DRAFT

Houston Area HIV Services Ryan White Planning Council

Comprehensive HIV Planning Committee

2:00 p.m., Thursday, November 14, 2019
Meeting Location: 2223 W. Loop South, Room 532
Houston, Texas 77027

AGENDA

I. Call to Order
   A. Welcome — Daphne L. Jones, Chair
   B. Moment of Reflection
   C. Adoption of the Agenda
   D. Approval of the Minutes

II. Public Comment and Announcements
(NOTE: If you wish to speak during the Public Comment portion of the meeting, please sign up on the clipboard at the front of the room. No one is required to give his or her name or HIV status. All meetings are audio taped by the Office of Support for use in creating the meeting minutes. The audiotape and the minutes are public record. If you state your name or HIV status it will be on public record. If you would like your health status known, but do not wish to state your name, you can simply say: "I am a person living with HIV", before stating your opinion. If you represent an organization, please state that you are representing an agency and give the name of the organization.

III. 2019 Epidemiological Profile
   A. Final Feedback and Approve the 2019 Epidemiological Profile — Amber Harbolt, Office of Support

IV. Needs Assessment Progress Update

V. Announcements — Daphne L. Jones, Chair

VI. Adjourn

Houston Area HIV Services Ryan White Planning Council

Comprehensive HIV Planning Committee
2:00 p.m., Thursday, October 10, 2019
Meeting Location: 2223 West Loop South, Room 532; Houston, Texas 77027

Minutes

MEMBERS PRESENT	MEMBERS ABSENT	OTHERS PRESENT
Daphne L. Jones, Co-Chair	Ted Artiaga, excused	Anina Rajmohan, AHF
Dawn Jenkins	Denis Kelly, excused	Shelby Johnson, AETC/BCM
Rodney Mills	Holly McLean, excused	Camden Hallmark, HHD
Matilda Padilla	Isis Torrente, excused	Salma Khuwasa, HHD
Shital Patel	Dominique Brewster, excused	Miyase Koksal-Ayhan, HHD
Faye Robinson	Datonye Charles	Zaida Lopez, HHD
Imran Shaikh	Ryan Clark	Sha'Terra Johnson-Fairley, TRG
Bianca Burley	Larry Woods	Amber Harbolt, Office of Support
Elizabeth Drayden, phone		Diane Beck, Office of Support
Nancy Miertschin		
Steven Nazarenus		
Steven Vargas		
Anthony Williams		

Call to Order: Daphne L. Jones, Chair, called the meeting to order at 2:13 p.m. and asked for a moment of reflection.

Adoption of the Agenda: ***Motion #1:*** *it was moved and seconded (Vargas, Mills) to adopt the agenda.* **Motion carried.**

Approval of the Minutes: ***Motion #2:*** *it was moved and seconded (Shaikh, Vargas) to approve the September 12, 2019 minutes.* **Motion carried.** Abstentions: Nazarenus, Padilla, Robinson, Williams.

Public Comment and Announcements: None.

Epidemiological Profile

Content Feedback on Chapter 6: See attached. Harbolt reviewed the document and the committee made a few suggested changes to the text.

Content Feedback on National HIV Behavioral Surveillance (NHBS) Chapter: See attached. The committee did not suggest any changes to this chapter.

Content Feedback on Houston Medical Monitoring Project (HMMP) Chapter: See attached.

The committee did not suggest any changes to this chapter.

2019 Needs Assessment Progress: Harbolt said that as of this week, 573 surveys have been completed which is 97% of the minimum sample size. We are currently working to set up community survey sites to reach out to individuals who are not Ryan White clients or may be out of care.

Announcements: Harbolt said that there is a report from a meeting with youth at AFH in the packet as an FYI. The Needs Assessment Group's Analysis Workgroup will meet in the morning at 9:00 a.m.

Adjournment: The meeting was adjourned at 3:02 p.m.

Submitted by: Approved by:

_____ _____

Amber Harbolt, Office of Support Date Chair of Committee Date

JA = Just arrived at meeting
LR = Left room temporarily
LM = Left the meeting
C = Chaired the meeting

2019 Voting Record for Meeting Date October 10, 2019

MEMBERS	Motion #1: Agenda				Motion #2: Minutes			
	ABSENT	YES	NO	ABSTAIN	ABSENT	YES	NO	ABSTAIN
Daphne L. Jones, Chair				C				C
Dawn Jenkins		X				X		
Denis Kelly	X							
Holly McLean	X							
Rodney Mills		X				X		
Matilda Padilla		X						X
Shital Patel		X				X		
Faye Robinson	X							X
Imran Shaikh		X				X		
Isis Torrente	X							
Dominique Brewster	X							
Bianca Burley		X				X		
Datonye Charles	X							
Ryan Clark	X							
Elizabeth Drayden, ja 2:21 pm	X				X			
Nancy Miertschin		X				X		
Steven Nazarenus		X						X
Steven Vargas		X				X		
Anthony Williams		X						X
Larry Woods	X							

DRAFT

HIV in the Houston Area

The 2019 Houston Area Integrated Epidemiologic Profile for HIV Prevention and Care Services Planning

Produced Through a Partnership between:

Houston Area Ryan White Planning Council

Houston Health Department

Disclaimer:
This document is the most current HIV/AIDS epidemiologic profile for the jurisdictions of Houston/Harris County, the Houston Eligible Metropolitan Area (EMA), and the Houston Health Services Delivery Area (HSDA). Data were compiled in 2019 for the period of January 1 to December 31, 2017 or the most current complete reporting period of data available as noted. Its contents reflect the epidemiologic and service utilization data available at the time of data collection. More recent data may have become available since the time of publication.

Funding acknowledgment:
This document is supported by CDC-RFA-PS18-1802 from the Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the CDC.
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Suggested citation:
The 2018 Houston Area Integrated Epidemiologic Profile for HIV/AIDS Prevention and Care Services Planning.

Approval Pending

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The 2019 Houston Area Integrated Epidemiologic Profile for HIV Prevention and Care Services Planning

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Special thanks members of the Joint Epidemiologic Profile Workgroup:

Cynthia Deverson, Isis Torrente, Ardry Skeet Boyle, Jennifer Carey, Chelsea Frand, Eric James, Mel Joseph, Scot More, Patricia Pullins, Gloria Sierra, and Bruce Turner.

This document was reviewed by the Overall Responsible Parties (ORP) for HIV/AIDS surveillance and prevention in Houston/Harris County: **Marlene McNeese**, Assistant Director, Houston Health Department.

Table of Contents

The 2019 Houston Area Integrated Epidemiologic Profile for HIV Prevention and Care Services Planning

Introduction

What is an integrated epidemiologic profile for HIV- prevention and care services planning?

"Information about people with HIV, their background and risk factors,
lay the foundation for local and regional prevention and care planning."

- Houston Health Department
- Houston Area Ryan White Planning Council

August 08, 2019

An HIV epidemiologic profile describes the scope and effect of HIV in a specific geographic area. The profile's purpose is to provide a thorough accounting of HIV diagnoses among various populations in the geographic area, and to present the sociodemographic, behavioral, and clinical characteristics that can influence risk for transmission and access to care.

Stakeholders who make recommendations about HIV prevention and care services in a local area use epidemiologic profiles to better understand people living with or vulnerable to HIV and what their needs may be in regard to services. Jurisdictions that receive federal funding for HIV prevention and care are required to know the HIV epidemic in their local areas, incorporate this information into decision-making processes for service priorities, allocations, and quality. Stakeholders also use the profile is when designing jurisdictional needs assessments and comprehensive HIV plans.

In the Houston Area, the development of epidemiologic profiles has been a joint effort of the Houston Health Department and the Houston Area Ryan White Planning Council. Both entities and their administrative agents collaborate on the design and content of the profile and then use the finished document as a tool for year round decision making on HIV prevention and care services.

Federal guidelines for epidemiologic profiles require that five specific questions be addressed.[1] They include core epidemiologic questions about HIV and questions about patterns of HIV care service utilization by people with HIV:

1. What are the sociodemographic characteristics of the general population?
2. What is the scope of the HIV epidemic in the service area?
3. What are the indicators of risk for HIV in the population?
4. What are the patterns of service utilization among people with HIV?
5. What are the characteristics of people with HIV but not in care?

The 2019 epidemiologic profile for the Houston Area is organized according to these required questions. It contains five chapters, one for each of the five questions above, a sixth chapter focused on special populations and co-morbidities of interest to the Houston

Area HIV prevention and care community, and two final chapters on Houston Medical Monitoring Project (MMP) and National HIV Behavioral Surveillance (NHBS) data.

[1]Centers for Disease Control and Prevention and Health Resources and Services Administration. *Integrated Guidelines for Developing Epidemiologic Profiles: HIV Prevention and Ryan White CARE Act Community Planning*. 2004. The guidelines are available at https://stacks.cdc.gov/view/cdc/45789.

Geographic Area

What is the geographic area for 2019 Houston Area Integrated Epidemiologic HIV profile?

"Three of every four Texans living with HIV reside in a major metropolitan area in 2014 – more than half live in the Dallas or Houston areas.
2017-2021 Texas HIV Plan
August 04, 2017

Three specific geographic areas are included in the 2019 Epidemiologic Profile, These three areas represent the federal and state defined geographic service areas for HIV prevention and care planning in the region (**Figure 1**). Together, they cover 9,415 square miles of southeast Texas or 3.5 percent of the state:

- **Houston/Harris County** is the geographic service area for HIV prevention. It is also a stand-alone reporting jurisdiction for HIV surveillance, meaning that all laboratory evidence related to HIV conducted in Houston and/or Harris County must, by law, be reported to the local health authority, which is the Houston Health Department.
- **The Houston Eligible Metropolitan Area (EMA)** is the geographic service area defined by the Health Resources and Services Administration (HRSA) (a division of the U.S. Department of Health and Human Services) for the Ryan White HIV/AIDS Program Part A and Minority AIDS Initiative (MAI). EMAs are geographic regions with a population of at least 500,000 people and at least 2,000 total reported Stage 3 HIV (formerly AIDS) cases over the most recent five-year period.

  The Houston EMA includes six counties: Chambers, Fort Bend, Harris (including the City of Houston), Liberty, Montgomery, and Waller.

  The total population of the Houston EMA is over five million people, and there were 3,096 newly reported Stage 3 HIV cases in the Houston EMA in the most recent five year period (2013-2017)..

  The Ryan White HIV/AIDS Program Part A and MAI provide HIV core medical care and support services for HIV-positive residents of the EMA. The Ryan White Grant Administration of Harris County Public Health Services administers these funds. The Houston Area Ryan White Planning Council designs Part A and MAI funded services for the Houston EMA.

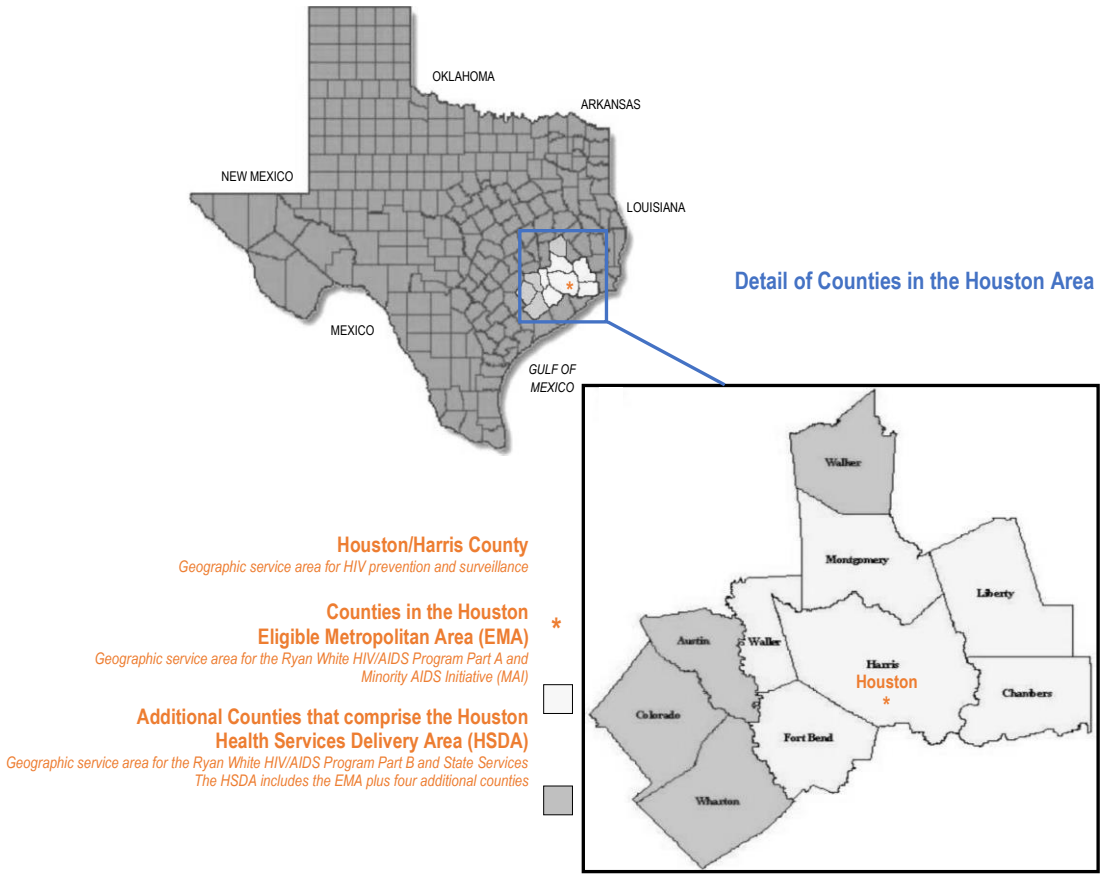
- **The Houston Health Services Delivery Area (HSDA)** is the geographic service area defined by the Texas Department of State Health Services (DSHS) for the Ryan White HIV/AIDS Program Part B and the Houston Area's HIV-related funds from the State of Texas, or State Services.

  The Houston HSDA includes the six counties of the Houston EMA listed above plus four additional counties: Austin, Colorado, Walker, and Wharton.

The Ryan White HIV/AIDS Program Part B and State Services provide HIV core medical care and support services for residents with HIV of the HSDA. These funds are administered by the Houston Regional HIV/AIDS Resource Group, Inc. The Houston Area Ryan White Planning Council also designs Part B and State Services funding for the Houston HSDA.

Data are presented in this profile in the most effective way possible. In some cases, presenting the same data points for each of the three geographic areas above would have been duplicative, providing minimal new information due to the residential patterns of the majority of the area's population. This is particularly true given the geographic overlay of the Houston EMA and HSDA. Data on some topics were not available for each of the three geographies. As a result, each chapter of this epidemiologic profile varies in its geographic focus. Data for Houston/Harris County and the Houston EMA are presented throughout this epidemiologic profile. Data for the Houston HSDA are presented in Chapter 6: Special Topics in HIV Epidemiology in the Houston Area under the Rural population.

Figure 1: Houston Area Geographic Service Designations for HIV Prevention and Care Services Planning



Executive Summary

What are the key findings from the 2019 Houston Area HIV Epidemiologic Profile?

The *2019 Houston Area HIV Epidemiologic Profile* provides a detailed accounting of HIV in the Houston Area. It includes a summary of the socio-demographic, behavioral, and clinical characteristics that can influence vulnerability to contracting HIV and access to care. The Profile also describes current utilization of the Ryan White HIV/AIDS Program in the Houston Eligible Metropolitan Area (**EMA**) and provides a profile of the out-of-care. Lastly, the profile includes a section on HIV among special populations and co-occurring conditions. Key findings from the document are listed below.

Overall Population

- The Houston EMA includes Chambers, Fort Bend, Harris (including the City of Houston), Liberty, Montgomery, and Waller Counties. The total population is 5,800,581, or 22% of the Texas population. Houston/Harris County remains the EMA's population center with 76.4% of the population. The EMA's population has grown 14.4% since 2010.
- The Houston EMA is 49.6% male and 50.4% female. Estimates indicate that 38,284 individuals in the Houston EMA (0.66%) may be transgender-identified. The Houston EMA is 37.5% Hispanic/Latino, 35.8% White (non-Hispanic), 17.7% Black/African American, and 9% all other race/ethnicity groups. Together, people of color (**POC**) comprise 64.2% of the total EMA population.

New HIV Diagnoses

- *Houston/Harris County*. In 2017, there were 1,120 new diagnoses of HIV (a rate of 24 new HIV diagnoses per 100,000 population).
- *Houston EMA*. In 2017, there were 1,234 new diagnoses of HIV (a rate of 20 new HIV diagnoses per 100,000 population).
- In general, newly diagnosed cases in the Houston Area are male, African American, age 25 to 34, and MSM (male-to-male sexual activity).

Persons Living with HIV

- *Houston/Harris County*. There were 25,132 people living with HIV at the end of 2016 (a prevalence rate of 537 per 100,000 population).
- *Houston EMA*. There were 28,225 people living with HIV at the end of 2017 (a prevalence rate of 398 per 100,000 population).
- In general, living cases in the Houston Area are male, African American, age 45 to 54, and MSM.

HIV and Mortality

- *Houston/Harris County*. 331 people with HIV died in 2016 either from HIV or another cause (a mortality rate of 7 deaths per 100,000 population).

- Deaths among people with HIV in in Houston/Harris County occurred most often among men, Black/African Americans, people age 35 to 44, and MSM.

Overall HIV Trends

- *Houston/Harris County*. Between 2012 and 2016, the number of persons living with HIV increased by 14%. New HIV diagnoses and HIV-related mortality fluctuated but appear to be stabilizing.
- Both Houston/Harris County and the Houston EMA have higher rates of new HIV diagnoses and prevalence than Texas and the U.S. Between the two local jurisdictions, Houston/Harris County rates exceed the EMA's.
- According to the local HIV Care Continuum, there are 28,225 people living with HIV in the Houston EMA in 2017. Among those diagnosed as of 2017, 76% were engaged in HIV medical care, and 68% were retained in HIV care throughout the calendar year. The virally suppressed proportion of all diagnosed PLWH in the Houston EMA in 2017 was 57%.
- Some specific populations in the Houston EMA have been hardest-hit by HIV. MSM, Black/African Americans, and Hispanic/Latinos had the largest numbers of new HIV diagnoses in the EMA in 2018. At the subpopulation level, Black/African American MSM, Hispanic/Latino MSM, and youth of color (ages 13-24) were also hardest-hit.

Ryan White Program Utilization

- In 2018, the Ryan White HIV/AIDS Program Part A, Minority AIDS Initiative (MAI), Part B, and State Services (State of Texas matching funds for HIV care) served 14,579 clients (or 52% of all people living with HIV in the Houston EMA). Slightly higher proportions of Black/African Americans, and Hispanic/Latinos were served by Ryan White than are represented in the HIV-diagnosed population as a whole.
- The five Ryan White services with the largest volume of clients in 2017 were: (1) primary medical care, (2) service linkage, (3) medical case management, (4) local pharmaceutical assistance, and (5) oral health care.
- From 2011 to 2018, the percent of people living with HIV that meet the federal definition of unmet need/out of care has decreased in the Houston EMA, from 28% to 25%. At the same time, the total number of persons diagnosed increased by 30%.

Data for this profile were supplied by the Houston Health Department, the U.S. Census Bureau, Texas Department of State Health Services, and Harris County Public Health Services Ryan White Grant Administration. Data were generated from the Enhanced HIV/AIDS Reporting System (EHARS), Sexually Transmitted Disease Management Information System (STD*MIS), and Centralized Patient Care Data Management System (CPCDMS).

The information presented in this document will be used by the Houston Area Planning Bodies, by the Administrative Agents for federal and state HIV prevention and care services funds, and by others in the community who make recommendations about HIV prevention and care services in the Houston Area. By better understanding HIV in Houston Area and their needs with regards to services, these decision-makers, planners, service-

providers, and consumers can make more informed recommendations about services priorities, funding allocations, and quality of care.

Chapter 1: The Houston Area Population

What are the sociodemographic characteristics of the general population in the Houston Area?

"The Houston metro area is now the single most ethnically diverse urban region in the country[.]"

Kinder Institute for Urban Research, *The Kinder Houston Area Survey: Thirty-Six Years of Measuring Reponses to a Changing America*
May 2017

Distribution of Total Population by County

(**Table 1.1**) The Houston Eligible Metropolitan Area (**EMA**) consists of six counties in Southeast Texas: Chambers, Fort Bend, Harris (including the City of Houston), Liberty, Montgomery, and Waller. The Houston Health Service Delivery Area (**HSDA**) includes these and four additional counties: Wharton, Colorado, Austin, and Walker. In 2016, the total population of the EMA was 5,800,581, or 22% of the Texas population. Harris County remains the population center of the EMA with 76.4% of the population, though the EMA other counties' shares have increased, particularly in Fort Bend and Montgomery Counties. As a whole, the Houston EMA represents a larger proportion of the total Texas population today than in 2010.

TABLE 1-Distribution of Total Population in the Houston EMA by County, 2010 and 2016

County	Total Population-2010[a]	Total Population-2016[b]	County Percent of EMA-2010[a]	County Percent of EMA-2016[b]
Chambers	32,371	38,072	0.6%	0.7%
Fort Bend	541,983	683,756	10.7%	11.8%
Harris (incl. Houston)	3,950,999	4,434,257	77.9%	76.4%
Liberty	74,922	78,598	1.5%	1.4%
Montgomery	427,717	518,849	8.4%	8.9%
Waller	40,831	47,049	0.8%	0.8%
EMA Total	5,068,823	5,800,581	100.0%	100.0%
			EMA Percent of State-2010[a]	EMA Percent of State-2016[b]
Texas Total	24,311,891	26,956,435	20.8%	21.5%

[a]Source: U.S. Census Bureau, 2006-2010 American Community Survey. Retrieved on 02/16/2018

[b]Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. Retrieved on 02/16/2018

Population Change

(**Table 2**) Since 2010, the population of the Houston EMA has grown by a higher percentage than the state of Texas as a whole. Over 730,000 more people live in the EMA today than in 2010. The largest percent change in population occurred in Fort Bend and Montgomery Counties, with 26.2% and 21.3% more people, respectively, in 2016 than in 2010. Liberty County experienced the least growth with a 4.9% increase over six years. The population size within the rural Houston EMA counties grew by 22.2%, acquiring almost a quarter of a million people between 2010 and 2016.

TABLE 2-Total Population Change in the Houston EMA by County, 2010 and 2016

			Change in Population	
County	Total-2010[a]	Total-2016[b]	#	%
Chambers	32,371	38,072	5,701	+17.6%
Fort Bend	541,983	683,756	141,773	+26.2%
Harris (incl. Houston)	3,950,999	4,434,257	483,258	+12.2%
Liberty	74,922	78,598	3,676	+4.9%
Montgomery	427,717	518,849	91,132	+21.3%
Waller	40,831	47,049	6,218	+15.2%
EMA	5,068,823	5,800,581	731,758	+14.4%
Rural EMA	1,117,824	1,366,324	248,500	+22.2%
Texas	24,311,891	26,956,435	2,644,544	+10.9%

[a]Source: U.S. Census Bureau, 2006-2010 American Community Survey. Retrieved on 02/16/2018
[b]Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. Retrieved on 02/16/2018

Demographics By Total Population and County

(**Table 3**) In 2016, the population of the Houston EMA was 37.5% Hispanic, 35.8% White (non-Hispanic), 17.7% African American, and 9.0% all other race/ethnicities. This makes the Houston EMA a "minority majority" area, in which people of color (**POC**) comprise the majority of the population. Together, Hispanic, African American, and other race/ethnicity individuals comprise 64.2% of the total Houston EMA population.

TABLE 3-Distribution of Total Population in the Houston EMA by Sex, Race/Ethnicity, and Age, 2016

	Number	Percent of Total Population
Total EMA Population[a]	5,800,581	100.0%
Sex (at birth)[a]		
Male	2,879,519	49.6%
Female	2,921,062	50.4%
Transgender-Identified Estimate[b]	38,284	0.66%
Race/Ethnicity[a]		
White	2,076,659	35.8%
African American	1,027,467	17.7%
Hispanic/Latino	2,174,084	37.5%
Other	522,371	9.0%
Age[c]		
Under 2	187,060	3.1%
2 - 12	1,005,199	16.6%
13 - 24	1,010,682	16.7%
25 - 34	927,940	15.3%
35 - 44	860,924	14.2%
45 - 54	779,393	12.9%
55 - 64	634,456	10.5%
65+	559,554	9.2%

[a]Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. Retrieved on 02/16/2018

[b]Estimated proportion of transgender-identified people in Texas in using data from CDC's Behavioral Risk Factor Surveillance System (BRFSS), applied to local total population. See Suggested citation:
Flores, A.R., Herman, J.L., Gates, G.J., & Brown, T.N.T. (2016).
How Many Adults Identify as Transgender in the United States?
Los Angeles, CA: The Williams Institute for more details on methodology

[c]Source: Texas Department of State Health Services, 2016 Houston EMA Population Denominators. Received on 09/14/2017

(**Table 4**) Several counties within the Houston EMA are also "minority majority" areas. People of color comprise the majority of the population in Fort Bend, Harris, and Waller Counties. In fact, Hispanic individuals comprise the largest single population group in Harris County today at 37.5% population. The Houston EMA is also more ethnically diverse than Texas as a whole, with smaller proportion White (non-Hispanic) individuals and a larger proportion of African American and Asian/Pacific Islander individuals than Texas. Within in the EMA, the largest proportion of African American individuals reside in Waller, and the largest proportion of Asian/Pacific Islander individuals reside in Fort Bend.

TABLE 4-Distribution of Total Population in the Houston EMA by County and Race/Ethnicity, 2016

		Percent of Total Population by Race/Ethnicity				
County	Total Population	White	African American	Hispanic/ Latino	Asian/Pacific Islander	Other Race
Chambers	38,072	68.1%	8.0%	21.1%	1.4%	1.3%
Fort Bend	683,756	34.9%	20.8%	24.0%	18.8%	1.6%
Harris	4,434,257	31.2%	18.9%	41.8%	6.7%	1.4%
Liberty	78,598	66.9%	10.3%	20.7%	0.7%	1.4%
Montgomery	518,849	68.7%	4.4%	22.4%	2.6%	1.8%
Waller	47,049	43.2%	25.4%	29.0%	0.9%	1.6%
EMA Total	5,800,581	35.8%	17.7%	37.5%	7.6%	1.4%
Texas Total	26,956,435	43.4%	11.9%	38.6%	4.4%	1.6%

Source: U.S. Census Bureau, 2006-2010 American Community Survey. Retrieved on 02/16/2018

(**Table 5**) Differences regarding age also occur between the Houston EMA and the state. Overall, the Houston EMA is younger than Texas, with a larger proportion of residents below age 65. Waller County has the largest proportion of people under 25 in the EMA, and Liberty County has the largest proportion of people age 65 and over.

TABLE 5-Distribution of Total Population in the Houston EMA by County and Age, 2016

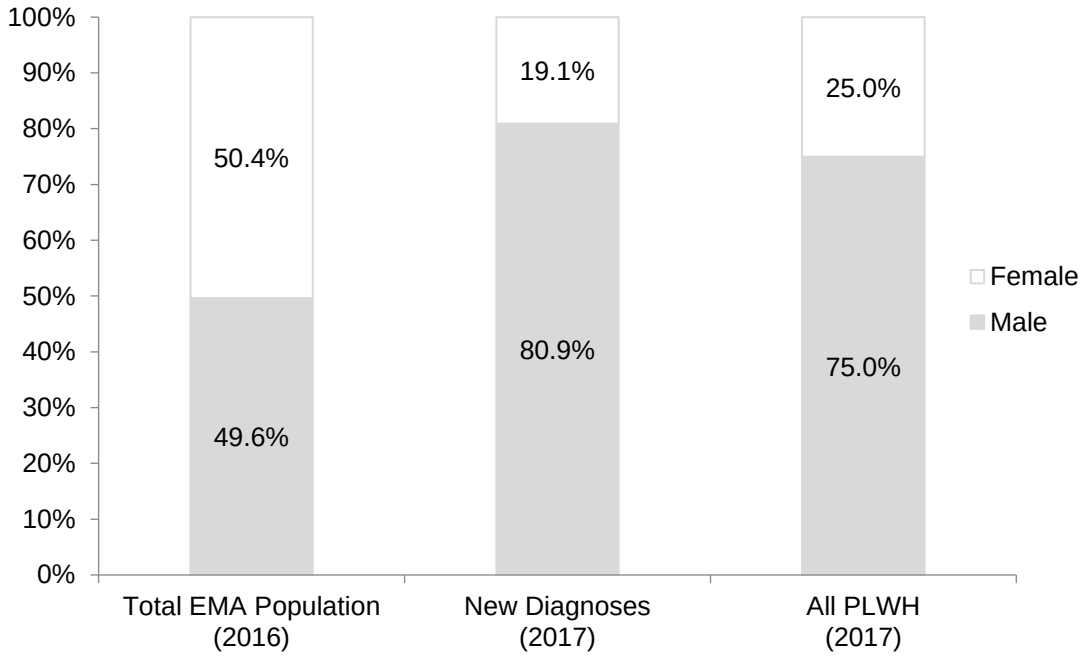
		Percent of Total Population by Age		
County	Total Population	Under 25	25 - 65	65+
Chambers	38,072	36.4%	53.0%	10.4%
Fort Bend	683,756	36.3%	53.9%	9.5%
Harris	4,434,257	37.0%	53.8%	9.3%
Liberty	78,598	34.6%	52.4%	12.8%
Montgomery	518,849	35.1%	52.7%	12.1%
Waller	47,049	46.1%	42.4%	11.5%
EMA Total	5,800,581	36.8%	53.6%	9.6%
Texas Total	25,145,561	36.6%	51.8%	11.5%

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. Retrieved on 02/16/2018

Comparison of Total Population to the Population Living with HIV

(**Graph 1**) The Houston EMA population is evenly divided by sex assigned at birth between males at birth and females at birth at 49.6% and 50.4%, respectively. However, a larger proportion of males at birth than females at birth were newly diagnosed with HIV in 2017 (80.9% vs. 19.1%), and more males at birth than females at birth comprised all diagnosed people living with HIV (**PLWH**) (75.0% vs. 25.0%). The distribution of newly diagnosed PLWH and all PLWH by sex assigned at birth shifted toward males at birth between 2011 and 2017, with decreases in new diagnoses (20.8% decrease from 24.1% in 2011) and HIV prevalence (4.94% decrease from 26.3% in 2011) among females at birth.

