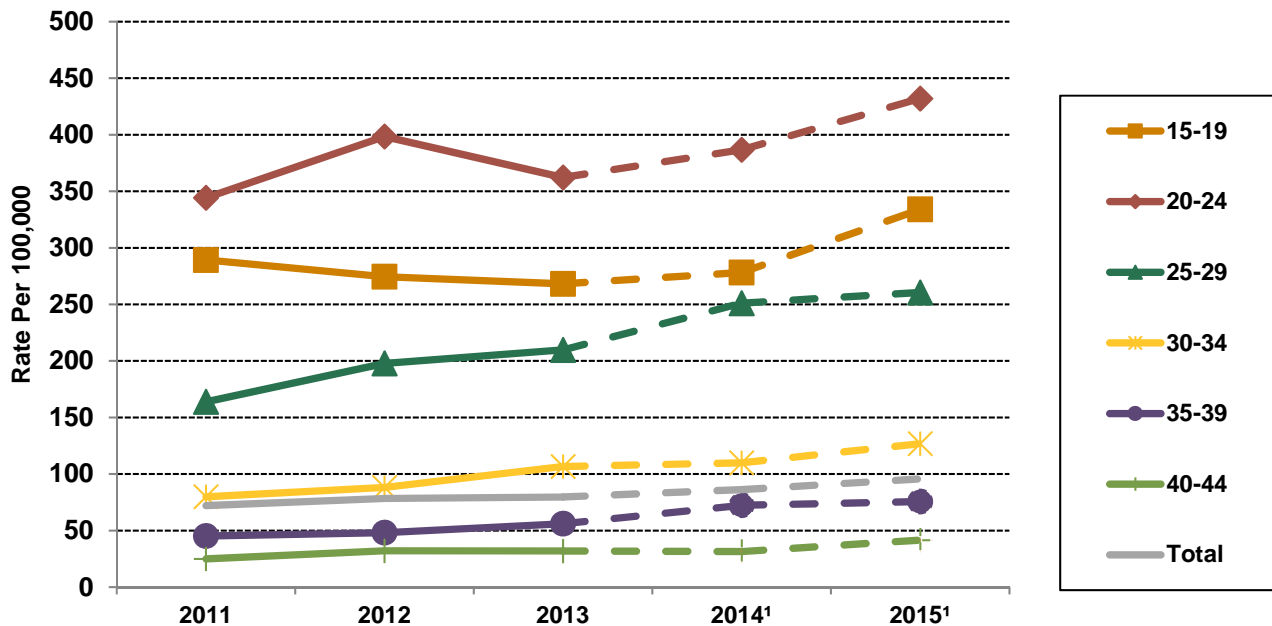


Figure 4.2B. Gonorrhea Rates among Females by Age Group, Los Angeles County, 2011-2015



¹ 2014-2015 data are provisional due to reporting delay.

Figure 4.3A. Gonorrhea Rates among Males by Race/Ethnicity, Los Angeles County, 2011-2015¹

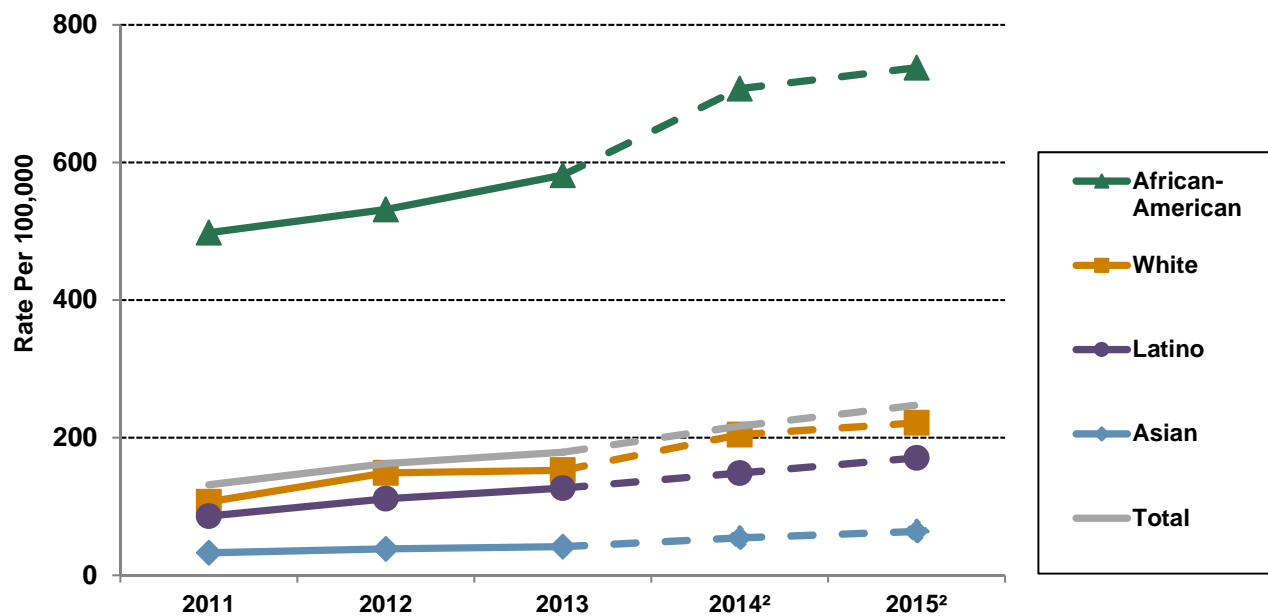
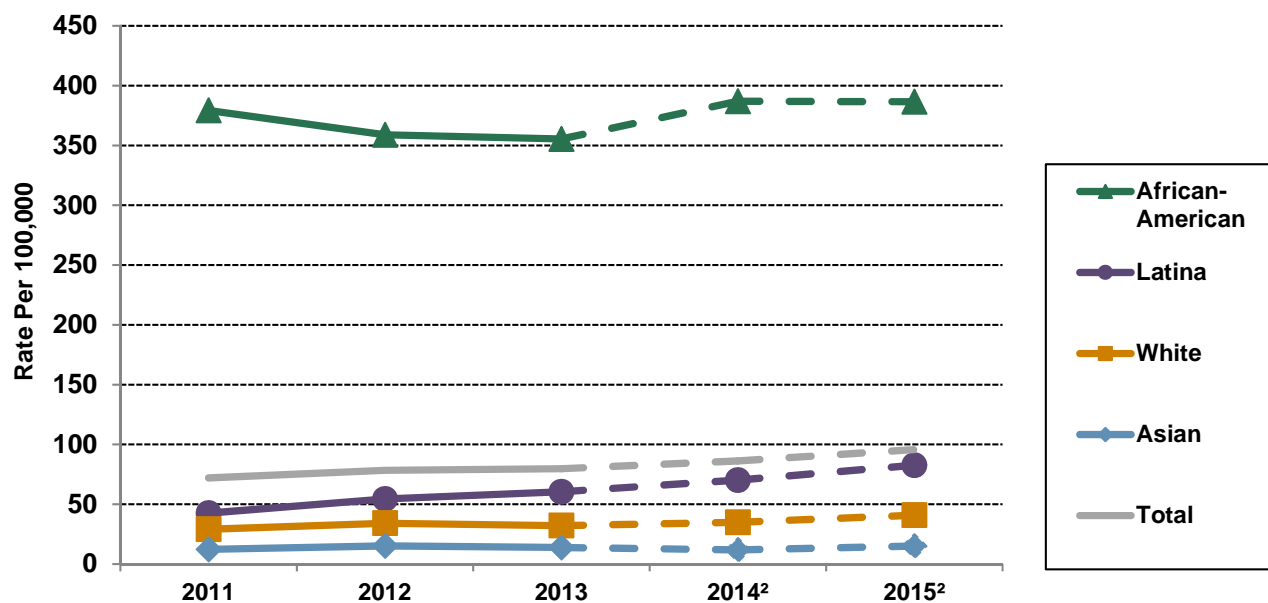


Figure 4.3B. Gonorrhea Rates among Females by Race/Ethnicity, Los Angeles County, 2011-2015¹



¹ Data excludes cases with unknown race/ethnicity; rates for Pacific Islanders and American Indians/Alaskan Natives are not presented due to small numbers that may cause unstable estimates.

² 2014-2015 data are provisional due to reporting delay.

