

Update on HIV and STD Surveillance in Los Angeles County

Intersections and Opportunities

*Presentation to the Los Angeles County Commission on HIV
Virtual Meeting, May 13, 2021*

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Updates in HIV Surveillance



Ending the HIV Epidemic in Los Angeles County

By utilizing the right data, right tools & right leadership

Diagnose

- Increase routine opt out HIV testing in healthcare & institutional settings
- Increase HIV testing programs in non-healthcare settings including home testing
- Increase client's yearly HIV re-screening



Treat

- Expand partner services to facilitate rapid ART and linkage to care
- Increase knowledge of and access to HIV services
- Assess mental health services to identify gaps in care
- Improve client experience by working with clinical staff
- Increase opportunities for telehealth
- Develop programming that provides services related to housing and emergency financial assistance



Prevent

- Utilize data to better identify persons with indication for PrEP and link to services
- Expand PrEP service delivery & provider options, including telehealth and pharmacies
- Improve PrEP retention in care through provider and consumer programming
- Expand Syringe Services Programs

Respond

- Facilitate real-time cluster detection and response through protocol development and trainings
- Implement routine epidemiological analysis of new infections in hot spots and subpopulations
- Monitor and assess clusters identified through recency testing
- Continue to build surveillance infrastructure at the public health department

Federal Funding in LA County

Various entities have received federal funding from HRSA, CDC & NIH to support ending the HIV epidemic goals and strategies, including the public health department, federally qualified health centers, AIDS Education Training Centers, and research partners.

FEDERAL PARTNERS

NATIONAL GOAL

75%
reduction in
new HIV
infections
by 2025
and at least
90%
reduction
by 2030



Health Resources & Services Administration



Centers for Disease Control & Prevention



National Institutes of Health



Indian Health Service



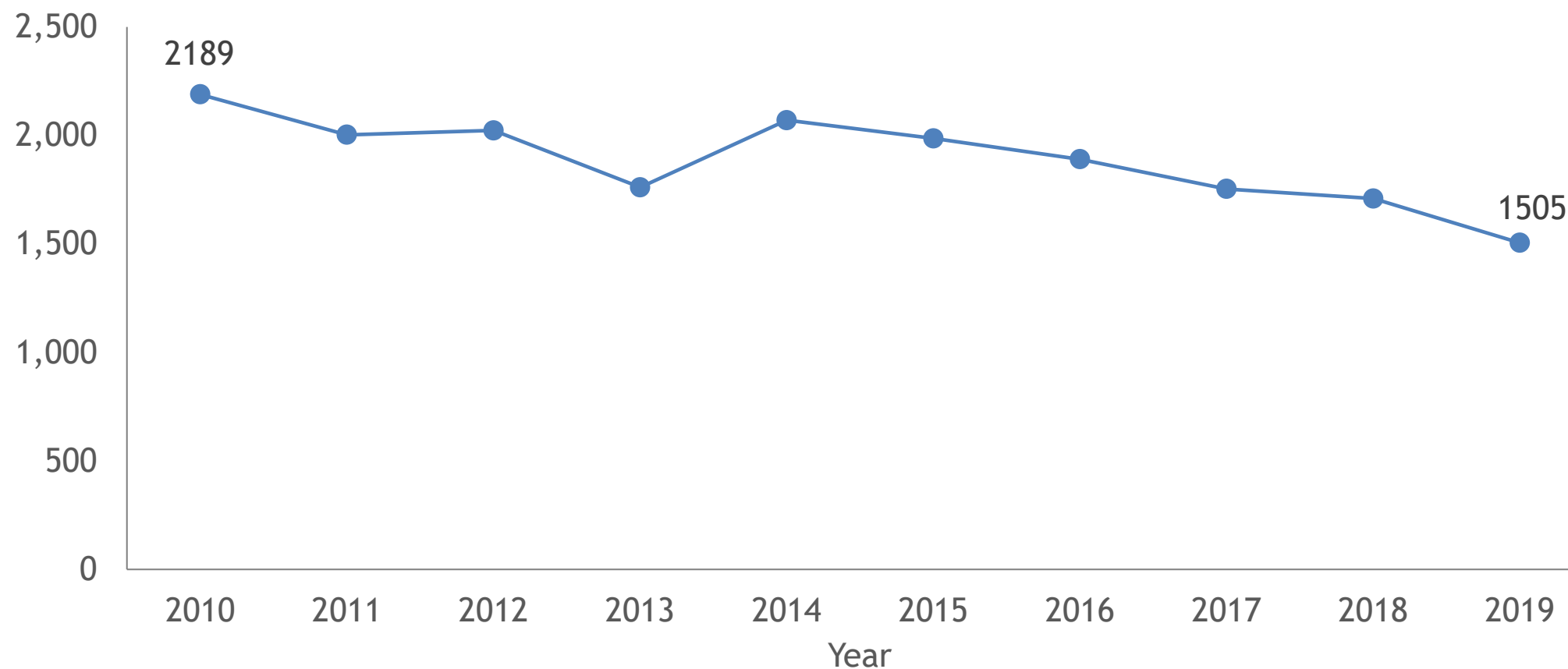
Substance Abuse & Mental Health Services Administration



PACE Team, Office of the Assistant Secretary of Health

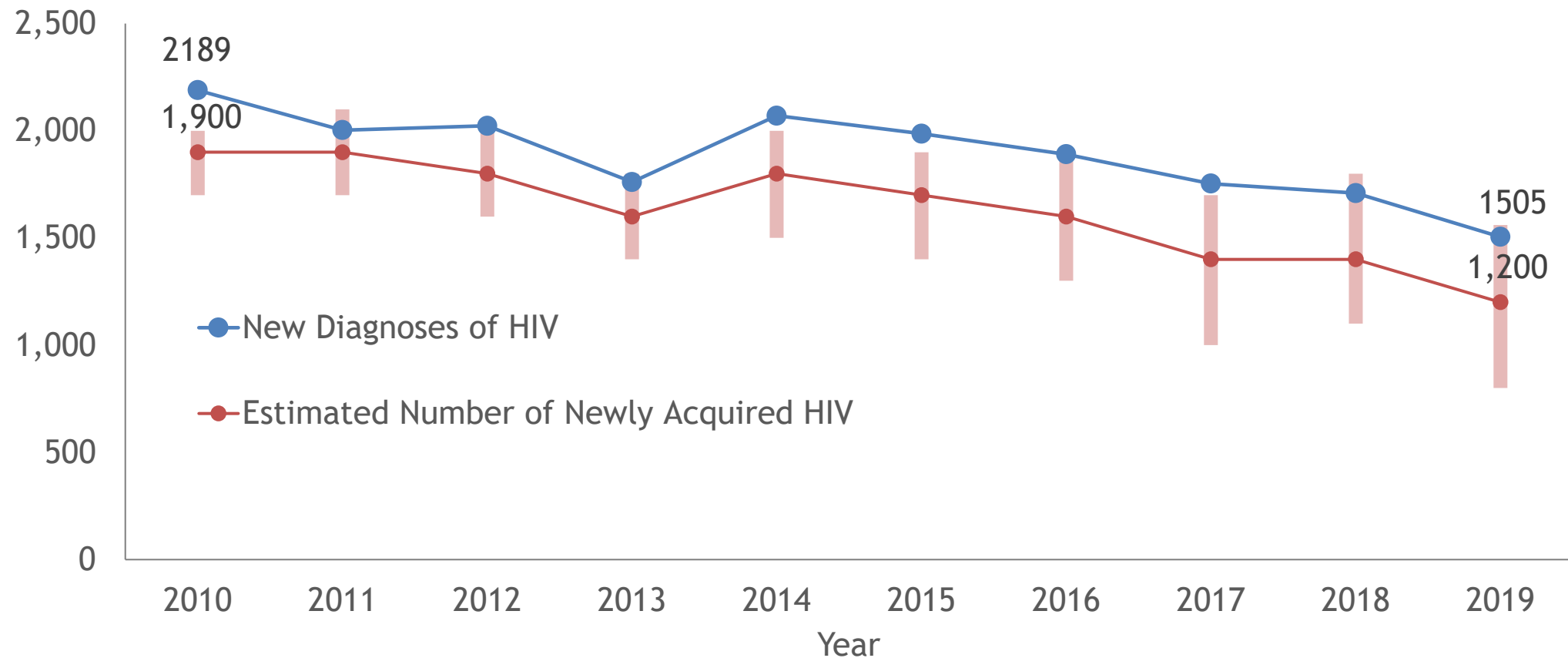


A Declining Epidemic: Trends in the number of new HIV diagnoses and estimated number of newly acquired HIV among persons aged 13+ years, LAC 2010-2019¹