GRAPH 1-Comparison of Total Population[a] in the Houston EMA to PLWH[b] by Sex (at birth)



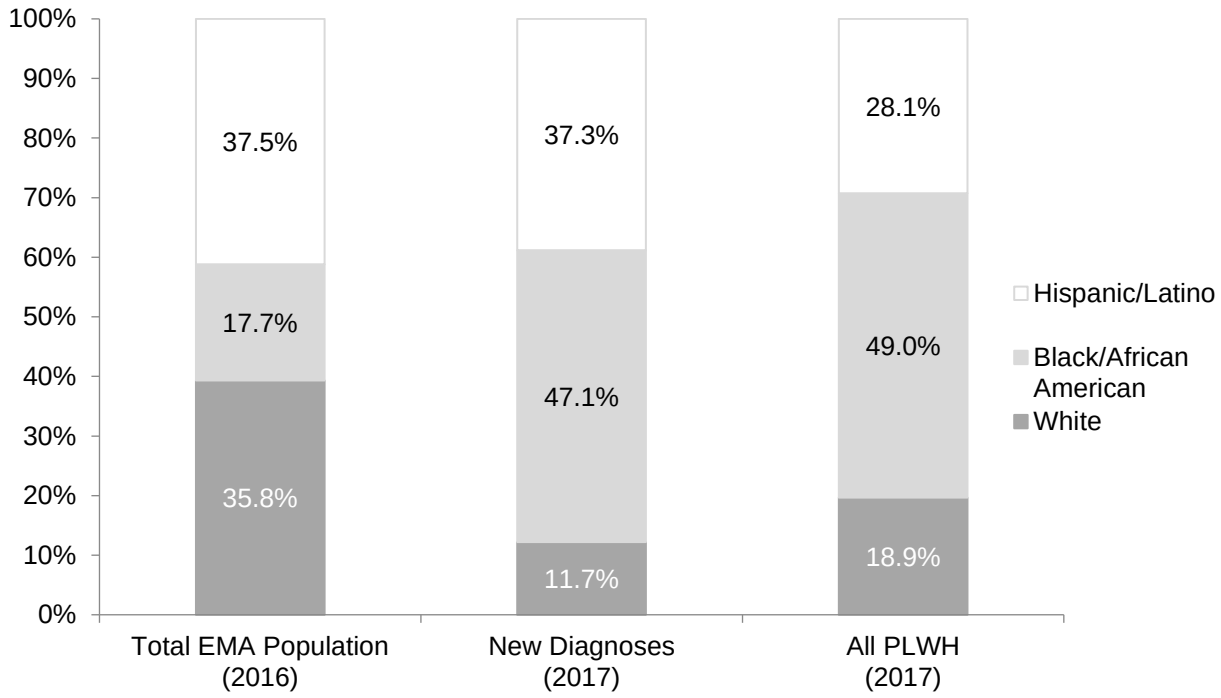
[a]Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. Retrieved on 02/16/2018
[b]Source: Texas eHARS. New HIV Diagnoses and diagnosed PLWH as of 12/31/17

(**Graph 2**) Newly diagnosed and PLWH populations in the Houston EMA are more racially diverse than the general population, with POC experiencing higher proportions of new diagnoses and HIV prevalence. While African American and Hispanic individuals account for 55.2% of the total Houston EMA population, these groups constitute 84.4% of all new HIV diagnoses and 77.1% of all PLWH. Notably, African American individuals account for only 17.7% of the total Houston EMA population, but comprise a disproportionate amount of all new HIV diagnoses (47.1%) and nearly half of all PLWH (49.0%) in the region.

Trends in HIV among African American communities is somewhat smaller in the epidemic statewide. According to the Texas Department of State Health Services, HIV is more evenly distributed in Texas with African American individuals comprising 37% of all PLWH and 38% of new diagnoses.[1] Regardless, POC in both the Houston EMA and Texas as a whole share a disproportionate burden of new diagnoses and HIV prevalence relative to each race/ethnicity's size within the general population.

Between 2011 and 2017, new diagnoses among Hispanic individuals in the Houston EMA increased by 21.5% (from 30.7%), as did overall HIV prevalence by 20.1% (from 23.4%).

GRAPH 2- Comparison of Total Population[a] in the Houston EMA to the PLWH[b] by Race/Ethnicity



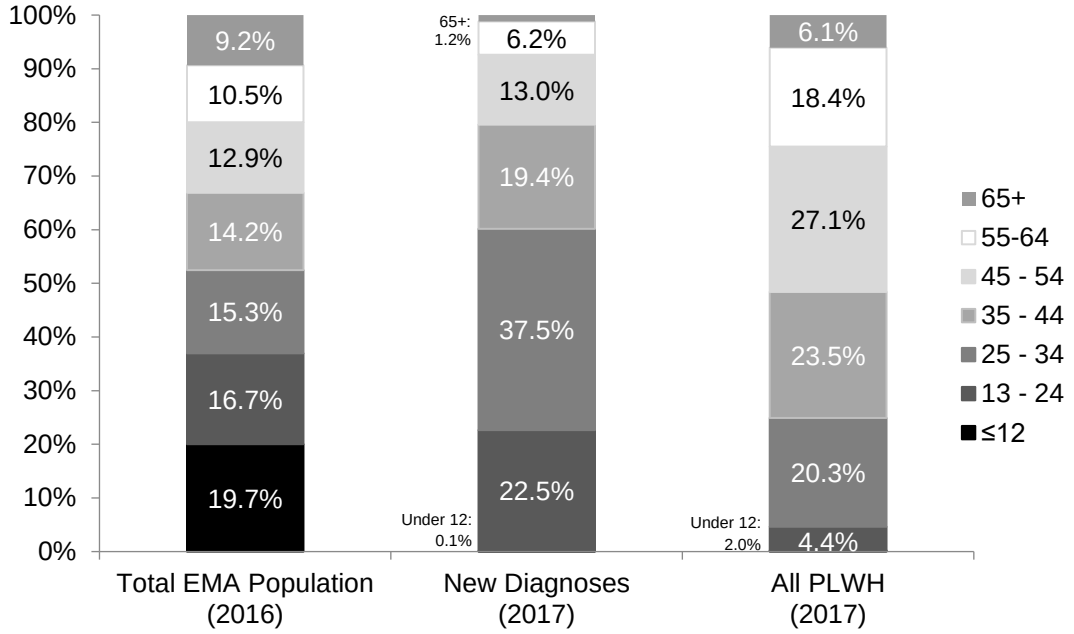
[a]Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. Retrieved on 02/16/2018
[b]Source: Texas eHARS. New HIV Diagnoses and diagnosed PLWH as of 12/31/16

[1]Texas Department of State Health Services. *2017-2021 Texas HIV Plan*. Reporting Period: January 1 to December 31, 2014. The Texas HIV Plan is available at https://txhivsyndicate.org/texas-hiv-plan/

(**Graph 3**) When analyzed by age, people age 25 to 34 account for a larger proportion of new HIV diagnoses (37.5%) than their proportion within the general Houston EMA population in the Houston EMA (15.3%). Similarly, people age 45 to 54 account for a larger proportion of those living with HIV (27.1%) than their proportion within the general Houston EMA population in the Houston EMA (12.9%).

Trends reflect a shift toward more PLWH age 55 and over represented in overall HIV prevalence within the Houston EMA. Between 2011 and 2016, new diagnoses decreased by 11.5% (from 7.8% in 2011) among PLWH age 55 and over, while HIV prevalence increased by 36.9% (from 16.8% in 2011). Beginning for 2017, an upper age limit of 65 and over was added to reflect the population aging with HIV.

GRAPH 3- Comparison of Total Population[a] in the Houston EMA to the PLWH[b] by Age (Descending)



[a]Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. Retrieved on 02/16/2018
[b]Source: Texas eHARS. New HIV Diagnoses and diagnosed PLWH as of 12/31/16

Socioeconomic Characteristics

Socioeconomic conditions such as access to resources, educational attainment, and healthcare coverage can affect health, functioning, and quality of life outcomes,[2] including risk for HIV transmission and access to HIV prevention and care services.

Employment

(**Table 6**) In 2016, the percent of the eligible population unemployed in Texas was 9.0%, compared to an average of 7.1% for counties in the Houston EMA. Overall, unemployment has decreased in the EMA since 2011 by 11.5%. Within the EMA's counties, Liberty has the highest percentage of people unemployed at 9.2%, followed by Waller at 9.0%, while Fort Bend has the lowest unemployment rate at 5.4%. Between 2011 and 2016, the unemployment rate decreased for every county in the Houston EMA except Waller, which experienced an increase in the unemployment rate by 25.0%.

TABLE 6-Employment Status in the Houston EMA by County, 2016[a]

County	Percent of Eligible[b] Population *Employed*-2016	Percent of Eligible[b] Population *Unemployed*-2016	Change in Percent *Unemployed*-2011
Chambers	55.4%	6.4%	-11.1%
Fort Bend	63.2%	5.4%	-1.8%
Harris	63.5%	7.0%	-20.5%
Liberty	46.6%	9.2%	-32.8%
Montgomery	60.2%	5.4%	-28.0%
Waller	55.1%	9.0%	25.0%
EMA Average	57.3%	7.1%	-11.5%
Texas	60.1%	9.0%	5.9%

[a]Source: U.S. Census. 2012-2016 American Community Survey 5-Year Estimates. S2301: EMPLOYMENT STATUS. Retrieved on 3/27/2018

[b]Population over the age of 16 and in the labor force

[2]U.S. Department of Health and Human Services. Office of Disease Prevention and Health Promotion. *Healthy People 2020: Determinants of Health*. Located at: http://www.healthypeople.gov/2020/about/DOHAbout.aspx

Household Income and Poverty Measures

(**Table 7**) The average median household income in the Houston EMA continues to be higher than in Texas as a whole, though Texas experienced slightly higher household income growth between 2011 and 2016. On average, households in the EMA earn about $10,500 more per year compared to households statewide. Fort Bend County has the highest median household income at $91,152, while Liberty County has the lowest at $49,655 followed by Waller County at $53,508. Regardless, median household income growth occurred in all Houston EMA counties except Chambers. Fort Bend County experienced the highest median household income growth at 13.0% between 2011 and 2016, while Chambers County experienced a decrease of 1.2%.

Comparison in supplemental income between the Houston EMA and Texas is variable. As a whole, fewer households in the Houston EMA receive cash public assistance and food stamp/Supplemental Nutrition Assistance Program (**SNAP**) benefits than statewide, while a greater proportion of Houston EMA households receive Social Security and Supplemental Security Income (**SSI**). Liberty County, which has the lowest median household income in the EMA, also has a larger percentage of households receiving Social Security (31.3% vs. 25.2%), SSI (7.5% vs. 5.0%), cash public assistance (1.9% vs. 1.2%), and food stamp/SNAP benefits (16.8% vs. 11.2%). Additionally, Waller County has highest proportion of households receiving food stamp/SNAP benefits at 17.5% of households.

Between 2011 and 2016, the Houston EMA experienced an increase in the proportion of households receiving supplemental income across Social Security (11.5% increase from 22.6%), SSI (38.9% increase from 3.6%), and food stamp/SNAP benefits (9.8% increase from 10.2%).

TABLE 7-Median Household Income by County and Supplemental Income, 2016

County	Median Household Income-2016a	Percent Change from 2011	Percent of Households Receiving Each Type of Supplemental Income: Social Security	Supplemental Security Income (**SSI**)	Cash Public Assistance	Food Stamp/SNAP Assistance
Chambers	$70,396	-1.2%	25.8%	3.7%	0.9%	5.6%
Fort Bend	$91,152	13.0%	19.8%	3.0%	1.1%	7.4%
Harris	$55,584	7.7%	19.6%	4.3%	1.5%	13.2%
Liberty	$49,655	6.4%	31.3%	7.5%	1.9%	16.8%
Montgomery	$70,805	8.6%	25.8%	3.9%	1.1%	6.7%
Waller	$53,508	6.7%	28.7%	7.3%	0.9%	17.5%
EMA Average	$65,183	7.0%	25.2%	5.0%	1.2%	11.2%
Texas	$54,727	8.9%	25.0%	4.9%	1.6%	13.1%

aSource: U.S. Census. 2012-2016 American Community Survey 5-Year Estimates. DP03: SELECTED ECONOMIC CHARACTERISTICS. Retrieved on 3/27/2018

(**Table 8**) The percentage of households earning less than $15,000 per year can indicate low socioeconomic status within a particular area. In 2016 in the Houston EMA, 10.2% of households met this threshold compared to 11.9% of households statewide, an 11.3% decrease from 11.5% in 2011. Counties that exceed the Houston EMA and statewide percentages of households earning less than $15,000 annually are Liberty at 13.2% and Waller at 12.3%. However, between 2011 and 2016 both Liberty and Waller counties experienced decreases in this measure by 11.4% from 14.9%, and 16.3% from 14.7%, respectively.

TABLE 8-Percent of Total Households in the Houston EMA Earning Less than $15,000 Per Year by County, 2011 and 2016

	Percent of Households	
County	2011[a]	2016[b]
Chambers	9.1%	10.7%
Fort Bend	6.0%	5.3%
Harris	12.5%	11.1%
Liberty	14.9%	13.2%
Montgomery	9.0%	7.4%
Waller	14.7%	12.3%
EMA	11.5%	10.2%
Texas	13.4%	11.9%

[a]Source: U.S. Census. 2009-2011 American Community Survey 3-Year Estimates. S2301: EMPLOYMENT STATUS. Retrieved on 1/31/13

[b]Source: U.S. Census. 2012-2016 American Community Survey 5-Year Estimates. S2301: EMPLOYMENT STATUS. Retrieved on 3/27/2018

Individual Poverty

(**Table 9**) In 2016, the Houston EMA had a lower percentage of its population living below the federal poverty level (15.5%) compared to the state as a whole (16.7%). All counties in the Houston EMA except Chambers and Waller saw decreases between 2011 and 2016 in the percentage of the population living in poverty. Waller County had the highest level of poverty in the EMA at 19.0%, followed closely by Harris at 17.4% and Liberty at 17.3%, while Fort Bend had the lowest level of poverty at 8.2%. In 2016, 14.0% of males at birth and 17.0% of females at birth in the EMA live below the federal poverty level. One-fifth of females at birth in Waller (21.1%) and Liberty (20.2%) counties lived below the federal poverty level in 2016.

TABLE 9-Percent of Population Living Below Federal Poverty Level in the Houston EMA by County and Sex, 2016[a]

County	Percent Below Federal Poverty Level	Percent Change from 2011	Percent Below Poverty Level by Sex at Birth[b]	
			Male at Birth	Female at Birth
Chambers	11.7%	9.3%	11.0%	12.3%
Fort Bend	8.2%	-1.2%	7.5%	8.8%
Harris	17.4%	-5.9%	15.7%	19.1%
Liberty	17.3%	-6.0%	14.6%	20.2%
Montgomery	11.0%	-13.4%	10.1%	12.0%
Waller	19.0%	1.1%	17.1%	21.1%
EMA	15.5%	-8.3%	14.0%	17.0%
Texas	16.7%	-6.2%	15.2%	18.2%

[a]Source: U.S. Census. 2012-2016 American Community Survey 5-Year Estimates. S1701: POVERTY STATUS IN THE PAST 12 MONTHS. Retrieved on 3/27/2018

[b]Represents the percent of males/females at birth in the geographic area that is living in poverty; and not the male/female at birth distribution of people living in poverty in the geographic region.

(**Table 10**) Analysis of poverty by race/ethnicity reveals that, in general, more POC are living below the federal poverty level in the Houston EMA than are Whites. In 2016, 22.6% of African American and 23.0% of Hispanics individuals in the Houston EMA were living in poverty, compared to 14.1% of Whites. Across every county in the Houston EMA except Waller, Hispanic individuals experienced greater proportions of poverty than did White or African American individuals. A third of African American individuals (33.3%) in Waller County lived under the federal poverty level, as did nearly a third (31.6%) of Hispanic individuals.

TABLE 10-Percent of Population[a] Living Below Federal Poverty Level in the Houston EMA by Race/Ethnicity, 2016

County	White	African American	Hispanic[b]
Chambers	10.5%	12.5%	19.8%
Fort Bend	7.4%	9.2%	15.3%
Harris	15.5%	22.6%	23.6%
Liberty	16.8%	18.8%	31.6%
Montgomery	10.3%	16.1%	23.5%
Waller	14.8%	33.3%	27.6%
EMA	14.1%	20.6%	23.0%
Texas	15.5%	22.6%	24.2%

Source: U.S. Census. 2012-2016 American Community Survey 5-Year Estimates. S1701: POVERTY STATUS IN THE PAST 12 MONTHS. Retrieved on 3/27/2018

[a]Represents the percent of each race/ethnicity in the geographic area that is living in poverty; and not the racial distribution of people living in poverty in the geographic region.

[b]Hispanic is not mutually exclusive from the races presented in this table. Other races are not included because the sample case size by County is too small.

(**Table 11**) Analysis of poverty by age reveals that, in general, more minors (individuals under 18 years old) are living below the federal poverty level in the Houston EMA than are adults (individuals over age 18). In 2016, 23.0% of people under age 18 were living in poverty, compared to 13.4% of people age 18 to 64, and 10.4% of people age 65 and over. Larger proportions of minors in Harris (26.0%) and Waller (25.1%) counties were living in poverty compared to all minors, all adults 18 to 64, all seniors in the EMA and the state. However, the proportions of minors living below the federal poverty level in Harris and Waller counties decreased between 2011 and 2016 by 5.8% (from 27.6%) and 7.0% (from 27.0%), respectively.

TABLE 11-Percent of Population[a] Living Below Federal Poverty Level in the Houston EMA by Age, 2016

County	Under 18 years	18 to 64 years	65 years and older
Chambers	13.7%	10.7%	12.1%
Fort Bend	11.2%	7.0%	6.9%
Harris	26.0%	14.6%	11.3%
Liberty	23.3%	16.2%	10.6%
Montgomery	14.8%	10.0%	7.7%
Waller	25.1%	19.4%	10.1%
EMA	23.0%	13.4%	10.4%
Texas	23.9%	14.7%	10.8%

Source: U.S. Census. 2012-2016 American Community Survey 5-Year Estimates. S1701: POVERTY STATUS IN THE PAST 12 MONTHS. Retrieved on 3/27/2018

[a]Represents the percent of each age group in the geographic area that is living in poverty; and not the age distribution of people living in poverty in the geographic region.

Educational Attainment

(**Table 12**) Educational attainment in the Houston EMA skews slightly toward higher education levels in most counties. In 2016, 23.0% of Houston EMA residents attained a high school diploma or equivalency, 27.2% attended some college or attained an Associate's degree, and 31.6% attained a bachelor's degree or higher. The county with the highest educational attainment is Fort Bend, where 44.6% of residents had a bachelor's degree or higher, a 9.3% increase from 40.8% in 2011. The county with the lowest educational attainment was Liberty, where 23.8% of residents had less than a high school diploma or equivalency, though this was a 5.3% increase from 22.6% in 2011. Waller County followed with 21.6% of residents having less than a high school diploma or equivalency, a 24% increase from 17.4% in 2011. Overall, the Houston EMA displays a greater disparity in educational attainment through larger proportion of residents at both ends of the educational spectrum than Texas as a whole. In 2016, 18.2% of EMA residents had less than a high school diploma or equivalency (compared to 17.7% for the state), and 31.6% have a bachelor's degree or higher (compared to 28.1% of the state).

TABLE 12-Educational Attainment in the Houston EMA by County, 2016

	Percent of Total Population[a]			
County	Less than high school diploma	High school diploma or GED	Some college or Associate's degree	Bachelor's degree or higher
Chambers	16.2%	29.2%	33.5%	21.1%
Fort Bend	10.8%	17.5%	27.0%	44.6%
Harris	19.8%	23.3%	26.8%	30.1%
Liberty	23.8%	39.1%	27.1%	10.0%
Montgomery	13.2%	24.1%	29.7%	33.0%
Waller	21.6%	30.5%	29.1%	18.7%
EMA	18.2%	23.0%	27.2%	31.6%
Texas	17.7%	25.1%	29.2%	28.1%

Source: U.S. Census. 2012-2016 American Community Survey 5-Year Estimates. S1501: Educational Attainment. Retrieved on 3/27/2018

[a]Population aged 25 and over in the geographic region

Health Insurance Coverage

(**Table 13**) The Houston EMA has a slightly higher proportion of residents who are uninsured compared to the state as a whole (20.4% vs. 19.3%). The EMA experienced a 19.2% drop in the proportion of uninsured residents from 25.3% in 2011. As of 2016, nearly 1.2 million people in the Houston EMA lack any kind of health insurance coverage. Harris County has the largest proportion of uninsured at 22.2% (higher than both the EMA and state), while Montgomery County has the lowest proportion of uninsured at 15.3%. All counties, the EMA, and Texas saw decreases in the percent of the population uninsured between 2011 and 2016. Within the EMA, Fort Bend experienced the greatest decrease in percent uninsured from 17.8% to 13.1%. Of the total Houston EMA population, more have private insurance than public. The county with the largest proportion of privately insured is Fort Bend (75.1%), while the county with the largest proportion of publicly insured is Liberty (33.2%), followed by Waller (29.6%).

TABLE 13-Health Insurance Coverage in the Total Population in the Houston EMA by County, 2016[a]

		Type of Health Insurance[b]				
County	Percent *with* Health Insurance	Private	Public	Number of People *Without* Insurance	Percent *Without* Health Insurance	Change in Percent *Uninsured* from 2011
Chambers	83.5%	66.3%	24.9%	6,247	16.5%	-0.6%
Fort Bend	86.9%	75.1%	17.9%	89,121	13.1%	-26.2%
Harris	77.8%	55.9%	27.9%	978,821	22.2%	-18.2%
Liberty	79.0%	53.8%	33.2%	15,121	21.0%	-15.6%
Montgomery	84.7%	69.9%	23.2%	78,770	15.3%	-21.3%
Waller	79.0%	57.2%	29.6%	9,824	21.0%	-25.6%
EMA	79.6%	59.5%	26.3%	1,177,904	20.4%	-19.2%
Texas	80.7%	60.5%	28.6%	5,114,811	19.3%	-17.5%

[a]Source: U.S. Census. 2012-2016 American Community Survey 5-Year Estimates. DP03: SELECTED ECONOMIC CHARACTERISTICS. Retrieved on 3/27/2018

[b]Denominator for type of health insurance is civilian noninstitutionalized population regardless of coverage status; type of health insurance reflects the proportion among this population, not the proportion among those with coverage

Foreign Born and Linguistic Isolation

(**Table 14**) As anticipated given the ethnic diversity in the Houston EMA, in 2016 a larger proportion of the Houston EMA population was foreign-born than for Texas as a whole (24.3% vs. 16.7%). In Fort Bend and Harris counties, over a quarter of the population was born in another country. Chambers County experienced a substantial demographic shift between 2011 and 2016 as the percent of foreign-born residents increased by 66.0% to 10.5% from 6.30%. Liberty County closely followed with a 10.5% increase in foreign-born residents (from 6.9% to 7.6%).

In 2016, the majority of foreign-born individuals in the EMA were born in Latin America. This was true for all counties in the EMA, with the exception of Fort Bend County (50.3% foreign-born in Asia). The EMA as a whole had a population of individuals born in Asia that was a larger proportion in the EMA than in Texas (24.8% vs. 20.4%). The majority of foreign-born residents in the EMA are not naturalized citizens, though this percent is slightly lower than for the state as a whole.

TABLE 14-Percent of Population that is Foreign-Born in the Houston EMA by County, Citizenship, and Place of Birth, 2016[a]

			Citizenship[b]		Birth Place Among Foreign-Born[b]			
County	Percent Foreign-Born	Percent Change from 2011	Percent Naturalized Citizen	Not U.S. Citizen	Europe	Asia	Africa	Latin America
Chambers	10.5%	66.0%	19.5%	80.5%	6.0%	14.1%	5.5%	73.0%
Fort Bend	27.1%	7.0%	54.3%	45.7%	4.6%	50.3%	8.5%	34.4%
Harris	25.7%	2.2%	34.1%	65.9%	4.1%	21.4%	4.9%	68.5%
Liberty	7.6%	10.5%	22.9%	77.1%	3.4%	7.8%	--	87.3%
Montgomery	12.9%	2.5%	32.7%	67.3%	9.3%	15.4%	--	69.6%
Waller	14.4%	8.1%	23.7%	76.3%	3.8%	4.0%	--	89.3%
EMA	24.3%	2.8%	36.6%	63.4%	4.4%	24.8%	5.2%	64.3%
Texas	16.7%	2.3%	35.4%	64.6%	4.2%	20.4%	4.3%	69.8%

[a]Source: U.S. Census. 2012-2016 American Community Survey 5-Year Estimates. DP02: SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES. Retrieved on 3/27/18. Dashes indicate data for this geographic area cannot be reported because the sample size is too small.

[b]Denominator is foreign-born population in Houston EMA

(**Table 15**) According to available data, a larger proportion of the population in the Houston EMA is both non-English speaking and linguistically isolated (**LI**) than statewide.

TABLE 15-Percent of Non-English Speaking Population that is Linguistically Isolated in the Houston EMA by County, 2016

County	Percent non-English Speaking at Home	Percent Linguistically Isolated (LI)[a]
Chambers	19.1%	10.4%
Fort Bend	38.4%	12.9%
Harris	43.4%	20.3%
Liberty	18.5%	6.9%
Montgomery	20.0%	7.7%
Waller	24.6%	11.6%
EMA	40.0%	18.0%
Texas	35.2%	14.1%

Source: U.S. Census. 2012-2016 American Community Survey 5-Year Estimates. DP02: SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES. Retrieved on 3/27/2018.

[a]Linguistically isolated is defined as someone who reports speaking English less than "very well."

(**Table 16**) According to available data, 30.4% of the population in the Houston EMA speaks Spanish, 3.4% speak another non-English/Indo-European language, and 4.8% speak an Asian/Pacific Islander language. Of these, 14.5%, 0.9%, and 2.2% are also LI. Proportions of LI are higher in the EMA than statewide across all languages.

TABLE 16-Percent of Non-English Speaking Population that is Linguistically Isolated[a] in the Houston EMA by Language and County, 2016

	Spanish		Other Indo-European		Asian or Pacific Islander	
County	Percent Speaking Language	Percent Linguistically Isolated	Percent Speaking Language	Percent Linguistically Isolated	Percent Speaking Language	Percent Linguistically Isolated
Chambers	15.8%	9.2%	1.8%	0.6%	0.9%	0.5%
Fort Bend	18.2%	6.3%	7.8%	2.0%	10.1%	4.2%
Harris	34.4%	16.9%	3.1%	0.9%	4.5%	2.2%
Liberty	17.0%	6.4%	0.8%	--	0.6%	--
Montgomery	16.8%	7.0%	1.5%	--	1.4%	0.5%
Waller	23.2%	11.5%	0.6%	--	0.6%	--
EMA	30.4%	14.5%	3.4%	0.9%	4.8%	2.2%
Texas	29.5%	12.1%	2.1%	0.5%	2.8%	1.2%

Source: U.S. Census. 2012-2016 American Community Survey 5-Year Estimates. DP02: SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES. Retrieved on 3/27/2018. Dashes indicate data for this geographic area cannot be reported because the sample size is too small.

[a]Linguistically isolated is defined as someone who reports speaking English less than "very well."

Community Health Indicators

Data related to preventable disease, disability, and death help measure population health in a specific geographic area. Rankings of specific communities within each of these types of measures can provide valuable information about the population's overall health status, which may negatively or positively influence specific health conditions such as HIV. Taken together, these types of measures can help illustrate each community's overall health.[3]

Fertility and Mortality Rates

(**Table 17**) Tracking fertility and mortality in a specific geographic area provides information about potential population growth. Comparing these rates between areas, they can also reveal information about quality of life and life expectancy. In 2013, all but one county (Harris) had fertility lower than the statewide fertility rate. The rate in Harris County was 71.5 per 1,000 women of childbearing age (a 7.98% decrease from 77.7 births in 2009), compared to 69.8 statewide (a 7.0% decrease from 75.1 births in 2009). Fertility rates in all counties within the Houston EMA and statewide have declined since 2009. Chambers and Liberty counties have mortality rates that are higher than state mortality rates. Taken together, these rates suggest that the EMA has fewer births and more deaths compared to Texas as a whole.

TABLE 17-Fertility and Mortality Rates in the Houston EMA by County, 2009 and 2013

	Fertility Rate[a]		Mortality Rate[b]	
County	2009	2013	2009	2013
Chambers	71.4	61.3	866.2	874.1
Fort Bend	68.2	62.4	676.2	599.6
Harris	77.7	71.5	788.5	737.8
Liberty	65.9	66.4	1007.6	1027.1
Montgomery	71.2	67.1	822.8	693.3
Waller	67.4	60.0	944.5	748.5
Texas	75.1	69.8	781.2	749.2

Source: Texas Department of State Health Services. Center for Health Statistics. Health Facts Profiles, 2009 and 2013

[a]Fertility rates are per 1,000 women ages 15 - 50.

[b]Reflects deaths from all causes. Rates are age adjusted to the 2000 standard per 100,000 population. No age-adjusted rates were calculated if based on 20 or fewer deaths.

[3]Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. County Health Rankings and Roadmaps. Located at :*http://www.countyhealthrankings.org/*.

Selected Causes of Death

(**Table 18**) Tracking the leading causes of death in a defined geographic area provides information about the specific health conditions facing the population and can indicate needed preventive or acute health care interventions. In 2013, the highest rates of death in the Houston EMA occurred from cardiovascular disease (heart disease), cerebrovascular disease (stroke), and cancer. With the exception of Fort Bend County, all counties in the Houston EMA had rates of cancer mortality that exceeded the state.

TABLE 18-Rates[a] of Selected Causes of Death in the Houston EMA by County, 2013

County	Heart Disease	Stroke	Cancer	Lung Disease	Accidents	Diabetes	Suicide	Liver Disease
Chambers	175.3	--	218.9	--	--	--	--	--
Fort Bend	134.3	34.0	133.1	28.4	26.3	13.4	8.3	8.3
Harris	166.3	40.6	159.9	32.0	36.8	20.0	9.8	11.0
Liberty	302.5	45.5	197.7	80.8	61.3	--	--	--
Montgomery	154.1	29.6	160.6	50.3	30.3	11.8	15.5	8.9
Waller	201.7	--	170.4	--	58.9	--	--	--
Texas	170.7	40.1	156.1	42.3	36.8	21.6	11.6	12.8

Source: Texas Department of State Health Services. Center for Health Statistics. Health Facts Profiles 2013. Dashes indicate frequency too low to calculate rate.

[a]Rates are age adjusted per 100,000 population. No age-adjusted rates were calculated if based on 20 or fewer deaths.

Disability

(**Table 19**) Tracking the level of disability in a specific geographic area provides information about the population's vulnerability to hearing, vision, cognitive, ambulatory, self-care, and independent living difficulty or impairment, all of which can affect access to resources and increase need for service assistance. In 2016, a smaller proportion of people living with a disability were in the Houston EMA (9.4%) than in the population of Texas as whole (11.6%). The proportion of people living with a disability in the Houston EMA has increased by 20.5% from 7.8% in 2011. Fort Bend County has the lowest percentage of people living with a disability at 7.8%, while Liberty County has the highest percentage at 17.8%.