Figure 4.4A. Gonorrhea Rates among Males by Age Group and Race/Ethnicity, Los Angeles County, 2015¹

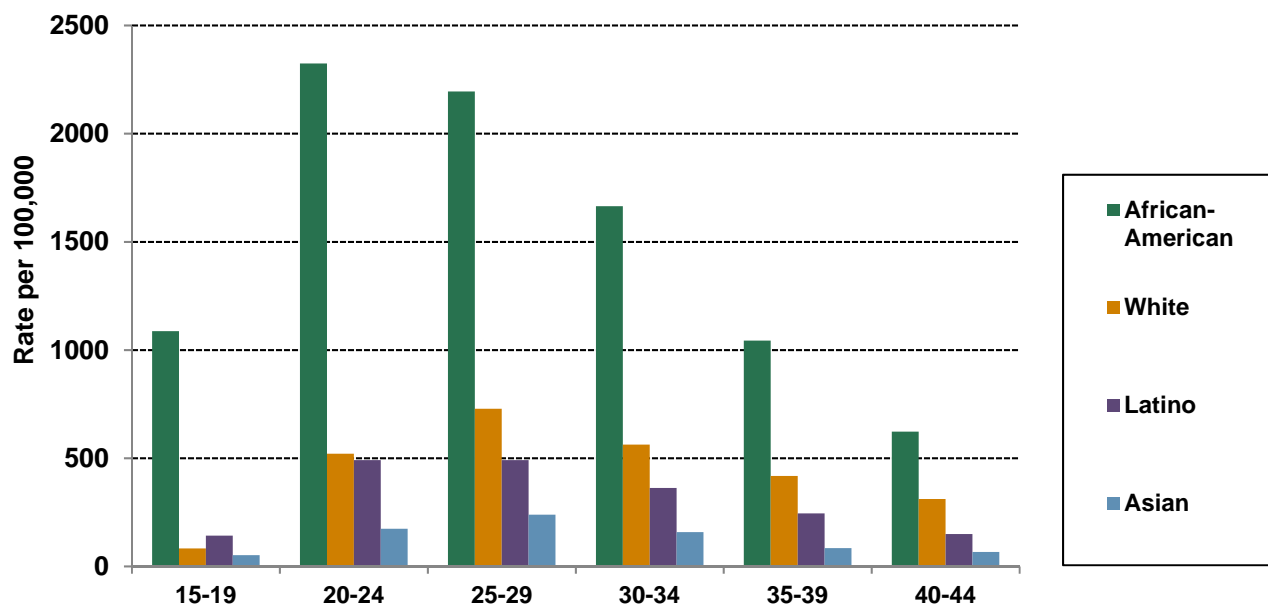
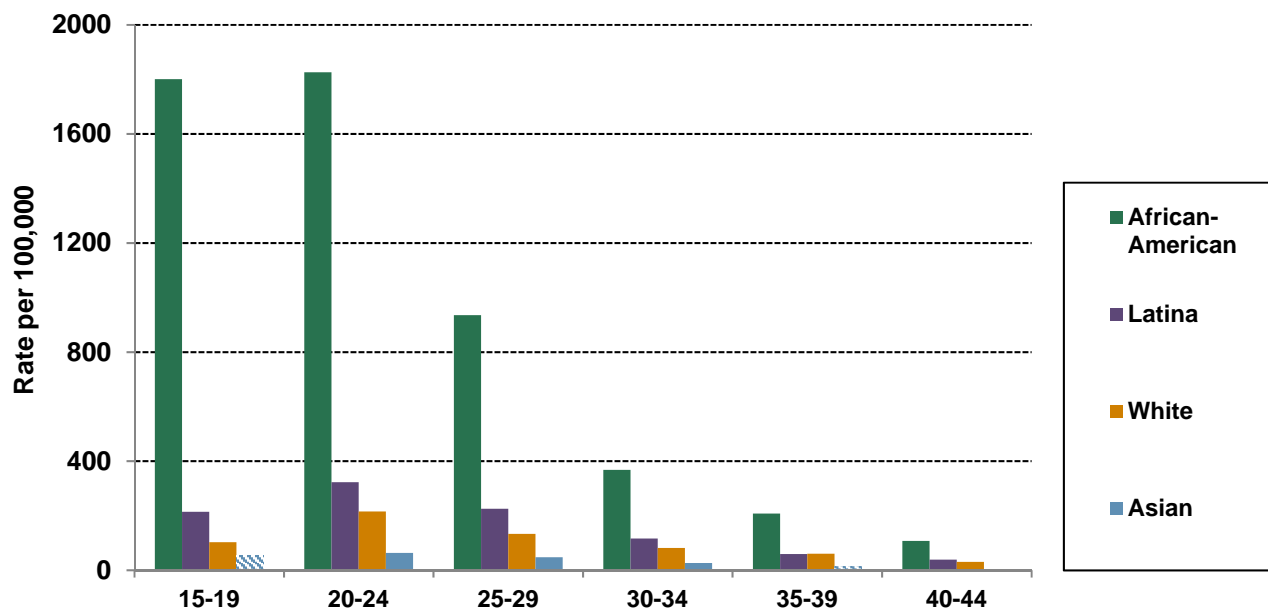


Figure 4.4B. Gonorrhea Rates among Females by Age Group and Race/Ethnicity, Los Angeles County, 2015¹



¹ Data excludes cases with unknown race/ethnicity; 2015 data are provisional due to reporting delay; rates with a pattern fill are unstable due to small numbers (<12); rates for groups with fewer than 5 cases are not shown; rates for Pacific Islanders and American Indians/Alaskan Natives are not presented due to small numbers that may cause unstable estimates.

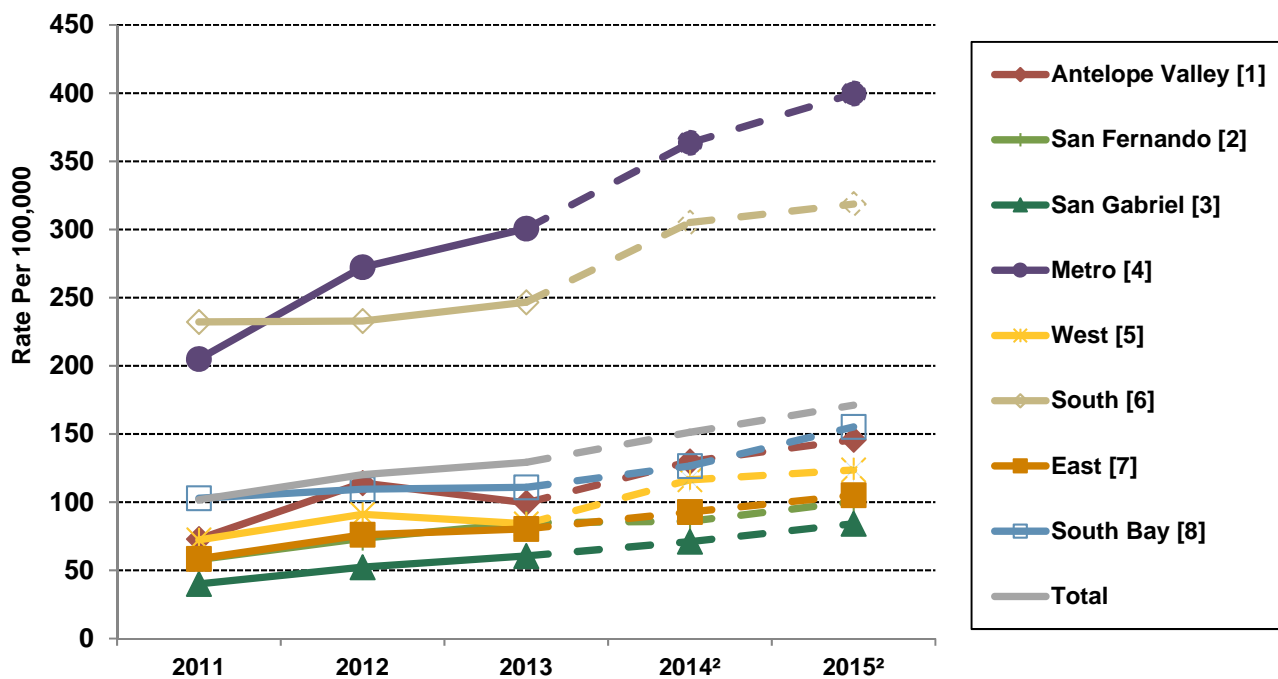
Table 4.2. Gonorrhea Cases and Rates (per 100,000) by Service Planning Area (SPA) and Health District (HD), Los Angeles County, 2011-2015¹

