

ELEMENT 2: CURRENT SNAPSHOT SUMMARY OF AN EPIDEMIOLOGIC PROFILE

Pillar 1: Diagnose

The Centers for Disease Control and Prevention (CDC) reported that the Houston Woodlands – Sugar Land metropolitan statistical area ranked 10th in the nation for rate of new HIV transmissions in 2018.¹ The data presented in this epidemiologic profile snapshot summary are organized according to two geographic service jurisdictions in the Houston Area: (1) Houston/Harris County (**H/HC**) and (2) the Houston Eligible Metropolitan Area (**EMA**), which includes Houston/Harris County. The separation of jurisdictions in the data and information below is intended to enhance the utility of this document as a tool for planning both HIV prevention and HIV care services.

Houston/Harris County

HIV Incidence

Incidence is an epidemiological term used to refer to the total number of new occurrences of a disease (both diagnosed and undiagnosed) in a population during a specific period. Colloquially, new HIV diagnoses based on positive test events are used interchangeably with HIV incidence. This is because more timely testing technology has only recently become available that can offer a more precise estimate HIV incidence in a jurisdiction. Houston/Harris County is unique in that it operates an HIV Incidence Surveillance Program, which creates estimates of HIV incidence. This allows for analysis of true new transmissions of HIV for Houston/Harris County in addition to new HIV diagnoses.

New HIV Diagnoses

According to the *2020 Epidemiologic Supplement for HIV Prevention and Care Services Planning*, there were 1,211 new diagnoses of HIV disease (including stage 3 HIV) reported in Houston/Harris County in 2018. This was an 8.1% increase from 2017 (2017 cases =1,120). The rate of new HIV and stage 3 HIV diagnoses in Houston/Harris County increased from 23.9 to 25.6, while the rate of stage 3 HIV remained approximately 11 new diagnoses for every 100,000 residents. When compared to 2017, small increases in new HIV rates occurred among males, females, and Hispanic/Latinos. The rate in Other/Multiple Races more than doubled. Proportionally, Black/African Americans made up the majority of new HIV diagnoses in 2018 at 45%, followed by Hispanic/Latinos at 38%. Male-to-male sexual contact or MSM accounted for the most transmission risk at 68%, followed by sex with male/sex with female at 25%.

People Living with HIV (PLWH) – Prevalence

Prevalence is an epidemiological term for the total number of people living with a particular condition during a specific period. Prevalence does not indicate how long a person has been living with the condition but reveals a point-in-time landscape of the condition. For HIV surveillance, prevalence refers to living people who have been diagnosed with HIV, regardless of time of transmission or date of diagnosis. HIV prevalence refers to all people living with HIV (**PLWH**), regardless of progression, at the end of calendar year 2018 in Houston/Harris County. Available data indicate there were 26,859 PLWH in Houston/Harris County. This is a prevalence rate of 567 people living with HIV for every 100,000 people in the jurisdiction. Of those living with HIV in Houston/Harris County, around 76% were among individuals assigned male sex

¹ CDC HIV Surveillance Report Volume 31: Diagnoses of HIV in the United States and Dependent Areas, 2018

at birth, 49% were African American, 72% were 35 years of age or older, and 58% reported male-to-male sexual contact or MSM as their primary transmission risk.²

People Who Inject Drugs (PWID)

There were 59 cases of new HIV and 33 new cases of stage 3 HIV diagnosed in individuals with a history of injection drug use in Houston/Harris County in 2018.² In 2017, there were 37 cases of new HIV and 38 new cases of stage 3 HIV diagnosed in individuals with a history of injection drug use in the jurisdiction. Generally, when PWIDs were newly diagnosed with HIV in Houston/Harris County, they were male, African American/Black, and over age 25. The same common demographic trends were observed in the total numbers of PWIDs living with HIV in this jurisdiction. In Houston/Harris County, males comprised 55.8% of all PWIDs living with HIV, Black/African Americans counted for 69.0%, and people over age 25 represented 85.2%.³