TABLE 19-Percent Population Living with a Disability in the Houston EMA by County, 2016

County	Percent Living with a Disability
Chambers	13.0%
Fort Bend	7.8%
Harris	9.3%
Liberty	17.8%
Montgomery	10.5%
Waller	14.2%
EMA	9.4%
Texas	11.6%

Source: U.S. Census. 2012-2016 American Community Survey 5-Year Estimates. S1810: DISABILITY CHARACTERISTICS. Retrieved on 3/27/2018.

Additional Selected Community Health Indicators

(**Table 20**) The remaining indicators presented here are a selection of some of the most commonly used measures of vulnerability to poor health outcomes. These measures provide information about the behaviors of the population that may lead to health challenges over time, and reveal opportunities where preventive or acute health care interventions may reverse risk and improve long-term health outcomes. In 2016, most counties in the Houston EMA, with the exception of Waller County, experienced levels of risk comparable to the state of Texas as a whole. Compared to the rest of the state, the population in Waller County experienced higher proportions of poor to fair health, smoking, obesity, physical inactivity, and limited access to healthy foods. Chambers and Montgomery counties exceeded the state in excessive alcohol use. Slightly higher proportions of low birth weight, an indicator of risk for infant mortality and other health associations, occurred in Fort Bend, Harris, and Liberty counties compared to the rest of the state.

TABLE 20-Status of Selected Community Health Indicators in the Houston EMA by County, 2016[a]

County	In Poor or Fair Health	Low Birth Weight	Smoking	Obesity	Physical Inactivity	Limited Access to Healthy Foods	Excessive Alcohol Use
Chambers	15.0%	8.0%	15.0%	27.0%	31.0%	5.0%	21.0%
Fort Bend	14.0%	9.0%	12.0%	25.0%	22.0%	7.0%	18.0%
Harris	18.0%	9.0%	13.0%	27.0%	24.0%	6.0%	18.0%
Liberty	18.0%	9.0%	17.0%	28.0%	29.0%	8.0%	19.0%
Montgomery	14.0%	7.0%	14.0%	26.0%	26.0%	6.0%	21.0%
Waller	19.0%	8.0%	18.0%	36.0%	30.0%	11.0%	20.0%
Texas	18.0%	8.0%	14.0%	28.0%	24.0%	9.0%	19.0%

Source: County Health Rankings & Roadmaps. A project of the Robert Wood Johnson Foundation (RWJF) and the University of Wisconsin Population Health Institute. 2016. Retrieved on 3/27/18

[a]Percentage of the total population in each geographic region reporting the selected condition.

Chapter 2: HIV in the Houston Area

What is the scope of the HIV epidemic in the Houston Area?

The Centers for Disease Control and Prevention (**CDC**) report that, as of 2017, the Houston – The Woodlands – Sugar Land metropolitan statistical area ranks 11th in the nation for rate of new HIV transmissions.

Source: CDC HIV Surveillance Report Volume 29: Diagnoses of HIV in the United States and Dependent Areas, 2017

The data presented in this chapter 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 presentation is intended to enhance the utility of this document as a tool for planning both HIV prevention and HIV care services. Data for the third geographic service jurisdiction in the Houston Area, the Houston Health Services Delivery Area (**HSDA**), are presented in Chapter 6: Special Topics in HIV Epidemiology in the Houston Area under the Rural population. Data for the HSDA are not presented here due to the overlap of data and data sources with the EMA, which makes the data virtually identical.

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 true new transmissions of HIV for Houston/Harris County in addition to new HIV diagnoses.

(**Table 1**) According to the Houston/Harris County HIV Incidence Surveillance Project, there were 1,014 estimated new cases of HIV in Houston/Harris County in 2016. This is a rate of 22 new HIV cases for every 100,000 people in Houston/Harris County. Of new cases, about 82% were male, and 18% were female. About half (47%) were among African Americans, 33% were Hispanic/Latino, and 20% were White. African American/Black had the highest rate of new HIV disease at nearly 55 new HIV cases for every 100,000 African Americans in Houston/Harris County. People aged 25 to 34 also had a high rate of new cases with over 55 new HIV cases for every 100,000 people aged 25 to 34 in Houston/Harris County. In addition, male-male sexual contact (MSM) was reported in approximately 76% of all new HIV cases in 2016, followed by sex with male/sex with female at about 19%.

TABLE 1- Estimates of HIV Incidence in Houston/Harris County by Sex assigned at Birth, Race/Ethnicity, Age, and Risk, 2016[a]

	Number of New Cases	Percent of New Cases	Rate of New Cases[b]
Total	1,014	100.0%	22.0
Sex assigned at birth			
Male	830	81.9%	36.2
Female	184	18.1%	7.9
Race/Ethnicity			
White, incl. other	199	19.6%	11.1
African American/Black	476	46.9%	54.6
Hispanic/Latino	338	33.3%	17.3
Age			
13 - 24[c]	307	30.3%	48.0
25 - 34	414	40.8%	55.4
35 - 44	159	15.7%	24.2
45+	133	13.1%	8.7
Transmission Risk			
Male-Male Sexual Contact (MSM)	774	76.3%	*
Person with injection drug use (PWIDU)	51	5.0%	*
Sex with Male/Sex with Female /other risk	189	18.6%	*

[a]Source: Texas eHARS, analyzed by the Houston Health Department

[b]Rate per 100,000 population. Source: U.S. Census Bureau, 2016 American Community Survey 1-Year Estimates

[c]Population data for age group 15-24 years was used due to unavailability of population data for age group 13-24 years

*Population data are not available for risk groups; therefore, it is not possible to calculate an incidence rate by risk.

New HIV Diagnoses

Stage 3 HIV (formerly AIDS) has been a reportable condition in Texas since March 1983. In January 1999, all positive HIV tests became reportable to the State. Texas law requires physicians, dentists, hospitals, clinical laboratories, and certain school officials to report the results of all diagnostic HIV tests to the health authority in their reporting jurisdiction. For epidemiological purposes, HIV reporting laws allow communities to summarize, analyze, and address trends in all new HIV diagnoses made and reported during a specific period. While the year in which a positive HIV test result is reported is not necessarily the year in which the transmission occurred, reports of new HIV diagnoses provide the most complete representation of trends in HIV transmission.

(**Table 2**) In 2017, 1,120 new diagnoses of HIV (regardless of progression) and 497 new diagnoses of Stage 3 HIV were reported in Houston/Harris County. This is a rate of approximately 24 new HIV diagnoses for every 100,000 people in Houston/Harris County, and nearly 11 new Stage 3 HIV diagnoses for every 100,000 people. More than 75% of all new diagnoses for both HIV and Stage 3 HIV were among men. African Americans had the highest rate of new HIV and Stage 3 HIV diagnoses in Houston/Harris County with almost 61 new HIV diagnoses per 100,000 African Americans and over 27 new Stage 3 HIV diagnoses per 100,000 African Americans in the jurisdiction. This is about six times the rate of new HIV and Stage 3 HIV diagnoses among Whites and three times the rate of new HIV and Stage 3 HIV diagnoses among Hispanic/Latinos. In addition, male-male sexual contact (MSM) was reported most often in 2017 for both new HIV and new Stage 3 HIV diagnoses, followed by sex with male/sex with female.

TABLE 2- New Diagnoses of HIV and Stage 3 HIV in Houston/Harris County by Sex assigned at Birth, Race/Ethnicity, Age, and Risk, 2017[a]

	New HIV[b]			New Stage 3 HIV[c]		
	Cases	%	Rate[d]	Cases	%	Rate[d]
Total	1,120	100.0%	23.9	497	100.0%	10.6
Sex assigned at birth						
Male	916	81.8%	39.3	381	76.7%	16.4
Female	204	18.2%	8.7	116	23.3%	4.9
Race/Ethnicity						
White	125	11.2%	9.1	57	11.5%	4.1
African American/Black	533	47.6%	60.8	240	48.3%	27.4
Hispanic/Latino	420	37.5%	20.9	184	37.0%	9.2
Multiple Races	19	1.7%	27.3	5	1.0%	7.2
Other	23	2.1%	6.6	11	2.2%	3.1
Age						
0 - 24[e]	253	22.6%	14.9	91	18.3%	5.4
25 - 34	420	37.5%	55.6	173	34.8%	22.9
35 - 44	221	19.7%	33.1	103	20.7%	15.4
45 - 54	147	13.1%	25.1	90	18.1%	15.4
55 - 64	65	5.8%	12.9	34	6.8%	6.7
65+	14	1.3%	2.9	6	1.2%	1.3
Transmission Risk[f]						
MSM	803	71.7%	*	297	59.8%	*
PWID	37	3.3%	*	38	7.6%	*
MSM/PWID	18	1.6%	*	11	2.2%	*
Sex with Male/Sex with Female	260	23.2%	*	148	29.8%	*
Perinatal transmission/Other	2	0.2%	*	3	0.6%	*

[a]Source: Texas eHARS, analyzed by the Houston Health Department

[b]HIV = People diagnosed with HIV, regardless of progression, with residence at diagnosis in Houston/Harris County in 2017

[c]Stage 3 HIV = People diagnosed with Stage 3 HIV with residence at diagnosis in Houston/Harris County in 2017

[d]Rate per 100,000 population. Source: U.S. Census Bureau, 2017 American Community Survey 1-Year Estimates

[e]Age group 0-12 years was combined with 13-24 years because 0-12 years category had less than 5 cases and could not be reported

[f]Persons with no risk reported were recategorized into standard categories using the multiple imputation program of the Centers for Disease Control and Prevention (CDC)

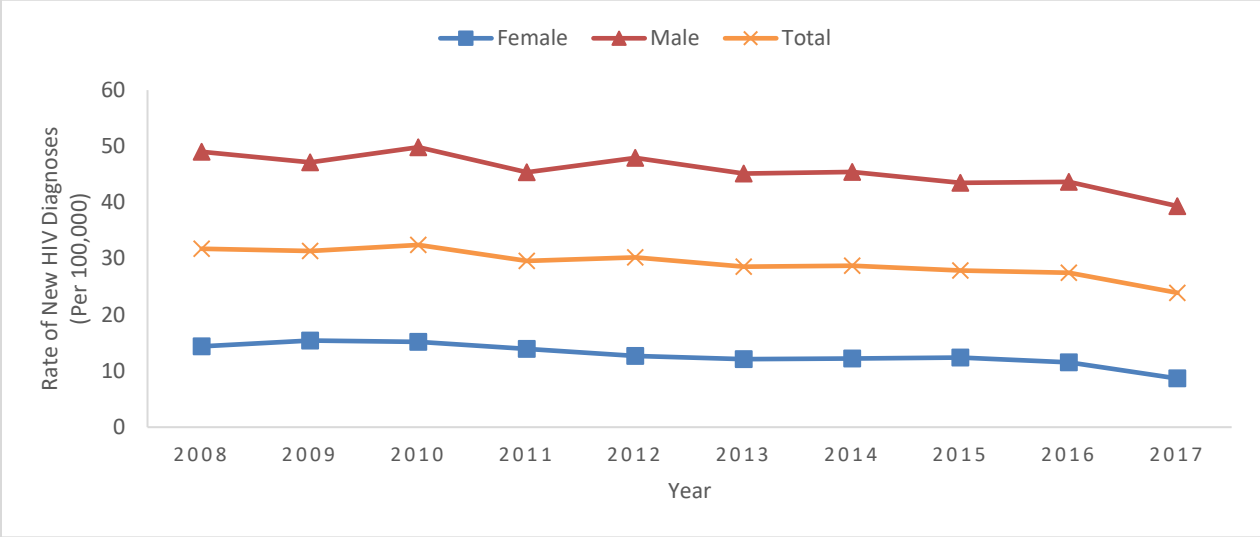
*Population data are not available for risk groups; therefore, it is not possible to calculate rate by risk

[N]New Stage 3 HIV for MSM/PWID, perinatal, and other were combined because the perinatal category had less than 5 cases and could not be reported.

Trends of New HIV Diagnoses by Key Sub-populations

(**Graph 1**) The rates of new HIV diagnoses in females and males decreased approximately 40% and 20%, respectively from 2008 to 2017.

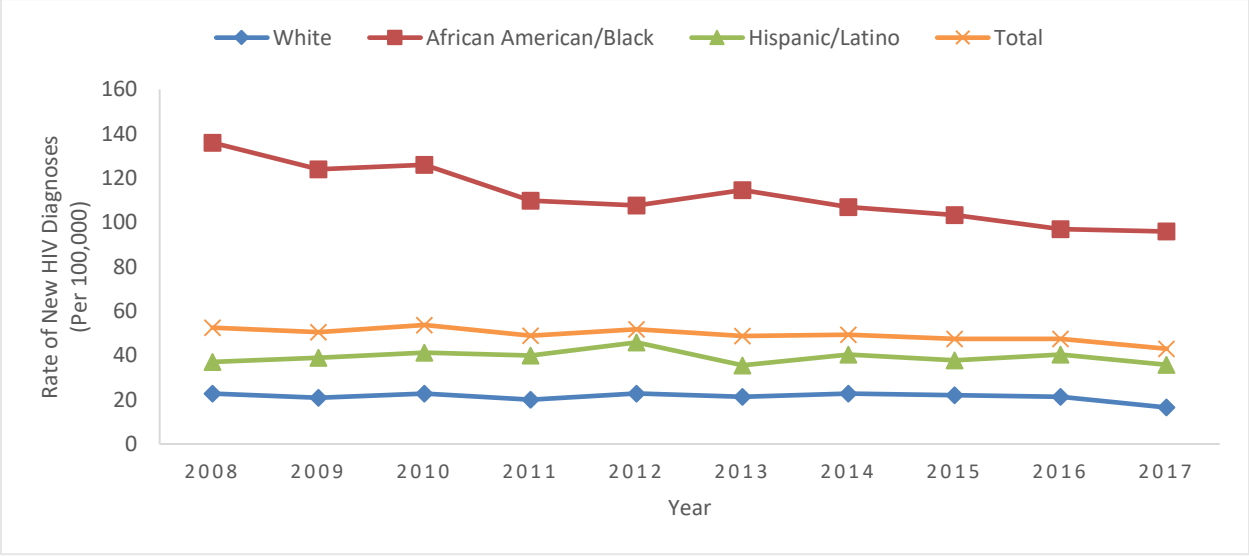
GRAPH 1- Rates of New HIV Diagnoses by Sex assigned at Birth in Houston/Harris County, 2008-2017



Source: Texas eHARS, analyzed by the Houston Health Department

(**Graph 2**) The rate of new HIV diagnoses in African American/Black males decreased approximately 30% from 2008 to 2017. However, African American/Black males had the highest rate of new HIV diagnoses each year. In White, Hispanic/Latino and all males, the rate of new diagnoses remained stable from 2008 to 2017.

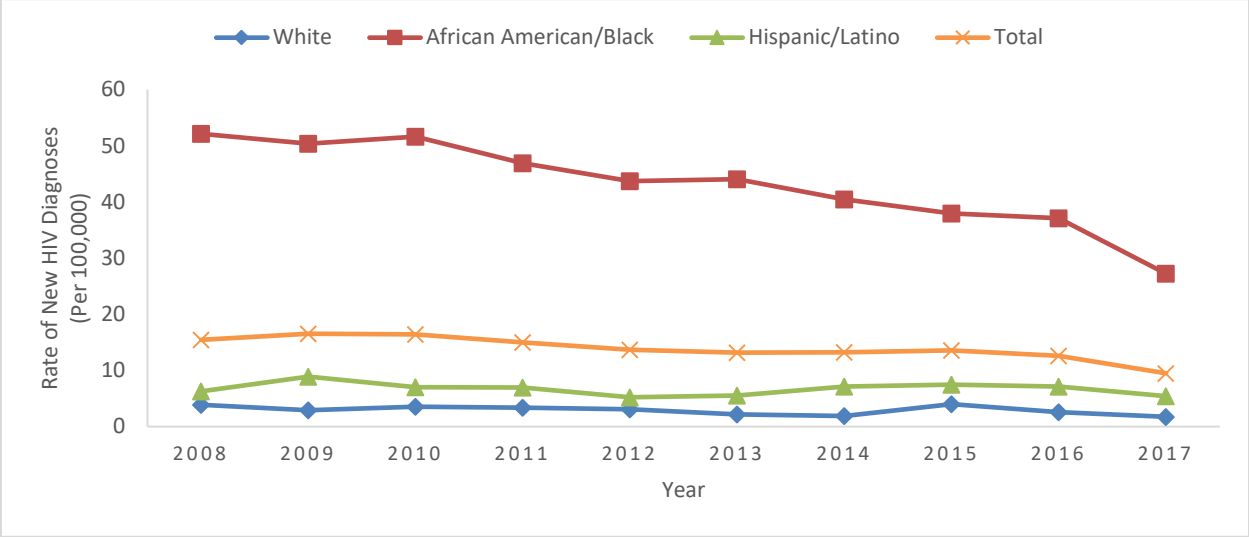
GRAPH 2- Rates of New HIV Diagnoses by Race/Ethnicity in Males, Houston/Harris County, 2008-2017



Source: Texas eHARS, analyzed by the Houston Health Department

(**Graph 3**) The rate of new HIV diagnoses in females slightly decreased from 2008 through 2017. This was driven mostly by a decreasing trend of HIV diagnoses in African American/Black females, with an almost 48% decrease from 2008 to 2017. The rates in Hispanic/Latino and White females were relatively constant.

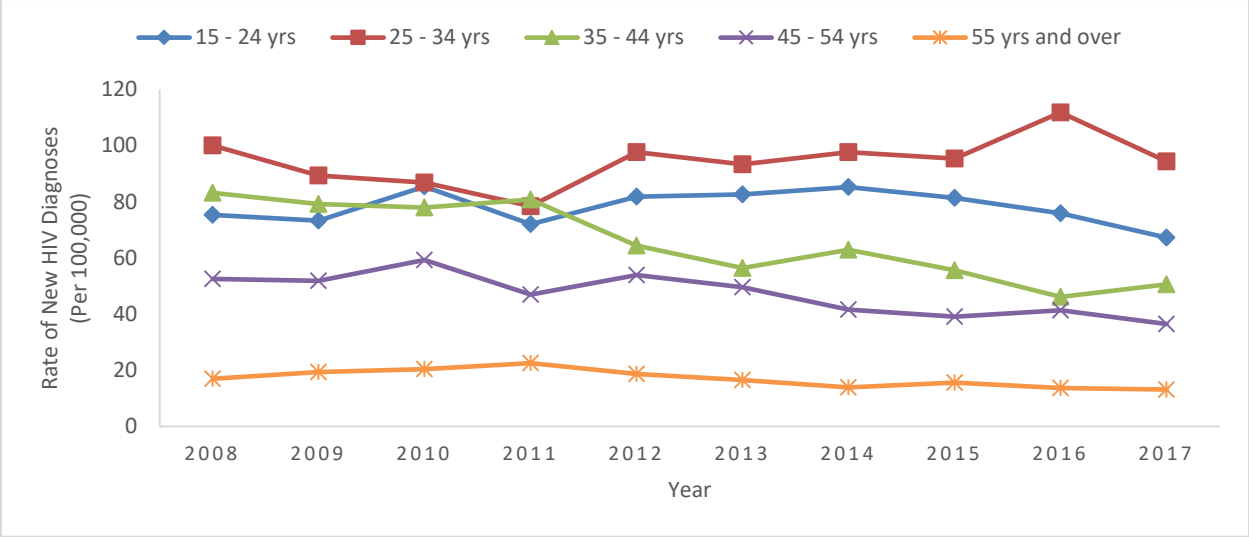
GRAPH 3- Rates of New HIV Diagnoses by Race/Ethnicity in Females, Houston/Harris County, 2008-2017



Source: Texas eHARS, analyzed by the Houston Health Department

(**Graph 4**) The rate of new HIV diagnoses among young males 15-24 years increased 13% from 2008 to 2010 and dropped slightly afterwards. The rate in the age group 25-34 years was constant until a sudden 25% increase from 2011 to 2012 and 17% increase from 2015 to 2016. From 2011-2017, the rate among those 35-44 years decreased by 37%. The age group 45-54 years had decreasing rates by about 30% from 2008 to 2017, while the rate in the age group 55 years or older remained relatively stable over the years.

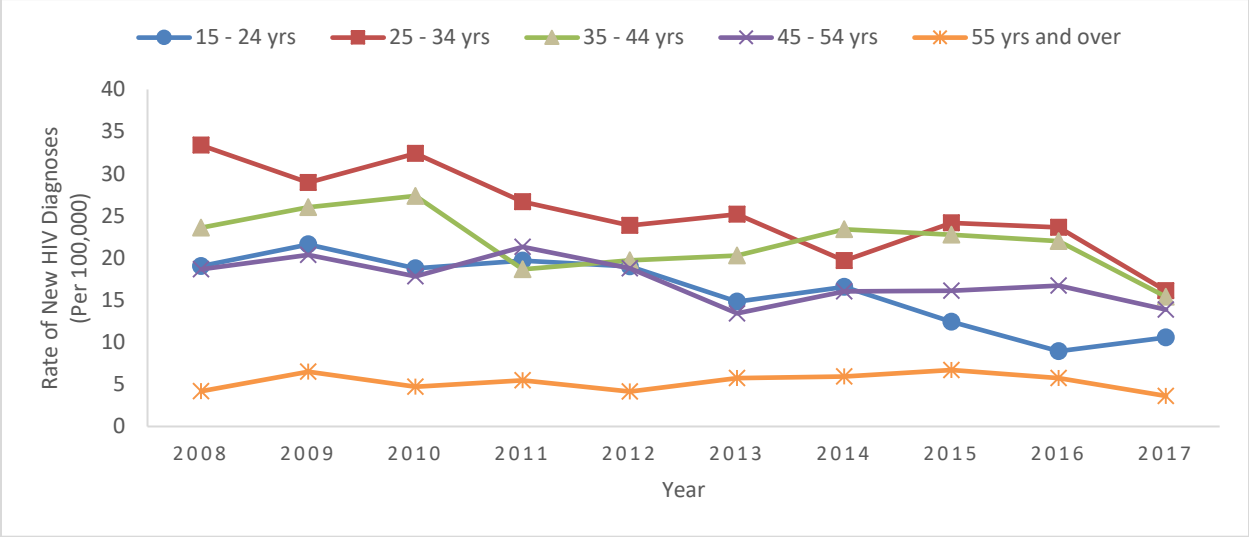
GRAPH 4- Rates of New HIV Diagnoses by Age Groups in Males, Houston/Harris County, 2008-2017



Source: Texas eHARS, analyzed by the Houston Health Department

(**Graph 5**) The rate of new HIV diagnoses among young females 15-24 years decreased 45% from 2008 to 2017. The rate in the age group 25-34 years decreased 52% over the years. From 2008-2017, the rate among those 35-44 years decreased by nearly 35%. The rate among the age group 45-54 years dropped 26% from 2008 to 2017, while the rate in the age group 55 remained relatively constant over the years.

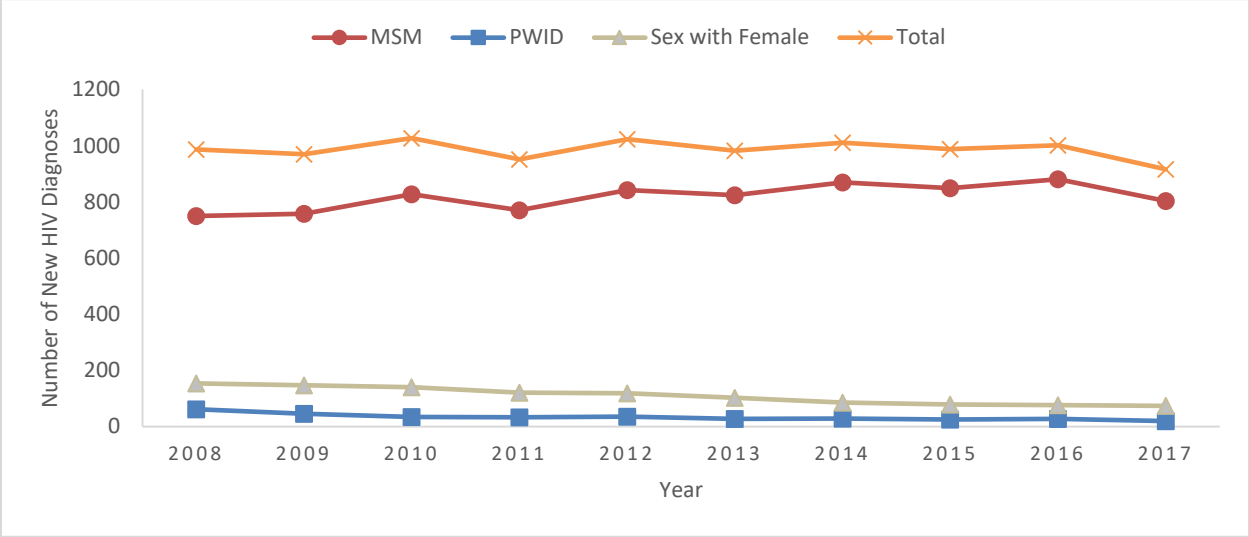
GRAPH 5- Rates of New HIV Diagnoses by Age Groups in Females, Houston/Harris County, 2008-2017



Source: Texas eHARS, analyzed by the Houston Health Department

(**Graph 6**) Among males, the number of new HIV diagnoses among MSM increased approximately 7% from 2008 to 2017 in Houston/Harris County, while new diagnoses among PWID and sex with female decreased over the years (by 67% and 52% respectively).

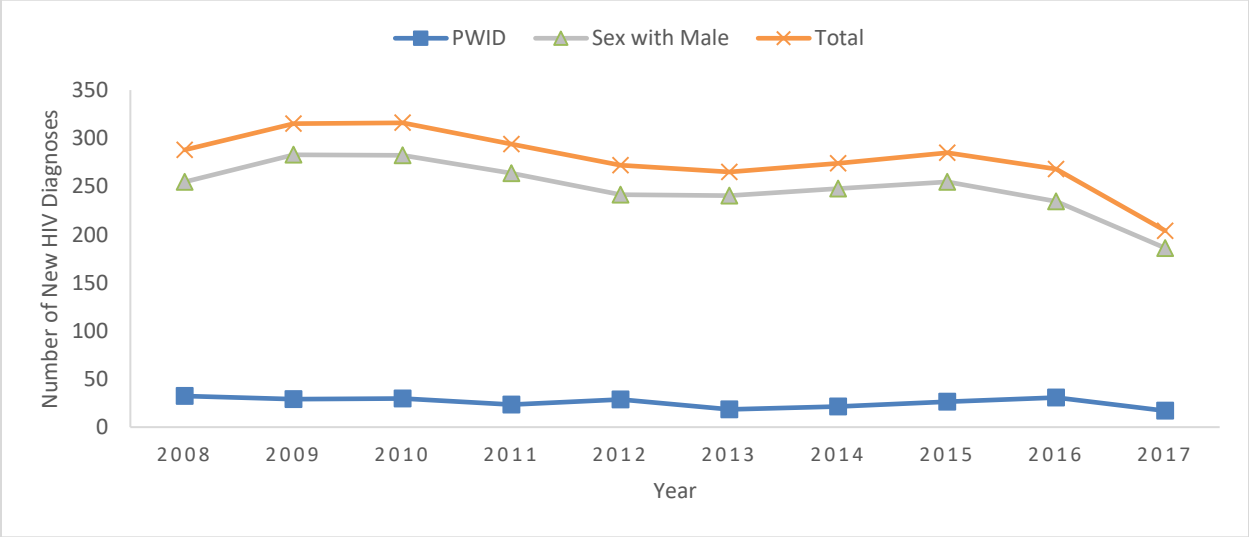
GRAPH 6- Counts of New HIV Diagnoses in Males by Transmission Risk, Houston/Harris County, 2008-2017



Source: Texas eHARS, analyzed by the Houston Health Department

(**Graph 7**) Sex with male made up the majority of transmission risk for women from 2008-2017. However, the risk showed a decreasing trend (about 27% decrease from 2008 to 2017). Counts among PWID also decreased by nearly 47% over the same time period.

GRAPH 7- Counts of New HIV Diagnoses in Females by Transmission Risk, Houston/Harris County, 2008-2017



Source: Texas eHARS, analyzed by the Houston Health Department

Stage 3 HIV Progression and Late/Concurrent Diagnoses

(**Table 3**) The time elapsed between when a person is newly diagnosed with HIV and progression to Stage 3 HIV (if such progression occurs) is used to indicate late diagnosis. The term late diagnosis means that an individual progressed to Stage 3 HIV within 12 months of being diagnosed. When an individual is diagnosed with HIV for the first time at Stage 3, this is referred to as concurrent diagnosis. Late/concurrent diagnosis is an indicator of delayed testing, and is of particular importance to identifying populations with higher need for early testing and linkage to care. The earlier an individual with HIV is tested, the sooner they can begin HIV treatment and potentially prevent the onset of Stage 3 HIV and other health concerns. Initiating and adherence to treatment may also lead to viral suppression and prevent HIV transmission to others ("treatment as prevention"). In Houston/Harris County, about 24% of new HIV diagnoses that progressed to Stage 3 HIV in 2016 did so within one year or less after being first diagnosed with HIV. Higher percentages were seen among Hispanic/Latinos (about 30% progressing to Stage 3 in one year or less), people aged 45-54 years (approximately 37% progressing to Stage 3 in one year or less), and persons with injection drug use (about 35% progressing to Stage 3 in one year or less).