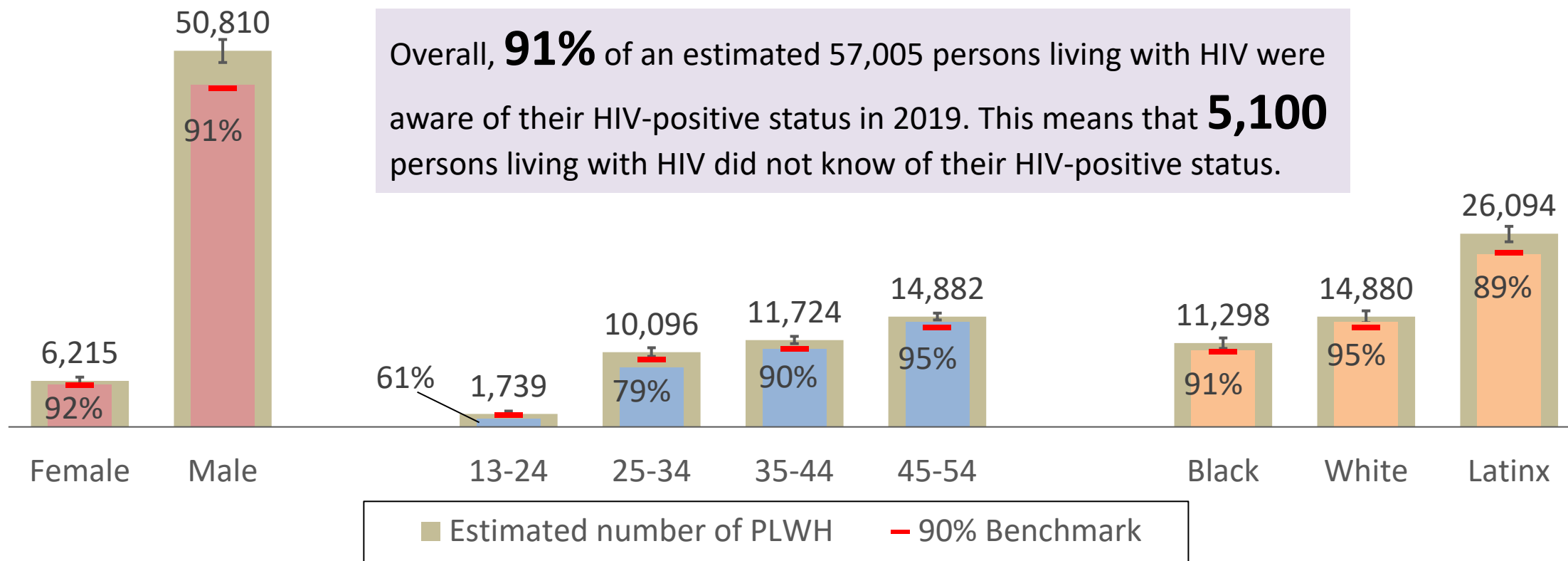
A Declining Epidemic: Trends in the number of new HIV diagnoses and estimated number of newly acquired HIV among persons aged 13+ years, LAC 2010-2019¹



¹Using the CD4-based model developed by the Centers for Disease Control and Prevention, modified for use by Los Angeles County. 2019 incidence estimates are preliminary

Awareness of HIV-positive serostatus among PLWH aged 13 years and older by gender, age group, and race/ethnicity, LAC 2019¹

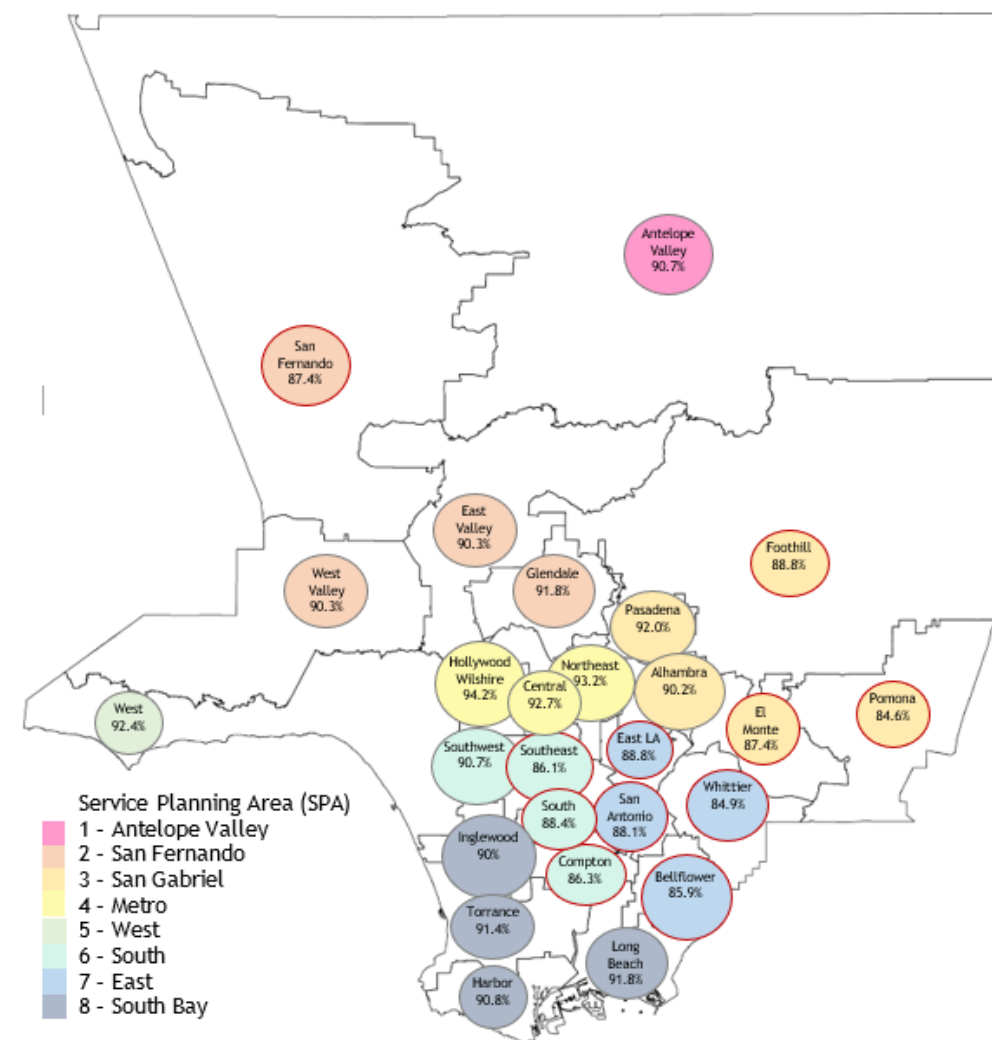
Overall, **91%** of an estimated 57,005 persons living with HIV were aware of their HIV-positive status in 2019. This means that **5,100** persons living with HIV did not know of their HIV-positive status.



¹Using the CD4-based model developed by the Centers for Disease Control and Prevention, modified for use by Los Angeles County. 2019 incidence estimates are preliminary. Transgender persons, Asian/Pacific Islanders, American Indians, Alaskan Natives and persons of multiple race/ethnicities were not included in the analysis because of unstable results due to small numbers.

PLWH aged 13 years and older who are aware of their HIV-positive status by location, LAC 2019¹

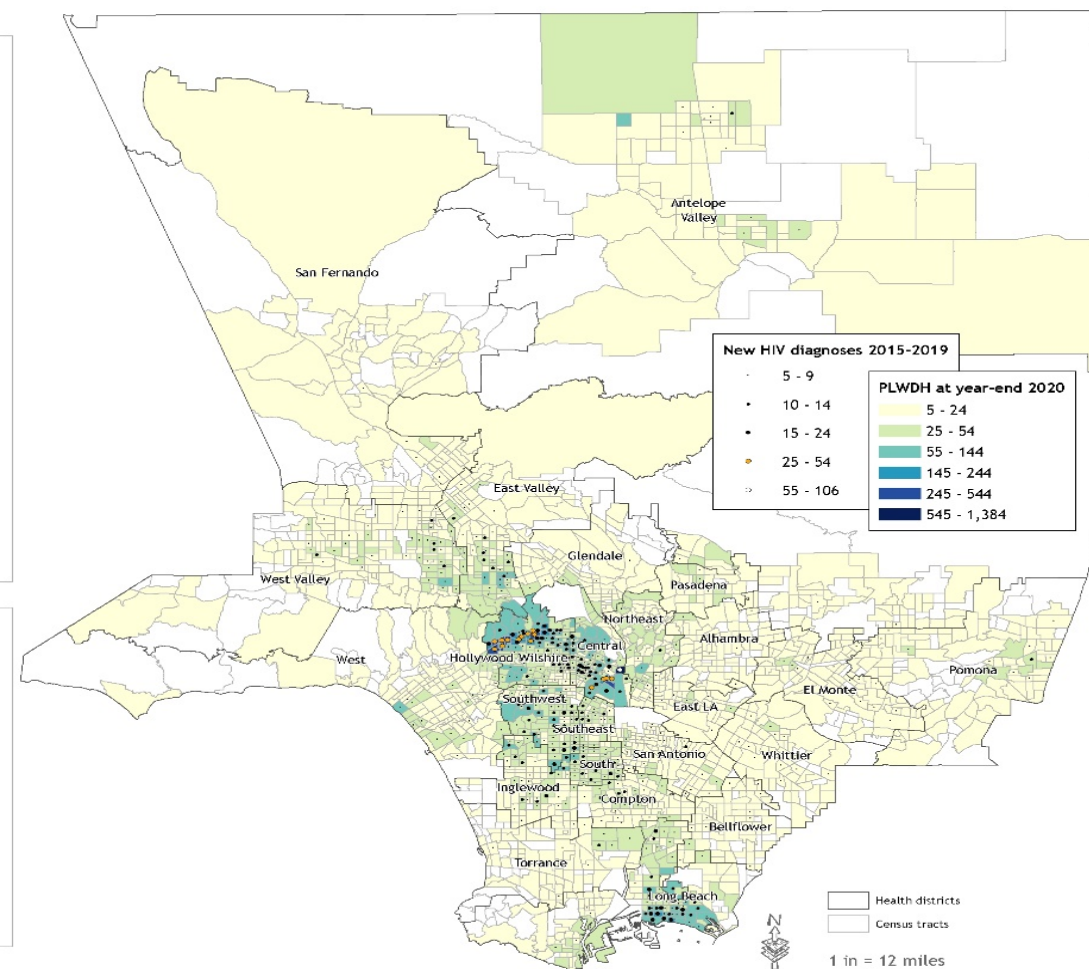
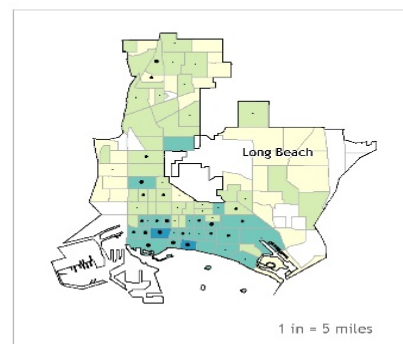
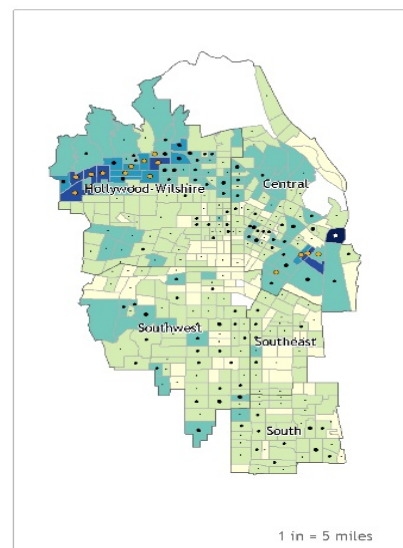
The percentage of PLWH who were aware of their HIV-positive status varied by location. Locations where <90% of PLWH were aware of their HIV-positive status were located in San Fernando Health District and Health Districts located in the Eastern and Southeast regions of LA County.