HIV Testing—In 2017, there were 111,867 publicly funded HIV tests conducted in Houston/Harris County in both routine and non-routine (targeted) settings. Of these, 1.1% were positive. Of people with positive test results identified in the jurisdiction, 97.4% were informed of their positive status, leaving 2.6% not informed. This equates to at least 32 individuals in Houston/Harris County who were tested for HIV but who remained unaware of their positive status at the end of 2017. The total number of HIV tests conducted varied over the years due to the changes in the number of hospitals contracted for routine testing.³

The Houston Eligible Metropolitan Area (EMA)

The Houston EMA includes the six counties of Chambers, Fort Bend, Harris (including the City of Houston), Liberty, Montgomery, and Waller. The data presented below are for the entire Houston EMA and are not county specific.

New HIV Diagnoses

(See Houston/Harris County for an explanation of this data point)

As reported in the *2020 Epidemiologic Supplement for HIV Prevention and Care Services Planning*, in 2018 there were 1,350 new HIV diagnoses were reported in the Houston EMA, 9% increase from 2017. The rate of new HIV diagnoses for every 100,000 people in the Houston EMA increased by 10% from 20 in 2017 to 22 in 2018. There were noticeable increases in rates compared to 2017 among Hispanic/Latino individuals and persons aged 13 to 24, 35 to 44, and 55 to 64. Black/African American individuals comprised the highest proportion of new HIV diagnoses in 2018 at 44%, followed by Hispanic/Latino individuals at 37%. Male-to-male sexual contact (MSM) accounted for the majority of transmission risk at 68%, followed by Sex with Male/Sex with Female at 25%.

² 2020 Epidemiologic Supplement for HIV Prevention and Care Services Planning. Reporting period: January 1 to December 31, 2018. Approved: March 12, 2020.

³ The 2019 Houston Area Integrated Epidemiologic Profile for HIV Prevention and Care Services Planning. Approved: December 12, 2019.

People Living with HIV (Prevalence)

(See Houston/Harris County for an explanation of this data point)

At the end of 2018, there were 29,078 people living with HIV in the Houston EMA, a 3% increase from 2017 (28,225 PLWH). The rate of HIV prevalence also increased in 2018 to 465 people living with HIV for every 100,000 people in the Houston EMA, up from 458 in 2017. There were noticeable increases in prevalence rates in 2018 compared to 2017 among males, Hispanic/Latino individuals, and individuals ages 25 to 34 and 55 to 64. Black/African American individuals comprised the highest proportion of people living with HIV in 2018 at 48%, followed by Hispanic/Latino individuals at 29%. Male-to-male sexual contact (MSM) accounted for the majority of transmission risk at 58%, followed by Sex with Male/Sex with Female at 29%.²

People Who Inject Drugs (PWID)

There were 60 new HIV cases and 2,256 cases among PLWH with a history of injection drug use in the Houston EMA in 2018.² When the jurisdiction of analysis expanded to include the Houston EMA in 2017, there were 10 new cases of HIV in addition to the 37 cases of new HIV and 38 new cases of stage 3 HIV diagnosed in Houston/Harris County. In general, when EMA PWIDs were newly diagnosed with HIV, they were male, African American/Black, and over age 25. Shared demographic trends were observed in the total numbers of PWIDs living with HIV in this jurisdiction. In the EMA, males represented 53.4% of all PWIDs living with HIV, Black/African Americans were 66.0%, and people over age 35 accounted for 92%.³

HIV Testing

In 2017, 112,581 publicly funded HIV tests were conducted in the Houston EMA in both routine and targeted settings. Of these, 0.3% were new positive test events. Of new positive test events identified in the jurisdiction in 2017, 94% were informed of their positive status while 6% were not informed. In addition to those who have tested for HIV but were not informed of their positive status. Similarly, others may be living with HIV but unaware of their status because they have not received testing. For 2017, an estimated 4,595 people were unaware of their HIV positive status in the EMA. Of these, 75% were estimated to be males by sex at birth, 49% Black/African American, and 57% in the category of male-male sexual contact or MSM, followed by sex with male/sex with female contact at 29%. By age, 45 to 54-year olds had the largest proportion of those unaware of their status at 27%, followed by 35 to 44-year olds at 23%.³

Summary of HIV Epidemiology by Jurisdiction and the U.S.