TABLE 3- Length of Progression from Initial Diagnosis to Stage 3 HIV in Houston/Harris County by Sex assigned at Birth, Race/Ethnicity, Age, and Risk, 2016				
	Initial Diagnosis to Stage 3 HIV ≤ 1 year		Initial Diagnosis to Stage 3 HIV > 1 year	
	Cases	%	Cases	%
Total	304	23.9%	966	76.1%
Sex assigned at birth				
Male	236	23.6%	766	76.4%
Female	68	25.4%	200	74.6%
Race/Ethnicity				
White	34	20.6%	131	79.4%
African American/Black	119	20.4%	463	79.6%
Hispanic/Latino	141	29.9%	330	70.1%
Multiple Races	6	20.0%	24	80.0%
Other	4	18.2%	18	81.8%
Age				
0 - 24[a]	29	10.4%	250	89.6%
25 - 34	112	22.0%	398	78.0%
35 - 44	70	31.3%	154	68.8%
45 - 54	62	36.9%	106	63.1%
55 - 64	20	33.3%	40	66.7%
65+	6	30.0%	14	70.0%
Transmission Risk[b]				
MSM	187	21.2%	694	78.8%
PWIDU	20	34.5%	38	65.5%
MSM/PWIDU	4	22.2%	14	77.8%
Sex with Male/Sex with Female	93	30.0%	217	70.0%
Perinatal transmission/Other	0	0.0%	3	100.0%

Source: Texas eHARS, analyzed by the Houston Health Department

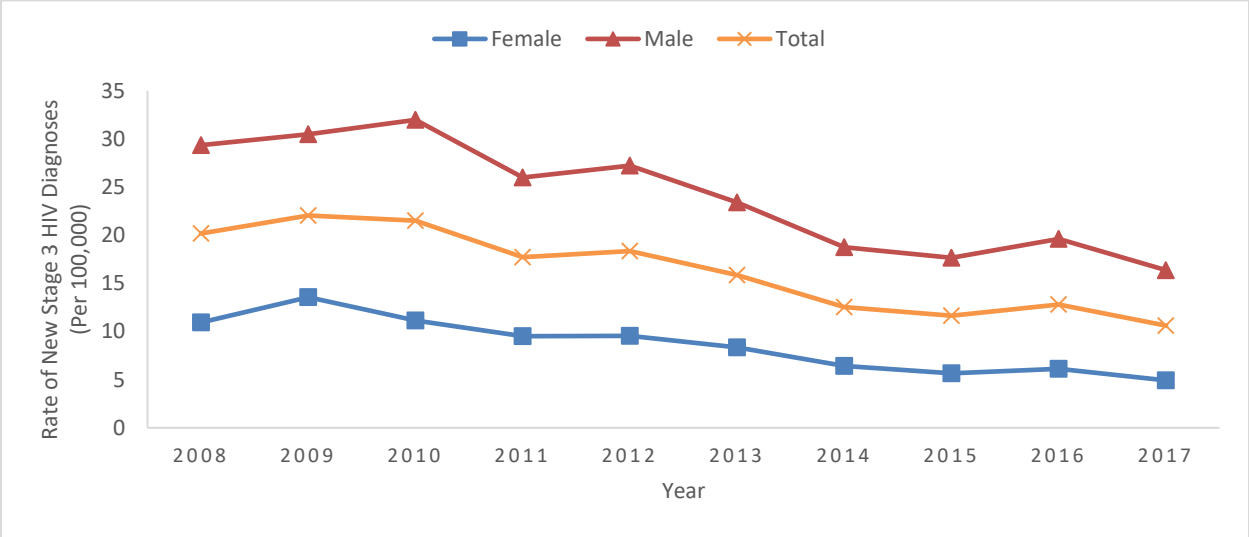
[a]Age group 0-12 years was combined with 13-24 years because 0-12 years category had less than 5 cases and could not be reported

[b]Persons with no risk reported were recategorized into standard categories using the multiple imputation program of the Centers for Disease Control and Prevention (CDC).

Trends of Stage 3 HIV by Key Sub-populations

(**Graph 8**) The rates of new Stage 3 HIV diagnoses showed a decreasing trend from 2008 to 2017. Combination therapy reduces the progression from earlier stages of HIV to Stage 3 HIV in people diagnosed early after transmission occurs. HIV prevention efforts also reduced the rate of Stage 3 HIV cases by reducing the number of new HIV transmissions. New Stage 3 HIV diagnoses among both males and females decreased from 2008 to 2017. In 2017, females accounted for 23% of new Stage 3 HIV diagnoses in Houston/Harris County, with a relative rate ratio of males to females of 3.3.

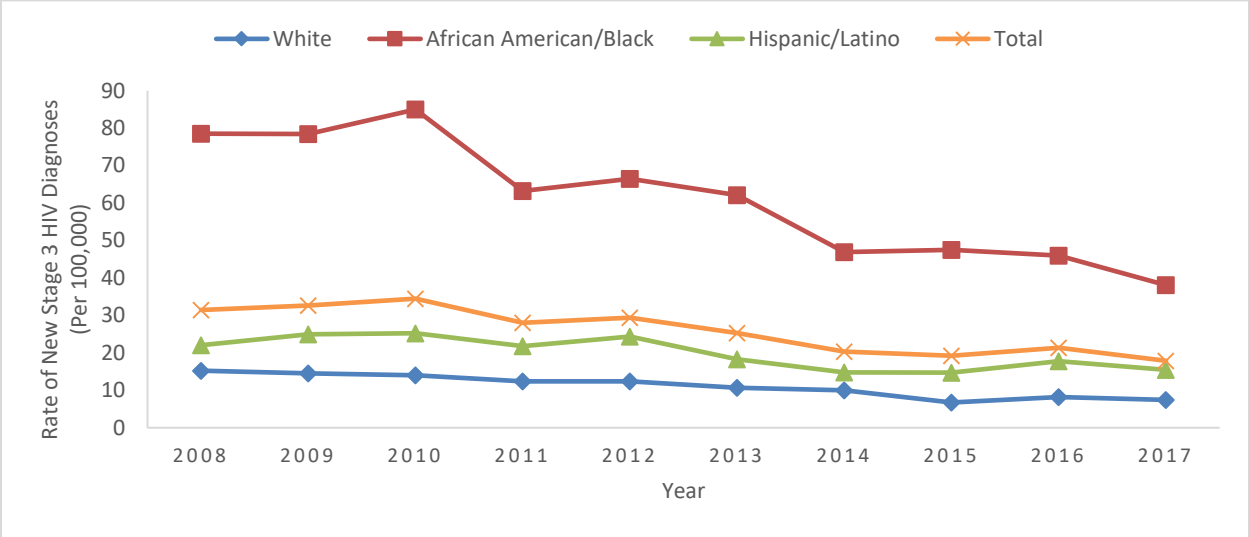
GRAPH 8- Rates of New Stage 3 HIV Diagnoses by Sex Assigned at Birth in Houston/Harris County, 2008-2017
Harris County, 2008-2017



Source: Texas eHARS, analyzed by the Houston Health Department

(**Graph 9**) There is a decreasing trend of the rate of new Stage 3 HIV diagnoses among all racial/ethnic groups in males. African Americans/Blacks accounted for the most Stage 3 HIV diagnoses over the years except for the year 2017. In 2017, both African Americans/Blacks and Hispanic/Latinos made up 42% of new Stage 3 HIV diagnoses, followed by Whites (13%). The rate of new Stage 3 HIV cases in African American/Black males was 5.1 times the rate of White females and 2.4 times the rate of Hispanic/Latino males.

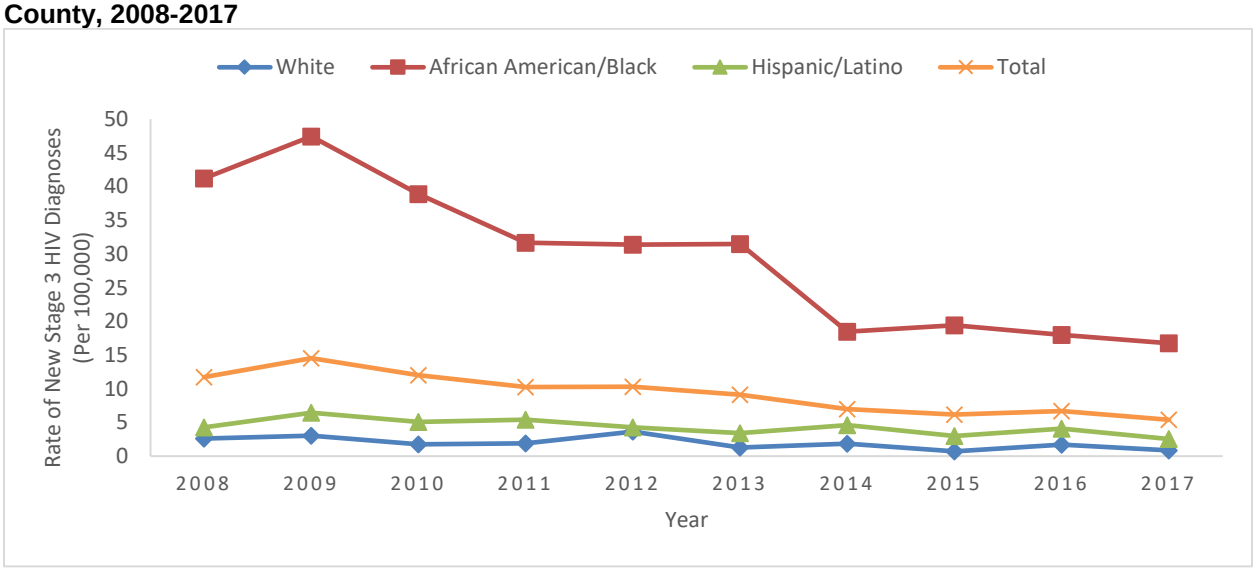
GRAPH 9- Rates of New Stage 3 HIV Diagnoses by Race/Ethnicity in Males, Houston/Harris County, 2008-2017



Source: Texas eHARS, analyzed by the Houston Health Department

(**Graph 10**) There is a decreasing trend of the rate of new Stage 3 HIV diagnoses among all racial/ethnic groups in females. African Americans/Blacks accounted for the most Stage 3 HIV diagnoses from 2008 to 2017. In 2017, African Americans/Blacks made up 69% of new Stage 3 HIV diagnoses, followed by Hispanic/Latinos (22%) and Whites (13%). The rate of new Stage 3 HIV cases in African American/Black females was 19.3 times the rate of White females and 6.6 times the rate of Hispanic/Latino females.

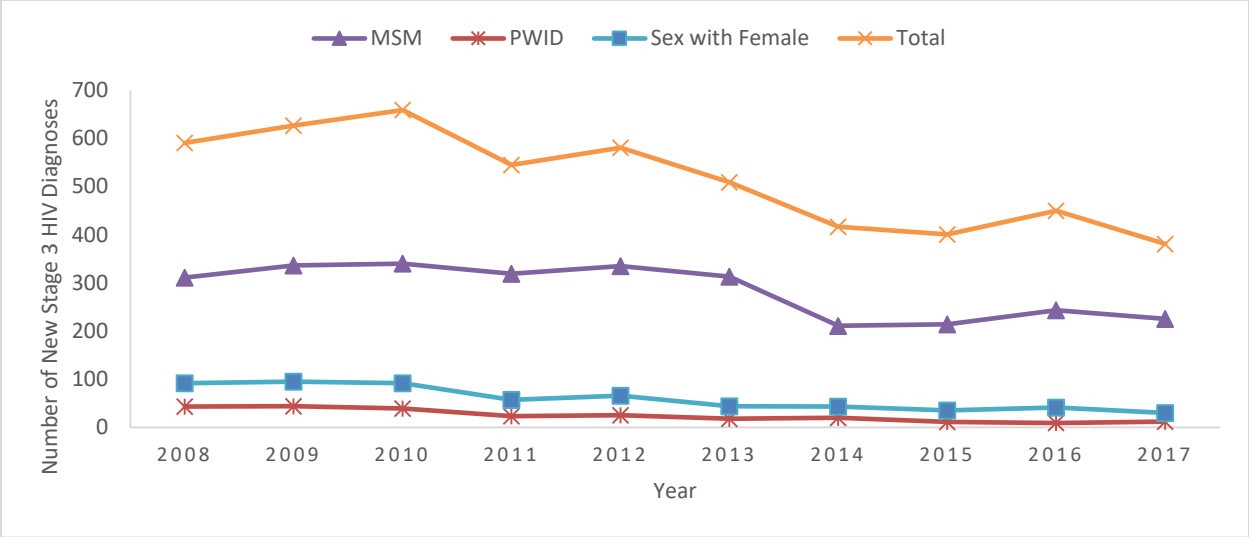
GRAPH 10- Rates of New Stage 3 HIV Diagnoses by Race/Ethnicity in Females, Houston/Harris County, 2008-2017



Source: Texas eHARS, analyzed by the Houston Health Department

(**Graph 11**) MSM have been disproportionately impacted by both HIV and Stage 3 HIV. The number of new Stage 3 HIV cases in MSM remained stable from 2008 through 2013 and dropped in 2014. PWIDU and sex with female as a risk factor decreased gradually over the years. In 2017, 59% of new Stage 3 HIV cases were among MSM.

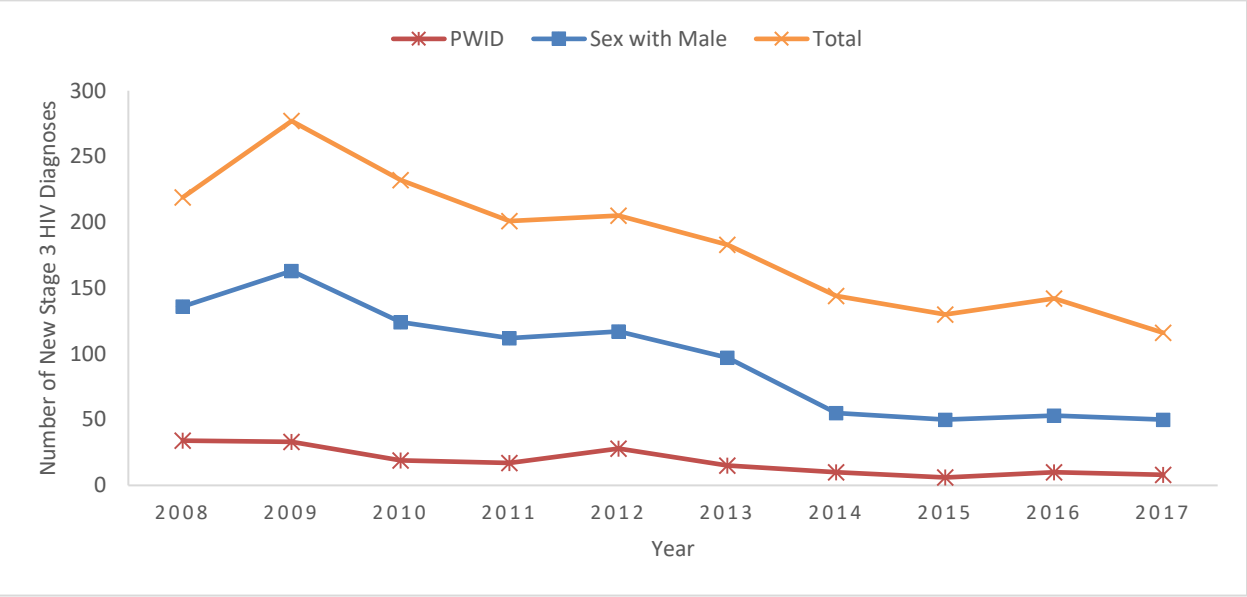
GRAPH 11- New Stage 3 HIV Diagnoses by Transmission Risk in Males, Houston/Harris County, 2008-2017



Source: Texas eHARS, analyzed by the Houston Health Department. People with no risk reported were not re-categorized into standard categories using CDC's multiple imputation program.

(**Graph 12**) Among females, both sex with male and PWIDU risk decreased over the years. In 2017, 43% of Stage 3 HIV cases in females were among people who have sex with male and about 7% among PWID.

GRAPH 12- New Stage 3 HIV Diagnoses by Transmission Risk in Females, Houston/Harris County, 2008-2017



Source Texas eHARS, analyzed by the Houston Health Department. People with no risk reported were not re-categorized into standard categories using CDC's multiple imputation program.

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. In the data presented here, HIV prevalence refers to all people living with HIV (**PLWH**), regardless of progression, at the end of calendar year 2016 in Houston/Harris County.

(**Table 4**) At the end of calendar year 2016, there were 25,132 PLWH in Houston/Harris County. This means that, for every 100,000 people residing in Houston/Harris County, 537 are have been diagnosed with HIV. About 75% of all PLWH in the jurisdiction are men. African Americans also had the highest rate of PLWH in Houston/Harris County with 1,416 African Americans living with HIV for every 100,000 African Americans in the jurisdiction. This is roughly 4.2 times the rate among Whites and four times the rate among Hispanic/Latinos. In terms of age, people aged 25 to 34 had the highest HIV prevalence rate with 1,224 PLWH for every 100,000 people in this age group. In addition, male-male sexual contact or MSM was reported most often among all people living with HIV in Houston/Harris County, followed by sex with male/sex with female.

TABLE 4-People Living with HIV in Houston/Harris County by Sex assigned at Birth, Race/Ethnicity, Age, and Risk, 2016[a]

	Cases[b]	%	Rate[c]
Total	25,132	100.0%	536.8
Sex assigned at birth			
Male	18,961	75.4%	814.6
Female	6,171	24.6%	262.1
Race/Ethnicity			
White	4,608	18.3%	334.9
African American/Black	12,424	49.4%	1415.9
Hispanic/Latino	7,132	28.4%	355.0
Multiple Races	642	2.6%	921.1
Other	326	1.3%	93.1
Age			
0 - 12	292	1.2%	*
13 - 24	5,660	22.5%	359.9[d]
25 - 34	9,234	36.7%	1224.4
35 - 44	6,242	24.8%	935.1
45 - 54	2,771	11.0%	472.7
55 - 64	792	3.2%	157.1
65+	141	0.6%	29.6
Transmission Risk[e]			
MSM	14,306	56.9%	*
PWIDU	2,186	8.7%	*
MSM/PWIDU	1,029	4.1%	*
Sex with Male/Sex with Female	7,294	29.0%	*
Perinatal transmission	261	1.0%	*

[a]Source: Texas eHARS, analyzed by the Houston Health Department

[b]PLWH at end of 2016 = People living with HIV, regardless of progression, in Houston/Harris County at the end of 2016

[c]Rate per 100,000 population. Source: U.S. Census Bureau, 2016 American Community Survey 1-Year Estimates

[d]Rate was calcuated for age group 0-24 years

[e]Patients with no risk reported were recategorized into standard categories using the multiple imputation or risk program of the Centers for Disease Control and Prevention (CDC)

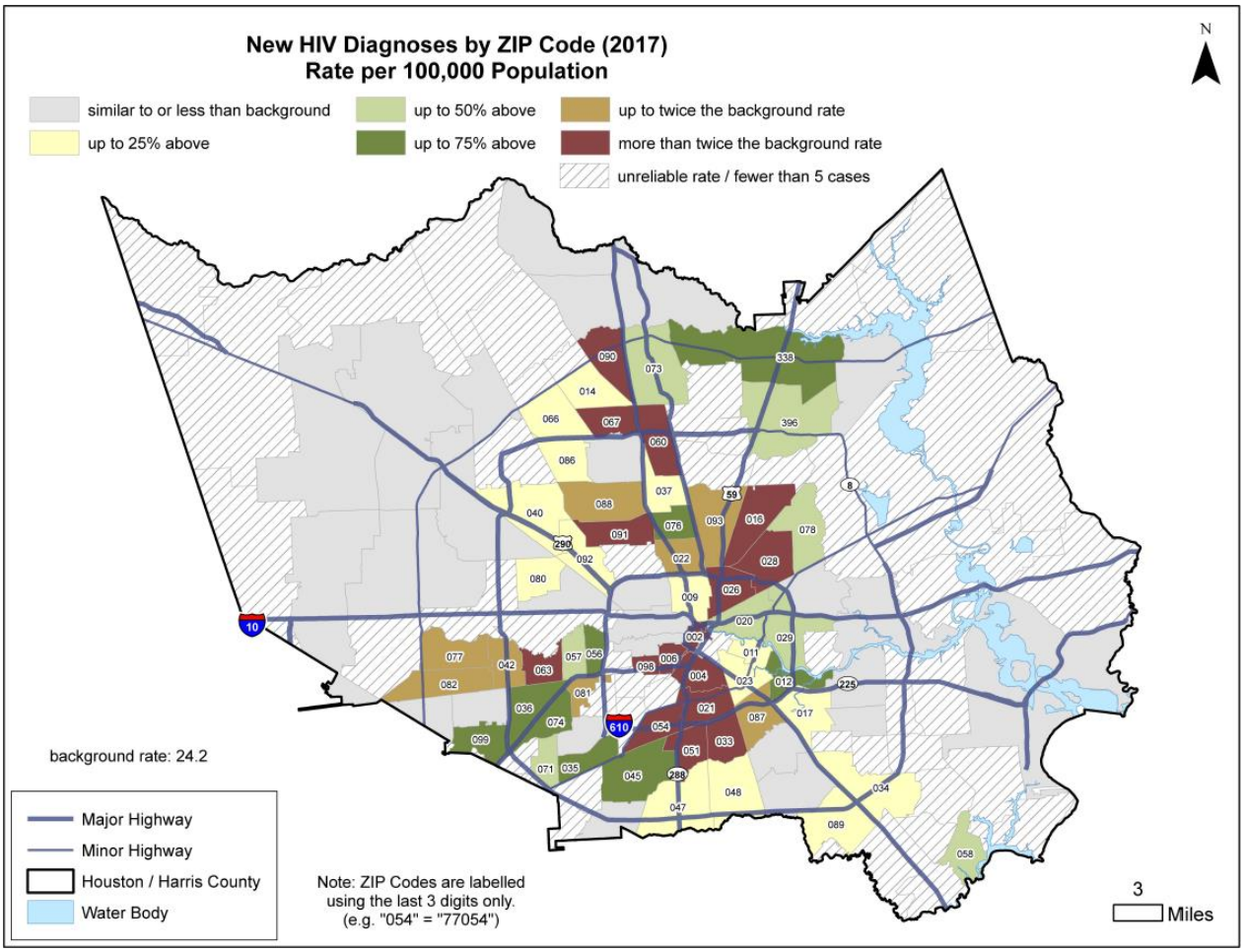
*Population data are not available for age group 0-12 and risk groups; therefore, it is not possible to calculate rate by risk

Mapping of New Diagnoses and People Living with HIV by Zip Code

Using Geographic Information System (**GIS**) software, local jurisdictions can map new HIV diagnoses and HIV prevalence by zip code. This helps jurisdictions identify patterns in the impact of HIV at the neighborhood level. It is also possible to identify similarities and differences in residential patterns between all PLWH and those who are newly diagnosed.

(**Figure 1 and Figure 2**) Figure 1 below shows rates of newly reported HIV diagnoses by zip code in Houston/Harris County, while Figure 2 below shows HIV prevalence rates by zip code in Houston/Harris County, for calendar years 2017 and 2016, respectively. Comparing the two maps, there is a noticeably greater dispersion of new HIV diagnoses across zip codes than is seen in prevalence rates. Both maps show a concentration of HIV new diagnoses and prevalence in the health services regions of North, Northeast, and South Houston. [1]

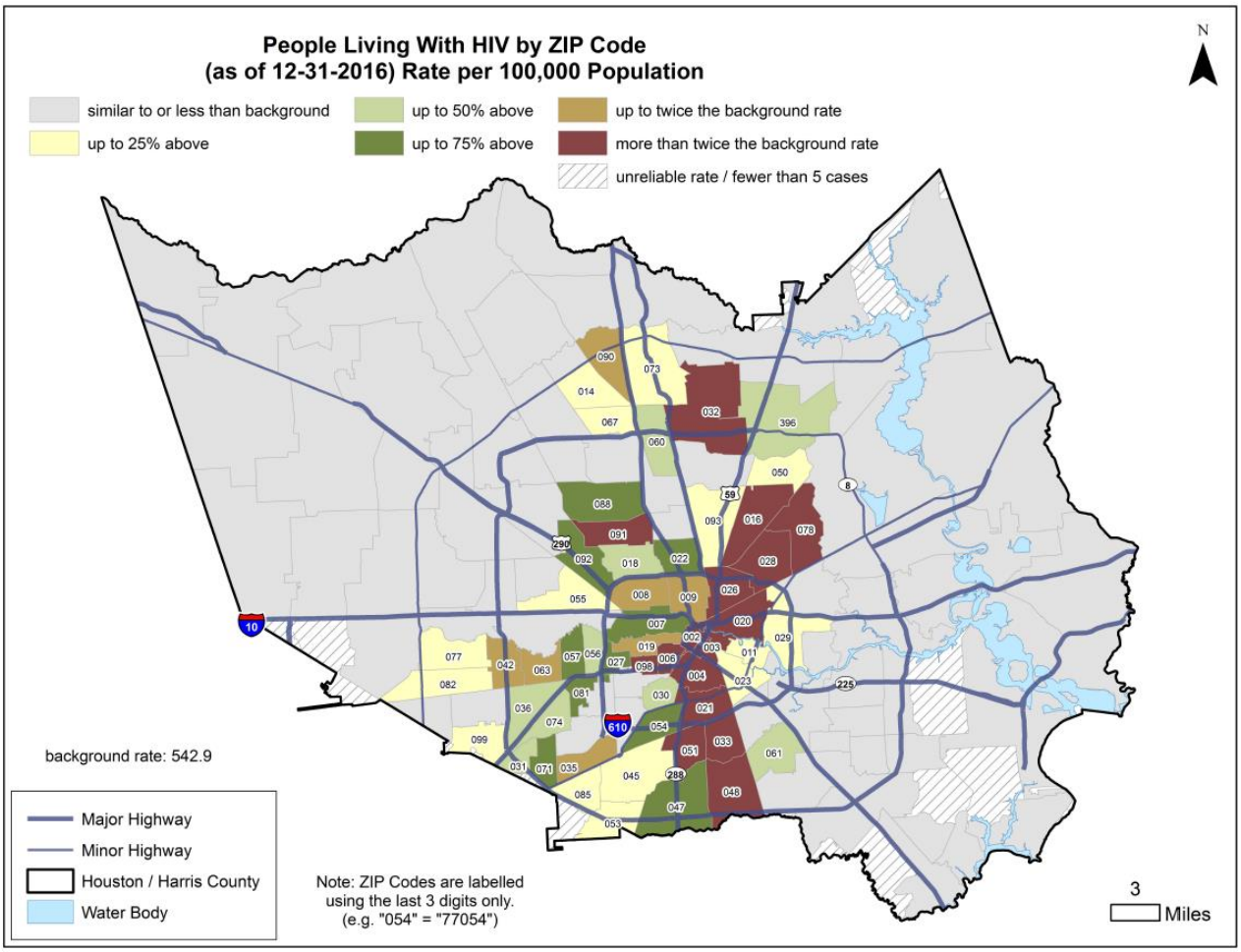
FIGURE 1



Source: Texas eHARS, analyzed by the Houston Health Department. Background rate is rate of new HIV diagnoses for Houston/Harris County in 2017 at the time of data run.

[1]A complete mapping of the City of Houston Health Service Regions is located at: http://www.houstontx.gov/health/chs/geographicprofiles.html

FIGURE 2



Source: Texas eHARS, analyzed by the Houston Health Department. Background rate is rate of people living with HIV in Houston/Harris County in 2016 at the time of data run.

HIV and Mortality

Mortality is an epidemiological marker used to measure the effect of a condition on the population as a whole. HIV mortality data reflects the number of PLWH who died in a specific period. It is important to note that HIV mortality data reflects all causes of death, not exclusively those medically related to HIV.

(**Table 5**) In Houston/Harris County, 331 people with HIV (regardless of progression) died in 2016 from all causes. This is a mortality rate of 7 deaths of persons with HIV for every 100,000 people residing in Houston/Harris County as a whole. The majority of deaths occurred among men with HIV and among African Americans with HIV. The mortality rate among African Americans with HIV was 20 deaths for every 100,000 African Americans in Houston/Harris County, which is roughly four times the HIV mortality rate among both Whites and Hispanic/Latinos. In addition, male-male sexual contact (MSM) was reported most often among those with HIV who died in 2016 in Houston/Harris County, followed by sex with male/sex with female.

TABLE 5-Deaths of Person with HIV in Houston/Harris County by Sex assigned at Birth, Race/Ethnicity, Age, and Risk, 2016[a]			
	Cases[b]	%	Rate[c]
Total	331	100.0%	7.1
Sex assigned at birth			
Male	237	71.6%	10.2
Female	94	28.4%	4.0
Race/Ethnicity			
White	67	20.2%	4.9
African American/Black	179	54.1%	20.4
Hispanic/Latino	72	21.8%	3.6
Multiple Races	10	3.0%	14.3
Other	3	0.9%	0.9
Age			
0 - 12	0	0.0%	0.0
13 - 24	41	12.4%	2.4
25 - 34	81	24.5%	10.7
35 - 44	100	30.2%	15.0
45 - 54	61	18.4%	10.4
55 - 64	36	10.9%	7.1
65+	12	3.6%	2.5
Transmission Risk			
MSM	139	42.0%	*
PWIDU	57	17.2%	*
MSM/PWIDU	25	7.6%	*
Sex with Male/Sex with Female	110	33.2%	*
Perinatal transmission	0	0.0%	*

[a]Source: Texas eHARS, analyzed by the Houston Health Department

[b]Deaths in 2016 = Number of people reported with HIV in Houston/Harris County who died in 2016 regardless of location of death. Deaths determined from provider report, chart review, and matching to the Texas Death Certificate Database and national death databases.

[c]Rate per 100,000 population. Source: U.S. Census Bureau, 2016 American Community Survey 5-Year Estimates

[d]Patients with no risk reported were recategorized into standard categories using the multiple imputation or risk program of the Centers for Disease Control and Prevention (CDC)

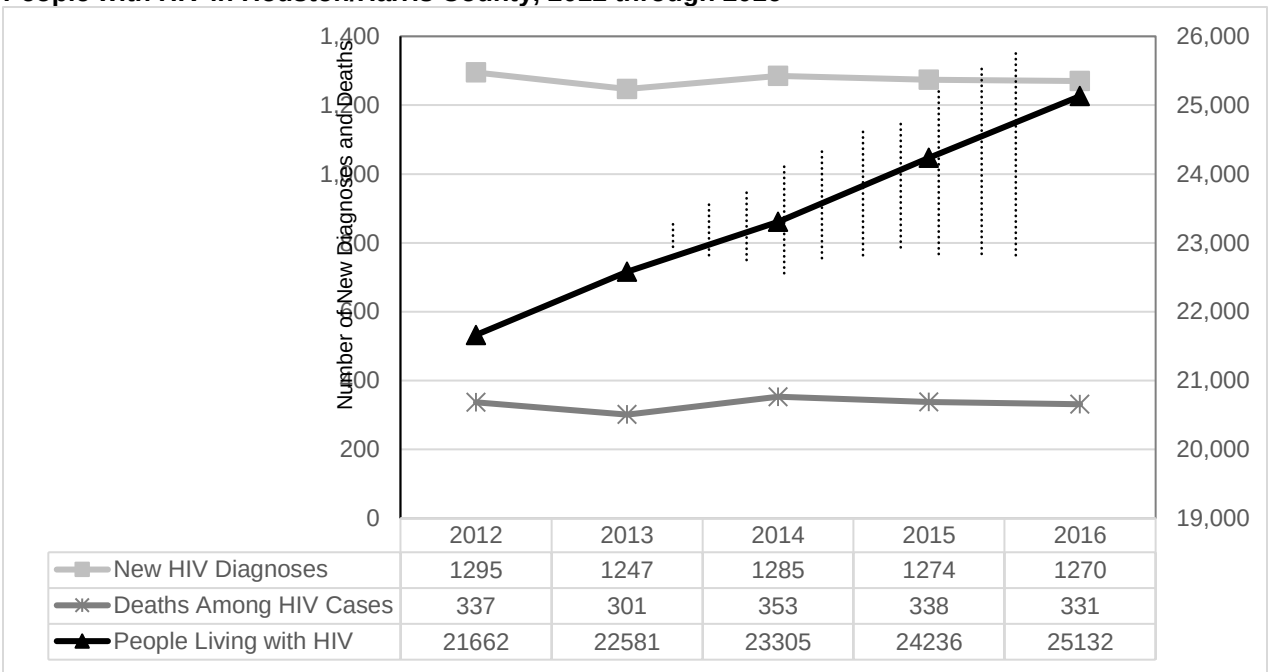
*Population data are not available for risk groups; therefore, it is not possible to calculate rate by risk

New Diagnoses, Prevalence, and Mortality, Five-Year Trend

HIV epidemiology in states and counties across the U.S. show a similar trend over time. Due to advances in HIV testing and treatment, HIV-related mortality has steadily declined while the number of PLWH has steadily increased. Concurrently, the number of newly reported HIV diagnoses has remained stable for the last decade.
(**Graph 13**) A similar trend can be seen in Houston/Harris County. Between 2012 and 2016, HIV-related mortality in Houston/Harris County was stable with an average of 332 deaths per year. The number of persons living with HIV in Houston/Harris County increased by 16% with an average of 23,383 total living HIV positive persons each year. Newly reported HIV diagnoses in Houston/Harris County was stable during this period with an average of 1,400 new HIV diagnoses reported each year.