¹Using the CD4-based model developed by the Centers for Disease Control and Prevention, modified for use by Los Angeles County. 2019 incidence estimates are preliminary. Transgender persons, Asian/Pacific Islanders, American Indians, Alaskan Natives and persons of multiple race/ethnicities were not included in the analysis because of unstable results due to small numbers.

Where are new HIV diagnoses being identified in Los Angeles County?¹

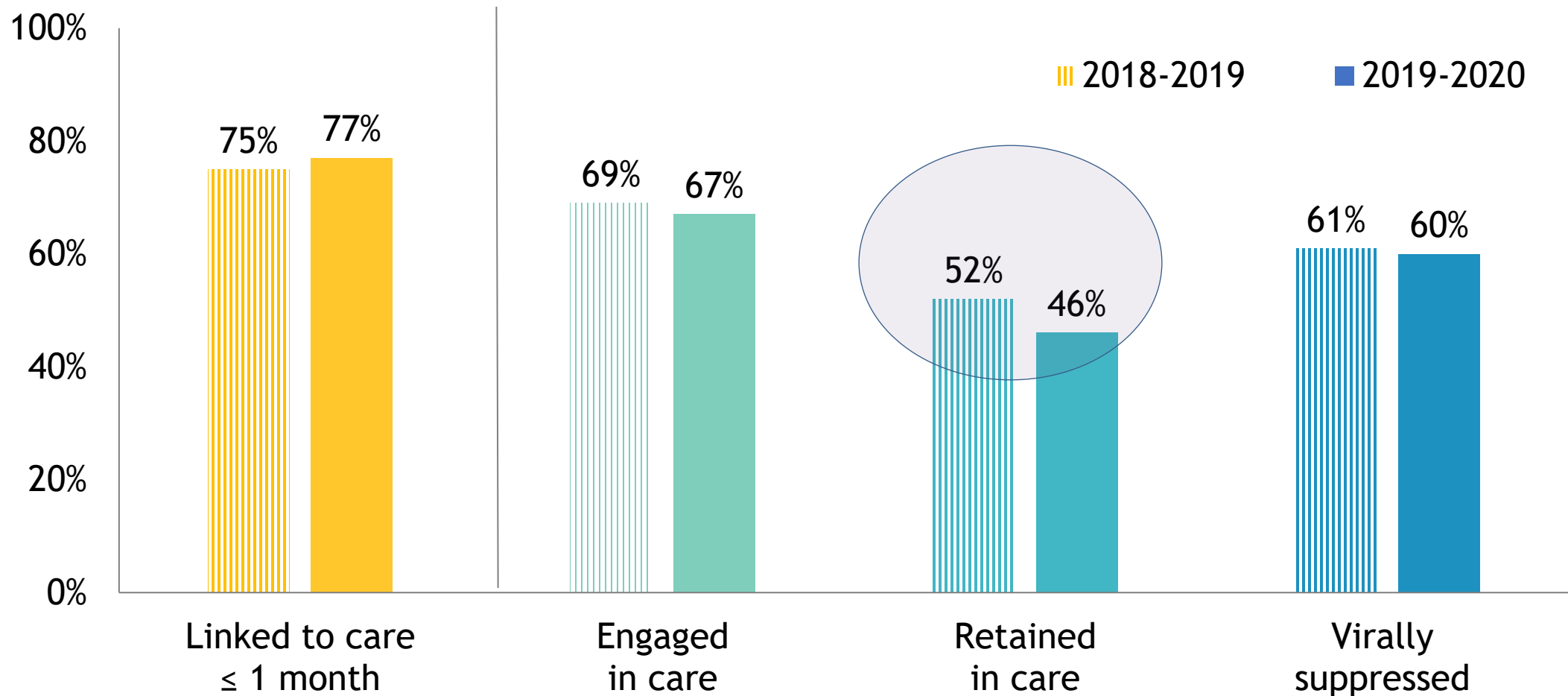
The 3 HIV epicenters in Los Angeles County are Hollywood-Wilshire Health District, Central Health District, and Long Beach Health District



¹Census tract and health district information was based on most recently reported residential addresses. Person with no reported street address information were aggregated to the census tract or health district level data based on available ZIP code information. Source: HIV Surveillance data as of December 31, 2020; 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, 2nd quarter 2017 was used for HIV diagnoses 2015-2019 and 4th quarter 2020 was used for PLWDH at year-end 2020.



HIV care continuum¹ among persons living with diagnosed HIV aged 13+ years, LAC 2018-2020



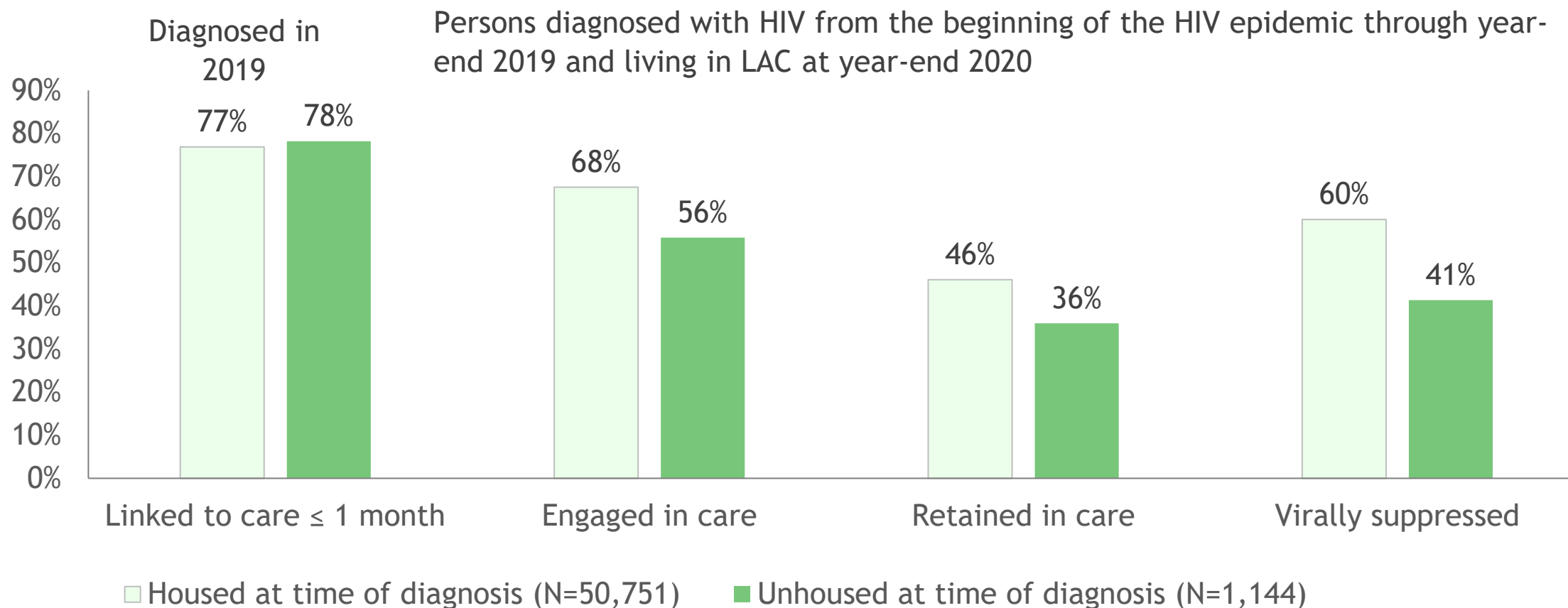
¹Linkage to care: numerator includes persons newly diagnosed with HIV in 2019 with ≥1 CD4/VL/Genotype test reported within 1 month of HIV diagnosis; denominator includes persons who were diagnosed with HIV in 2019.

Engaged in care: numerator includes PLWDH with ≥1 CD4/VL/Genotype test in 2020; denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence.

Retained in care: numerator includes PLWDH with ≥2 CD4/VL/Genotype tests at least 3 months apart in 2020; denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence.

Virally suppressed: numerator includes PLWDH whose last VL test in 2019 was suppressed (HIV-1 RNA < 200 copies/mL); denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence. For the purposes of this analysis, PLWDH without a VL test in 2020 were categorized as having unsuppressed viral load.

Unhoused persons have **worse** outcomes than housed persons across the HIV care continuum



Engaged in care: numerator includes PLWDH with ≥1 CD4/VL/Genotype test in 2020; denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence.

Retained in care: numerator includes PLWDH with ≥2 CD4/VL/Genotype tests at least 3 months apart in 2020; denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence.