SPA/HD	2011			2012			2013			2014 ²			2015 ²		
	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt
Antelope Valley [1]	282	(3)	73	442	(4)	114	389	(3)	100	510	(3)	130	578	(3)	146
Antelope Valley	282	(3)	73	442	(4)	114	389	(3)	100	510	(3)	130	578	(3)	146
San Fernando [2]	1,238	(12)	58	1,578	(13)	73	1,845	(14)	85	1,884	(12)	86	2,236	(13)	100
East Valley	355	(4)	80	438	(4)	99	545	(4)	121	574	(4)	127	741	(4)	160
Glendale	187	(2)	56	245	(2)	73	263	(2)	77	258	(2)	75	286	(2)	82
San Fernando	174	(2)	35	237	(2)	47	295	(2)	58	288	(2)	56	334	(2)	64
West Valley	522	(5)	61	658	(6)	76	742	(6)	85	764	(5)	87	875	(5)	98
San Gabriel [3]	702	(7)	44	921	(8)	57	1,077	(8)	66	1,267	(8)	77	1,515	(9)	84
Alhambra	84	(1)	25	128	(1)	37	146	(1)	42	148	(1)	43	185	(1)	53
El Monte	200	(2)	46	247	(2)	57	275	(2)	63	248	(2)	56	368	(2)	83
Foothill	138	(1)	46	150	(1)	50	186	(1)	61	216	(1)	70	248	(1)	80
Pomona	224	(2)	42	353	(3)	66	423	(3)	78	582	(4)	107	612	(4)	111
Pasadena	56	(1)	40	43	(0)	30	47	(0)	33	73	(0)	51	102	(1)	71
Metro [4]	2,296	(23)	205	3,059	(26)	272	3,430	(26)	301	4,179	(27)	363	4,665	(27)	400
Central	644	(6)	191	813	(7)	241	948	(7)	276	1,212	(8)	351	1,340	(8)	382
Hollywood-Wilshire	1,406	(14)	293	1,924	(16)	399	2,115	(16)	432	2,577	(17)	521	2,902	(17)	579
Northeast	246	(2)	81	322	(3)	106	367	(3)	119	390	(3)	126	423	(2)	134
West [5]	461	(5)	72	582	(5)	91	544	(4)	84	759	(5)	116	816	(5)	124
West	461	(5)	72	582	(5)	91	544	(4)	84	759	(5)	116	816	(5)	124
South [6]	2,344	(23)	232	2,370	(20)	233	2,541	(20)	247	3,154	(21)	305	3,342	(19)	319
Compton	473	(5)	169	467	(4)	166	534	(4)	188	638	(4)	224	655	(4)	229
South	601	(6)	321	585	(5)	308	584	(5)	303	797	(5)	412	811	(5)	411
Southeast	274	(3)	163	254	(2)	149	297	(2)	171	373	(2)	214	406	(2)	227
Southwest	996	(10)	266	1,064	(9)	283	1,126	(9)	296	1,346	(9)	353	1,470	(8)	381
East [7]	757	(8)	58	988	(8)	76	1,053	(8)	80	1,217	(8)	93	1,391	(8)	105
Bellflower	223	(2)	63	270	(2)	76	247	(2)	69	300	(2)	84	406	(2)	112
East Los Angeles	147	(1)	72	176	(1)	86	196	(2)	96	186	(1)	91	227	(1)	110
San Antonio	228	(2)	54	324	(3)	77	356	(3)	84	438	(3)	103	438	(3)	102
Whittier	159	(2)	50	218	(2)	68	254	(2)	79	293	(2)	91	320	(2)	98
South Bay [8]	1,572	(16)	148	1,681	(14)	158	1,719	(13)	160	1,968	(13)	182	2,435	(14)	155
Harbor	114	(1)	57	187	(2)	93	158	(1)	77	147	(1)	71	206	(1)	99
Inglewood	746	(7)	183	737	(6)	180	823	(6)	199	893	(6)	214	948	(5)	226
Torrance	298	(3)	66	319	(3)	70	307	(2)	67	335	(2)	73	410	(2)	89
Long Beach	414	(4)	89	438	(4)	94	431	(3)	91	593	(4)	125	871	(5)	183
Missing	391	(4)	-	290	(2)	-	351	(3)	-	292	(2)	-	464	(3)	-
Total	10,043	(100)	108	11,911	(100)	128	12,949	(100)	138	15,230	(100)	161	17,442	(100)	171

¹ Rates based on observations fewer than 12 may not be reliable (see technical notes).

² Data are provisional due to reporting delay.

Figure 4.5. Gonorrhea Rates by Service Planning Area (SPA), Los Angeles County, 2011-2015¹



¹ Data excludes cases with unknown/missing SPA.

² 2014-2015 data are provisional due to reporting delay.

Figure 4.6. Gonorrhea Cases by Census Tract and Service Planning Area (SPA), Los Angeles County, 2015

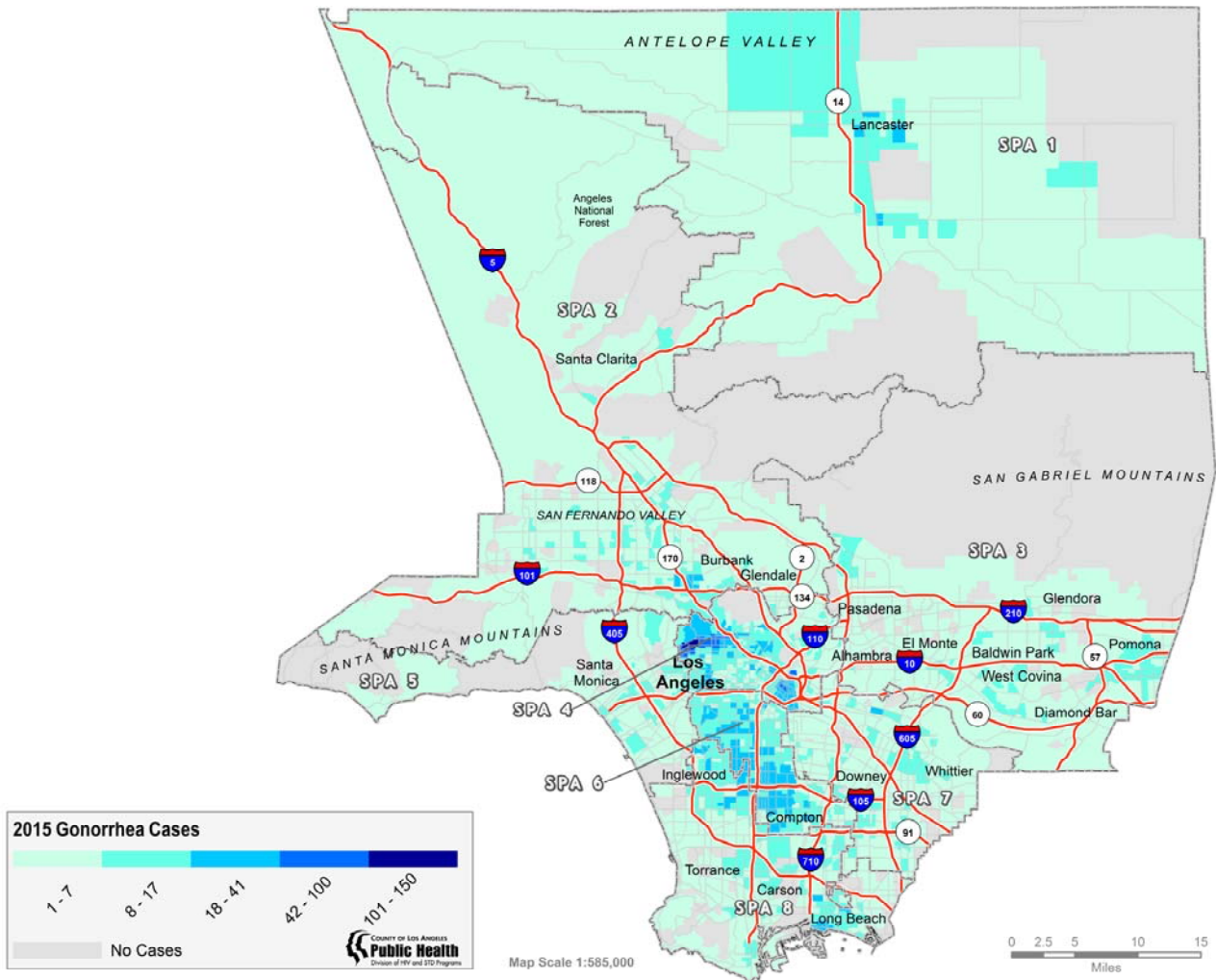
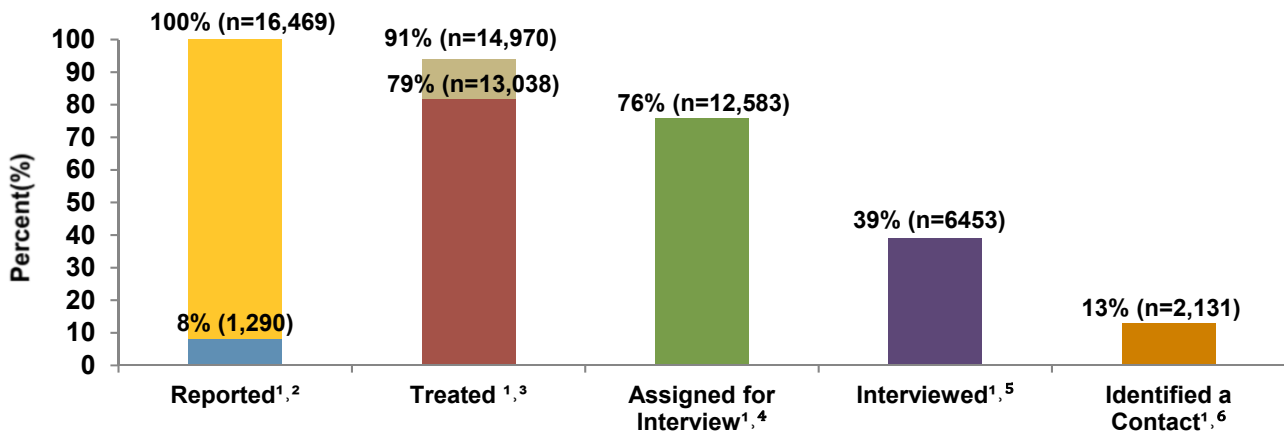
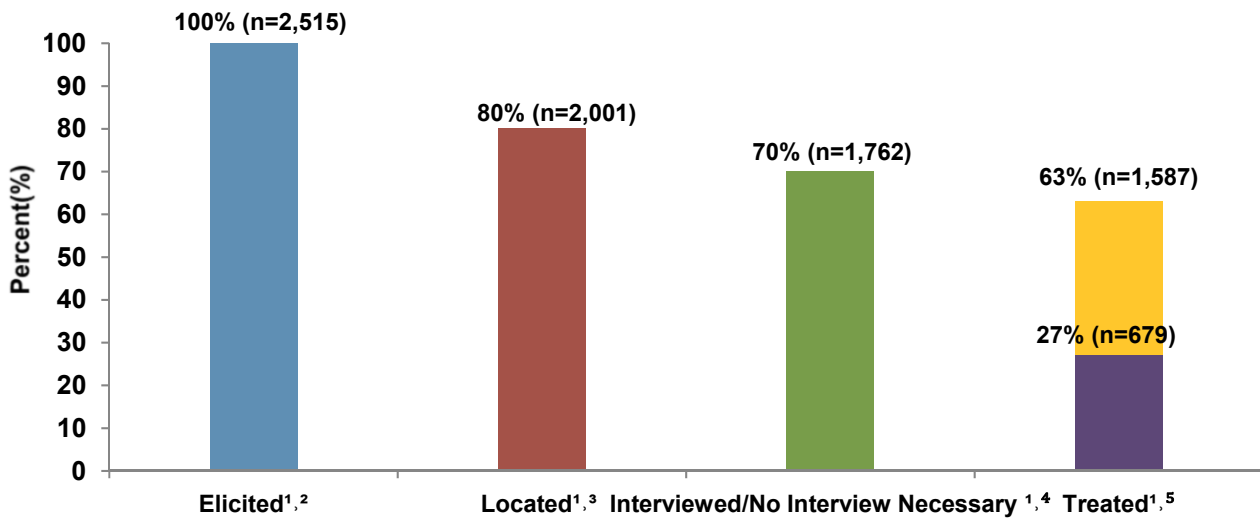