These trends illuminate the growing gap between the number of deaths among people with HIV and prevalence (i.e., the number of persons living with HIV) that has been attributed to HIV treatment. We also see evidence that new HIV diagnoses may be stabilizing.

GRAPH 13-Numbers of New HIV Diagnoses, Persons Living with HIV, and Deaths among People with HIV in Houston/Harris County, 2012 through 2016[a]



	2012	2013	2014	2015	2016
New HIV Diagnoses	1295	1247	1285	1274	1270
Deaths Among HIV Cases	337	301	353	338	331
People Living with HIV	21662	22581	23305	24236	25132

[a]Source: Texas eHARS, analyzed by the Houston Health Department

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 Houston EMA as a whole and are not county-specific.

New HIV Diagnoses

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

(**Table 6**) In 2017, 1,234 individuals were newly diagnosed with HIV in the Houston EMA. This is a rate of 20 new HIV diagnoses for every 100,000 people in the EMA. Over 80% of new diagnoses were among males (at birth). African Americans had the highest rate of both new HIV diagnoses with 54 new diagnoses per 100,000 African Americans in the Houston EMA. This is nearly eight times the rate among Whites and triple the rate among Hispanic/Latinos. African Americans account for close to half of the new diagnoses of HIV in the EMA, and people of color (**POC**) account for 88% of new diagnoses. The age ranges of new diagnoses follow a normal distribution that peaks with 25 to 34 year olds for HIV (38% of new diagnoses). Male-male sexual contact (**MSM**) was the most commonly reported transmission risk factor among new diagnoses in the Houston EMA in 2017 at 71%, followed by sex with male/sex with female at 24%.

TABLE 6-New HIV Diagnoses in the Houston EMA by Sex at Birth, Race/Ethnicity, Age, and Transmission Risk, 2017[a]			
	New Diagnoses	%	Rate[b]
Total	1,234	100%	20.0
Sex at Birth			
Male	998	80.9%	32.6
Female	238	19.1%	7.6
Race/Ethnicity			
White	144	11.7%	6.8
African American	581	47.1%	54.1
Hispanic/Latino	460	37.3%	19.4
Other	26	2.1%	5.0
Multiracial	23	1.9%	26.4
Age			
0 - 12	N	N	N
13 - 24	278	22.5%	27.3
25 - 34	463	37.5%	49.3
35 - 44	240	19.4%	27.3
45 - 54	161	13.0%	20.4
55 - 64	76	6.2%	11.1
65+	15	1.2%	2.3
Transmission Risk[c]			
Male-Male Sexual Contact (MSM)	870	70.5%	*
People with Injection Drug Use (PWIDU)	46	3.7%	*
MSM/PWIDU	24	1.9%	*
Sex with Male/Sex with Female	291	23.6%	*
Perinatal transmission	N	N	*
Adult other risk	N	N	*

[a]Source: Texas eHARS. New HIV diagnoses as of 12/31/17

[b]Source: Texas Department of State Health Services, 2017 Houston EMA Population Denominators. Received on 07/20/2018

[c]Cases with unknown risk were redistributed based on historical patterns of risk ascertainment and reclassification

*Population data are not available for risk groups; therefore, it is not possible to calculate rate by risk

[N]Data has been suppressed to meet cell size limit of 5

People Living with HIV (Prevalence)

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

(**Table 7**) At the end of 2017, there were 28,225 people living with HIV in the Houston EMA. This means that, for every 100,000 people residing in the EMA, 458 were people diagnosed with HIV. Seventy-five percent (75%) of all people living with HIV in the EMA were male (sex at birth). African Americans had the highest HIV prevalence rate with 1,265 African American PLWH for every 100,000 African Americans in the jurisdiction. This is just over five times the HIV prevalence rate among Whites and roughly four times the rate among Hispanic/Latino individuals. People aged 45 to 54 had the highest HIV prevalence rate of all age groups (966.9 per 100,000 population) and accounted for 27% of all diagnosed PLWH. Male-male sexual contact (**MSM**) was the most commonly reported transmission risk factor diagnosed PLWH in the Houston EMA in 2017 at 57%, followed by sex with male/sex with female at 29%.

TABLE 7-People Living with HIV in the Houston EMA by Sex at Birth, Race/Ethnicity, Age, and Transmission Risk, 2017[a]

	Prevalence	%	Rate[b]
Total	28,225	100%	457.8
Sex at Birth			
Male	21,178	75.0%	692.0
Female	7,047	25.0%	227.0
Race/Ethnicity			
White	5,321	18.9%	245.8
African American	13,830	49.0%	1265.1
Hispanic/Latino	7,926	28.1%	334.6
Other	389	1.4%	72.2
Multiracial	759	2.7%	-
Age			
0 - 1	N	N	N
2 - 12	58	0.2%	5.7
13 - 24	1,230	4.4%	120.7
25 - 34	5,738	20.3%	611.5
35 - 44	6,632	23.5%	754.3
45 - 54	7,649	27.1%	966.9
55-64	5,186	18.4%	758.9
65+	1,730	6.1%	797.6
Transmission Risk[c]			
Male-Male Sexual Contact (MSM)	16,133	57.2%	*
People with Injection Drug Use (PWIDU)	2,368	8.4%	*
MSM/IDU	1,099	3.9%	*
Sex with Male/Sex with Female	8,264	29.3%	*
Perinatal transmission	343	1.2%	*
Adult other risk	18	10.0%	*

[a]Source: Texas eHARS. All diagnosed PLWH as of 12/31/17

[b]Source: Texas Department of State Health Services, 2017 Houston EMA Population Denominators. Received on 07/20/2018. Denominator for Multiracial not available.

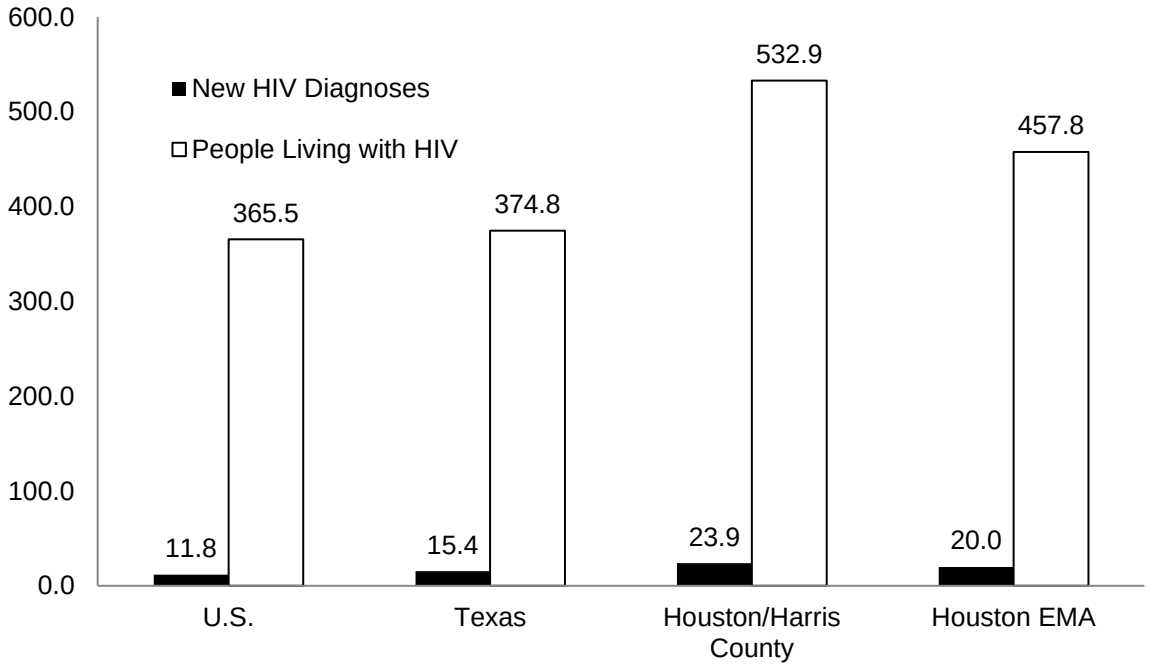
[c]Cases with unknown risk were redistributed based on historical patterns of risk ascertainment and reclassification

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

A comparison of core HIV epidemiological indicators between the two Houston Area jurisdictions, Texas, and the U.S. provides context for the local HIV impact data presented in this Chapter.

(**Graph 14**) Overall, Texas has comparable prevalence and higher HIV diagnosis rate compared to the U.S. Both Houston/Harris County and the Houston EMA have higher HIV diagnosis and prevalence rates. Rates of new HIV diagnoses in both Houston/Harris County and the Houston EMA are approximately double that of the U.S. The HIV prevalence rate in Houston/Harris County is 1.4 times higher than the Texas and U.S. HIV prevalence rates. The prevalence rate in the Houston EMA is 1.2 times higher than the rate in Texas and 1.3 times higher than the U.S. rate.

GRAPH 14-Rates of New HIV Diagnoses and Persons Living with HIV by Local, State, and National Jurisdiction



[a]U.S. Source: CDC HIV Surveillance Report Volume 29: Diagnoses of HIV in the United States and Dependent Areas, 2017. Prevalence is 2016.
bTexas Source: CDC HIV Surveillance Report Volume 29: Diagnoses of HIV in the United States and Dependent Areas, 2017. Prevalence is 2016.
[c]Houston/Harris County Sources: Houston/Harris County eHARS. Diagnoses, 2017; Prevalence, 2016
[d]Source: Texas eHARS. All data, 2017
*All rates per 100,000 population

Chapter 3: Vulnerability to HIV in the Houston Area

What are the indicators of vulnerability for HIV transmission in the population?

"Poor social and environmental conditions, coupled with high rates of HIV among specific populations and in geographic areas, contribute to stubbornly persistent—and in some cases, growing—HIV-related health disparities. These disparities include higher rates of HIV [transmission], lower rates of access to HIV care, lower HIV viral suppression rates and higher HIV-related complications, and higher HIV-related death rates."

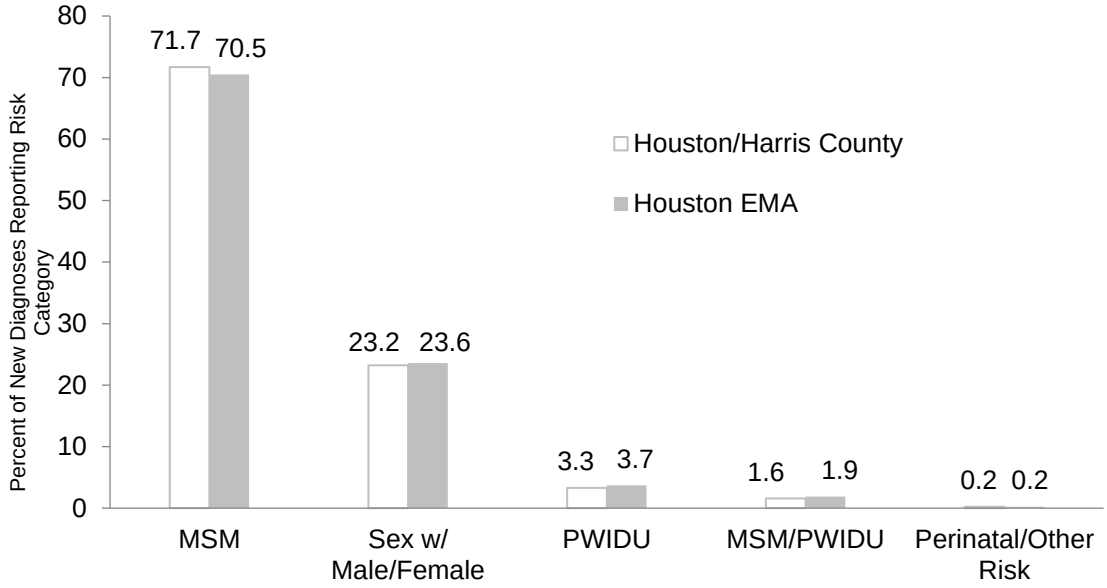
The National HIV/AIDS Strategy: Updated to 2020
July 2015

Chapter 2 of this document described the populations of people living with HIV in the Houston Area today. The purpose of this chapter is to describe the factors that may place individuals at greater vulnerability for acquiring HIV in the Houston Area. It will present data on factors that affect the vulnerability to acquiring HIV such as behaviors linked to the transmission of HIV and other sexually transmitted diseases (STDs). It will also describe factors that affect the probability that a person living with HIV will transmit HIV such as awareness of status.

Summary of Behaviors Linked to HIV Transmission

(**Graph 1**) Assessing the primary transmission risk factor reported for new HIV diagnoses provides insight into behaviors that may increase one's vulnerability to acquiring HIV in a local community. In the Houston Area, male-male sexual contact or MSM was reported by 71-72% of newly diagnosed individuals in 2017 (up from 61% in 2011), followed by sex with male/sex with female (formerly heterosexual) contact at 23-24% (down from 31%), and 3-4% people with injection drug use (PWIDU) (down from 5%).

GRAPH 1- Transmission Risk of New HIV Diagnoses in Houston/Harris County and the Houston Eligible Metropolitan Area (EMA), 2017



Source: Houston/Harris County and Texas eHARS

(**Table 1**) When a person is newly diagnosed with HIV, they are interviewed by a disease intervention specialist. One of the goals of the interview is to identify all of the STI transmission-related activities in which the individual has engaged. In addition to HIV-related risk activities, other sexual, drug, and social practices are captured during the interview. While no single reported activity may have led to the person's HIV diagnosis, assessing reported activities of all interviewed persons as a group provides insight on behaviors that may increase one's susceptibility to acquiring HIV in a local community. In Houston/Harris County, the five most common activities reported by interviewed persons are (1) male to male sexual practices, (2) intermittent condom use, (3) sex with an anonymous sex partner, (4) oral sex, and (5) any drug use. The five least common activities are (1) sex with a person who uses crack or cocaine, (2) being a commercial sex worker, (3) working in the health care field, (4) injection drug use (IDU), and (5) sex with a person who injects drugs.

TABLE 1- Activities of New HIV Diagnoses Interviewed by a Disease Intervention Specialist in Houston/Harris County, 2017 (N=1,088 Records)

Risk Activity	Number Reporting	Percent Reporting
Male to male (MSM) sexual practices	424	39.0
Condom use - intermittent	399	36.7
Anonymous sex partner	386	35.5
Oral sex	344	31.6
Any drug use (including alcohol)	300	27.6
Rectal intercourse	286	26.3
Partners met via internet or phone app	219	20.1
Males having sex with females (MSF)	179	16.5
No condom use	163	15.0
Sex while high or intoxicated	136	12.5
More than 1 sex partner	109	10.0
New sex partner in last 90 days	95	8.7
Been incarcerated	71	6.5
Always use condoms	38	3.5
Exchanged drugs or money for sex	33	3.0
Sex with person who injects drugs	22	2.0
Person with injection drug use (PWIDU)	16	1.5
Health care worker	7	0.6
Commercial sex worker	6	0.6
Sex with person who uses crack or cocaine	6	0.6

Source: Texas STD*MIS. Data analyzed by the Houston Health Department.

(**Table 2**) Reviewing reported vulnerability among newly diagnosed individuals provides insight into the behaviors that may lead to HIV transmission, while reviewing reported risk among persons living with HIV can provide insight into the behaviors that may lead to secondary HIV transmission and/or acquiring a different strain of HIV. In the Houston Health Service Delivery Area (HSDA), people living with HIV are surveyed every three years in order to ascertain the level of risk behaviors among the population. According to the 2016 needs assessment, some people living with HIV in the Houston HSDA are engaging behaviors that have been linked to HIV transmission. For example, over 40% of respondents reported receiving no STD screening tests in the past 6 months, and 25-28% of those who report having sex in the past 6 months also report no condom use for penetrative sex. Very few respondents use share needles to inject drugs or other substances. As these data were collected before the emergence of national campaigns advocating the maintenance of an undetectable viral load as a means of eliminating transmission risk during sex, the data in Table 2 may not fully reflect current condom use within the Houston HIV community.

TABLE 2- Selected Transmission-related Activities among People Living with HIV in the Houston HSDA, 2016

Reported Activity	Number Reporting	Percent Reporting
Not tested for chlamydia in the past 6 mos	219	43%
Not tested for gonorrhea in the past 6 mos.	217	43%
Not tested for syphilis in the past 6 mos.	206	41%
Never use condoms – anal receptive	51	28%
Never use condoms – anal insertive	51	27%
Never use condoms – vaginal	43	25%
Never talk about HIV status w/ new partners	47	14%
Sex with someone with unknown HIV status	54	11%
Not taking ART	13	3%
Injection drug use (PWIDU)	8	2%

Source: 2016 Houston Area HIV Needs Assessment. Denominators for each activity vary; therefore, percent is of those answering each question and not of the total respondent pool (N=506). Results do not reflect all possible transmission-related activities among the respondent pool.

HIV Testing and Awareness of Status

The Centers for Disease Control and Prevention (CDC) currently estimated that 14% of people in the U.S. who are living with HIV are unaware of their positive HIV status.[1] People who are unaware of their positive HIV status may be less likely to reduce or eliminate actions that may result in HIV exposure and transmission to others. For this reason, an examination of status awareness among people living with HIV provides insight into the factors that may increase vulnerability for HIV transmission in a local community. To do so, two sources of data can be reviewed: the volume of HIV testing and notification of status in a local jurisdiction, and mathematical estimations of people who are HIV positive and unaware of their status based on national methodologies. Both are below for their respective jurisdictions. Total numbers of tests provided vary between the jurisdictions due to differing funding sources for HIV testing activities.

[1]Centers for Disease Control and Prevention. Estimated HIV incidence and prevalence in the United States, 2010–2016. HIV Surveillance Supplemental Report 2019; 24(No. 1).

Houston/Harris County

(**Table 3**) 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% was 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.

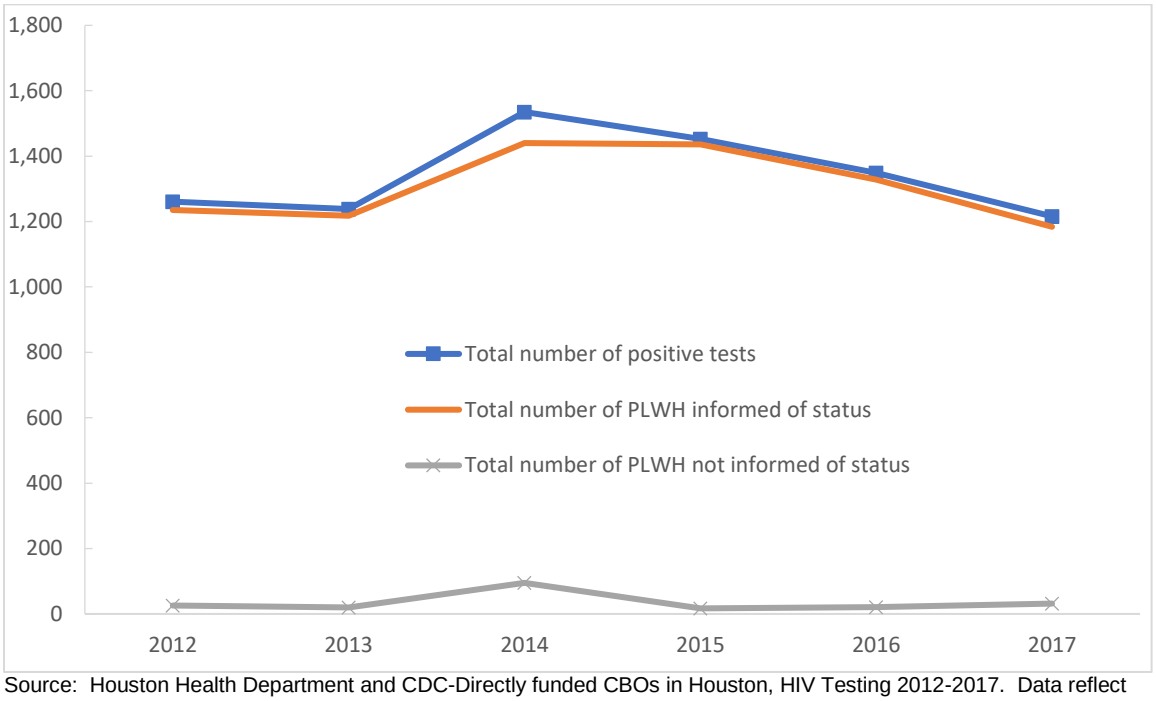
TABLE 3-Total Numbers of HIV Tests Conducted, Positive HIV Tests, and People Informed of HIV Status in Houston/Harris County, 2012 to 2017

	2012	2013	2014	2015	2016	2017
Total number of HIV tests conducted	115,174	116,201	150,454	124,121	117,429	111,867
Total number of positive tests*	1,261	1,238	1,535	1,453	1,349	1,216
Percent of positive tests	1.1%	1.1%	1.0%	1.2%	1.1%	1.1%
Total number of PLWH informed of status**	1,235	1,218	1,440	1,436	1,328	1,184
Percent of PLWH informed of status	97.9%	98.4%	93.8%	98.8%	98.4%	97.4%
Total number of PLWH not informed of status**	26	20	95	17	21	32
Percent of PLWH not informed of status	2.1%	1.6%	6.2%	1.2%	1.6%	2.6%

Source: Houston Health Department funded HIV Testing 2012-2017. Data reflect both routine and non-routine (targeted) HIV tests conducted in the jurisdiction.
* Includes people who are both new and previously positive.
** People who only test positive were informed of their status

(**Graph 2**) In Houston/Harris County, both the numbers of publicly funded HIV positive tests and people living with HIV aware of their positive status increased between 2013 and 2014 and decreased thereafter.

GRAPH 2- Total Number of Positive HIV Tests and of People Informed of their HIV Positive Status in Houston/Harris County, 2012 to 2017



Source: Houston Health Department and CDC-Directly funded CBOs in Houston, HIV Testing 2012-2017. Data reflect both routine (non-targeted) and traditional (targeted) HIV tests conducted in the jurisdiction.

Houston EMA

(**Table 4**) In 2017, 112,581 publicly funded HIV tests were conducted in the Houston EMA in both routine and targeted settings. Of these, 0.3% was 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.

TABLE 4- Total Numbers of HIV Tests Conducted, Positive HIV Tests, and People Informed of HIV Positive Status in the Houston EMA, 2017[a]

Total number of HIV tests conducted	112,581
Total number of positive tests	1,240
Total number of new positive tests	295
Percent of new positive tests	*0.3%*
Total number of newly identified informed of status	277
Percent of newly identified informed of status	*94%*
Total number of newly identified not informed of status	18
Percent of newly identified not informed of status	*6%*

[a]Source: Texas Department of State Health Services.
[b]Data reflect both routine and targeted HIV tests conducted in the jurisdiction. Routine testing includes systems that do not collect data on results notification; therefore, there will be positive cases for whom it is unknown if they were notified of their status.

(**Table 5**) In addition to those who have tested for HIV but were not informed of their positive status, others may be living with HIV but unaware of their status because they have not received testing. Federal agencies have developed a mathematical model to estimate the total number of people who are unaware of their positive status from both groups. This model currently estimates the national proportion of undiagnosed HIV to be 14%. Using this national proportion, it is possible to estimate the total number of status unaware people living with HIV in the Houston EMA, and to describe estimated demographic characteristics.

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% 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%.

TABLE 5- Estimates of Persons Unaware of their HIV Positive Status in the Houston EMA by Sex at Birth, Race/Ethnicity, Age, and Risk, 2017[a]

	Number Aware of Status	Number Unaware of Status[b]	Percent of Total Unaware
Total	28,225	4,595	100%
Sex at birth			
Male	21,178	3,448	75%
Female	7,047	1,147	25%
Race/Ethnicity			
White	5,321	866	19%
African American	13,830	2,251	49%
Hispanic/Latino	7,926	1,290	28%
Other	389	63	1%
Multiracial	759	124	3%
Age			
0 - 12	60	10	0%
13 - 24	1,230	200	4%
25 - 34	5,738	934	20%
35 - 44	6,632	1,080	23%
45 - 54	7,649	1,245	27%
55 - 64	5,186	844	18%
65+	1,730	282	6%
Risk Category[c]			
Male-male sexual contact (MSM)	16,133	2,626	57%
People with injection drug use (PWIDU)	2,368	385	8%
MSM/IDU	1,099	179	4%
Sex with Male / Sex with Female	8,263	1,345	29%
Perinatal transmission	343	56	1%
Adult other risk	18	--	--

[a]Source: DSHS Diagnosed PLWH, as of 12/31/17

[b]Calculated using the Estimated Back Calculation developed by the Centers for Disease Control and Prevention based on a national proportion of undiagnosed HIV of 14% (p) and total local prevalence (N): p/(1-p) * N

[c]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification

STD Trends

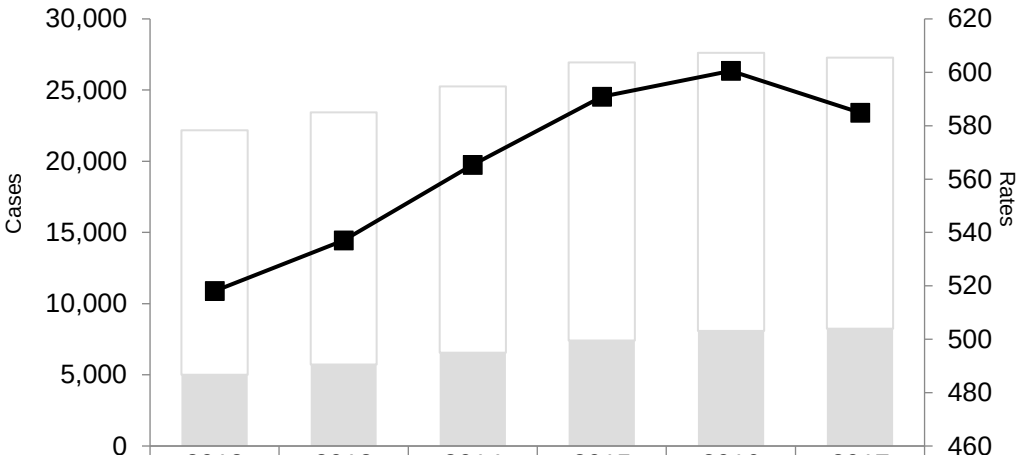
Persons with a sexually transmitted disease (STD) are more likely than persons without a STD to acquire HIV if they are exposed through sexual contact.[2] When a person living with HIV acquires another STD, that individual has a higher likelihood of transmitting HIV.[2] These facts make it important to examine trends in other STDs in order to describe a community's overall risk for HIV transmission. Data on the three notifiable diseases for which there are federally funded control programs are presented here: Chlamydia, gonorrhea, and syphilis.

[2]Centers for Disease Control and Prevention, STDs and HIV – CDC Fact Sheet" Last Modified: July 10, 2017. Located at https://www.cdc.gov/std/hiv/STD-HIV-FS-July-10-2017.pdf

Chlamydia

(**Graph 3**) Chlamydia is the most commonly reported notifiable STD in the Houston Area. In 2017, there were 27,384 cases of Chlamydia reported in Houston/Harris County, which is a 1.3% decrease from the prior reporting year. This equates to a rate of 584.8 cases of Chlamydia for every 100,000 people in Houston/Harris County. In 2017, 69.5% of Chlamydia cases occurred among females (at birth), and 30.1% of cases occurred among males (at birth).

GRAPH 3- Chlamydia Cases and Rates in Houston/Harris County by Sex assigned at birth, 2012 to 2017



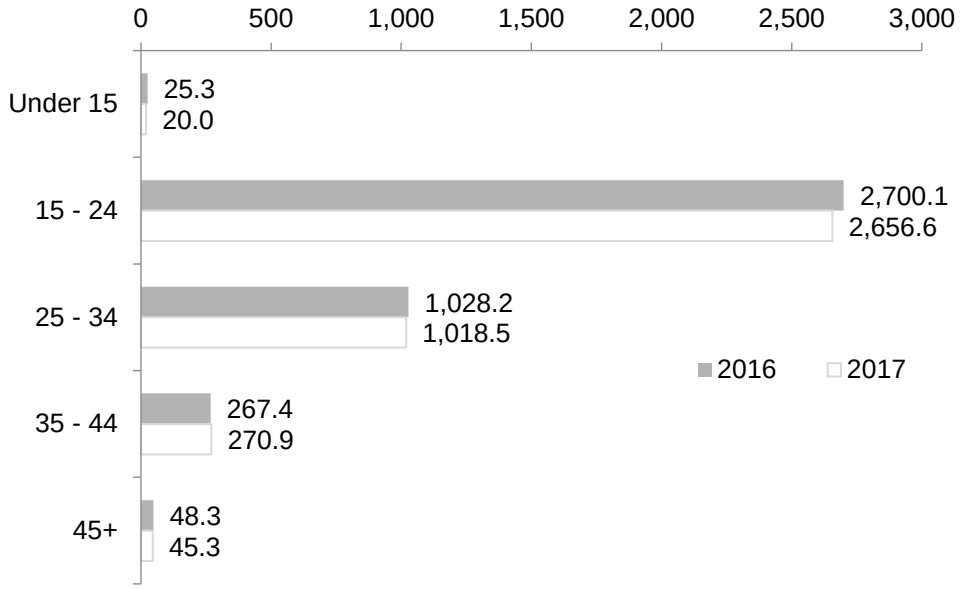
	2012	2013	2014	2015	2016	2017
Female Cases	17,173	17,718	18,713	19,531	19,549	19,026
Male Cases	5,012	5,728	6,553	7,403	8,077	8,250
Rate per 100,000	518.1	537.1	565.3	590.9	600.5	584.8

Source: Texas STD*MIS as of October 2018. Data analyzed by the Houston Health Department. Rate per 100,000 population.
Population Source: Harris County population projections from U.S. Census Bureau, American Community Survey 1-Year Estimates; Census tracts outside of Harris where at least 50% of the population reside in Houston (census tracts: 48157670101, 48157670102, 48157670200, 48157670300, 48157670400, 48157670602) from U.S. Census Bureau
People with unknown sex are included in rate calculations.