Overall, both Houston/Harris County and the Houston EMA have higher rates of new HIV diagnoses and HIV prevalence (or people living with HIV per 100,000 population) than both Texas and the U.S. This indicates that the HIV burden in the Houston area is greater than the state and the nation, even when adjusted for population size. In 2018, the Houston EMA had the highest HIV diagnosis rate of any EMA/Transitional Grant Areas (TGA) in Texas, and the Houston Metropolitan Statistical Area (MSA) had the tenth-highest rate of new HIV diagnoses of all metropolitan areas in the nation.²

Pillar 2: Treat

Initial Linkage to Care

After receiving an HIV diagnosis, initial linkage to an HIV primary medical care and treatment provider is the first stage in a continuum of services for people living with HIV.⁴ Linkage within three months of diagnosis is considered the current national standard, with the *National HIV/AIDS Strategy: Updated to 2020* setting a goal of 85% of the newly diagnosed people living with HIV to be linked to HIV medical care within one month of diagnosis by 2020.⁵

In 2017, 79% of people newly diagnosed with HIV in the state of Texas were linked to HIV primary medical care within three months of their diagnoses. In the Houston Eligible Metropolitan Area (EMA), 80% of people newly diagnosed in 2017 were linked to care within three months. An additional 8% were linked in more than three months, and 12% remained unlinked by the end of 2017, a decrease from 19% unlinked in 2011. While general and targeted efforts have improved linkage to care proportions since 2011 across all groups in the Houston EMA, some specific demographic groups in the Houston EMA still had proportions linked to care within three months of diagnoses that were lower than the EMA as a whole in 2017. Based on race/ethnicity, Multiracial individuals were linked at 91%, Whites were linked at 84%, Hispanic/Latinos were linked at 83%, and African Americans were linked at 77%. Overall, linkage to care percentages in 2017 were lower among other race/ethnicity groups (69%), adults over age 65 (76%), and people with injection drug use (72%). Of all groups, newly diagnosed individuals from other race/ethnicity groups had the lowest proportion linked to HIV primary medical care within three months, followed by adults over age 65.

Research indicates that maintenance in HIV medical care promotes favorable personal and public health outcomes and is a critical component of HIV prevention. Continuous retention in care supports consistently higher proportions of viral load suppression, thereby reducing overall community viral load. Individuals who maintain an undetectable viral load have essentially no risk of transmitting HIV through sex, a prevention strategy often referred to as Treatment as Prevention, or Undetectable = Untransmittable.

Total Population in HIV Care, or Met Need

According to HRSA, a person with diagnosed HIV with evidence of any of the following in a 12-month period is considered to be in care: (1) an HIV primary medical care visit, (2) a blood test to monitor HIV (either a CD4 count or a viral load test), or (3) a prescription for HIV medication. Often, the term “met need” is used interchangeably with being in care. This is because someone who is in care is considered to have their medical needs for HIV met. It is important to note that an individual with “met need” may still experience service gaps or barriers.