Figure 4.7. Gonorrhea Index Case Continuum, Los Angeles County, 2015



1. Denominator is 16,469 Gonorrhea (GC) cases reported in Los Angeles County (LAC) in 2015, after excluding cases that were out of jurisdiction (OOJ).
2. Numerator is # GC cases reported in LAC in 2015 after excluding cases that were OOJ; 8% were reported by county-run STD clinics and 1% were reported by county-run hospitals.
3. Numerator is # GC cases with documented treatment information. 79% (n=13,038) received either a CDC-recommended or CDC-alternative treatment regimen.
4. Numerator is # GC cases assigned to a field services staff member for investigation.
5. Numerator is # GC cases interviewed by field services.
6. Numerator is # GC cases who identified at least one sexual and/or cluster contact; does not include cases that notified contacts themselves or that received provider-delivered partner services.

Figure 4.8. Gonorrhea Elicited Contact Continuum, Los Angeles County, 2015



1. Denominator is 2,515 contacts elicited from 2,132 gonorrhea (GC) index cases in 2015. Of these contacts: 2,373 were sexual partners, 113 were clusters, and 29 were missing information on contact type.
2. Numerator is # of contacts identified by index cases in 2015.
3. Numerator is # of contacts located by field services; excludes contacts with a disposition of "unable to locate", "insufficient information to begin investigation", "administrative/system closure", or that were missing a disposition.
4. Numerator is # of contacts who were either interviewed or had a disposition which indicated that their infection and/or treatment status was confirmed. A total of 404 new cases of gonorrhea were identified from these interviews.
5. Numerator is total # of partners with documented treatment information; 27% of contacts had a disposition of "infected – brought to treatment" (n=399) or "preventative treatment – new" (n=280).

Chlamydia in Los Angeles County

A total of 56,565 cases of chlamydia were reported in Los Angeles County (LAC) in 2015. The number of reported cases rose in each of the past 5 years, resulting in a 13% increase from 2011 to 2015. The overall chlamydia rate in LAC in 2015 was 555 per 100,000 (see Table 1.1). As shown in Figure 5.1, based on the most recent year for which national data are available, the chlamydia rate in LAC in 2014 (541 per 100,000) was 18% higher than the rate in California (460 per 100,000) and 19% higher than the rate in the US (456 per 100,000). While the rate of chlamydia in LAC is 541 per 100,000, chlamydia rates in other large urban jurisdictions in the US range from 363 (King County, WA) to 1,140 (Bronx County, NY) per 100,000 (see Table 1.2).

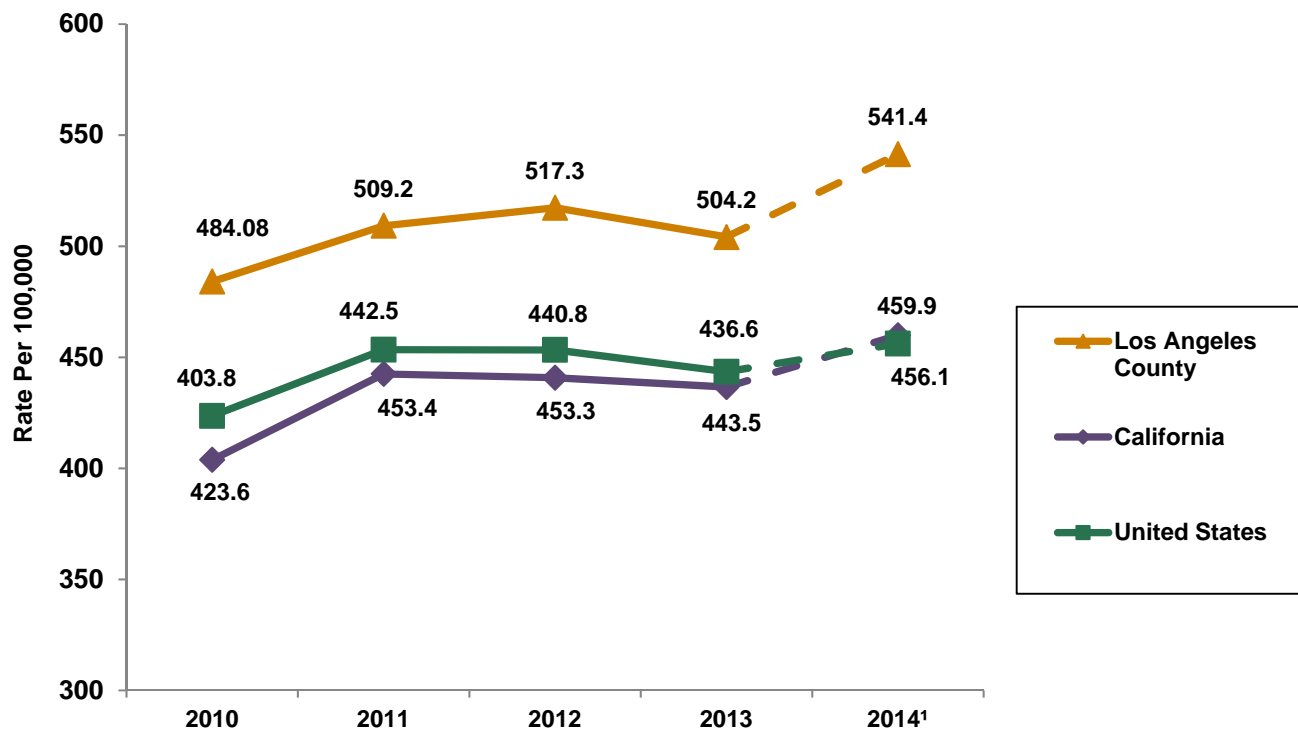
Gender: Sixty-one percent of chlamydia cases in 2015 were among females and 38% were among males (see Table 5.1). While chlamydia rates have risen in both males and females since 2011, there has been a 27% increase in the rate among males compared to a 5% increase among females (see Table 1.1). In 2015, there were 50 cases of chlamydia reported among individuals who identified as transgender. While 50 cases is a substantial increase from the 13 cases reported in 2011, it is unclear to what extent chlamydia morbidity is underreported in this population; caution should therefore be taken when interpreting overall case counts and trends over time among transgender individuals.

Age: Chlamydia infections are primarily concentrated among younger populations. In 2015, 91% of reported female cases and 77% of male cases occurred among individuals below the age of 35 (see Table 5.1). In addition, the highest rates of chlamydia were among males (1,523 per 100,000) and females (3,571 per 100,000) aged 20-24 years, however, since 2011, the largest increases in chlamydia rates have occurred among males aged 35-39 years (69%), and among females aged 40-44 years (35%) (see Figures 5.2A and 5.2B).

Race/Ethnicity: While the largest proportion of cases in 2015 occurred among Latinos (39%), African Americans had the highest rate of disease (1,016 per 100,000 - see Table 5.1). This is especially true for African American females whose 2015 chlamydia rate (1,145 per 100,000) was 5.6 times higher than white females (206 per 100,000) and nearly double that of Latinas (601 per 100,000). Among males, the 2015 chlamydia rate for African Americans (867 per 100,000) was 3.4 times higher than whites (256 per 100,000) and 2.9 times higher than Latinos (299 per 100,000). Since 2011, chlamydia rates have decreased by 30% among African American females and 2% among Latina females, and increased by 14% for Asian females, and 2% for white females (see Figure 5.3B). Among males from 2011-2015, chlamydia rates decreased by 13% among African Americans and increased by 50% for whites, 32% for Asians and 11% for Latinos (see Figure 5.3A).