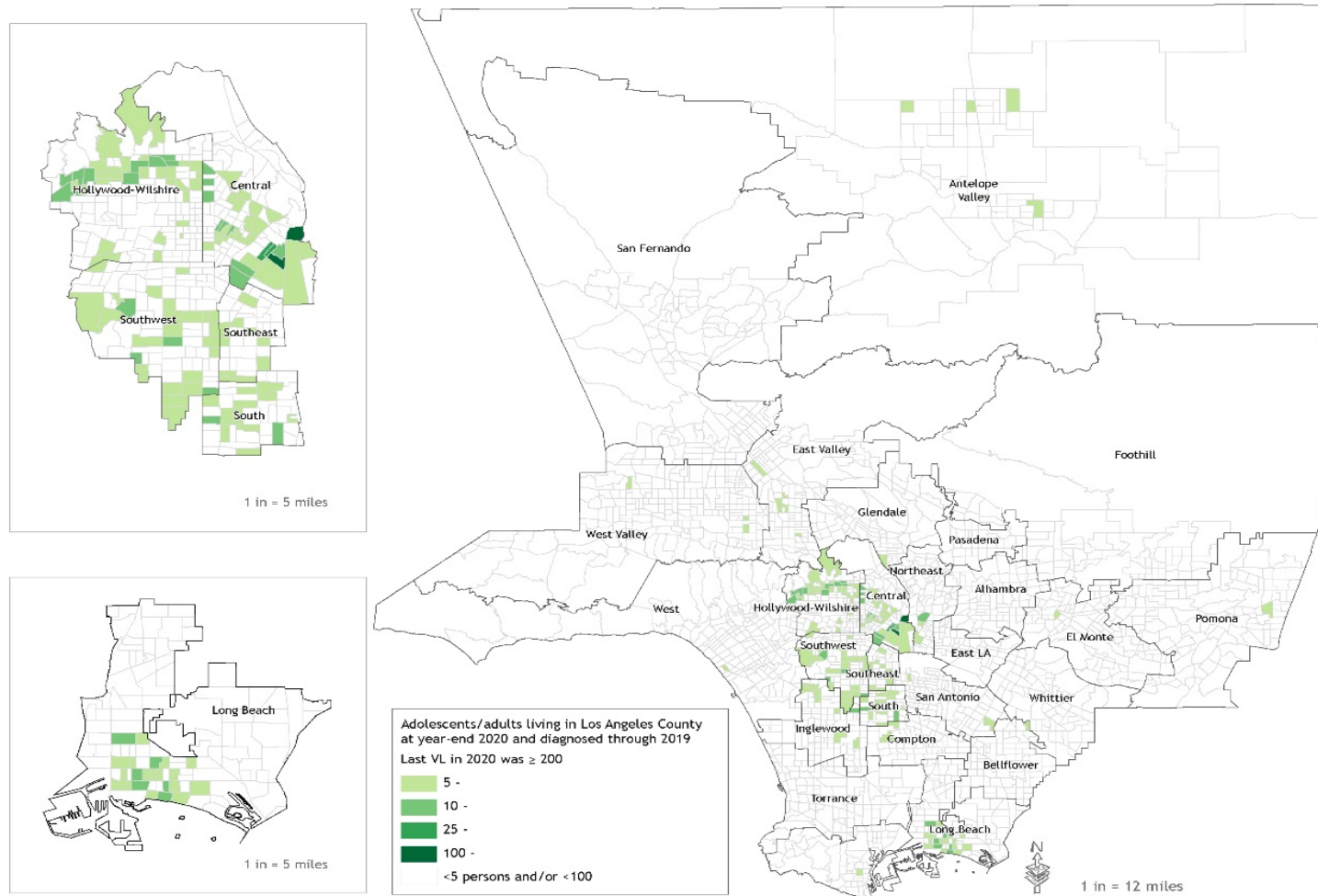
Virally suppressed: numerator includes PLWDH whose last VL test in 2020 was suppressed (HIV-1 RNA < 200 copies/mL); denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence. For the purposes of this analysis, PLWDH without a VL test in 2020 were categorized as having unsuppressed viral load.

Other transmission risk includes perinatal, hemophilia, coagulation disorder, blood transfusion, and risk factor not reported/identified. Persons without an identified risk factor were assigned a risk factor using CDC-recommended multiple imputation methods.

Where is HIV transmission occurring?



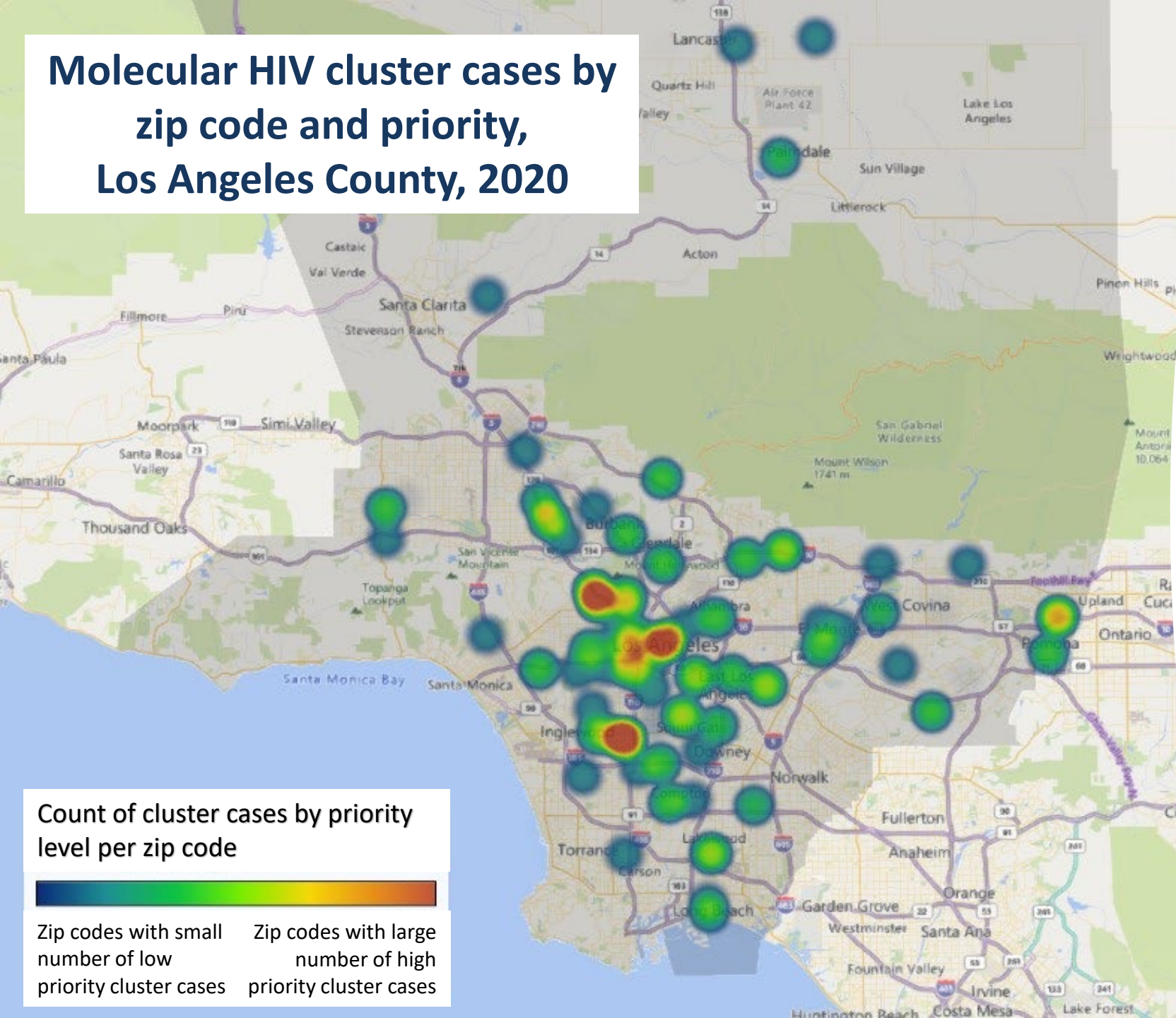
Unsuppressed viral load¹ among persons living with diagnosed HIV in Los Angeles County, 2020



Central, Hollywood-Wilshire, South, Southwest, Southeast, and Long Beach Health Districts have the highest levels of unsuppressed viral load. These areas represent the locations with highest potential for fueling onward HIV transmission.

¹Unsuppressed viral load: numerator includes PLWDH whose last VL test in 2020 was unsuppressed (HIV-1 RNA ≥ 200 copies/mL); denominator includes PLWDH diagnosed through 2019 and living in LAC at year-end 2020 based on most recent residence. PLWDH without a VL test in 2020 were considered virally unsuppressed. Analysis excludes PLWDH diagnosed through 2019 and living at year-end 2020 who (1) had missing census tract information, (2) were engaged in care but never had a viral load test, (3) were not engaged in care for >12 months at year-end 2020, or (4) were in census tracts with small sample sizes (<5 persons with unsuppressed viral load or population size <100 persons). Exclusions represented 69% of PLWDH diagnosed through 2019 and living in 2020 whose last viral load was unsuppressed.

Molecular HIV cluster cases by zip code and priority, Los Angeles County, 2020



Count of cluster cases by priority level per zip code



Zip codes with small number of low priority cluster cases

Zip codes with large number of high priority cluster cases

Categorized HIV cluster priority as:

- Low <5 cases diagnosed between 2018 and 2020 (**blue**)
- Medium ≥ 5 cases diagnosed between 2018 and 2020 (**green**)
- High ≥ 5 cases diagnosed in 2020 (**orange/red**)

Findings:

- In 2020, highest number of high priority cluster cases in **West Hollywood, Downtown, and South LA**
- Risk profiles of persons in high priority cluster:
 - ~One in five have a history of meth use
 - ~10% have a history of homelessness
 - ~70% had anonymous sex partners
 - Nearly half have co-infection with syphilis



Progress towards Ending the HIV Epidemic Targets

	EHE Targets for 2025	EHE Targets for 2030	LAC current
Number of new HIV infections ¹	380	150	1,200 (2019)
Number of new HIV diagnoses ²	450	180	1,505 (2019)
Knowledge of HIV-positive status among persons living with HIV ¹	95%	95%	91% (2019)
Linkage to HIV care among PLWDH ²	95%	95%	77% (2019)
Viral suppression among PLWDH ²	95%	95%	60% (2020)
Percentage of persons in priority populations prescribed PrEP ³	50%	50%	39%

1. Using Los Angeles County HIV surveillance data in the CDC Enhanced HIV/AIDS Reporting system (eHARS).
2. Using the CD4-based model developed by the Centers for Disease Control and Prevention, modified for use by Los Angeles County.
3. Using Los Angeles County data from the National HIV Behavioral Surveillance system, STD clinic data, online Apps survey, COE program data, and AHEAD dashboard.