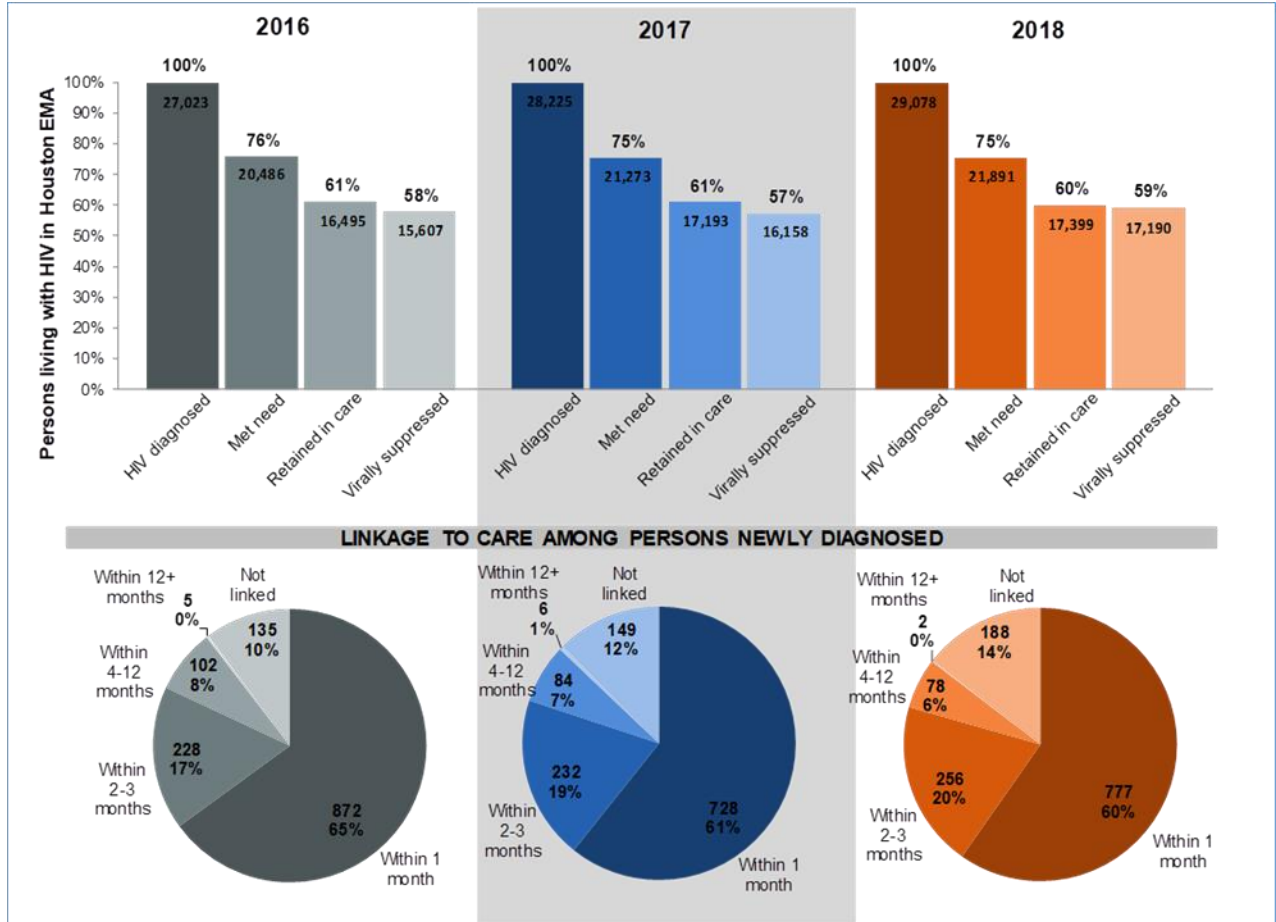
In the Houston EMA, 75% of people living with HIV in 2011 were in HIV care according to the HRSA definition, up from 73% in 2011. The proportions of each demographic group that comprised the total in-care population were also comparable (within up to 2 ± percentage points difference) to total diagnosed population. When analyzed by demographic group, an average of 76% of people in each group was in care. Lower than average in-care proportions occurred in adults over age 65 (with 69% of those diagnosed

⁴ Gardner, EM et al. The Spectrum of Engagement in HIV Care and its Relevance to Test-and-Treat Strategies for Prevention of HIV Infection. *HIV/AIDS*, November 21, 2011.

⁵ National HIV/AIDS Strategy: Updated to 2020, July 2015.

also in care), people with perinatal transmission risk (72%), Other race/ethnicity individuals (72%), PWID transmission risk (72%), adults age 35 to 44 (74%), and Black/African American individuals (74%).