Geographic Distribution: Compared to the other infections presented in this report, chlamydia cases are more evenly distributed throughout LAC (see Figure 5.6). In 2015, the proportion of chlamydia cases reported in each of the 8 SPAs were as follows: 17% South, 16% Metro, 15% San Fernando, 15% South Bay, 12% East, 12% San Gabriel, 5% West and 4% Antelope Valley. Among males, the Metro SPA had the highest number (5,139), proportion (24%) and rate of chlamydia (858 per 100,000) of all SPAs in the county. Among females, the South SPA had the highest number (6,571), proportion (19%) and rate of chlamydia (1,223 per 100,000) of all SPAs in the county (see Table 5.1). Countywide, the largest increase in chlamydia rates from 2014 to 2015 occurred among the South Bay (9% increase), and the largest decreases occurred in the East (6% decrease), South (5% decrease) and Antelope Valley (3% decrease) SPAs (see Figure 5.5).

Figure 5.1. Chlamydia Rates in the United States, California and Los Angeles County, 2010-2014¹



¹2014 data are provisional due to reporting delay.

Table 5.1. Chlamydia Cases and Rates (per 100,000) by Gender, Age Group, Race/Ethnicity, and Service Planning Area (SPA), Los Angeles County, 2015¹

	Male			Female			Total ²		
	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt
Gender									
Male	21,739	(100)	432	-	-	-	21,739	(38)	432
Female	-	-	-	34,658	(100)	671	34,658	(61)	671
Transgender ³	-	-	-	-	-	-	50	(0)	-
Missing ³	-	-	-	-	-	-	118	(0)	-
Age Group (Yr)									
0-14	31	(0)	3	159	(0)	17	190	(0)	10
15-19	2,371	(11)	654	7,550	(22)	2,165	9,933	(18)	1,396
20-24	6,076	(28)	1,523	13,712	(40)	3,571	19,840	(35)	2,534
25-29	5,254	(24)	1,355	6,988	(20)	1,879	12,277	(22)	1,616
30-34	3,077	(14)	798	2,987	(9)	801	6,090	(11)	803
35-39	1,877	(9)	532	1,553	(4)	442	3,445	(6)	489
40-44	1,118	(5)	318	795	(2)	224	1,921	(3)	271
45-54	1,478	(7)	213	665	(2)	94	2,159	(4)	154
55-64	365	(2)	65	150	(0)	25	516	(1)	44
65+	63	(0)	11	42	(0)	6	105	(0)	8
Missing ³	29	(0)	-	57	(0)	-	89	(0)	-
Race/Ethnicity									
White	3,713	(17)	256	2,952	(9)	206	6,673	(12)	232
African American	3,530	(16)	867	5,263	(15)	1,145	8,810	(16)	1,016
Latino	7,387	(34)	299	14,862	(43)	601	22,286	(39)	451
Asian	768	(4)	112	1,466	(4)	188	2,240	(4)	153
Pacific Islander	65	(0)	532	99	(0)	791	165	(0)	667
American Indian/Alaskan Native	36	(0)	375	43	(0)	425	81	(0)	411
Other/Multi-race ³	440	(2)	-	641	(2)	-	1,086	(2)	-
Missing ³	5,800	(27)	-	9,332	(27)	-	15,224	(27)	-
Service Planning Area									
Antelope Valley [1]	690	(3)	350	1,677	(5)	841	2,369	(4)	598
San Fernando [2]	3,213	(15)	291	5,057	(15)	449	8,286	(15)	372
San Gabriel [3]	2,122	(10)	241	4,747	(14)	516	6,892	(12)	383
Metro [4]	5,139	(24)	858	4,128	(12)	726	9,307	(16)	797
West [5]	1,202	(6)	376	1,351	(4)	397	2,556	(5)	387
South [6]	3,268	(15)	639	6,571	(19)	1,223	9,871	(17)	941
East [7]	2,125	(10)	327	4,425	(13)	658	6,567	(12)	496
South Bay [8]	2,837	(13)	369	5,372	(16)	671	8,233	(15)	525
Missing ³	1,143	(5)	-	1,330	(4)	-	2,484	(4)	-
Total	21,739	(100)	432	34,658	(100)	671	56,565	(100)	555

¹ Data are provisional due to reporting delay. Rates based on observations fewer than 12 may not be reliable (see technical notes).

² Includes missing gender, male-to-female transgender and female-to-male transgender.

³ Rates cannot be calculated due to a lack of reliable denominator data.

Figure 5.2A. Chlamydia Rates among Males by Age Group, Los Angeles County, 2011-2015

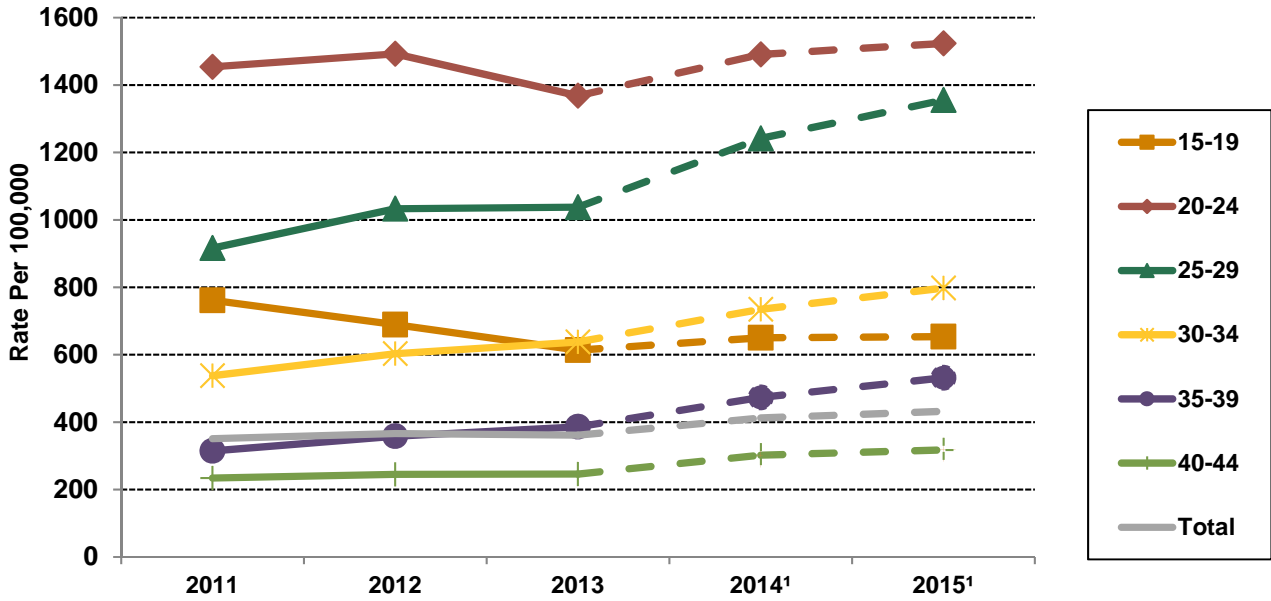
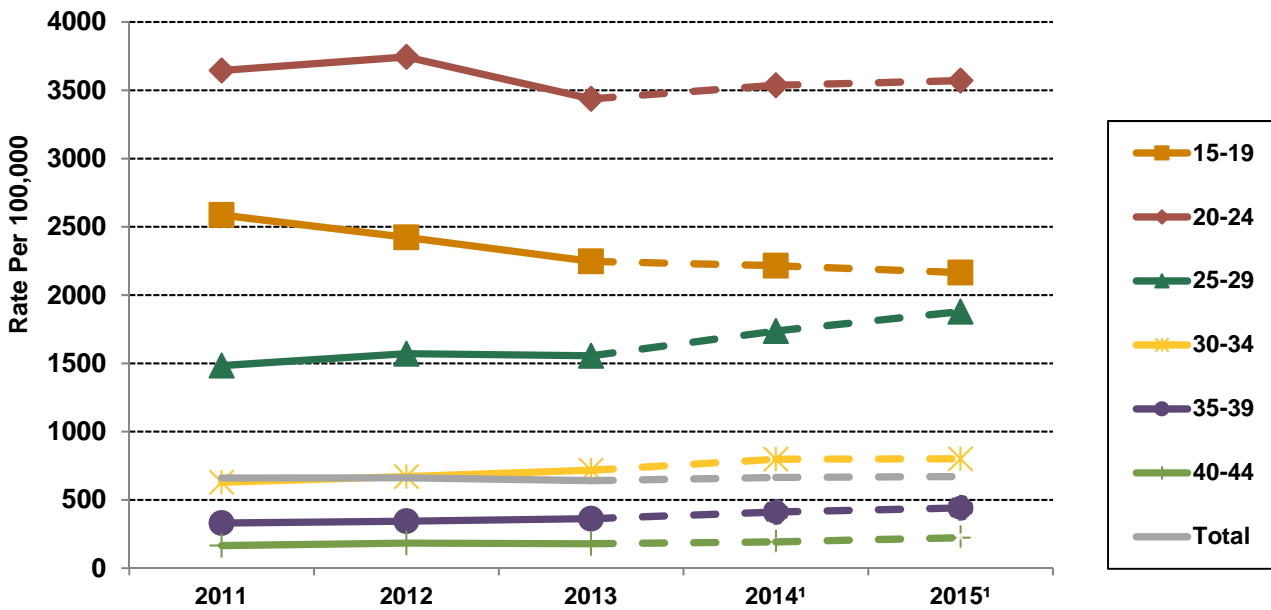


Figure 5.2B. Chlamydia Rates among Females by Age Group, Los Angeles County, 2011-2015



¹ 2014-2015 data are provisional due to reporting delay.