(**Graph 4**) When analyzed by age, Chlamydia is diagnosed most among young adults. In 2017, the rate of Chlamydia among people ages 15 to 24 was 2,656.6 for every 100,000 people in this age range in Houston/Harris County. This is over two times the rate of the age group with the next highest rate (which is 25 to 34 year olds at 1,018.5 per 100,000). All age groups experienced decreases in their Chlamydia rates between 2016 and 2017 except those between the ages 35 to 44, whose rate increased by 1.3%. The age group with the largest one-year decrease was persons under 15 years old. The Chlamydia rate in this age group decreased by 20.9% between 2016 and 2017.

When analyzed by both sex assigned at birth and age, Chlamydia rates are even higher among adolescent and young adult *females*. In 2017, the rate of Chlamydia among females ages 15 to 19 was 3,624.6 cases for every 100,000 females in this age group in Houston/Harris County, and the rate for females age 20 to 24 was 4,490.4 cases for every 100,000 persons.

GRAPH 4- Chlamydia Rates in Houston/Harris County by Age, 2016 and 2017

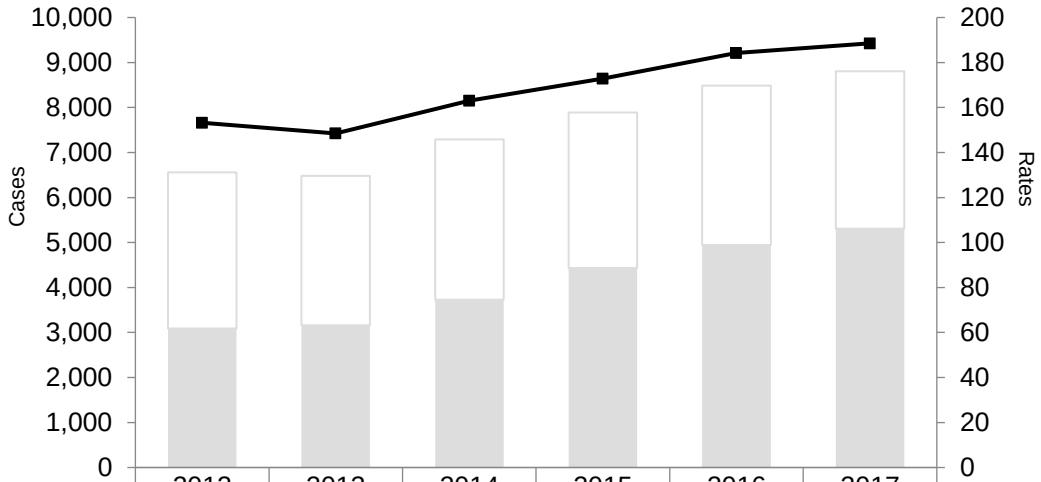


Source: Texas STD*MIS as of October 2018. Data analyzed by the Houston Health Department. Rate per 100,000 population.
Population Source: Harris County population projections from U.S. Census Bureau, American Community Survey 1-Year Estimates; Census tracts outside of Harris where at least 50% of the population reside in Houston (census tracts: 48157670101, 48157670102, 48157670200, 48157670300, 48157670400, 48157670602) from U.S. Census Bureau

Gonorrhea

(**Graph 5**) Approximately 6,500 to 8,800 cases of gonorrhea are reported in the Houston Area each year. In 2017, there were 8,827 cases of gonorrhea reported in Houston/Harris County, which is a 3.8% increase from the prior reporting year. Currently, the rate of gonorrhea in Houston/Harris County is 188.5 cases for every 100,000 people in the jurisdiction. Unlike Chlamydia, which was reported primarily among females, gonorrhea cases in 2017 were 39.7% female and 60.1% male.

GRAPH 5- Gonorrhea Cases and Rates in Houston/Harris County by Sex assigned at birth, 2012 to 2017



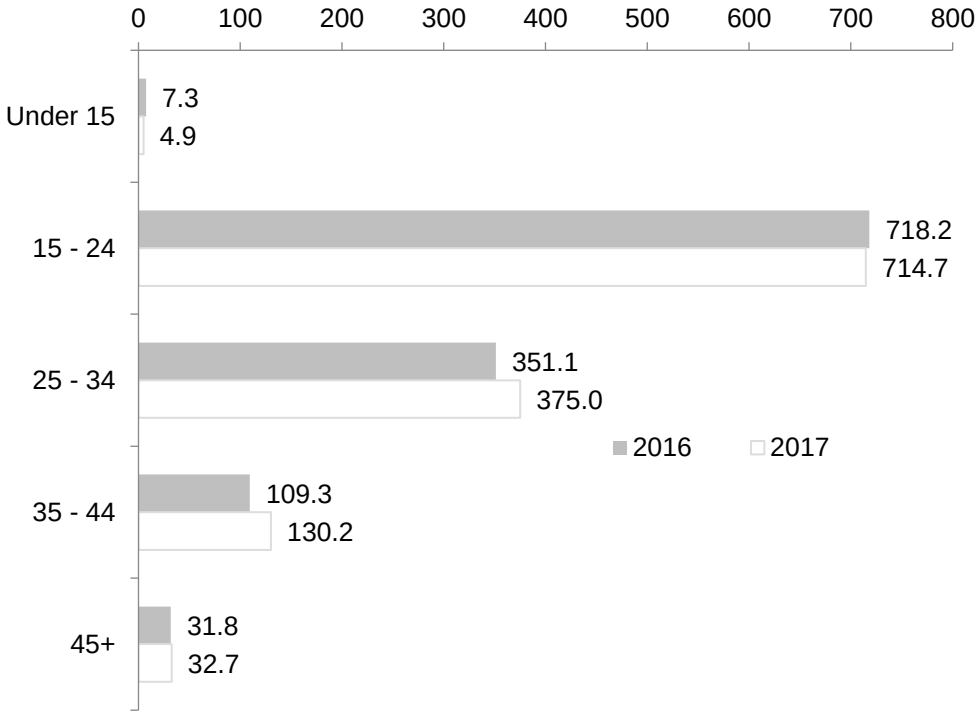
	2012	2013	2014	2015	2016	2017
Female Cases	3,471	3,321	3,559	3,453	3,540	3,504
Male Cases	3,091	3,161	3,730	4,434	4,947	5,305
Rate per 100,000	153.2	148.5	163.1	172.9	184.2	188.5

Source: Texas STD*MIS as of October 2018. Data analyzed by the Houston Health Department. Rate per 100,000 population.
Population Source: Harris County population projections from U.S. Census Bureau, American Community Survey 1-Year Estimates; Census tracts outside of Harris where at least 50% of the population reside in Houston (census tracts: 48157670101, 48157670102, 48157670200, 48157670300, 48157670400, 48157670602) from U.S. Census Bureau
People with unknown sex are included in rate calculations.

(**Graph 6**) When analyzed by age, gonorrhea is also diagnosed most among adolescents and young adults. In 2017, the rate of gonorrhea among people ages 15 to 24 was 714.7 for every 100,000 people in this age range in Houston/Harris County. This is almost two times the rate of the age group with the next highest rate (which is 25 to 34 year old at 375.0 per 100,000). All age groups experienced increases in their gonorrhea rates between 2016 and 2017 except those under 14 years old and between the ages 15 to 24, whose rate decreased by 32.9% and 0.5%, respectively. The age group with the largest one-year increase was persons ages 35 to 44 whose gonorrhea rate increased by 19.1% between 2016 and 2017.

When analyzed by both sex assigned at birth and age, gonorrhea rates are even higher among adolescent and young adult *females*. In 2017, the rate of gonorrhea among females ages 15 to 19 was 681.9 cases for every 100,000 females in this age group in Houston/Harris County, and the rate for females age 20 to 24 was 786.5 cases for every 100,000 persons.

GRAPH 6- Gonorrhea Rates in Houston/Harris County by Age, 2016 and 2017



Source: Texas STD*MIS as of October 2018. Data analyzed by the Houston Health Department. Rate per 100,000 population.
Population Source: Harris County population projections from U.S. Census Bureau, American Community Survey 1-Year Estimates; Census tracts outside of Harris where at least 50% of the population reside in Houston (census tracts: 48157670101, 48157670102, 48157670200, 48157670300, 48157670400, 48157670602) from U.S. Census Bureau

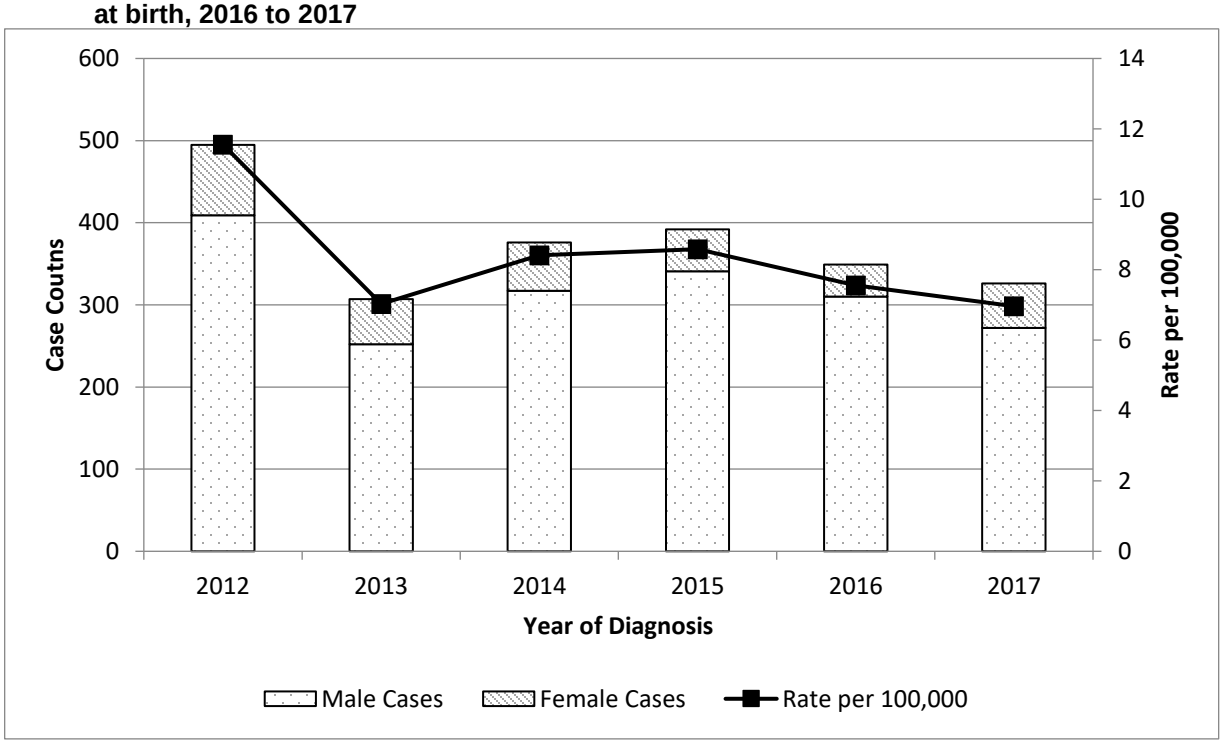
Infectious Syphilis

There are four general stages of syphilis: (1) primary, (2) secondary, (3) latent, and (4) tertiary. The primary and secondary stages of syphilis are of most concern epidemiologically as this is when syphilis is communicable, or infectious, to others. Therefore, primary and secondary syphilis, taken together, are commonly referred to as infectious syphilis. Combined data on these two stages of syphilis are described here.

(**Graph 7**) Compared to other notifiable STDs, there are relatively few cases of infectious syphilis in the Houston Area (an average of about 374 cases are reported each year). In 2017, the rate of syphilis was 7.0 cases for every 100,000 people in Houston/Harris County.

Unlike Chlamydia, syphilis occurs most often in males. In 2017, 83.4% of reported syphilis cases were in males, and 16.6% were in females. Currently, the rate of syphilis in males (11.7 per 100,000 males in the Houston/Harris County population) is five times higher than in females (2.3 per 100,000 females in the Houston/Harris County population).

GRAPH 7- Infectious Syphilis Cases and Rates in Houston/Harris County by Sex assigned at birth, 2016 to 2017

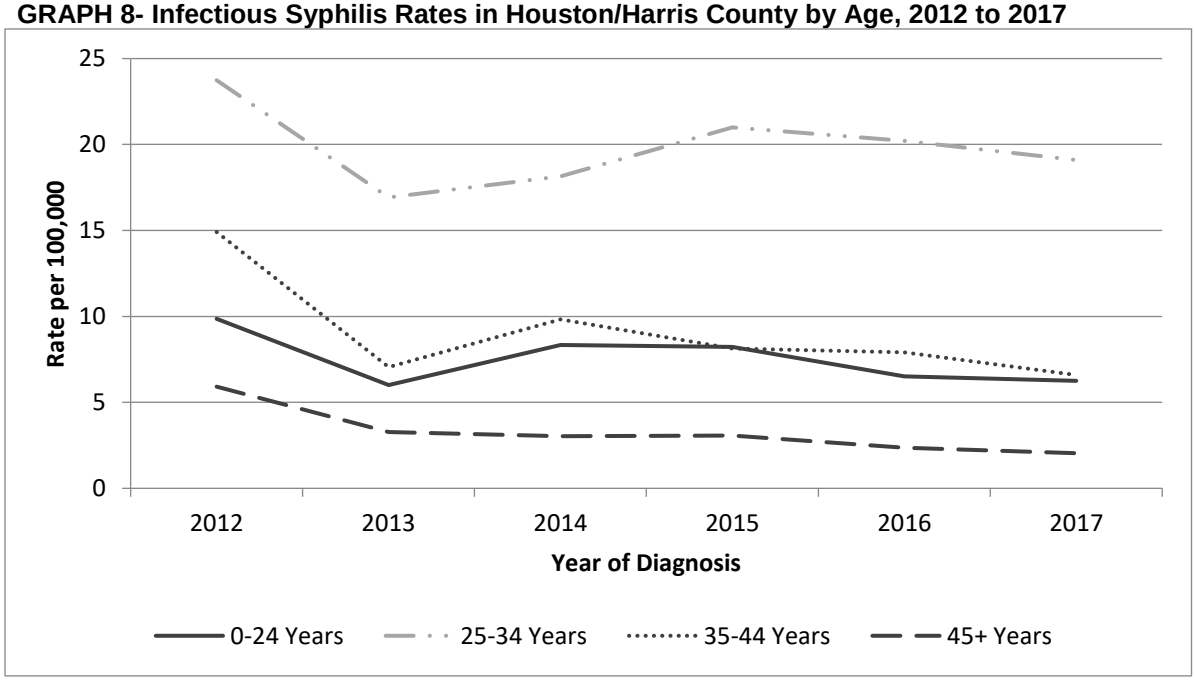


Source: Texas STD*MIS as of October 2018. Data analyzed by the Houston Health Department. Rate per 100,000 population.
Population Source: Harris County population projections from U.S. Census Bureau, American Community Survey 1-Year Estimates; Census tracts outside of Harris where at least 50% of the population reside in Houston (census tracts: 48157670101, 48157670102, 48157670200, 48157670300, 48157670400, 48157670602) from U.S. Census Bureau
People with unknown sex are included in rate calculations.

(**Graph 8**) When analyzed by age, the syphilis rate is highest among young adults as is the case with other notifiable STDs. Since 2015, the syphilis rate among all groups in Houston/Harris County has seen declines. In 2017, the rate of syphilis among people ages 25 to 34 was 19.1 for every 100,000 people in this age range in Houston/Harris County. This is compared to a rate of 6.6 for every 100,000 persons ages 35 to 44 and 2 for every 100,000 persons aged 45 and older.

When analyzed by both sex assigned at birth and age, syphilis rates are highest among young adult *males*. In 2017, the rate of syphilis among males ages 20 to 24 was 34.2 cases for every 100,000 males in this age group in Houston/Harris County compared to 19.8 cases for every 100,000 females age 20 to 24.

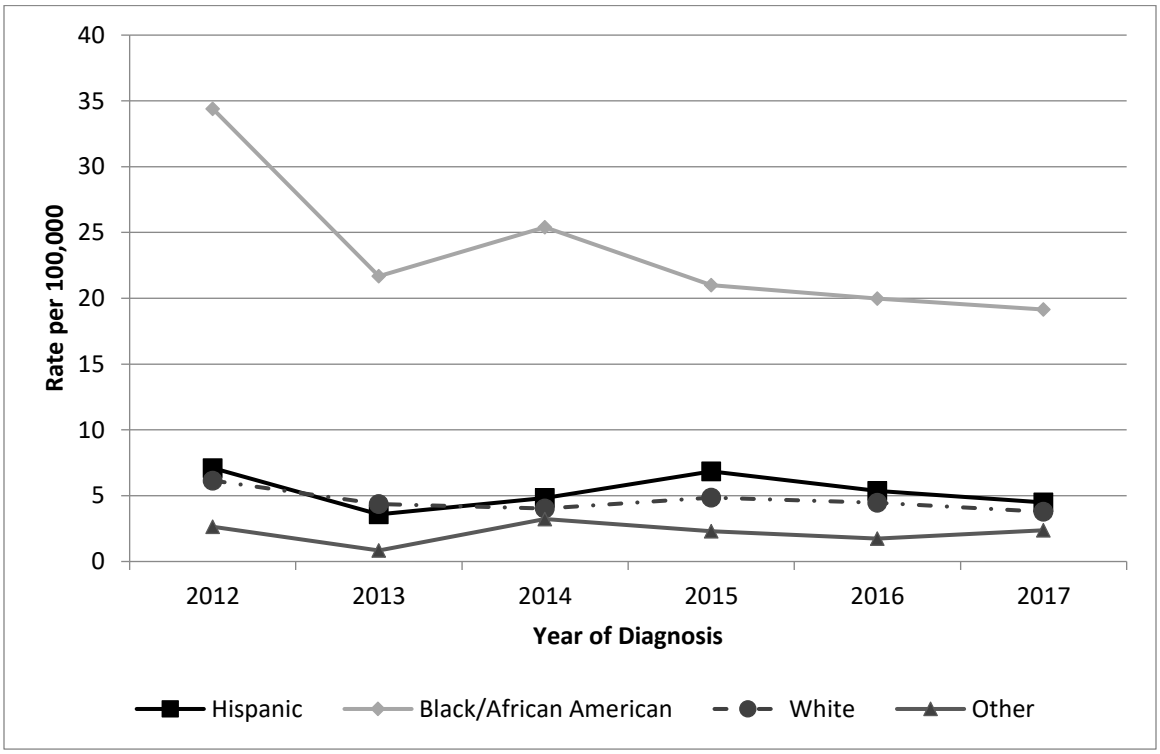
GRAPH 8- Infectious Syphilis Rates in Houston/Harris County by Age, 2012 to 2017



Source: Texas STD*MIS as of October 2018. Data analyzed by the Houston Health Department. Rate per 100,000 population.
Population Source: Harris County population projections from U.S. Census Bureau, American Community Survey 1-Year Estimates; Census tracts outside of Harris where at least 50% of the population reside in Houston (census tracts: 48157670101, 48157670102, 48157670200, 48157670300, 48157670400, 48157670602) from U.S. Census Bureau

(**Graph 9**) When analyzed by race/ethnicity, syphilis rates in Houston/Harris County are highest among African American/Black persons. In 2017, the rate of syphilis in African Americans was 19.1 cases for every 100,000 African Americans in the jurisdiction. This is 5 times higher than the rate for Whites and for Hispanic/Latinos, which have comparable rates at about 4 cases of syphilis per 100,000 population. In 2012, the rate among African Americans was at its peak at 34.4 cases for every 100,000 African Americans in Houston/Harris County. The overall rate of syphilis among African Americans, Whites and Hispanics declined from 2015 to 2017. Between 2016 and 2017, the rate of syphilis in African Americans decreased by 4.1%; the rates for Whites and Hispanic/Latinos also declined by 15.3% and 16.5%, respectively.

GRAPH 9- Infectious Syphilis Rates in Houston/Harris County by Race/Ethnicity, 2012 to 2017



Source: Texas STD*MIS as of October 2018. Data analyzed by the Houston Health Department. Rate per 100,000 population.
Population Source: Harris County population projections from U.S. Census Bureau, American Community Survey 1-Year Estimates; Census tracts outside of Harris where at least 50% of the population reside in Houston (census tracts: 48157670101, 48157670102, 48157670200, 48157670300, 48157670400, 48157670602) from U.S. Census Bureau

Chapter 4: HIV Service Utilization in the Houston Area

What are the patterns of service utilization among people living with HIV?

"Achieving elimination will require an infusion of resources to employ strategic practices in the right places targeted to the right people to maximize impact and end the HIV epidemic in America. Key strategies of the initiative include [implementing] programs to increase adherence to HIV medication, help people get back into HIV medical care and research innovative products that will make it easier for patients to access HIV medication."

U.S. Department of Health and Human Services, *Ending the HIV Epidemic: A Plan for America* initiative factsheet
February 2019

Chapter 2 of this document described the populations of people living with HIV in the Houston Area. Chapter 3 described the factors that may make individuals vulnerable to HIV exposure in the Houston Area, including lack of awareness of HIV positive status. The purpose of this chapter is to describe the extent to which status aware individuals are linked to and utilizing HIV medical care, treatment, and supportive services in the Houston Area. This chapter will include a focus on the use of specific HIV services provided through the Ryan White HIV/AIDS Program (RWHAP) as well as the status of the Houston Area HIV Care Continuum

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.[1] 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.[2]

[1]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.
[2]National HIV/AIDS Strategy: Updated to 2020, July 2015.

(**Table 1**) 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. 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.

TABLE 1-Percent of New HIV Diagnoses Linked to HIV Care in Texas and in the Houston EMA by Sex, Race/Ethnicity, Age, Risk, and Timeframe, 2017[a]

	Texas			Houston EMA		
	Linked ≤ 3 Months	Linked at 4+ Months	Not Linked to Care	Linked ≤ 3 Months	Linked at 4+ Months	Not Linked to Care
Total	79%	7%	13%	80%	8%	12%
Sex						
Male	79%	7%	14%	80%	7%	13%
Female	81%	9%	10%	81%	11%	8%
Race/Ethnicity						
White	81%	8%	11%	84%	8%	8%
African American	76%	9%	15%	77%	8%	15%
Hispanic/Latino	81%	6%	13%	83%	7%	10%
Other	76%	9%	15%	69%	--	--
Multiracial	90%	7%	3%	91%	--	--
Age						
Under 2	--	--	--	--	--	--
2 - 12	--	--	--	--	--	--
13 - 24	76%	8%	16%	79%	5%	16%
25 - 34	80%	7%	13%	78%	9%	13%
35 - 44	81%	6%	13%	82%	8%	11%
45 - 54	82%	8%	10%	84%	9%	7%
55 - 64	81%	8%	11%	86%	--	10%
65+	78%	11%	11%	76%	--	--
Risk Category[b]						
Male-male sexual contact (MSM)	79%	7%	14%	79%	7%	14%
People with injection drug use (PWIDU)	78%	7%	15%	72%	13%	15%
MSM/IDU	78%	9%	14%	83%	--	--
Sex with male / sex with female	82%	8%	10%	83%	9%	8%
Perinatal transmission	75%	--	--	100%	--	--

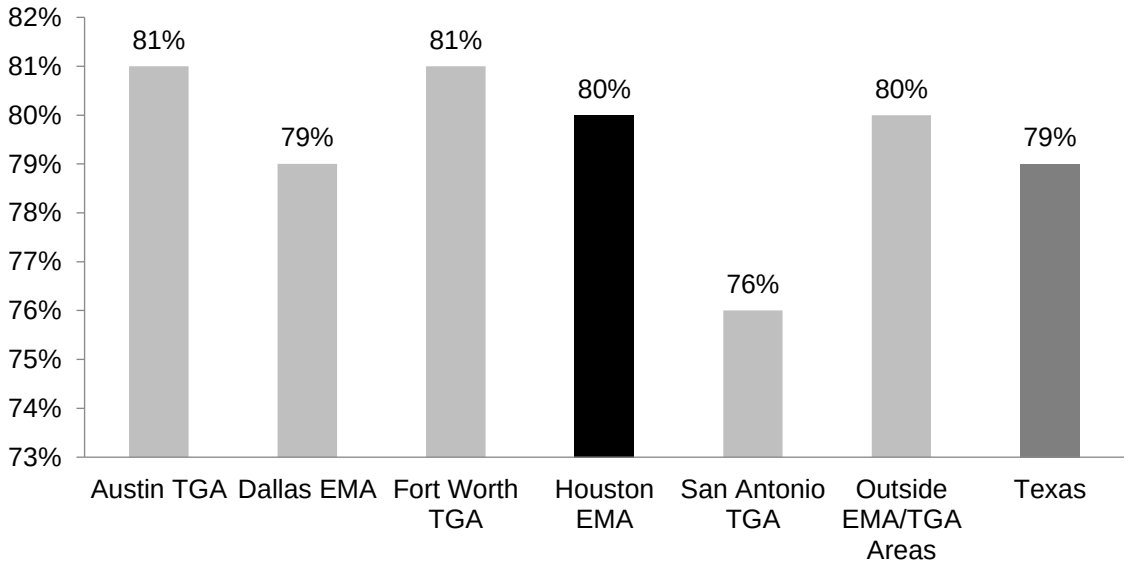
[a]Source: Texas Department of State Health Services, 2017 Linkage to Care. Released 7/20/18
[b]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification

Within demographic groups with lower linkage to care rates than the Houston EMA as a whole (**Table 1**), there were additional *sub-groups* experiencing disproportionately low linkage to care, meaning that the proportion of the sub-group that was linked to care within the federal standard of three months post-diagnosis fell below the proportion for the demographic group as a whole. Groups in the EMA with disproportionately low linkage to care rates are:

- White females (76% linked within 3 months vs. 81% of all females)
- White females (76%) and African American females (79%) with sex with males transmission risk (overall 81% linked within 3 months)
- African American females with injection drug use transmission risk (76% linked within 3 months vs. 77% all females with injection drug use)
- African American males (76% linked with 3 months vs. 80% of all males)
- African American males with male-male sexual contact transmission risk (75% linked with 3 months vs. 79% of all people with male-male sexual contact)
- White males with injection drug use transmission risk (66% linked with 3 months vs. 67% of all people with injection drug use)
- Hispanic/Latino males with combined male-male sexual contact and injection drug use transmission risks (73% linked with 3 months vs. 83% of all people combined male-male sexual contact and injection drug use)

(**Graph 1**) Though the Houston EMA's linkage to care proportion is higher than for the state of Texas as a whole, other federally designated geographic service areas (i.e., other EMAs or Transitional Grant Areas/TGAs) in the state including the Austin and Fort Worth TGAs exceed the state's linkage to care proportion.

GRAPH 1- Percent of Persons Newly Diagnosed with HIV Linked to Care within Three Months of Diagnosis by HRSA Geographic Service Area in Texas, 2017



Source: Texas Department of State Health Services, 2017 Linkage to Care. Released 7/20/18

Total Population in HIV Care, or Met Need

The Health Resources and Services Administration (HRSA) has developed a uniform definition for being in care for HIV. 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 HRSA's definition, services can be received from any health care system or payer source. Therefore, to be in care according to this definition, a person does not have to receive services from a HRSA-funded program, such as the Ryan White HIV/AIDS Program. Efforts to analyze HIV service utilization strive to include as many different health care systems and payer sources as possible in order to produce the most complete understanding of met need in a geographic area.

(**Table 2**) 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 also in care), people with perinatal transmission risk (72%), Other race/ethnicity individuals (72%), people with injection drug use transmission risk (72%), adults age 35 to 44 (74%), and African American individuals (74%).

TABLE 2-Diagnosed People Living with HIV and In HIV Care in the Houston EMA by Sex at Birth, Race/Ethnicity, Age, and Risk, 2017				
	All Diagnosed PLWH[a]		PLWH in HIV Care[b]	
	#	%	#	%
Total	28,225	100%	21,273	75%
Sex at Birth				
Male	21,178	75%	15,869	75%
Female	7,047	25%	5,404	25%
Race/Ethnicity				
White	5,321	19%	4,131	19%
African American	13,830	49%	10,278	48%
Hispanic/Latino	7,926	28%	5,937	28%
Other	389	1%	280	1%
Multiracial	759	3%	647	3%
Age				
Under 2	--	--	--	--
2 - 12	58	0.2%	53	0%
13 - 24	1,230	4%	960	5%
25 - 34	5,738	20%	4,339	20%
35 - 44	6,632	23%	4,919	23%
45 - 54	7,649	27%	5,844	27%
55 - 64	5,186	18%	3,967	19%
65+	1,730	6%	1,190	6%
Risk Category[c]				
Male-male sexual contact (MSM)	16,133	57%	12,268	58%
People with injection drug use (PWIDU)	2,368	8%	1,714	8%
MSM/PWIDU	1,099	4%	832	4%
Sex with male / sex with female	8,263	29%	6,200	29%
Perinatal transmission	343	1%	246	1%
Adult other risk	18	0%	13	0%

[a]Source: Texas Department of State Health Services. HIV Prevalence as of 12/31/17. Released 8/12/18.

[b]Source: Texas Department of State Health Services, Unmet Need, 2017. Released 7/20/18
Per HRSA definition. A person with diagnosed HIV has met need if any of the following in a 12 month period in any payer system: (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.

[c]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification

Total Population in the Ryan White HIV/AIDS Program

The Health Resources and Services Administration (HRSA) provides funding for HIV care, treatment, and support services in the Houston Area through the Ryan White HIV/AIDS Program. The program is organized into a series of Parts, each for a specific geographic service area, population, or purpose. The Houston Area receives Part A and Minority AIDS Initiative (MAI) funds (for the jurisdiction of the Houston EMA), Part B (for the AIDS Drug Assistance Program or ADAP and for services to the jurisdiction of the Houston HSDA), Part C (for early intervention services and capacity development and planning activities), and Part D (for services to women, infants, children, and youth living with HIV). The Houston Area also receives funds from the State of Texas called *State Services*, distributed by the Texas Department of State Health Services (DSHS). The overall intent of these funds is to ensure that people living with HIV have access to core medical and support services for the effective management of HIV when no other payer is available. Though HRSA determines which types of services can be supported through the Ryan White HIV/AIDS Program, local communities must select which services will be funded each year in order to meet the needs of the local population.