Houston EMA HIV Care Continuum, 2016-2018



⁶ Bureau of Epidemiology and Bureau of HIV/STD and Viral Hepatitis Prevention, Houston Health Department, 2020

Measure	Description	Data source
HIV diagnosed	No. of persons living with HIV (PLWH) residing in Houston EMA through end of year (alive)	Texas eHARS data
Met need	No. (%) of PLWH in Houston EMA with met need (at least one: medical visit, ART prescription, or CD4/VL test) in year	Texas DSHS HIV Unmet Need Project (incl. eHARS, ELR, ARIES, ADAP, Medicaid, private payer data)
Linked to care (pie chart)	No. (%) of newly diagnosed PLWH in Houston EMA who were linked to medical care ("Met need") within N months of their HIV diagnosis	
Retained in care	No. (%) of PLWH in Houston EMA with at least 2 medical visits, ART prescriptions, or CD4/VL tests in year, at least 3 months apart	
Virally suppressed	No. (%) of PLWH in Houston EMA whose last viral load test of the year was ≤ 200 copies/mL	Texas ELRs, ARIES labs, ADAP labs

From 2016-2018, the total number of persons diagnosed with HIV increased each year and the percentage of those with met need, care retention, and viral suppression remained relatively constant.

- The percentage of newly diagnosed PLWH linked to care within one month of diagnosis decreased from 65% to 60% from 2016 to 2018.
- In 2018, there were 29,078 PLWH in the EMA, up from 28,225 in 2017. Among those diagnosed as of 2018, 75% were engaged in HIV medical care, and 60% were retained in HIV care throughout the calendar year. The virally suppressed proportion of all diagnosed PLWH in the Houston EMA in 2018 was 59%.

Pillar 3: Prevent

Sexual Behaviors Among Adults Diagnosed with HIV

Sexual behaviors among PLWH during the 2015-2016 cycle indicate approximately 30.3% and 69.7% reported having condomless and non-condomless sex with their sexual partners, respectively. Of the number that had condomless sex, 16.2% of those encounters were with HIV-negative or HIV-unknown partners. About 8.6% of these HIV-negative or HIV-unknown partners did not have sustained viral suppression, implying that they may have exposed their partners to HIV. Overall, across the characteristics assessed, the majority of PLWH (51.9-85.6%) used condoms during their sexual encounters.

Receipt of prevention services among adults diagnosed with HIV

Approximately, 45.8% of PLWH in Houston/Harris County received informational materials and education on HIV prevention with only 30.6% of them having a one-on-one HIV/STD risk-reduction conversation with an outreach worker, counselor, or prevention program worker. Similarly, 50.4% of PLWH had one-on-one HIV/STD risk reduction conversation with a doctor, nurse, or other healthcare worker, while only 16.9% of PLWH attended an organized HIV/STD risk-reduction session involving a small group of people during the 2015-2016 data collection cycle. Receipt of free condoms was reported among 47.1% of the PLWH during the period.