Figure 5.3A. Chlamydia Rates among Males by Race/Ethnicity, Los Angeles County, 2011-2015¹

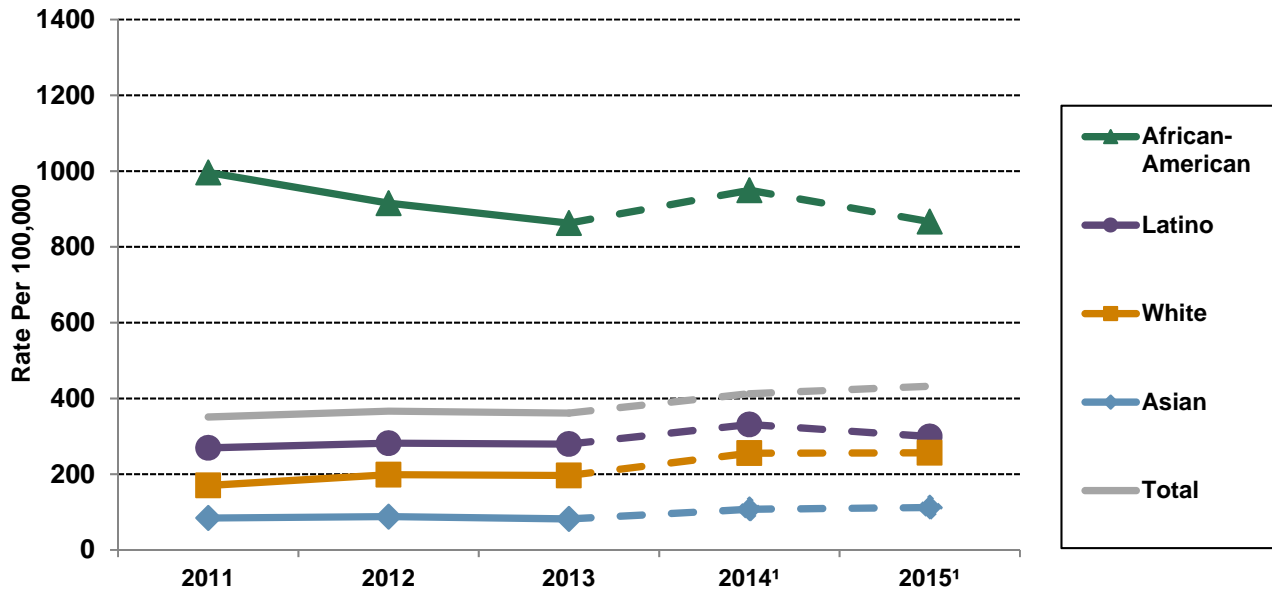
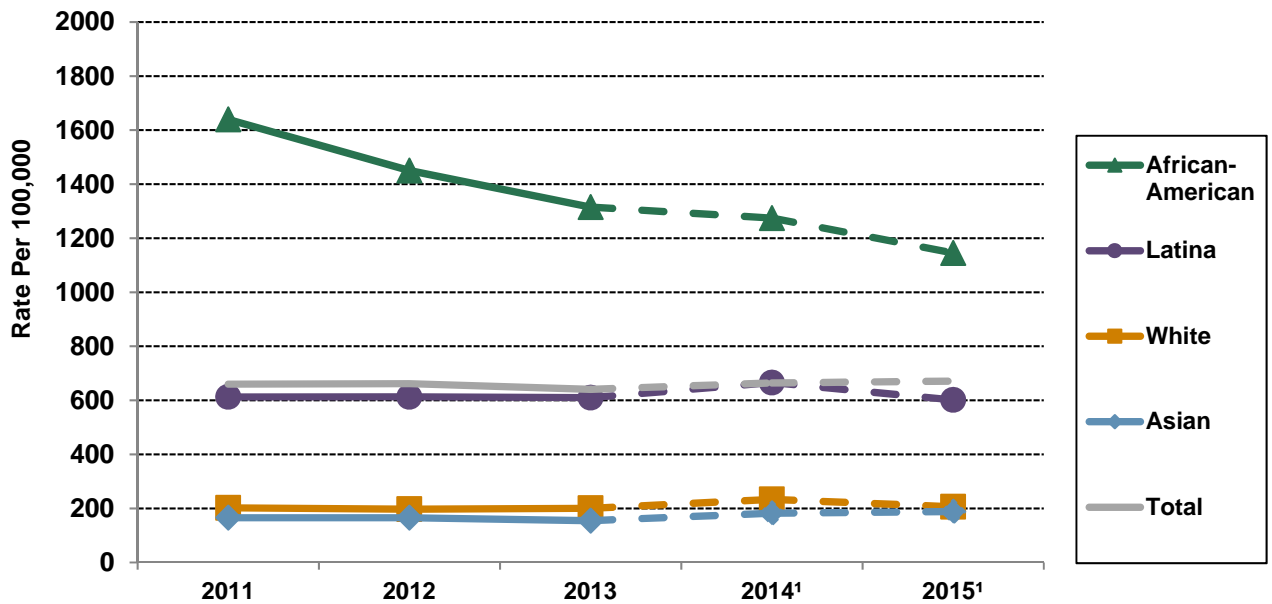


Figure 5.3B. Chlamydia Rates among Females by Race/Ethnicity, Los Angeles County, 2011-2015¹



¹ Data excludes cases with unknown race/ethnicity; rates for Pacific Islanders and American Indians/Alaskan Natives are not presented due to small numbers that may cause unstable estimates.
² 2014-2015 data are provisional due to reporting delay.

Figure 5.4A. Chlamydia Rates among Males by Age Group and Race/Ethnicity, Los Angeles County, 2015¹

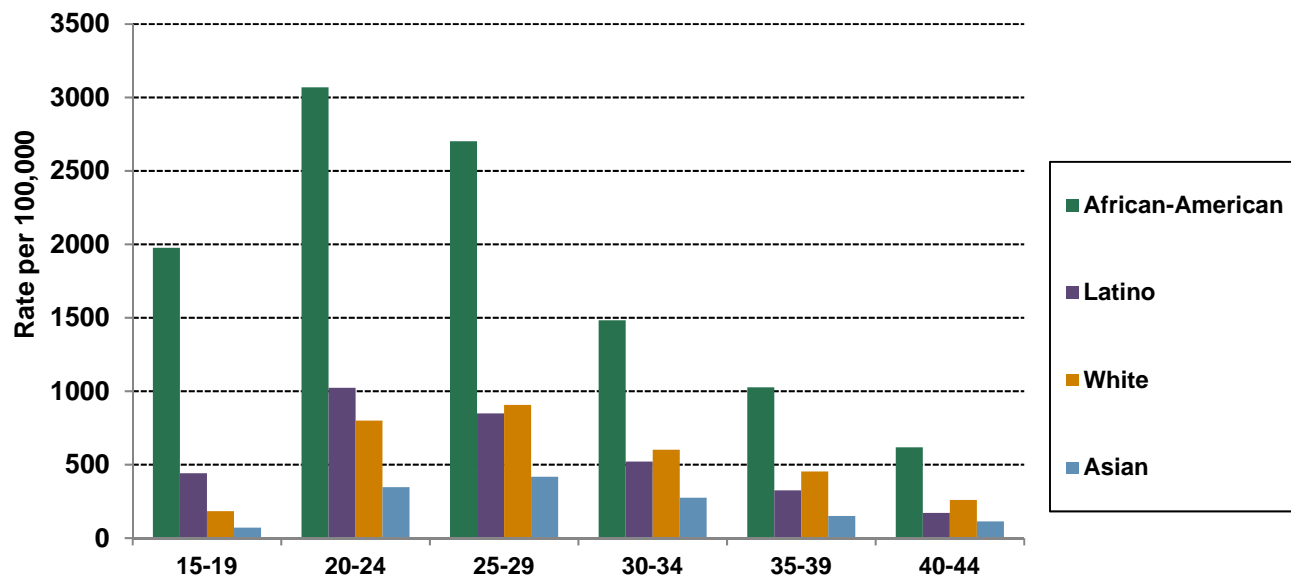
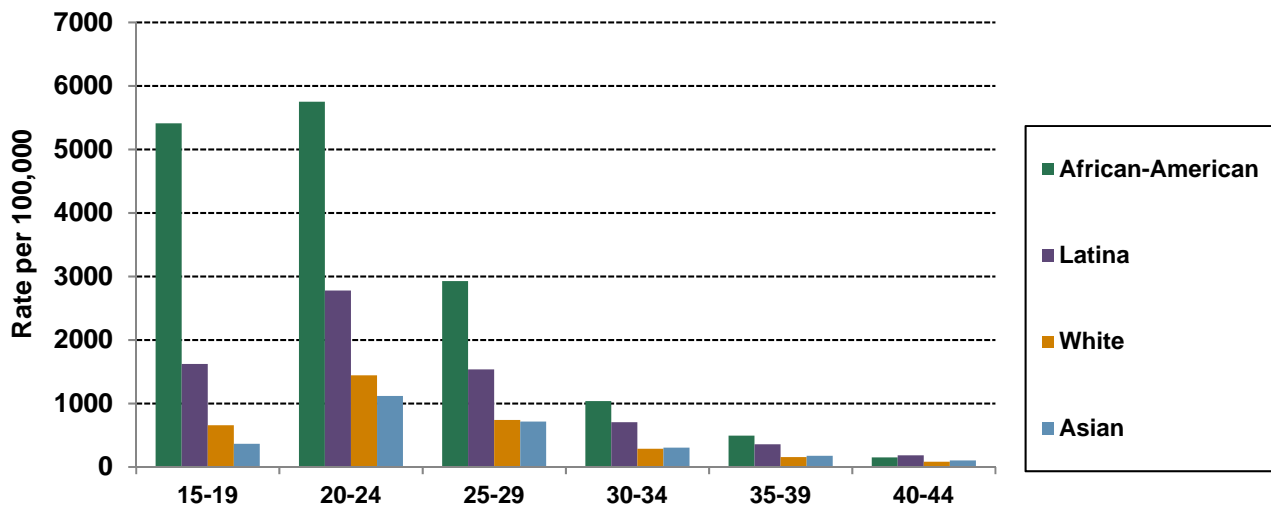