In 2018, Houston Area Ryan White HIV/AIDS Program funds from Part A, Part B, MAI, and State Services were allocated to the following core medical and support services in order of priority:

- Primary medical care (including vision care)
- Medical case management (including clinical case management)
- Local pharmaceutical assistance (non-ADAP)
- Oral Heath
- Health insurance assistance
- Mental health services
- Early intervention services for incarcerated individuals
- Adult day treatment
- Outpatient substance abuse treatment
- Medical nutritional therapy
- Hospice
- Outreach services to support retention in care
- Emergency pharmacy assistance
- Service linkage workers targeting newly diagnosed youth, primary care sites, and testing sites
- Transportation by van, bus, and gas vouchers
- Interpretation services (non-English and non-Spanish)

(**Table 3**) In 2018, services funded by the Ryan White HIV/AIDS Program Part A, Minority AIDS Initiative (MAI), Part B, and State Services (State of Texas matching funds for HIV care) served a total of 14,579 clients, of whom 75% were male (at birth), 25% were female (at birth), 16% were White, 53% were African American, and 29% were Hispanic/Latino. The five services with the largest volume of clients in 2017 were (1) primary medical care (at 8,874 clients), (2) service linkage for the newly diagnosed at primary medical care sites (at 7,431 clients), (3) medical case management (at 6,083 clients), (4) local pharmaceutical assistance (non-ADAP) (at 4,639 clients), and (5) oral health care services (at 3,590 clients).

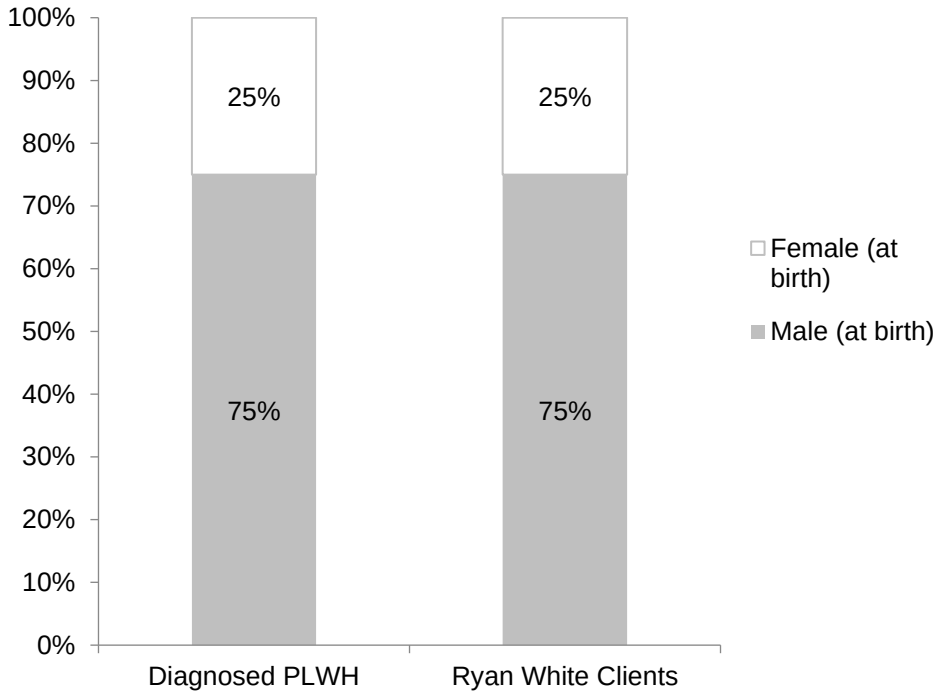
TABLE 3-Number of Clients Served by the Ryan White HIV/AIDS Program Part A, B, MAI, and State Services in the Houston EMA/HSDA by Service Category, Sex at Birth, and Race/Ethnicity, 2018

		Percent by Sex		Percent by Race/Ethnicity			
Service	Total Number Served	Male	Female	White	African American	Hispanic / Latino	Other
Total All Services/All Clients	14,579	75%	25%	16%	53%	29%	2%
Primary medical care	8,874	75%	25%	13%	50%	35%	2%
Vision care	2,565	75%	25%	16%	48%	35%	1%
Medical case management	6,083	73%	27%	14%	55%	28%	3%
Clinical case management	1,149	73%	27%	19%	62%	18%	1%
LPAP	4,639	77%	23%	15%	48%	35%	2%
Oral health	3,590	73%	27%	16%	53%	30%	1%
Health insurance assistance	2,203	81%	19%	26%	44%	27%	3%
Mental health counseling	217	90%	10%	47%	34%	18%	1%
Early intervention services	789	85%	15%	16%	70%	13%	1%
Adult day treatment	38	71%	26%	11%	55%	34%	0%
Substance abuse treatment	28	96%	4%	50%	25%	21%	4%
Medical nutritional therapy	476	79%	21%	21%	40%	35%	4%
Hospice	46	83%	17%	20%	57%	24%	0%
Outreach services	1,016	76%	24%	13%	5%	27%	2%
Pharmacy assistance	621	75%	25%	8%	50%	39%	3%
Service linkage, general	7,431	73%	27%	12%	57%	29%	2%
Service linkage, testing	180	71%	29%	5%	67%	25%	3%
Transportation by van	863	66%	34%	17%	58%	22%	3%
Transportation by bus	2,291	72%	28%	12%	70%	17%	1%
Translation services	50	58%	42%	2%	54%	6%	38%

Source: Ryan White Grant Administration and The Resource Group. All Services/All Grants. Presented 4/11/19

(**Graph 2**) The distribution of the population served by the Ryan White HIV/AIDS Program Part A, Minority AIDS Initiative (MAI), Part B, and State Services in 2018 closely mirrors the distribution of the total population of people living with HIV in the Houston EMA. In 2018, the program served a client population of 75% male by sex at birth and 25% female by sex at birth, the same composition by sex at birth as the EMA.

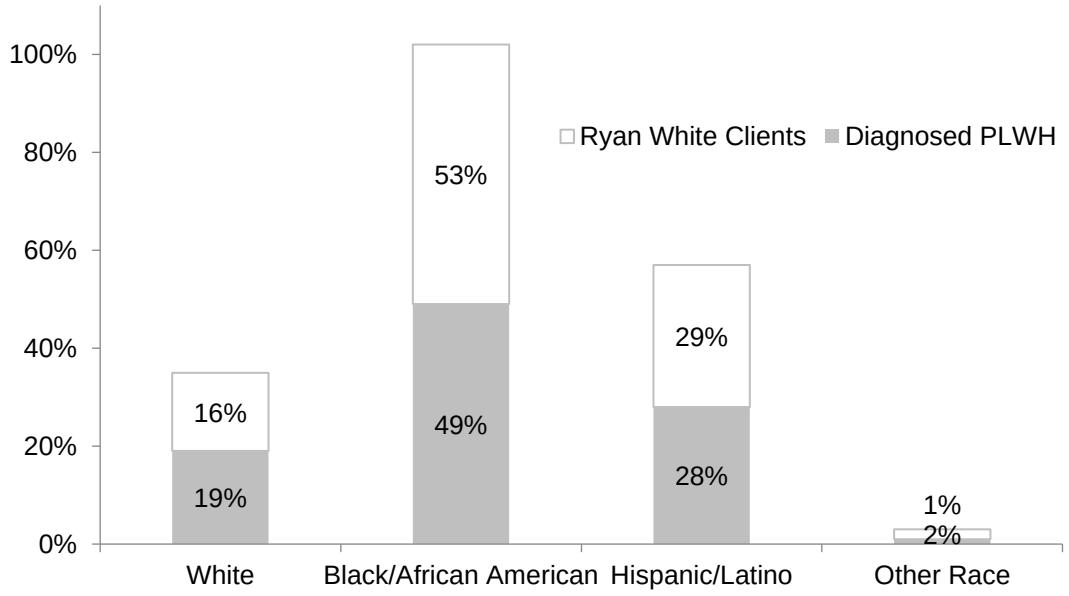
GRAPH 2-Comparison of Total Population Living with HIV[a] in the Houston EMA to the Population Served in the Ryan White HIV/AIDS Program[b] by Sex at Birth, 2018



[a]Source: Texas eHARS. Diagnosed PLWH as of 12/31/17.
[b] Ryan White Grant Administration and The Resource Group. All Services/All Grants. Presented 4/11/19

(**Graph 3**) The program also served 4% more African American, 1% more Hispanic/Latino, and 3% fewer White individuals living with HIV in 2018 than are represented in the HIV-diagnosed population as a whole.

GRAPH 3-Comparison of Total Population Living with HIV[a] in the Houston EMA to the Population Served in the Ryan White HIV/AIDS Program[b] by Race/Ethnicity, 2018



[a]Source: Texas eHARS. Diagnosed PLWH as of 12/31/17.
[b] Ryan White Grant Administration and The Resource Group. All Services/All Grants. Presented 4/11/19

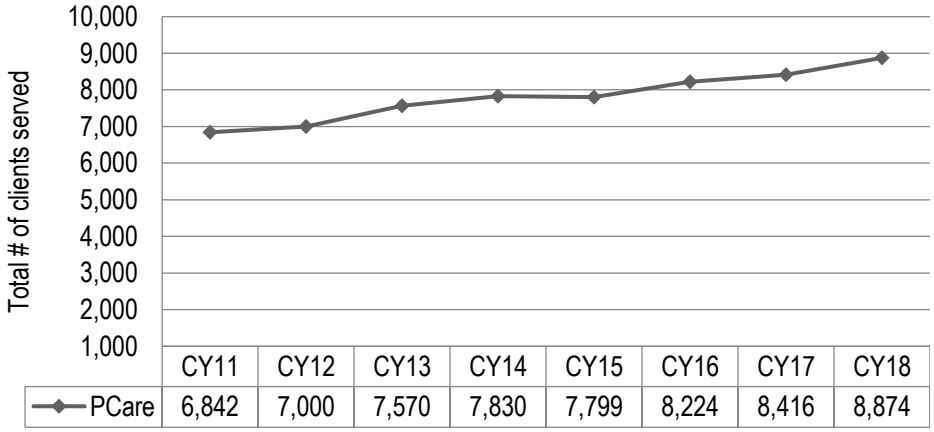
Detail of Selected Ryan White HIV/AIDS Program Service Categories

The Ryan White HIV/AIDS Program Part A, Minority AIDS Initiative (MAI), Part B, and State Services (matching funds from the State of Texas) funds can support HIV care for people residing in the Houston Area geographic service designations across a range of service categories. These funds support HIV care including services that produce medical outcomes related to HIV (i.e., core medical services) and those that directly link individuals to medical outcomes (i.e. support services). At least 75% of Ryan White funds must be spent on core medical services, and no more than 25% on supportive services. This section provides details about service utilization for six selected core medical services currently funded by the program in the Houston EMA. Utilization data for select service categories below differs from the final total population data reported above, as these data reference Centralized Patient Care Data Management System (CPCDMS) reports run in early April 2019, before final closeout data for FY2018 were available.

Primary Care

(**Graph 4**) Between 2011 to 2018, the number of clients receiving HIV primary care through the Ryan White HIV/AIDS Program in the Houston EMA increased by 30%, or 2,032 clients. This was an average increase of 290 new clients each year.

GRAPH 4-Total Number of Persons Receiving Primary Care through the Ryan White HIV/AIDS Program in the Houston EMA, from 2011 to 2018



	CY11	CY12	CY13	CY14	CY15	CY16	CY17	CY18
PCare	6,842	7,000	7,570	7,830	7,799	8,224	8,416	8,874

Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2011 - December 31, 2018.

(**Table 4**) In 2018, 7,746 unduplicated clients received HIV primary care through the Ryan White HIV/AIDS Program in the Houston EMA. Of these, 75% were male at birth, 25% were female at birth, 12% were White, 49% were African American, 37% were Hispanic/Latino, 6% were under age 24, 81% were between ages 25 and 54, and 12% were age 55 and up. Comparison of client proportions of the total number of people living with HIV in the Houston EMA in 2017 yield higher and lower than expected proportions of populations using HIV primary care. Utilization of Ryan White HIV primary care was higher than expected among Hispanic/Latino individuals (by 9%), and individuals ages 25 to 34 and 35 to 44 (by 10% and 5%, respectively). Populations under-represented were White individuals (by 7%) and individuals 55 to 64 and age 65 and over (by 3% and 7% respectively). Due to differences in data calculation methodology, reported risk cannot be compared.

TABLE 4-People Living with HIV[a] and Receiving Primary Care[b] through the Ryan White HIV/AIDS Program (RW) in the Houston EMA by Sex at Birth, Race/Ethnicity, Age, and Risk, 2018

	All Diagnosed PLWH		In RW Primary Care	
	Number	%	Number	%
Total	28,225	100%	7,746	100%
Sex at Birth				
Male	21,178	75%	5,834	75%
Female	7,047	25%	1,912	25%
Race/Ethnicity				
White	5,321	19%	962	12%
African American	13,830	49%	3,779	49%
Hispanic/Latino	7,926	28%	2,840	37%
Other	389	1%	126	2%
Multiracial	759	3%	39	1%
Age				
0 - 12	60	0%	--	--
13 - 24	1,230	4%	457	6%
25 - 34	5,738	20%	2,331	30%
35 - 44	6,632	23%	2,130	27%
45 - 54	7,649	27%	1,885	24%
55 - 64	5,186	18%	860	11%
65+	1,730	6%	82	1%
Risk Category[c]				
Male-male sexual contact (MSM)	16,133	57%	3,177	41%
People with injection drug use (PWIDU)	2,368	8%	94	1%
MSM/IDU	1,099	4%	20	0%
Sex with male / Sex with female	8,263	29%	2,836	37%
Perinatal transmission	343	1%	68	1%
Adult other risk	18	0%	1,551	20%

[a]Source: Texas eHARS. Diagnosed PLWH as of 12/31/17

[b]Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2018 - December 31, 2018

[c]For living cases, those with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification. This is not the case for RW primary care clients. Therefore, data on risk composition should not be used comparatively.

(**Table 5**) Of clients served for HIV primary care in 2018 by the Ryan White HIV/AIDS Program, the majority were Houston/Harris County residents (91%). In addition, 22% were monolingual Spanish speakers (up from 17% in 2011), 16% were homeless (up from 6% in 2011), 2% were transgender, and 3% had either active substance abuse or an active psychiatric illness.

TABLE 5-Selected Subpopulations of People Receiving Primary Care through the Ryan White HIV/AIDS Program (RW) in the Houston EMA, 2018

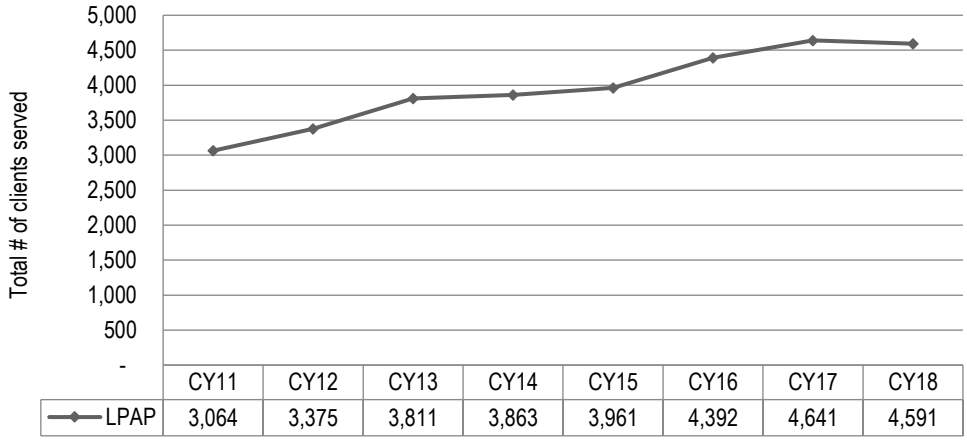
	Number	%
Total Unduplicated Clients	7,746	100%
Monolingual Spanish	1,722	22%
Homeless	1,278	16%
Transgender	128	2%
Houston/Harris County residents	7,053	91%
Non-Houston/Harris County residents	693	9%
Active substance abuse	75	1%
Active psychiatric illness	178	2%

Source: Harris County Public Health Services, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2018 - December 31, 2018

Local Pharmacy Assistance Program (LPAP)

(**Graph 5**) Between 2011 to 2018, the number of clients receiving the local pharmacy assistance program (LPAP) through the Ryan White HIV/AIDS Program in the Houston EMA increased by 50%, or 1,527 clients. This was an average increase of 218 new clients each year.

GRAPH 5-Total Number of Persons Served in the Local Pharmacy Assistance Program (LPAP) in the Houston EMA, from 2011 to 2018



	CY11	CY12	CY13	CY14	CY15	CY16	CY17	CY18
LPAP	3,064	3,375	3,811	3,863	3,961	4,392	4,641	4,591

Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2011 - December 31, 2018.

(**Table 6**) In 2018, 5,457 unduplicated clients received LPAP in the Houston EMA. Of these, 77% were male, 23% were female, 15% were White, 478% were African American, 35% were Hispanic/Latino, 5% were under age 24, 30% were age 25 to 34, and 12% were age 55 and over. Comparison of client proportions of the total number of people living with HIV in the Houston EMA in 2017 yield higher and lower than expected proportions of populations using LPAP. Utilization of Ryan White LPAP was higher than expected among males (by 2%), Hispanic/Latino individuals (by 7%), and individuals ages 25 to 34 and 35 to 44 (by 10% and 5%, respectively). Populations under-represented were females (by 2%), White individuals (by 4%), multiracial individuals (by 3%), and individuals ages 45 to 54, 55 to 64, 65 and over (by 2%, 7%, and 5% respectively). Due to differences in data calculation methodology, reported risk cannot be compared.

TABLE 6-People Living with HIV[a] and Receiving Local Pharmacy Assistance Program (LPAP)[b] through the Ryan White HIV/AIDS Program (RW) in the Houston EMA by Sex at Birth, Race/Ethnicity, Age, and Risk, 2018

	All Diagnosed PLWH		RW LPAP Clients	
	Number	%	Number	%
Total	28,225	100%	4,591	100%
Sex at Birth				
Male	21,178	75%	3,540	77%
Female	7,047	25%	1,051	23%
Race/Ethnicity				
White	5,321	19%	692	15%
African American	13,830	49%	2,219	48%
Hispanic/Latino	7,926	28%	1,589	35%
Other	389	1%	70	2%
Multiracial	759	3%	21	0%
Age				
0 - 12	60	0%	--	--
13 - 24	1,230	4%	244	5%
25 - 34	5,738	20%	1,379	30%
35 - 44	6,632	23%	1,284	28%
45 - 54	7,649	27%	1,134	25%
55 - 64	5,186	18%	491	11%
65+	1,730	6%	59	1%
Risk Category[c]				
Male-male sexual contact (MSM)	16,133	57%	2,043	45%
People with injection drug use (PWIDU)	2,368	8%	62	1%
MSM/IDU	1,099	4%	11	0%
Sex with Male / Sex with Female	8,263	29%	1,471	32%
Perinatal transmission	343	1%	40	1%
Adult other risk	18	0%	964	21%

[a]Source: Texas eHARS. Diagnosed PLWH as of 12/31/17

[b]Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2018 - December 31, 2018

[c]For living cases, those with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification. This is not the case for RW primary care clients. Therefore, data on risk composition should not be used comparatively.

(**Table 7**) Of clients receiving LPAP in 2018 by the Ryan White HIV/AIDS Program, the majority were Houston/Harris County residents (89%). In addition, 18% were monolingual Spanish speakers, 19% were homeless, 2% were transgender, and 4% had either active substance abuse or an active psychiatric illness.

TABLE 7-Selected Subpopulations of People Receiving LPAP through the Ryan White HIV/AIDS Program (RW) in the Houston EMA, 2018

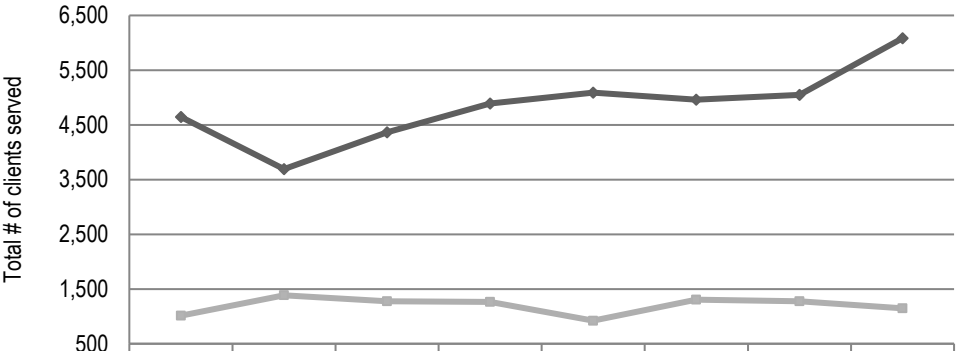
	Number	%
Total Unduplicated Clients	4,591	100%
Monolingual Spanish	843	18%
Homeless	855	19%
Transgender	102	2%
Houston/Harris County residents	4,102	89%
Non-Houston/Harris County residents	489	11%
Active substance abuse	39	1%
Active psychiatric illness	121	3%

Source: Harris County Public Health Services, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2018 - December 31, 2018

Clinical/Medical Case Management

(**Graph 6**) Between 2011 to 2018, the number of clients receiving case management through the Ryan White HIV/AIDS Program in the Houston EMA increased by 12%, or 664 clients. This was an average increase of 95 new clients each year across both service categories. The number of clients receiving clinical case management (CCM) increased by 26%, or 264 clients. The number of client receiving medical case management (MCM) increased by 7%, or 400 clients.

GRAPH 6-Total Number of Persons Receiving Case Management through the Ryan White HIV/AIDS Program in the Houston EMA, from 2011 to 2018



	CY11	CY12	CY13	CY14	CY15	CY16	CY17	CY18
MCM	4,646	3,692	4,366	4,891	5,089	4,962	5,046	6,083
CCM	1,012	1,385	1,275	1,266	922	1,308	1,276	1,149

Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2011 - December 31, 2018.

(**Table 8**) In 2018, 6,689 unduplicated clients received case management through the Ryan White HIV/AIDS Program in the Houston EMA. Of these, 74% were male, 26% were female, 15% were White, 56% were African American, 27% were Hispanic/Latino, 9% were under age 24, 28% were age 25 to 34, and 17% were age 55 and over. Comparison of client proportions of the total number of people living with HIV in the Houston EMA in 2017 yield higher and lower than expected proportions of populations using case management. Utilization of Ryan White case management was higher than expected among African American individuals (by 7%), individuals ages 13 to 24 (by 4%), and individuals age 25 to 34 (by 8%). Populations under-represented were White individuals (by 4%), multiracial individuals (by 2%), and individuals ages 45 to 54, 55 to 64, 65 and over (by 5%, 4%, and 3% respectively). Due to differences in data calculation methodology, reported risk cannot be compared.

TABLE 8-People Living with HIV[a] and Case Management[b] through the Ryan White HIV/AIDS Program (RW) in the Houston EMA by Sex at Birth, Race/Ethnicity, Age, and Risk, 2018

	All Diagnosed PLWH		RW Case Management Clients	
	Number	%	Number	%
Total	28,225	100%	6,689	100%
Sex at Birth				
Male	21,178	75%	4,953	74%
Female	7,047	25%	1,736	26%
Race/Ethnicity				
White	5,321	19%	1,006	15%
African American	13,830	49%	3,754	56%
Hispanic/Latino	7,926	28%	1,795	27%
Other	389	1%	93	1%
Multiracial	759	3%	41	1%
Age				
0 - 12	60	0%	65	1%
13 - 24	1,230	4%	527	8%
25 - 34	5,738	20%	1,893	28%
35 - 44	6,632	23%	1,576	24%
45 - 54	7,649	27%	1,486	22%
55 - 64	5,186	18%	936	14%
65+	1,730	6%	206	3%
Risk Category[c]				
Male-male sexual contact (MSM)	16,133	57%	2,800	42%
People with injection drug use (PWIDU)	2,368	8%	102	2%
MSM/IDU	1,099	4%	16	0%
Sex with Male / Sex with Female	8,263	29%	2,442	37%
Perinatal transmission	343	1%	146	2%
Adult other risk	18	0%	1,183	18%

[a]Source: Texas eHARS. Diagnosed PLWH as of 12/31/17
[b]Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2018 - December 31, 2018. Included both clinical case management and medical case management.
[c]For living cases, those with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification. This is not the case for RW clients. Therefore, data on risk composition should not be used comparatively.

(**Table 9**) Of clients who received case management in 2018 through the Ryan White HIV/AIDS Program, the majority were Houston/Harris County residents (88%). In addition, 13% were monolingual Spanish speakers, 16% were homeless, 2% were transgender, and 6% had either active substance abuse or an active psychiatric illness.

TABLE 9-Selected Subpopulations of People Receiving Case Management through the Ryan White HIV/AIDS Program (RW) in the Houston EMA, 2018

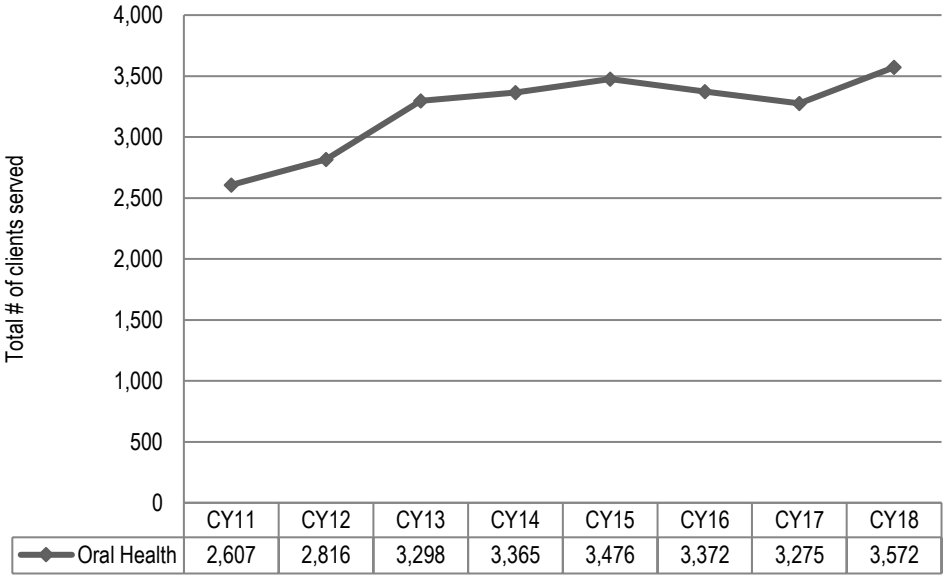
	Number	%
Total Unduplicated Clients	6,689	100%
Monolingual Spanish	866	13%
Homeless	1,103	16%
Transgender	108	2%
Houston/Harris County residents	5,880	88%
Non-Houston/Harris County residents	809	12%
Active substance abuse	95	1%
Active psychiatric illness	309	5%

Source: Harris County Public Health Services, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2018 - December 31, 2018

Oral Health

(**Graph 7**) Between 2011 to 2018, the number of clients receiving oral health care through the Ryan White HIV/AIDS Program in the Houston EMA increased by 37%, or 965 clients. This was an average increase of 134 new clients each year

GRAPH 7-Total Number of Persons Receiving Oral Health Care through the Ryan White HIV/AIDS Program in the Houston EMA, from 2011 to 2018



	CY11	CY12	CY13	CY14	CY15	CY16	CY17	CY18
Oral Health	2,607	2,816	3,298	3,365	3,476	3,372	3,275	3,572

Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2011 - December 31, 2018.

(**Table 10**) In 2018, 3,572 unduplicated clients received oral health care through the Ryan White HIV/AIDS Program in the Houston EMA. Of these, 73% were male, 27% were female, 16% were White (down from 27% in 2011), 53% were African American (up from 44% in 2011), 30% were Hispanic/Latino (up from 27% in 2011), 3% were under age 24, 28% were age 45 to 54, and 29% were age 55 and over. Utilization of Ryan White oral health care was higher than expected among females (by 2%), African American individuals (by 4%), Hispanic/Latino individuals (by 2%), and individuals ages 55 to 64 (by 5%). Populations under-represented were males (by 2%) White individuals (by 4%), multiracial individuals (by 3%), and individuals ages 25 to 34 (by 2%). Due to differences in data calculation methodology, reported risk cannot be compared.

TABLE 10-People Living with HIV[a] and Oral Health Care[b] through the Ryan White HIV/AIDS Program (RW) in the Houston EMA by Sex at Birth, Race/Ethnicity, Age, and Risk, 2018

	All Diagnosed PLWH		RW Oral Health Care Clients	
	Number	%	Number	%
Total	28,225	100%	3,572	100%
Sex at Birth				
Male	21,178	75%	2,608	73%
Female	7,047	25%	964	27%
Race/Ethnicity				
White	5,321	19%	555	16%
African American	13,830	49%	1,876	53%
Hispanic/Latino	7,926	28%	1,077	30%
Other	389	1%	48	1%
Multiracial	759	3%	16	0%
Age				
0 - 12	60	0%	--	--
13 - 24	1,230	4%	99	3%
25 - 34	5,738	20%	633	18%
35 - 44	6,632	23%	781	22%
45 - 54	7,649	27%	1,009	28%
55 - 64	5,186	18%	826	23%
65+	1,730	6%	221	6%
Risk Category[c]				
Male-male sexual contact (MSM)	16,133	57%	1,345	38%
People with injection drug use (PWIDU)	2,368	8%	50	1%
MSM/IDU	1,099	4%	9	0%
Sex with Male / Sex with Female	8,263	29%	1,212	34%
Perinatal transmission	343	1%	24	1%
Adult other risk	18	0%	932	26%

[a]Source: Texas eHARS. Diagnosed PLWH as of 12/31/17
[b]Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2018 - December 31, 2018.
[c]For living cases, those with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification. This is not the case for RW clients. Therefore, data on risk composition should not be used comparatively.

(**Table 11**) Of clients who received oral health care in 2018 through the Ryan White HIV/AIDS Program, the majority were Houston/Harris County residents (90%). In addition, 18% were monolingual Spanish speakers (up from 13% in 2011), 12% were homeless (up from 4% in 2011), 2% were transgender, and 6% had either active substance abuse or an active psychiatric illness.