The case for HIV recency testing to accelerate towards our EHE goals

“If you can describe the most recent 100 persons infected with HIV, you have the key to the epidemic”





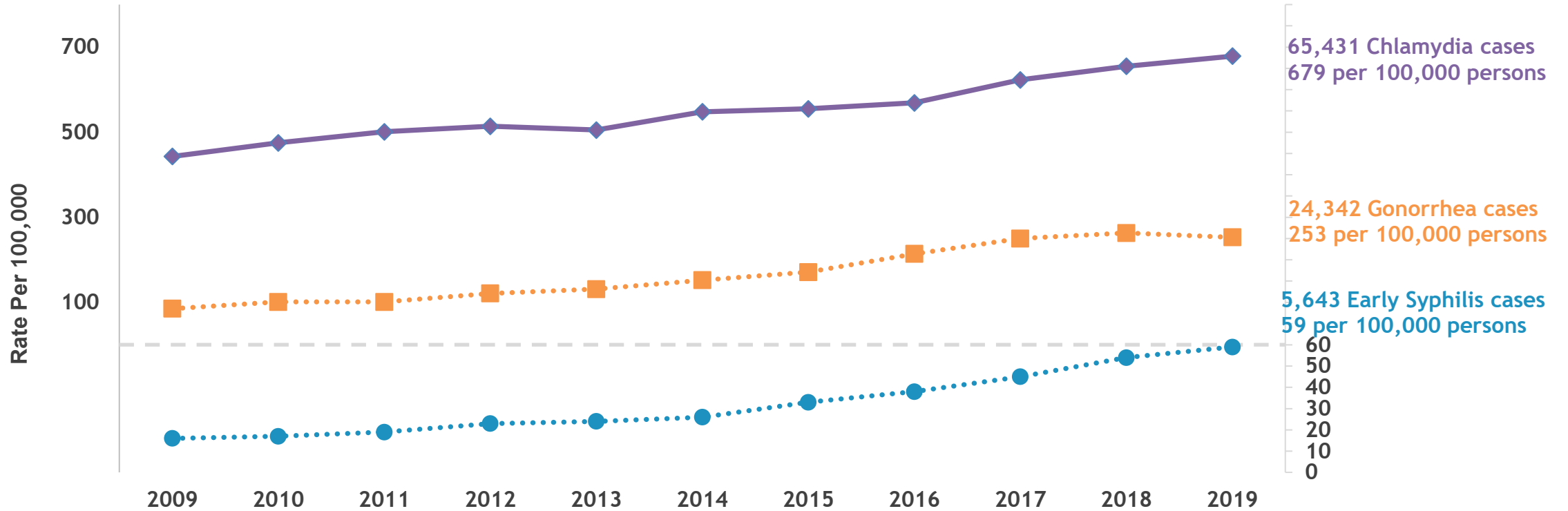
Updates in Sexually Transmitted Disease Surveillance



SEXUALLY TRANSMITTED DISEASE SURVEILLANCE, 2019

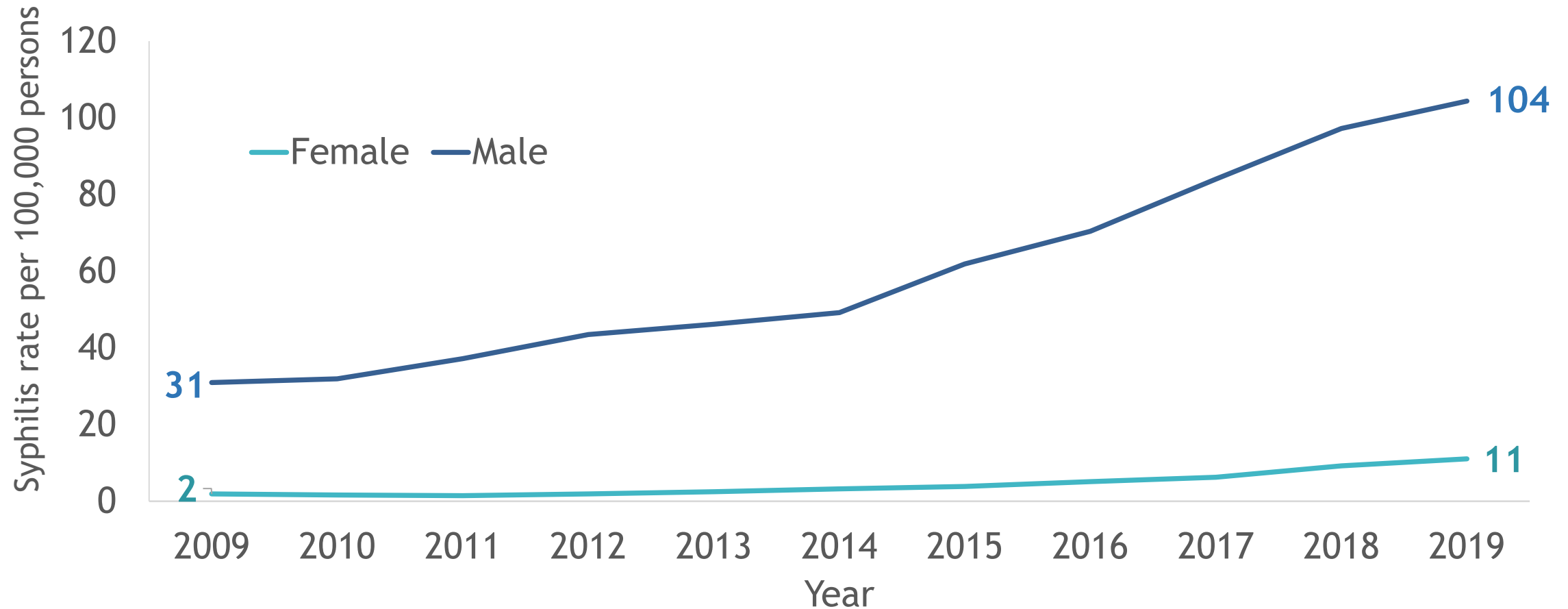
Reported STDs in the U.S. reach all-time high for 6th consecutive year
More than 2.5 million cases of chlamydia, gonorrhea, and syphilis were reported in 2019

Trends in Sexually Transmitted Diseases, Los Angeles County, 2009-2019



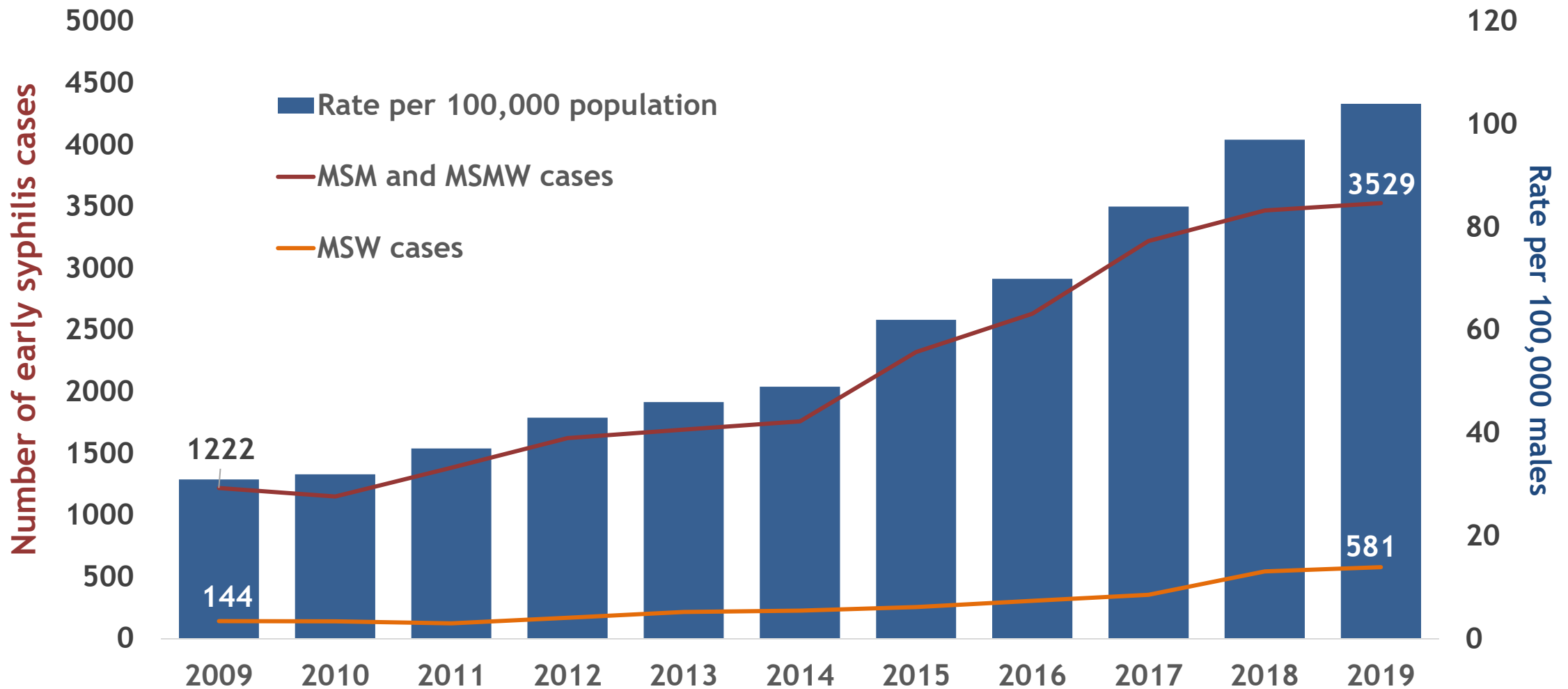
¹ Data as of 03/14/2021. Early syphilis includes all cases staged as primary, secondary, or early non-primary non-secondary (previously early latent); cases from Long Beach and Pasadena are excluded. 2018 and 2019 data are provisional due to reporting delay.