Figure 5.4B. Chlamydia Rates among Females by Age Group and Race/Ethnicity, Los Angeles County, 2015¹



¹ Data excludes cases with unknown race/ethnicity. 2015 data are provisional due to reporting delay; rates for Pacific Islanders and American Indians/Alaskan Natives are not presented due to small numbers that may cause unstable estimates.

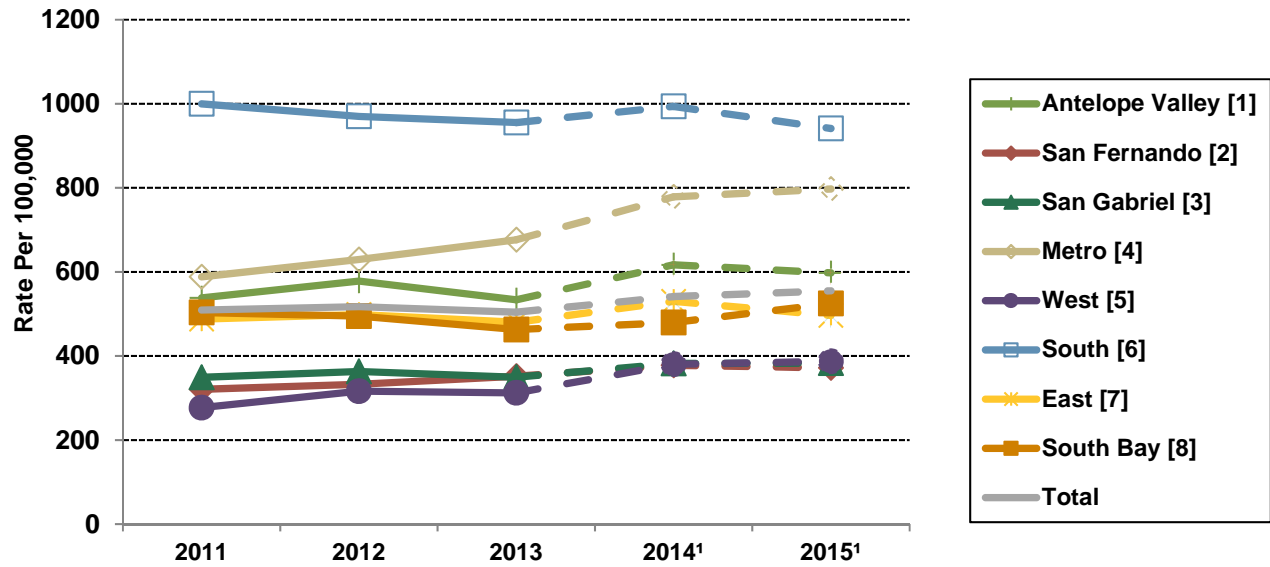
Table 5.2. Chlamydia Cases and Rates (per 100,000) by Service Planning Area (SPA) and Health District (HD), Los Angeles County, 2011-2015¹

SPA/HD	2011			2012			2013			2014 ²			2015 ²		
	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt	N	(%)	Rt
Antelope Valley [1]	2,080	(4)	538	2,240	(4)	578	2,086	(4)	534	2,423	(4)	617	2,369	(4)	598
Antelope Valley	2,080	(4)	538	2,240	(4)	578	2,086	(4)	534	2,423	(4)	617	2,369	(4)	598
San Fernando [2]	6,852	(14)	321	7,147	(14)	333	7,648	(15)	352	8,272	(15)	378	8,286	(15)	372
East Valley	1,731	(3)	392	1,810	(4)	407	1,972	(4)	438	2,167	(4)	478	2,243	(4)	485
Glendale	851	(2)	253	816	(2)	242	957	(2)	281	1,049	(2)	306	1,086	(2)	312
San Fernando	1,373	(3)	276	1,446	(3)	289	1,420	(3)	280	1,584	(3)	309	1,582	(3)	303
West Valley	2,897	(6)	337	3,075	(6)	355	3,299	(7)	376	3,472	(6)	394	3,375	(6)	377
San Gabriel [3]	6,120	(12)	380	6,388	(12)	395	6,214	(12)	380	6,815	(13)	415	6,892	(12)	383
Alhambra	747	(1)	218	842	(2)	245	823	(2)	237	962	(2)	277	935	(2)	266
El Monte	1,874	(4)	433	1,955	(4)	450	1,882	(4)	429	2,072	(4)	471	2,037	(4)	459
Foothill	933	(2)	309	915	(2)	303	923	(2)	301	1,004	(2)	325	989	(2)	318
Pomona	2,135	(4)	400	2,300	(4)	429	2,243	(4)	413	2,443	(4)	449	2,399	(4)	437
Pasadena	431	(1)	306	376	(1)	266	343	(1)	241	334	(1)	234	532	(1)	370
Metro [4]	6,589	(13)	588	7,071	(14)	629	7,718	(15)	677	8,951	(16)	779	9,307	(16)	797
Central	1,992	(4)	592	2,208	(4)	655	2,464	(5)	718	2,903	(5)	841	2,917	(5)	832
Hollywood-Wilshire	3,135	(6)	653	3,384	(7)	702	3,658	(7)	747	4,261	(8)	862	4,665	(8)	931
Northeast	1,462	(3)	482	1,479	(3)	486	1,596	(3)	518	1,787	(3)	576	1,725	(3)	547
West [5]	1,765	(4)	277	2,020	(4)	316	2,019	(4)	312	2,480	(5)	380	2,556	(5)	387
West	1,765	(4)	277	2,020	(4)	316	2,019	(4)	312	2,480	(5)	380	2,556	(5)	387
South [6]	10,094	(20)	1000	9,870	(19)	970	9,841	(19)	955	10,272	(19)	994	9,871	(17)	941
Compton	2,511	(5)	898	2,446	(5)	871	2,396	(5)	845	2,580	(5)	907	2,347	(4)	819
South	2,361	(5)	1259	2,247	(4)	1184	2,355	(5)	1223	2,363	(4)	1221	2,266	(4)	1147
Southeast	1,388	(3)	823	1,465	(3)	857	1,436	(3)	825	1,503	(3)	863	1,475	(3)	824
Southwest	3,834	(8)	1026	3,712	(7)	987	3,654	(7)	962	3,826	(7)	1002	3,783	(7)	981
East [7]	6,319	(13)	488	6,475	(13)	499	6,287	(12)	480	6,953	(13)	530	6,567	(12)	496
Bellflower	1,621	(3)	458	1,594	(3)	449	1,481	(3)	414	1,725	(3)	481	1,582	(3)	438
East Los Angeles	1,059	(2)	520	1,073	(2)	526	1,132	(2)	552	1,247	(2)	610	1,250	(2)	604
San Antonio	2,272	(5)	541	2,405	(5)	572	2,347	(5)	552	2,590	(5)	608	2,368	(4)	552
Whittier	1,367	(3)	430	1,403	(3)	440	1,327	(3)	412	1,391	(3)	431	1,367	(2)	420
South Bay [8]	7,694	(15)	724	7,591	(15)	712	7,175	(14)	666	7,459	(14)	689	8,233	(15)	525
Harbor	772	(2)	385	810	(2)	401	720	(1)	351	748	(1)	363	787	(1)	377
Inglewood	3,138	(6)	768	2,993	(6)	729	2,919	(6)	705	3,091	(6)	742	2,947	(5)	701
Torrance	1,450	(3)	320	1,426	(3)	314	1,422	(3)	310	1,553	(3)	338	1,537	(3)	332
Long Beach	2,334	(5)	501	2,362	(5)	505	2,114	(4)	447	2,067	(4)	437	2,962	(5)	621
Missing	2,721	(5)	-	2,439	(5)	-	1,533	(3)	-	884	(2)	-	2,484	(4)	-
Total	50,234	(100)	543	51,241	(100)	551	50,521	(100)	537	54,509	(100)	577	56,565	(100)	555

¹ Rates based on observations fewer than 12 may not be reliable (see technical notes)

² Data are provisional due to reporting delay.