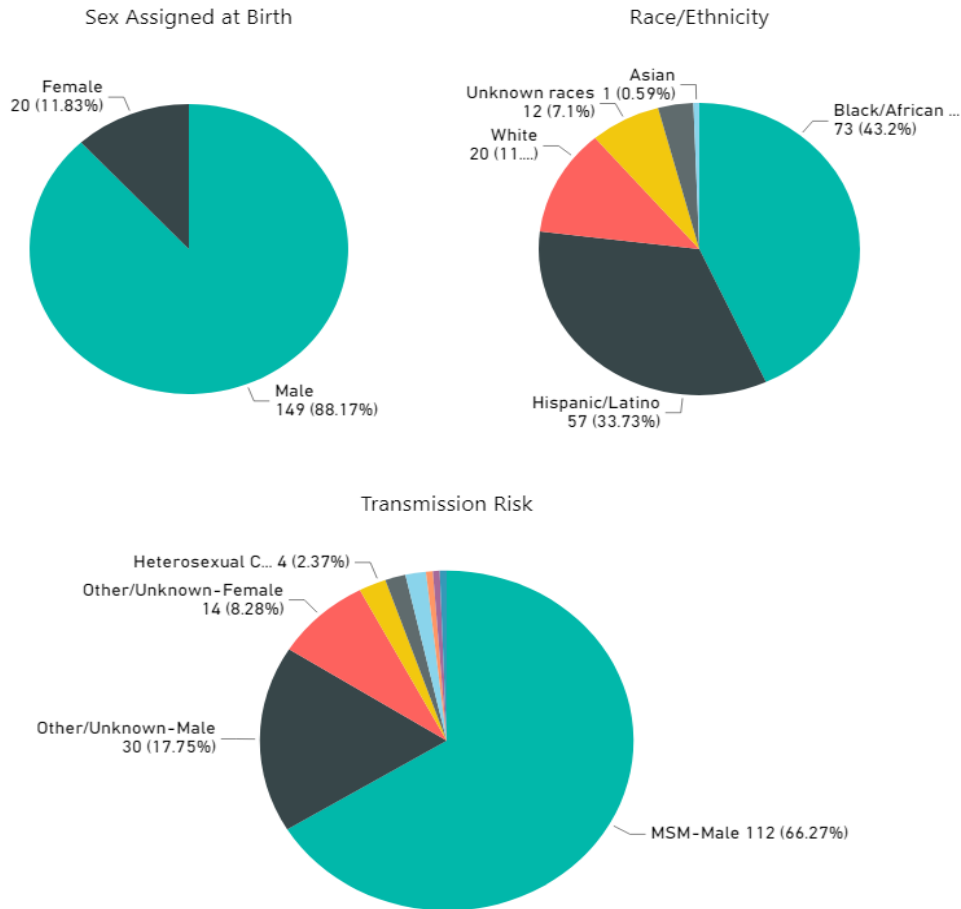
Sustained Viral Suppression

A total of 54.1% of PLWH had sustained viral suppression, while 45.9% did not have sustained viral suppression during the 2015-2016 cycle of the project. Interestingly, between ages of 18-29 years (29.0%) and 50 years and over (68.8%) sustained viral suppression tended to increase with increasing age.) Conversely, the reverse occurred for PLWH who did not have sustained viral suppression with more belonging to the 18-29 years' age group (71.0%) and the least in this category belonging to ≥50 years (31.2%). However, more males (54.9%) than females (51.0%) had sustained viral suppression. Condomless sex with an HIV-negative or HIV-unknown partner was reported for 46.8% of PLWH with sustained viral suppression. Hispanic or Latino people had the most sustained viral suppression (59.6%) than White, non-Hispanic (52.5%) and Black, non-Hispanic (48.1%).

Pillar 4: Respond

Cluster Detection

Nucleotide sequences have been reportable to the local health authority since January 2010. The Houston Health Department (HHD) has been able to routinely collect nucleotide sequences through electronic lab reporting and standardize processes for collecting this surveillance data. The HHD has been able to use these nucleotide sequences to detect clusters utilizing Secure HIV-TRACE starting September 2018. As of August 2020, the HHD has detected a total of 69 clusters within Houston/Harris County. Eighty-eight percent of individuals within these clusters were assigned male at birth (n=149), 34% are Hispanic/Latinx (n=57), 43% are Black/African American (n=73), 12% are White identifying (n=20), and 66% identified as MSM (n=112).



Cluster Response⁷

The Houston Health Department started cluster response activities in September 2016. To date, the HHD has responded to 14 clusters and 139 cluster cases within Houston/Harris County. Initial response activities focused on re-engagement in care of cluster members and has since evolved to include identifying and engaging transmission and risk networks associated with the cluster detection and response activities to stop the transmission of HIV within these clusters. The HHD is currently in the process of standardizing and integrating cluster response activities into already existing programs within the Division of Disease Prevention & Control. The HHD is also working towards finalizing the *Cluster Outbreak & Response Plan*. A draft of this document was submitted to the CDC in October 2020 and will be shared with community stakeholders for feedback on the proposed plan. The Cluster Outbreak & Response Plan is expected to be finalized with community and CDC feedback by March 2021.

⁷ NOTE: Cluster detection and cluster response data are not currently reported in the epidemiological profile.