Since 2009, early syphilis rates have increased **450%** among females and **235%** among males¹



¹ Data as of 03/14/2021. Early syphilis includes all cases staged as primary, secondary, or early non-primary non-secondary (previously early latent);. cases from Long Beach and Pasadena are excluded. 2018 and 2019 data are provisional due to reporting delay

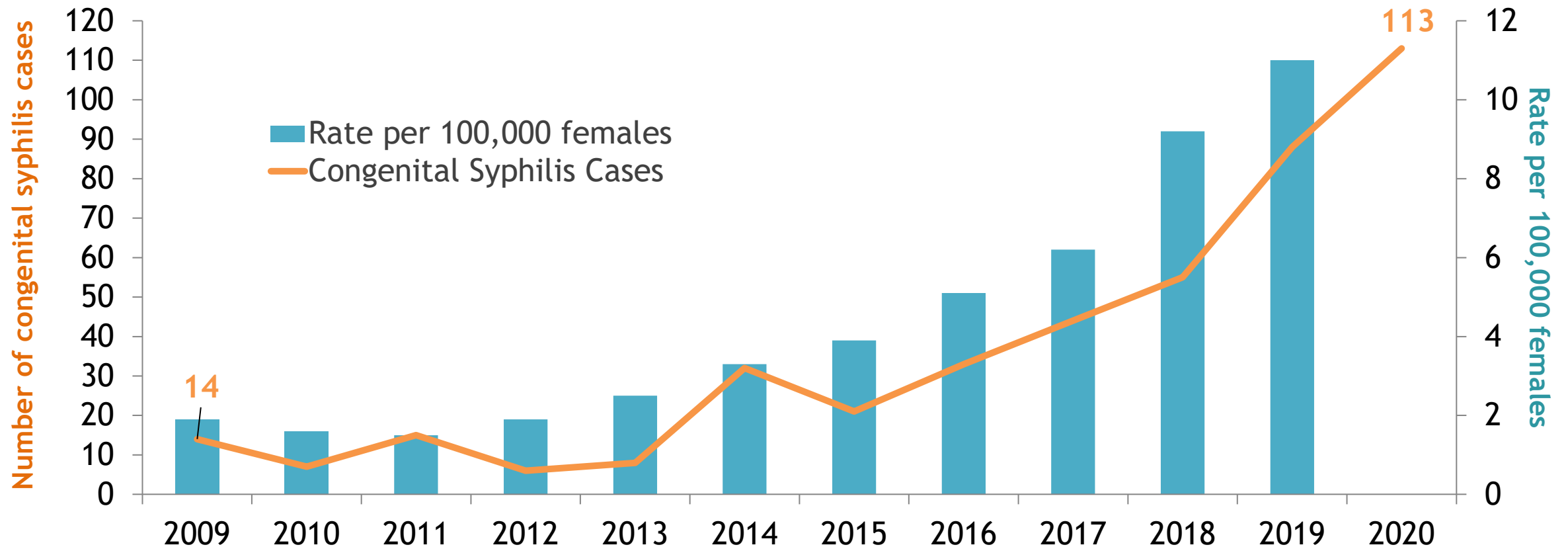
Early syphilis in males, Los Angeles County, 2009-2019¹



¹ Data as of 03/14/2021. Early syphilis includes all cases staged as primary, secondary, or early non-primary non-secondary (previously early latent); cases from Long Beach and Pasadena are excluded. 2018 and 2019 data are provisional due to reporting delay

MSM = men who have sex with men; MSMW = men who have sex with men and women; MSW = men who have sex with women

Early syphilis in females and babies, Los Angeles County, 2009-2019¹



¹ Data as of 03/14/2021. Early syphilis includes all cases staged as primary, secondary, or early non-primary non-secondary (previously early latent); cases from Long Beach and Pasadena are excluded. 2018, 2019, and 2020 data are provisional due to reporting delay

SYPHILIS IN NEWBORNS IS ON THE RISE IN U.S.

Congenital syphilis is a disease that can cause miscarriages, premature births, stillbirths, or even death of newborn babies.

From 2015–2019, cases of congenital syphilis have nearly

QUADRUPLED

492
2015



639
2016



935
2017



1,306
2018



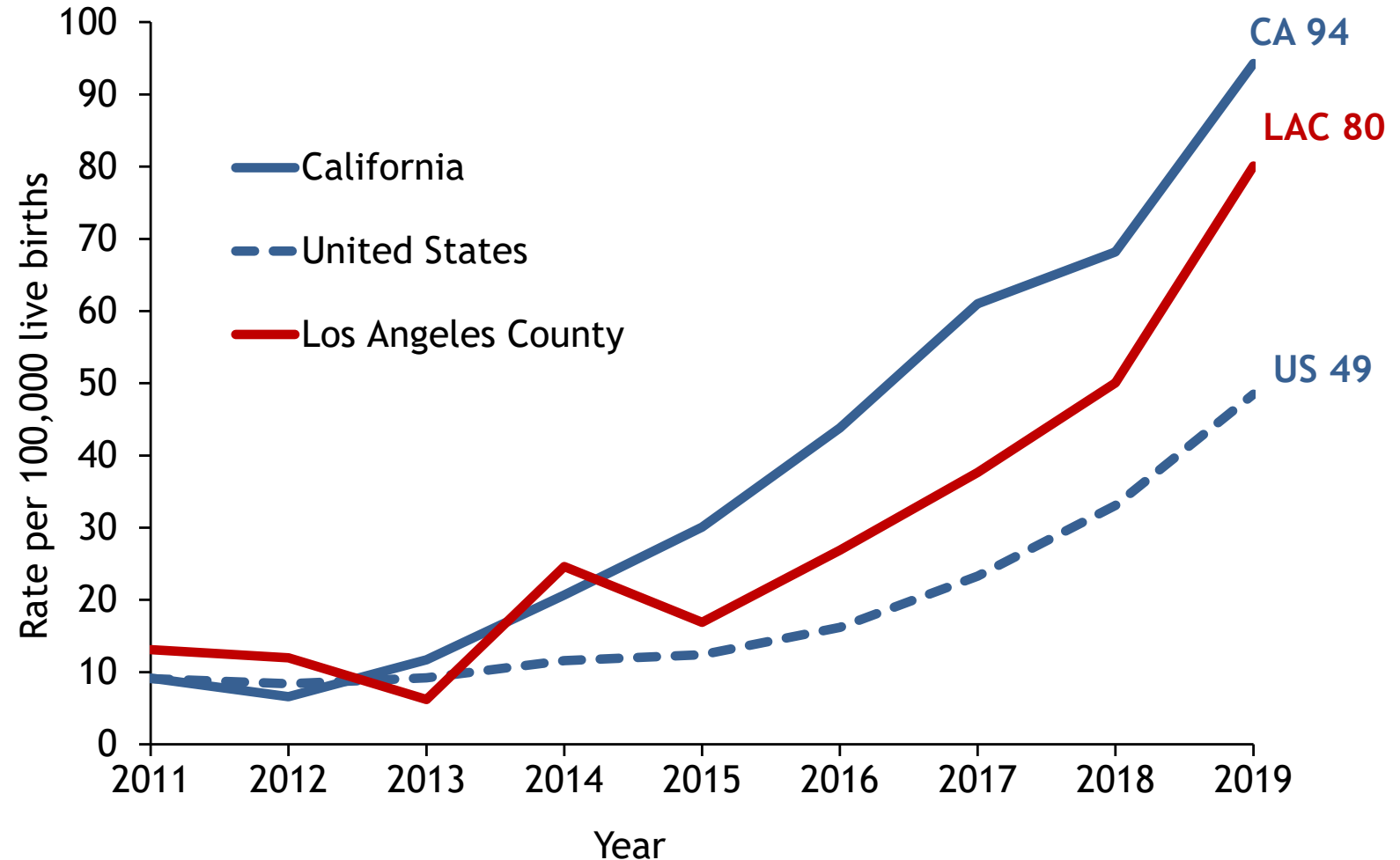
1,870
2019



A mother is likely to pass syphilis on to her baby if she is not treated.

Source: U.S. Centers for Disease Control and Prevention

Congenital Syphilis: How does Los Angeles County compare with California and the US?¹



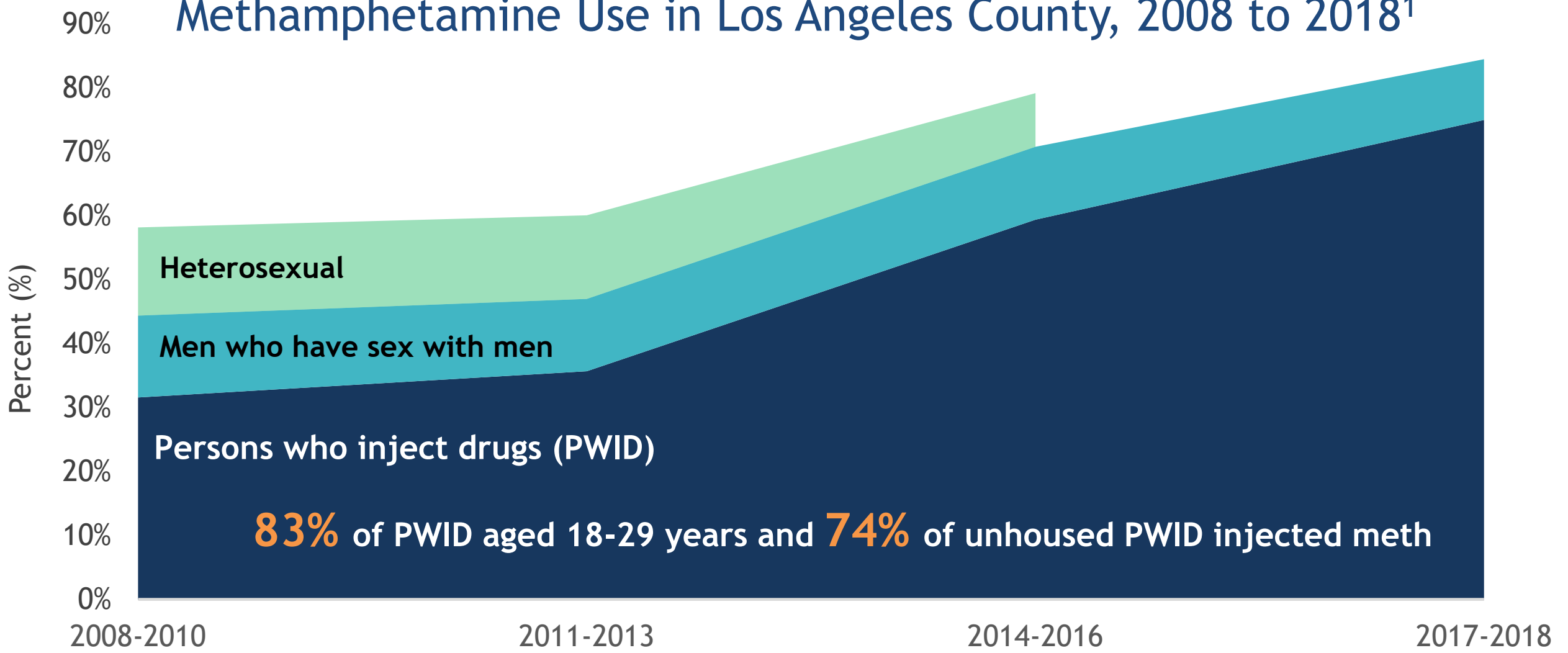
¹ Los Angeles County data as of 03/14/2021. Cases from Long Beach and Pasadena are excluded. 2018 and 2019 data are provisional due to reporting delay. US and California data accessed from the Centers for Disease Control and Prevention 2019 STD Surveillance Report.