Figure 5.5. Chlamydia Rates by Service Planning Area (SPA), Los Angeles County, 2011-2015



¹2014-2015 data are provisional due to reporting delay.

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1. Ruiguang S., Hall HI., Green TA., Szwarcwald CL., and Pantazis N. (2017). Using CD4 Data to Estimate HIV Incidence, Prevalence, and Percent of Undiagnosed Infections in the United States. *Journal of Acquired Immune Deficiency Syndrome*, 74(1):3-9.
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Appendix 1: Technical Notes

Surveillance of HIV/STDs in Los Angeles County

Surveillance of HIV infections, including stage 3 (AIDS) in Los Angeles County (LAC) is conducted through active and passive surveillance to identify and collect information on cases of HIV diagnosed at hospitals, clinics, private physician offices, laboratories, community-based organizations (CBOs), and hospices. Active HIV surveillance requires staff to routinely contact and visit sites to facilitate the completion of HIV case reports. Mandated reporters participating in passive HIV surveillance submit case reports to the LAC Department of Public Health (DPH) Division of HIV and STD Programs (DHSP) without any contact from surveillance staff. In LAC, about 75%-80% of persons reported with a diagnosis of HIV infection are collected through active surveillance activities. The Enhanced HIV/AIDS Reporting System (eHARS) is a CDC-developed information system for collecting, storing and retrieving HIV surveillance data. Case definitions are based on CDC documents “Stage-3-Defining Opportunistic Illnesses in HIV Infection” and “Revised Surveillance Case Definition for HIV Infection — United States, 2014”.²

Data on STDs are obtained through passive and active surveillance. Passive STD surveillance relies on physicians, laboratories, and other healthcare providers to report STD diagnoses to DHSP by submitting a Confidential Morbidity Report (CMR) by telephone, fax or online. Active STD surveillance entails staff contacting hospitals, laboratories, physicians, jails, student health centers and other sentinel sites to collect additional case reports. The STD CaseWatch system is used for the collection and management of STD surveillance data. STD surveillance case definitions are based on the CDC publication “STD Surveillance Case Definitions”.⁵

Reporting Delay

Reporting delays can impact reliability of trends and rates over time. HIV reporting delay is defined as the time interval between diagnosis or death and the reporting of diagnosis or death to DHSP. The median delay for all HIV cases reported in 2014 was 1 month (range 0 to 338 months). As a result of this delay, data for HIV diagnoses, stage 3 (AIDS) and deaths among persons living with HIV (PLWH) presented in this report only pertains to 2014. Data for PLWH is for 2015. The impact of reporting delay must be considered when evaluating trends in case numbers and rates over time.

STD reporting delay is defined as the time interval between the date an STD diagnosis was made and the date the case was reported to DHSP. This delay varies by STD, ranging from 1 day to 1 year or more. Therefore, the impact of reporting delay must be considered when evaluating trends in case numbers and rates over time. Reporting delay is especially important when evaluating early syphilis data as staff often need to interview a case before a syphilis stage can be assigned.

Some HIV/STD cases occurring in 2013 and 2014 will not be reported until after the publishing of this report. Therefore, differences in numbers of cases and rates may be observed in future reports.

Underreporting

Data on diagnoses of HIV infection should be interpreted with caution. HIV surveillance reports may not be representative of all persons infected with HIV because not all infected persons have been tested or reported to the health department. Furthermore, the results of anonymous tests are not required to be reported in California. Therefore, reports of confidential test results may not represent all persons with HIV infection. Many factors, including the extent to which testing is routinely offered to specific groups and the availability of, and access to, medical care and testing services, may influence testing patterns. These data only provide a minimum estimate of persons known to be HIV infected.

The proportion of STD cases that are not reported varies for each disease. Syphilis surveillance includes both passive and active surveillance, with detailed follow-up of cases and their sexual partners. Thus, underreporting of early syphilis cases is minimized. Due to the acuteness of symptoms for gonorrhea infection, individuals are more likely to seek treatment, and therefore cases are more likely to be reported. On the other hand, chlamydia infections are often asymptomatic and therefore are more likely to be undiagnosed and underreported. Additionally, some healthcare providers may not be aware of the legal requirements to report STDs to DHSP and therefore do not submit a CMR.

Rates

All rates are per 100,000 population. There is no single data source that provides smoothed population estimates for LAC across two census years, 2000 and 2010. Thus population data from two different sources are used to calculate rates: 1) 2010-2015 population estimates provided by LAC Internal Services Department and contracted through Hedderson Demographic Services; 2) 2001-2009 smoothed population estimates provided by the LAC DPH Office of Health Assessment and Epidemiology. For comparisons over time, rates for certain years may be based on the population estimates before or after that year depending on what is available from the same data source. Caution should be made while comparing the rates over time, especially from 2009 to 2010.

All vital statistics are subject to random variation. This variation is inversely related to the number of cases and a small number of cases can result in unstable rates or proportions. Conforming to standard criterion used by the National Center for Health Statistics, HIV and STD rates are considered unreliable when the relative standard error of the rate is greater than or equal to 30%, which corresponds to rates based on less than or equal to 12 observations.

Place of Acquisition of HIV/STD

Residence at earliest diagnosis of HIV is used to determine the geographical location of a case. In tables or maps that present data for stage 3 (AIDS) diagnoses, the residential information at time of stage 3 (AIDS) diagnosis is used to determine the geographical location. For stage 3 (AIDS) cases for whom the specific residential information at time of diagnosis is not available, the residence at time of HIV diagnosis information is used, provided that the address is valid and within Los Angeles County jurisdiction.

The location where an STD infection is acquired determines the geographic location of an STD case. Some cases of STDs may have been acquired outside of LAC boundaries. In circumstances where the patient's address is missing, disease rates may partially reflect the place of diagnosis rather than the location where an infection was acquired. However, during case investigations for syphilis and gonorrhea, every effort is made to determine the location where the infection actually occurred.

For both HIV and STD data, caution should be exercised when interpreting census tract level case counts and rates because these values are inclusive of any correctional populations and may be artificially inflated when an institution is housed within a given census tract.

Race and ethnicity

Mandated collection of race and ethnicity data for HIV was implemented in January 1, 2003 as required by the OMB Statistical Policy Directive 15. A minimum of 5 race categories should be collected including: American Indian or Alaskan Native, Asian, African American, Pacific Islander, and white. Additionally, systems must be able to retain information when multiple racial categories are reported. Two ethnicity categories should be collected regardless of race: Latino and non-Latino.

Race and ethnicity in this report are grouped using the following criteria exclusively: A person is considered to be 'Latino' if so indicated in race or ethnicity field, regardless of any other race information found for the person. When not indicated as 'Latino', a person is considered to be 'American Indian/Alaskan Native (AI/AN)' if the race field contains AI/AN information, regardless of any other race information found for this person. While the 'Asian' and 'Pacific Islander' categories are separated whenever possible in this report, these two groups were collected as a single racial category in HIV surveillance prior to January, 2003. Since persons living with HIV (PLWH) could have been reported to DHSP before this date, tables that present data for PLWH provide information on these groups separately and as a collapsed 'Asian/Pacific Islander' category. Aside from the above criteria, a person is categorized as 'Multi-race' when two or more races are indicated in the above race fields. All other persons with a single race indicated are placed in the corresponding race category.

HIV Transmission Categories

Transmission categories are assigned in a hierarchical order (listed from highest to lowest in the column headed "Transmission Category"). Persons who have been identified with two or more transmission categories are assigned to the category listed highest in the hierarchy. For example, a man who reports sexual contact with another man and heterosexual contact with an HIV-positive woman would be classified as "male-male sexual contact." The only exception to this rule includes men who report both categories for sexual contact with another man and injection-drug use; a separate transmission category is created for these cases.

The heterosexual contact transmission category is limited to persons who had heterosexual contacts with an HIV-infected or a sexual partner with an increased risk for HIV. Transfusion or hemophilia transmission category is limited to persons who received blood transfusion no later than 1985 or persons who had been investigated and confirmed as having received transfusion of contaminated blood after 1985.

Persons with no reported exposure to HIV through any of the routes listed in the hierarchy of transmission categories are classified as "undetermined" transmission category. These include persons still under investigation; persons whose exposure history is missing because they died; persons who have been followed up but declined to be interviewed, or were lost to follow-up; and persons who were interviewed or for whom other follow-up information was available but for whom no mode of exposure was identified. If the investigation identifies a mode of exposure, the case is reclassified into the corresponding transmission category.

Due to a substantial proportion of persons with an HIV infection being reported without an identified risk factor, we use CDC-recommended multiple imputation methods to assign a risk factor for these cases. Multiple imputation is a statistical approach in which each missing risk factor is replaced with a set of plausible values that represent the uncertainty about the true, but missing value. The plausible values are analyzed using standard procedures, and the results from these analyses are then combined to produce the final results. In this report, multiple imputation has been used in tables showing estimated distribution by HIV transmission category for diagnoses among adults and adolescents.



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