What is driving the increases in syphilis and congenital syphilis in Los Angeles County?



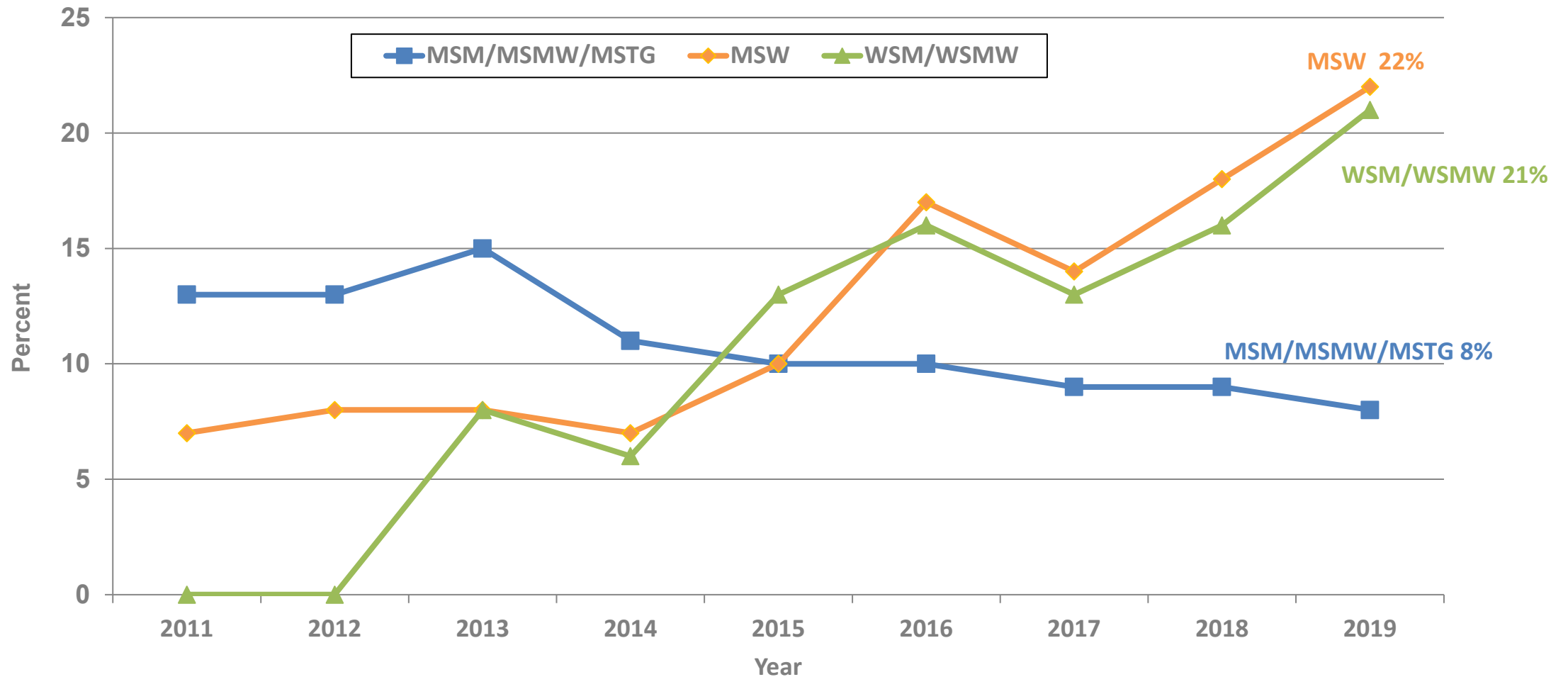
Methamphetamine Use in Los Angeles County, 2008 to 2018¹



83% of PWID aged 18-29 years and **74%** of unhoused PWID injected meth

¹Data abstracted from the National HIV Behavioral Surveillance (NHBS). NHBS is a national behavioral surveillance system designed to generate nationally representative estimates of HIV prevalence and behaviors among groups at highest risk for HIV infection. NHBS has been implemented in 20 local health jurisdictions, including LAC, since 2004. In LAC, the most recent cycles of NHBS was conducted in 2016 for heterosexuals, 2017 for MSM and 2018 for PWID.

% Methamphetamine Use among Early Syphilis Cases Receiving Partner Services by MSM, MSMW and Women, Los Angeles County, 2011-2019¹



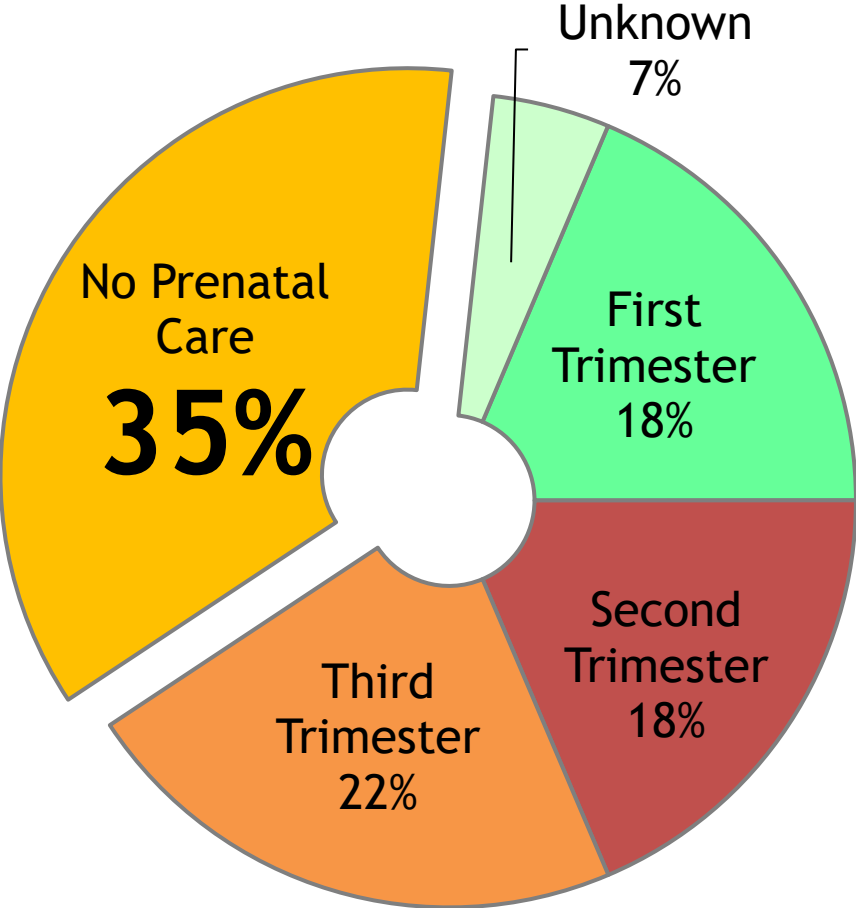
¹ Early Syphilis includes Primary, Secondary and Early Latent Syphilis. Data as of 3/12/2021.

² Of 25,937 Early Syphilis incidents with a qualifying interview, 23,804 (91.8%) responded with yes/no to methamphetamine use during the past 12 months and are included in the analysis. Percent missing ranged from 6.2%-10.3%.

³ Percentage reflects the number of individuals reporting methamphetamine use in the past 12 months among those who answered yes/no to the methamphetamine question in the disease investigation interview. Other listed responses (e.g. Refused, Unknown) are excluded from the denominator.

Maternal Characteristics of 88 Congenital Syphilis Cases, Los Angeles County, 2019

Entry into Prenatal Care



36% had a history of incarceration

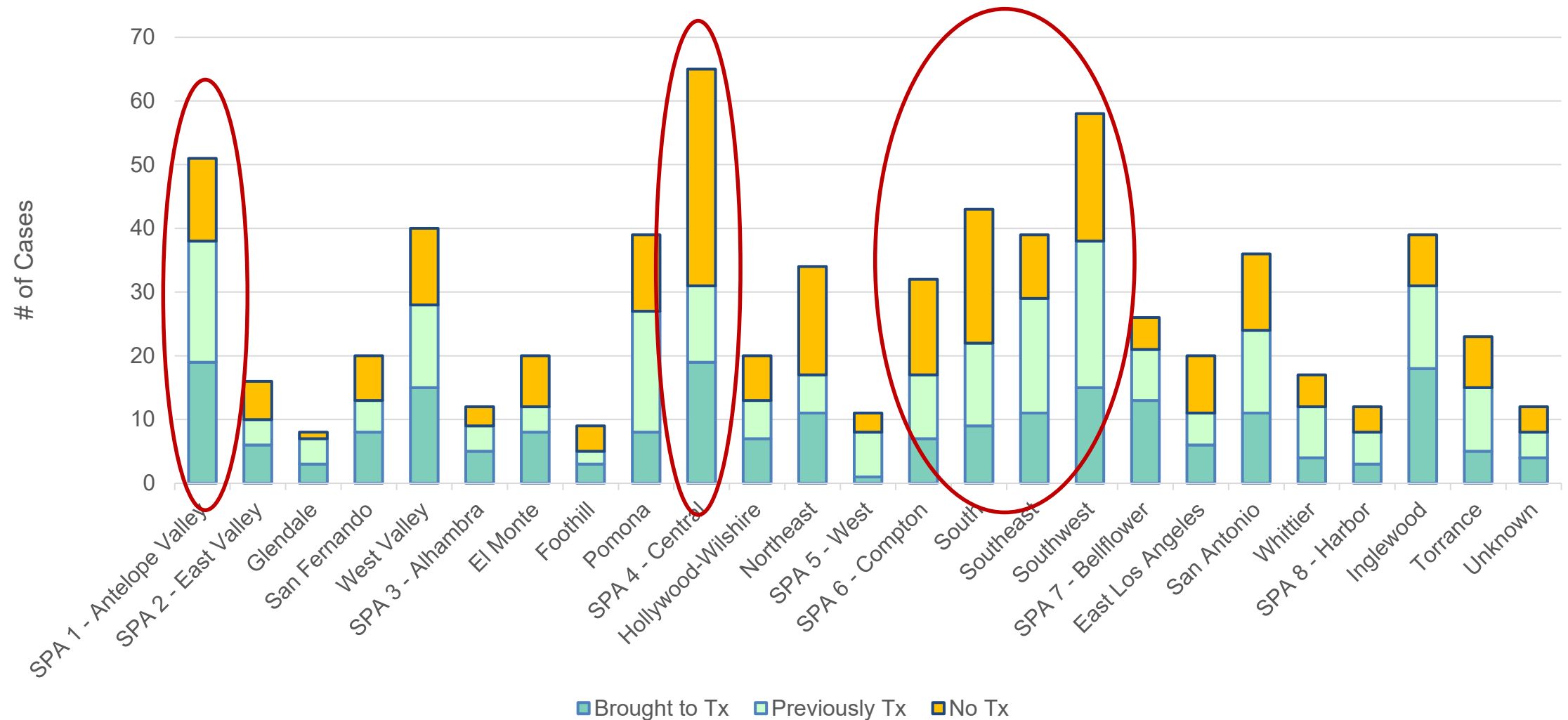
40% had unstable housing

68% had a substance use disorder

49% were using meth or some drug combination with meth

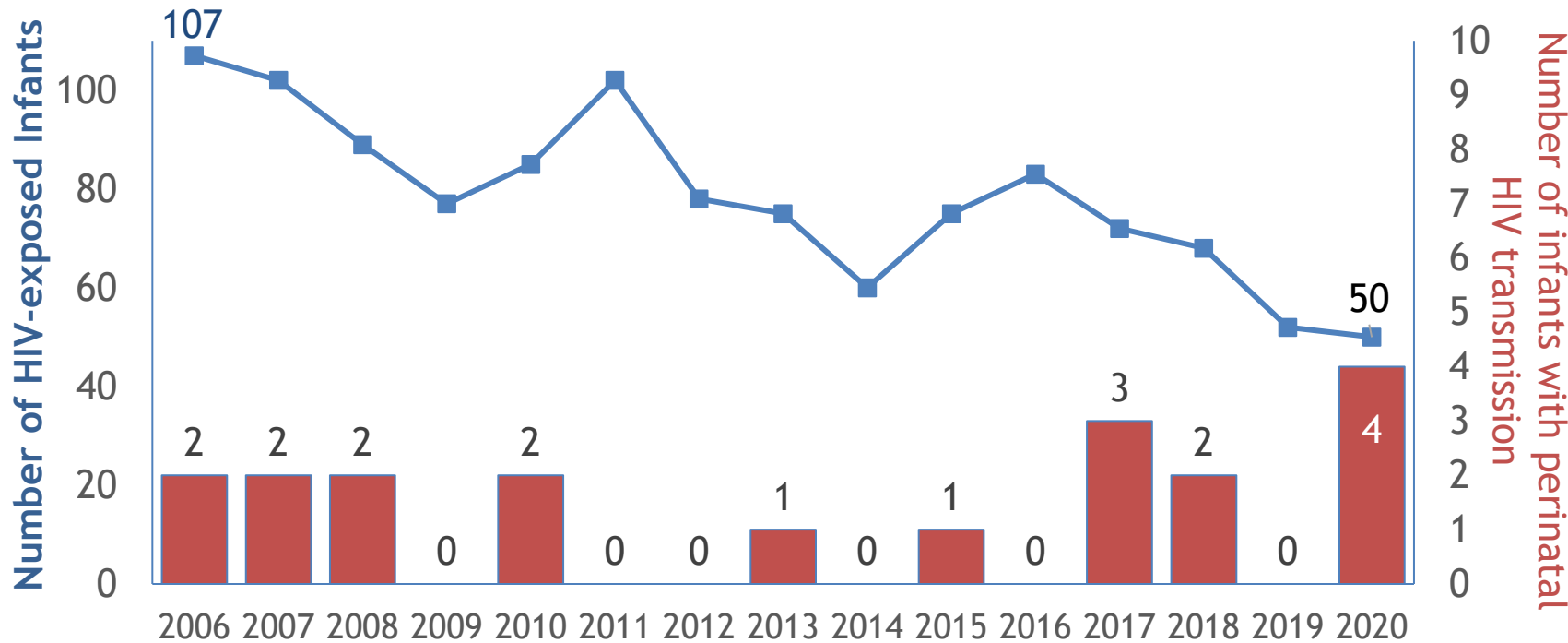
80% of deliveries resulted in DCFS/Foster Care Referral

Female syphilis cases by geographic area and treatment status, Los Angeles County, January - August 2020¹



¹ YTD 2020 data are preliminary and as of 11/01/20. Data exclude Long Beach and Pasadena. Treatment data are based on disposition. Syphilis among females of reproductive age (aged 15-44) including all cases staged as primary, secondary, early non-primary non-secondary (previously early latent) and unknown duration/late (previously late latent).

Trends in HIV-exposed infants and perinatal HIV transmission, 2006 to 2020¹



In 2020, LAC had **4** perinatal HIV transmissions

Common maternal risk factors

- Meth use (N=3)
- Unhoused (N=3)
- Mental illness (N=3)
- STDs (N=4)
 - **Syphilis** (N=3), GC (N=1)
- History of incarceration (N=2) and partner incarceration (N=1)

Neonate information

Congenital syphilis (N=3)

¹The number of infants with perinatal HIV transmission (Red bars) includes perinatal transmissions that occurred in LAC for a given birth year. The number of HIV-exposed infants was derived from 7 pediatric HIV-specialty sites which serve over 90% of HIV-positive pregnant women who seek care in Los Angeles County and is an underestimate of the total number of HIV-exposed infants in the County. Data for 2019 and 2020 are provisional due to reporting delay.

What do our surveillance data show?

HIV

- Although HIV diagnoses is declining, Los Angeles County is far from reaching our local EHE goals.
- An estimated 1,200 persons acquire HIV annually and ~5,100 persons living with HIV are not aware of their HIV-positive serostatus.
- As HIV incidence declines, the potential for HIV outbreaks has grown.
 - Viral suppression is lagging due to gaps in the case cascade and will contribute to onward transmission.
 - Meth use among persons who inject drugs (PWID) is increasing, especially young PWID and unhoused PWID.
 - In 2020 hotspots of rapid and recent transmission were identified in West Hollywood, Downtown, and South LA.
- Perinatal transmission is on the rise and fueled by syndemics of syphilis co-infection, meth use, homelessness, and mental health.

What do our surveillance data show?

STDs

- Syphilis cases have increased 450% among females and 235% among males since 2009.
- Meth use has increased among females and men who have sex with men (MSM) and MSM who have sex with women.
- Increases in syphilis among females has led to a historic high in congenital syphilis cases.
- Maternal risk factors for congenital syphilis include meth use, unstable housing, mental illness, and lack of prenatal care.
- Syphilis co-infection is common among persons with diagnosed HIV residing in high priority HIV cluster locations and among infants with perinatal HIV transmission.

Intersecting epidemics and opportunities

HIV



Substance abuse

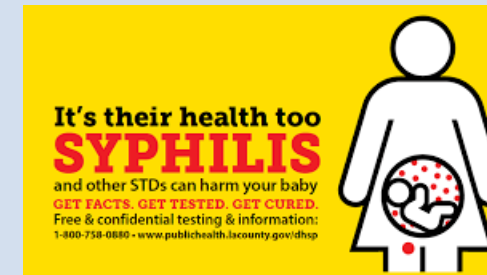
Mental illness

Unstable housing

Low access to care

Lack of integrated services

Syphilis



Opportunities

- Leverage EHE funds to increase collaboration between STD, HIV, substance abuse prevention and control, and housing programs
 - Work with providers for substance abuse services and homeless programs to provide pregnancy screening for women, HIV and syphilis testing for patients, and facilitate prompt linkage to care and prevention programs.
 - Target harm reduction outreach in homeless encampments to prevent outbreaks.
 - Integrate HIV recency testing in STD and HIV screening programs to identify and rapidly respond to clusters of recent transmission.
 - Expand active surveillance for perinatal HIV and syphilis exposure to improve identification and reporting of HIV-exposed and syphilis-exposed babies
 - Improve integration of data systems across HIV, STD, and substance abuse programs
 - Continue to strengthen the data to care continuum through real-time use of surveillance data to accelerate rapid intervention to stop transmission.



Thank you

For more information, please visit
<http://www.publichealth.lacounty.gov/dhsp/Reports/>