TABLE 11-Selected Subpopulations of People Receiving Oral Health Care through the Ryan White HIV/AIDS Program (RW) in the Houston EMA, 2018

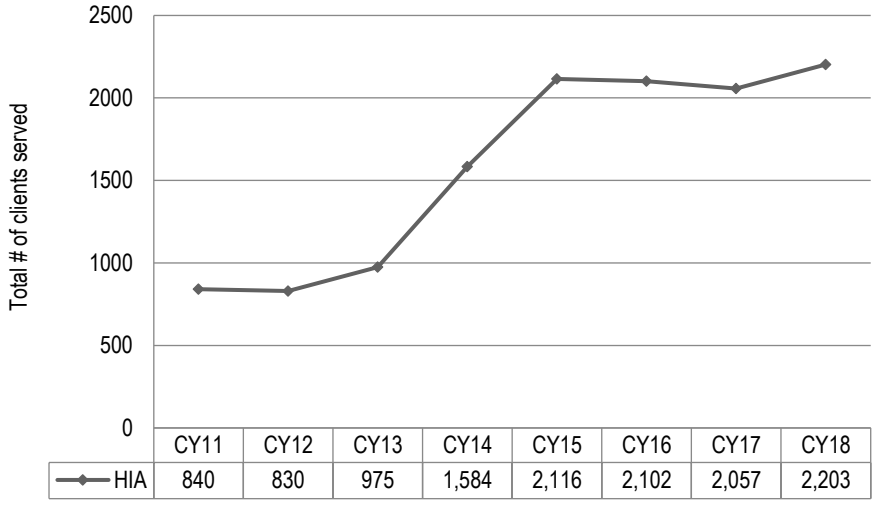
	Number	%
Total Unduplicated Clients	3,572	100%
Monolingual Spanish	649	18%
Homeless	427	12%
Transgender	55	2%
Houston/Harris County residents	3,223	90%
Non-Houston/Harris County residents	349	10%
Active substance abuse	32	1%
Active psychiatric illness	166	5%

Source: Harris County Public Health Services, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2018- December 31, 2018

Health Insurance Assistance

(**Graph 8**) Between 2011 to 2018, the number of clients receiving oral health care through the Ryan White HIV/AIDS Program in the Houston EMA increased by 162%, or 1,363 clients. This was an average increase of 194 new clients each year.

GRAPH 8-Total Number of Persons Receiving Health Insurance Assistance through the Ryan White HIV/AIDS Program in the Houston EMA, from 2011 to 2019



	CY11	CY12	CY13	CY14	CY15	CY16	CY17	CY18
HIA	840	830	975	1,584	2,116	2,102	2,057	2,203

Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2011 - December 31, 2018.

(**Table 12**) In 2018, 2,202 unduplicated clients received health insurance assistance through the Ryan White HIV/AIDS Program in the Houston EMA. Of these, 81% were male, 19% were female, 26% were White (down from 38% in 2011), 44% were African American, 27% were Hispanic/Latino (up from 17% in 2011), 2% were under the age of 24, 29% were ages 45 to 54, and 31% were age 55 and over. Utilization of Ryan White health insurance assistance was higher than expected among males (by 6%), White individuals (by 7%), individuals from the Other race/ethnicity category (by 2%), and individuals ages 45 to 54 and 55 to 64 (by 2% and 6%, respectively). Due to differences in data calculation methodology, reported risk cannot be compared.

TABLE 12-People Living with HIV[a] and Health Insurance Assistance[b] through the Ryan White HIV/AIDS Program (RW) in the Houston EMA by Sex at Birth, Race/Ethnicity, Age, and Risk, 2018

	All Diagnosed PLWH		RW HIA Clients	
	Number	%	Number	%
Total	28,225	100%	2,202	100%
Sex at Birth				
Male	21,178	75%	1,773	81%
Female	7,047	25%	429	19%
Race/Ethnicity				
White	5,321	19%	569	26%
African American	13,830	49%	978	44%
Hispanic/Latino	7,926	28%	588	27%
Other	389	1%	67	3%
Multiracial	759	3%	14	1%
Age				
0 - 12	60	0%	--	--
13 - 24	1,230	4%	45	2%
25 - 34	5,738	20%	390	18%
35 - 44	6,632	23%	439	20%
45 - 54	7,649	27%	636	29%
55 - 64	5,186	18%	528	24%
65+	1,730	6%	163	7%
Risk Category[c]				
Male-male sexual contact (MSM)	16,133	57%	975	44%
People with injection drug use (PWIDU)	2,368	8%	20	1%
MSM/IDU	1,099	4%	6	0%
Sex with Male / Sex with Female	8,263	29%	538	24%
Perinatal transmission	343	1%	13	1%
Adult other risk	18	0%	650	30%

[a]Source: Texas eHARS. Diagnosed PLWH as of 12/31/17
[b]Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2018 - December 31, 2018.
[c]For living cases, those with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification. This is not the case for RW clients. Therefore, data on risk composition should not be used comparatively.

(**Table 13**) Of clients who received health insurance assistance in 2018 through the Ryan White HIV/AIDS Program, the majority were Houston/Harris County residents (88%). In addition, 9% were monolingual Spanish speakers (up from 4% in 2011), 10% were homeless (up from 4% in 2011), 0.5% were transgender, and 3% had either active substance abuse or an active psychiatric illness.

TABLE 13-Selected Subpopulations of People Receiving Health Insurance Assistance through the Ryan White HIV/AIDS Program (RW) in the Houston EMA, 2018

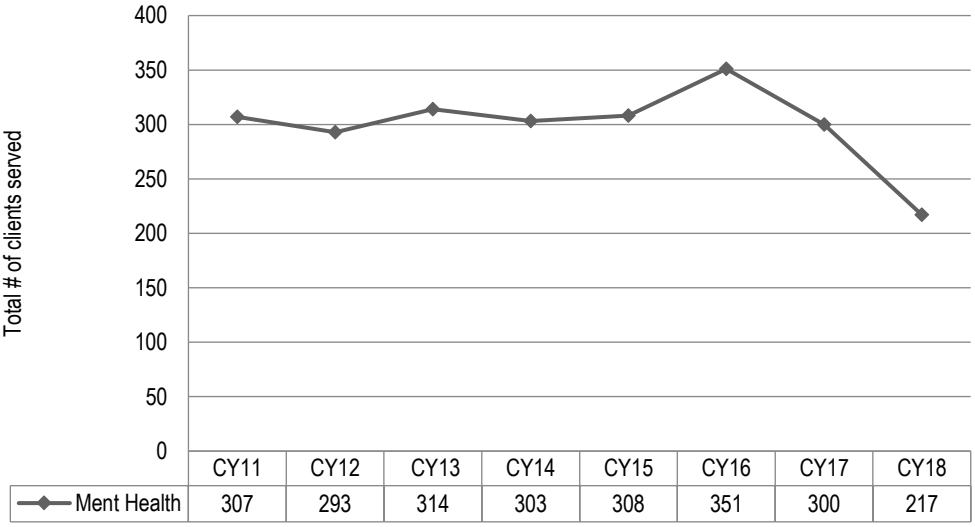
	Number	%
Total Unduplicated Clients	2,202	100%
Monolingual Spanish	189	9%
Homeless	222	10%
Transgender	11	0.5%
Houston/Harris County residents	1,937	88%
Non-Houston/Harris County residents	265	12%
Active substance abuse	8	0%
Active psychiatric illness	61	3%

Source: Harris County Public Health Services, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2018 - December 31, 2018

Mental Health Services

(**Graph 9**) Between 2011 to 2018, the number of clients receiving mental health services through the Ryan White HIV/AIDS Program in the Houston EMA decreased by 29%, or 90 clients, following an increase to 351 clients served in 2016. Since the 2016 increase, the average decrease was by 67 new clients each year.

GRAPH 9-Total Number of Persons Receiving Mental Health Services through the Ryan White HIV/AIDS Program in the Houston EMA, from 2011 to 2018



	CY11	CY12	CY13	CY14	CY15	CY16	CY17	CY18
Ment Health	307	293	314	303	308	351	300	217

Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2011 - December 31, 2018.

(**Table 14**) In 2018, 317 unduplicated clients received mental health services through the Ryan White HIV/AIDS Program in the Houston EMA. Of these, 90% were male (up from 88% in 2011), 10% were female (down from 13% in 2011), 47% were White, 34% were African American (up from 31% in 2011), 18% were Hispanic/Latino, 34% were under 25 to 44, 59% were 44 to 65, and 6% were age 65 and over. Utilization of Ryan White mental health services was higher than expected among males (by 15%), White individuals (by 28%), and individuals ages 25 to 44 and 45 to 64 (by 14% and 36%, respectively). Reported risk and subpopulations were not captured in the source material.

TABLE 14-People Living with HIV[a] and Mental Health Services[b] through the Ryan White HIV/AIDS Program (RW) in the Houston EMA by Sex at Birth, Race/Ethnicity, Age, and Risk, 2018

	All Diagnosed PLWH		RW Mental Health Svcs. Clients	
	Number	%	Number	%
Total	28,225	100%	217	100%
Sex at Birth				
Male	21,178	75%	196	90%
Female	7,047	25%	20	9%
Race/Ethnicity[b]				
White	5,321	19%	102	47%
African American	13,830	49%	74	34%
Hispanic/Latino	7,926	28%	39	18%
Other / Multiracial	389	1%	--	--
Age[c]				
0 - 12	60	0%	--	--
13 - 24	1,230	4%	--	
25 - 44	5,738	20%	73	34%
45 - 64	6,632	23%	127	59%
65+	1,730	6%	12	6%

[a]Source: Texas eHARS. Diagnosed PLWH as of 12/31/17
[b]Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management Sysytem (CPCDMS) Reporting Period: January 1, 2018 - December 31, 2018.
[c]Source: The Resource Group, 2018 Chart Review Report. Reporting Period: January 1, 2018 - December 31, 2018.

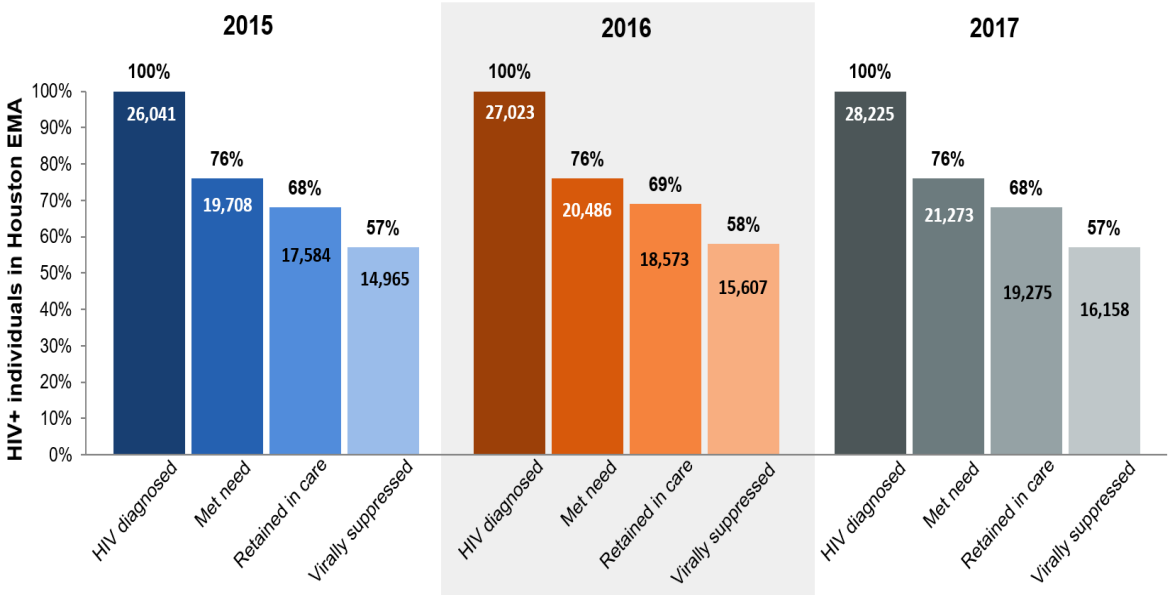
The Houston HIV Care Continuum

According to the Centers for Disease Control and Prevention (CDC), there were over 1.1 million people with HIV in the U.S. as of 2016.[1] Of those, 86% are aware of their positive HIV status, and, of those aware, 74% are engaged in HIV medical care.[2] In addition, 51% were in continuous care throughout the calendar year, and 62% of diagnosed persons in the U.S. also have a suppressed HIV viral load. Referred to as the HIV Care Continuum, this measures of engagement with the HIV care system from diagnosis through viral suppression offers a graphical depiction useful for HIV prevention and care services evaluation and planning.

The Houston Eligible Metropolitan Area (EMA) HIV Care Continuum (HCC) describes community-wide access and service gaps for Harris, Fort Bend, Waller, Montgomery, Liberty and Chambers counties, and is created using reported to the Texas Department of State Health Services (DSHS). DSHS manages surveillance and care data for the state of Texas, and compiles various sources of data for establishing evidence of care (e.g., public and private payer data). DSHS is unable to release a local estimate of the number of people living with undiagnosed HIV; therefore, the Houston EMA HCC is a diagnosis-based continuum containing population-based data. Each stage of the Houston EMA HCC is depicted as a percentage of diagnosed people living with HIV (PLWH) who live in the Houston EMA. The Continuum reflects the number of PLWH who have been diagnosed ('HIV diagnosed'); and among those diagnosed, the numbers and proportions of PLWH with records of engagement in HIV care ('Met need'), retention in care ('Retained in care'), and viral suppression ('Virally suppressed') within a calendar year.

(**Graph 10**) In 2017, there were 28,225 diagnosed people with living HIV in the EMA, up from 26,041 in 2015. Among those diagnosed as of 2017, 76% were engaged in HIV medical care, and 68% were retained in HIV care throughout the calendar year. The virally suppressed proportion of all diagnosed PLWH in the Houston EMA in 2017 was 57%.

GRAPH 10- Houston EMA HIV Care Continuum, 2015-2017



Source: TDSHS, 2018

[1] Centers for Disease Control and Prevention. Estimated HIV incidence and prevalence in the United States, 2010–2016. HIV Surveillance Supplemental Report 2019;24(No. 1).
[2]Centers for Disease Control and Prevention, selected National HIV Prevention and Care Outcomes in the United States. July 2019.

Chapter 5: Profile of People Who Are Out of Care in the Houston Area

What are the characteristics of people living with HIV who are diagnosed but not in HIV medical care?

"In order for persons living with [HIV] to realize the full benefit of HIV medical care, they must stay in care over time. Doing so helps to achieve viral suppression that can improve health outcomes, reduce the risk of HIV transmission, and lower the number of new [transmissions]."

National HIV/AIDS Strategy, Updated to 2020
July 2015

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.[1] 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.[2]

Examination of the number and characteristics of diagnosed individuals who are not in HIV medical care provides important insight into how a local community is progressing toward national and local goals for retention and viral suppression. This also helps identify specific populations that may be experiencing barriers to HIV care. When examined for change over time, unmet need analysis also provides information about the overall accessibility of a local system of HIV care.

Definitions

The Health Resources and Services Administration (HRSA) has developed a uniform definition for being out of HIV medical care. According to HRSA, a person with diagnosed HIV with no evidence of any of the following in a 12 month period is considered out of 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. If a person diagnosed with HIV has evidence of at least one of these services in a 12-month period, then that person meets the federal definition of being in care for HIV. Often, the term "unmet need" is interchangeable with being out of care. This is because someone who is out of care is considered to have *unmet* medical needs for HIV. However, someone living with HIV may have "met need" for HIV medical care, but still experience service gaps.

[1] Colasanti J. et al., Continuous Retention and Viral Suppression Provide Further Insights Into the HIV Care Continuum Compared to the Cross-sectional HIV Care Cascade, *Clinical Infectious Diseases*, 2016.
[2] Rodger A.J. et al., Risk of HIV transmission through condomless sex in serodifferent gay couples with the HIV-positive partner taking suppressive antiretroviral therapy (PARTNER): final results of a multicentre, prospective, observational study, *The Lancet*, 2019.

In this definition, people living with HIV can receive medical care services from a health care system or payer source. A person does not have to receive services from a HRSA-funded program, such as the Ryan White HIV/AIDS Program. Analyses of HIV service utilization strive to include as many different health care systems and payer sources as possible in order to produce the most thorough understanding of unmet need in a geographic area.

Overall Trends in Unmet Need in the Houston Area, 2013 to 2017 --

(**Table 1**) From 2013 to 2017, the percentage of people living with HIV that meet the federal definition of being out of care decreased, while the number of people who are out of care increased. In 2013, 26.7% of people living with HIV in the EMA (or 6,388 PLWH) were out of care. In 2017, the percent out of care was 24.6% (or 6,952 PLWH). During the same period, the total number of persons living with HIV in the EMA increased by 17.3% (from 23,914 to 28,225).

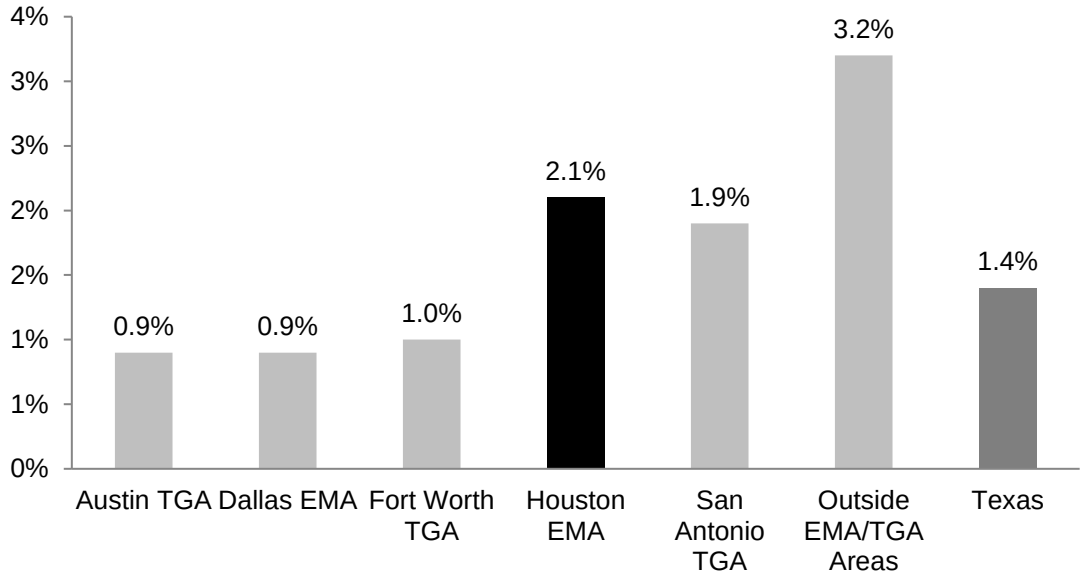
TABLE 1-Number and Percent of People Living with HIV (PLWH) and Unmet Need for HIV Care in Texas and the Houston EMA, 2013 to 2017

	Texas			Houston EMA		
Year	Total PLWH	Number Out of Care	Percent Out of Care	Total PLWH	Number Out of Care	Percent Out of Care
2013	76,621	19,025	24.8%	23,914	6,388	26.7%
2014	80,073	18,774	23.4%	24,979	6,367	25.5%
2015	82,745	19,039	23.0%	26,041	6,333	24.3%
2016	86,669	19,809	22.9%	27,023	6,537	24.2%
2017	90,700	21,207	23.4%	28,225	6,952	24.6%
Change	18.4%	11.5%	-1.4%	18.0%	8.8%	-2.1%

Source: Texas Department of State Health Services, 2013 - 2017 Unmet Need by EMA/TGA. Released 07/20/18

(**Graph 1**) The Houston EMA's five-year unmet need decline is the highest of all federally designated geographic service areas in the state (HRSA-defined EMAs and TGAs) and higher than the state's percentage as a whole.

GRAPH 1-Change in Percent of People Living with HIV (PLWH) Who Are Out of Care by HRSA Geographic Service Area in Texas, 2013 to 2017



Source: Texas Department of State Health Services, 2009 - 2017 Unmet Need by EMA/TGA. Released 07/20/18

Profile of PLWH with Unmet Need in the Houston EMA, 2017

(**Table 2**) In 2017, there were 6,952 diagnosed people living with HIV in the Houston EMA who were out of care, representing 25% of the total population diagnosed with HIV. Of these, larger proportions of African American individuals, other non-Hispanic individuals, adults ages 35-44 and 65+, PWID, and perinatal transmission risk were out of care.

TABLE 2-Number and Proportion of People Living with HIV (PLWH) with Unmet Need for HIV Care in Texas and the Houston EMA, 2017[a]

	Texas		Houston EMA	
	Number with Unmet Need	Percent[b] with Unmet Need	Number with Unmet Need	Percent[b] with Unmet Need
Total	21,207	23%	6,952	25%
Sex at Birth				
Male	16,827	24%	5,309	25%
Female	4,380	23%	1,643	23%
Race/Ethnicity				
White	4,503	19%	1,190	22%
African American	8,562	25%	3,552	26%
Hispanic/Latino	7,407	25%	1,989	25%
Other	274	26%	109	28%
Multiracial	431	15%	112	15%
Age				
0 - 12	27	16%	6	10%
13 - 24	900	23%	270	22%
25 - 34	4,279	24%	1,399	24%
35 - 44	5,256	25%	1,713	26%
45 - 54	5,665	22%	1,805	24%
55 - 64	3,649	21%	1,219	24%
65+	1,431	27%	540	31%
Transmission Risk[c]				
Male-Male Sexual Contact (MSM)	12,255	22%	3,865	24%
People with Injection Drug Use (PWIDU)	2,415	28%	654	28%
MSM/PWIDU	1,060	23%	267	24%
Sex with Male/Sex with Female	5,194	24%	2,063	25%
Perinatal transmission	257	29%	97	28%
Adult other risk	26	25%	--	--

[a]Source: Texas Department of State Health Services, 2009 - 2017 Unmet Need by EMA/TGA. Released 07/20/18

[b]Represents the percent of each category in the geographic area that meets the standard definition of being out of care; and not the distribution of people that meets the standard definition of being out of care

[b]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification

(**Table 2**) The proportions of individuals who are out of care in the Houston EMA are comparable (within 3 percentage points difference) to the proportions for the state of Texas as a whole, with two notable exceptions: (1) Children under age 12 who are living with HIV have a lower out of care proportion in the Houston EMA compared to Texas (6%↓), and (2) Adults age 65 and over who are living with HIV have a higher out of care proportion in the Houston EMA compared to the state (4%↑).

Disproportional Impact of Unmet Need in the Houston EMA, 2017

Among demographic groups with larger proportions out of care in the Houston EMA in 2017 (Table 1), additional sub-groups experienced disproportionately high unmet need. This means the proportion of a sub-group with unmet need in 2017 exceeded the total unmet need proportion for the larger demographic group. For example, a larger proportion of males by sex at birth (25%) were out of care in 2017 in the EMA when compared to females at birth (23% out of care). Among males with unmet need, a larger proportion were African American males (27% out of care) and Hispanic/Latino males (26% out of care). Among females with unmet need, a larger proportion were other race/ethnicity or multiracial (both 28% out of care), African American (26% out of care), or Hispanic/Latina (25% out of care). Other groups in the EMA with disproportional unmet need according to this analysis are:

- African American individuals with male-male sexual contact (MSM) (27% out of care)
- People with injection drug use (PWIDU) (28% out of care)
    - Particularly Hispanic/Latino male PWIDU (39% out of care); and
    - White female PWIDU (32% out of care)
- White and other race/ethnicity females with male sexual contact (27% and 39% out of care, respectively)
- Hispanic/Latino and other race/ethnicity males with female sexual contact (33% and 32% out of care, respectively)
- African American males with perinatal transmission (34% out of care)
- Individuals living in specific zip codes in the Houston EMA (**Table 3**)

TABLE 3-Zip Codes in the Houston EMA with Unmet Need Proportions Exceeding Total EMA Unmet Need, 2017

	Number	Percent
Total EMA	6,952	25%
Zip Code (in order, high to low)		
77030	55	63%
77002	412	47%
77027	57	37%
77098	65	33%
77055	80	33%
77036	201	32%
77060	98	31%
77081	119	30%
77074	93	29%
77057	94	29%
77006	201	28%
77063	113	27%
77004	180	27%
77071	70	27%
77042	110	26%

Source: Texas Department of State Health Services, Unmet Need by Zip Code, 2017. Released 07/20/18

Chapter 6: Special Topics in HIV Epidemiology in the Houston Area

What is the HIV burden among specific populations in the Houston Area?

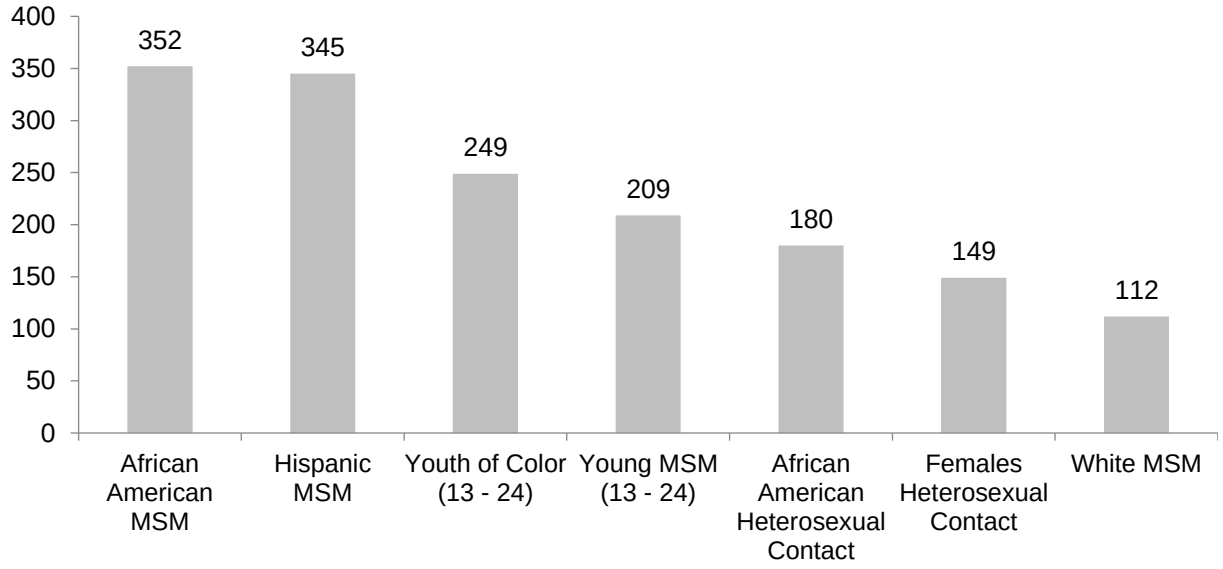
"HIV does not impact all Americans equally. While anyone can [acquire HIV], the HIV epidemic is concentrated in key populations and geographic areas."

National HIV/AIDS Strategy, Updated to 2020
July 2015

While all people are equally at risk for HIV transmission, some populations bear a disproportionate burden of new HIV transmissions and HIV prevalence.[1] Nationally, gay, bisexual and other men who have sex with men (MSM), transgender individuals, Black/African American individuals, Hispanics/Latinos individuals, and communities in the southern United States are the most disproportionately affected by the HIV epidemic.[1] Moreover, the number of new HIV transmissions increased nationally between 2010 and 2016 among 25-34 year olds and among Hispanic/Latino MSM, and remained stable yet high among all MSM, particularly among Black/African American MSM.[1]

(**Graph 1**) In the Houston Area, MSM, Black/African Americans, and Hispanic/Latinos had the largest numbers of new HIV diagnoses in 2017. At the subpopulation level, Black/African American MSM, Hispanic/Latino MSM, youth of color, and young MSM (13 – 24) were diagnosed in highest numbers.

GRAPH 1-Subpopulations with the Largest Numbers of New HIV Diagnoses in the Houston Eligible Metropolitan Area (EMA), 2017



Source: Texas eHARS. New diagnoses as of 12/31/17

[1]Centers for Disease Control and Prevention. *HIV Prevention Progress Report, 2019*, Revised July 2019.

Epidemiological profiles include information about HIV in populations that have been historically disproportionately impacted in the local community, so that the needs of these groups can be considered in HIV prevention and care planning. In this chapter, we will present data on new HIV diagnoses and people living with HIV for the following disproportionately impacted groups in the Houston Area:

1. African American/Black
2. Hispanic/Latinos
3. Homeless
4. Incarcerated
5. Person who injects drugs (PWID)
6. Male-male Sexual Contact (MSM), including MSM of Color (MSMOC) and Young MSM (MSM age 13 to 24) (YMSM)
7. Rural
8. Seniors (age 55+)
9. Transgender
10. Women of Childbearing Age (age 13 to 44)
11. Youth (age 13 to 24), including Adolescents (age 13 to 17)
12. Perinatal HIV Exposure in Infants

We also present data on co-occurring condition between HIV and two non-HIV conditions of epidemiologic significance:

1. HIV and Active TB Disease
2. HIV and Hepatitis B and C
3. HIV and Infectious Syphilis

Black/African American

(**Table 1 and Table 2**) In 2017, 533 African American/Black individuals were newly diagnosed with HIV in Houston/Harris County. When the jurisdiction of analysis was expanded to the Houston EMA, there were an additional 48 African American/Black persons newly diagnosed in 2017 for a total of 581.For both jurisdictions, African American/Black individuals made up roughly half of all new HIV diagnoses in that year. When compared to all new HIV diagnoses in Houston/Harris County in 2017 regardless of race, larger proportions of newly diagnosed African American/Black were (1) female (24.4% v. 18.2%) and (2) sex with male/sex with female transmission risk (31.0% v. 23.2%).

AFRICAN AMERICAN/BLACK TABLE 1- New Diagnoses of HIV and Persons Living with HIV in Houston/Harris County by Sex assigned at birth, Age, and Risk[a]

	New HIV[b]			Persons Living with HIV[c]		
	Cases	%	Rate[d]	Cases	%	Rate[d]
Total: All Races/Ethnicities	1,120	100.0%	23.9	25,132	100.0%	544.08
Total: African American/Black	533	100.0%	59.4	12,424	100.0%	1392.9
Sex at birth						
Male	403	75.6%	95.9	8,132	65.5%	1937.3
Female	130	24.4%	27.2	4,292	34.5%	908.92
Age						
0 - 12	0	0.0%	0.0	183	1.5%	*
13 - 24	127	23.8%	38.9	3,409	27.4%	1025.5[e]
25 - 34	195	36.6%	128.9	4,233	34.1%	2846.8
35 - 44	107	20.1%	85.8	2,843	22.9%	2291.6
45 - 54	64	12.0%	57.5	1,291	10.4%	1178.0
55 - 64	35	6.6%	35.4	399	3.2%	410.04
65+	5	0.9%	5.8	66	0.5%	82.613
Transmission Risk[f]						
Male-male sexual contact (MSM)	341	64.0%	*	5,412	43.6%	*
Person who injects drugs (PWID)	22	4.1%	*	1,509	12.1%	*
MSM/PWID	5	0.9%	*	442	3.6%	*
Sex with Male/Sex with Female	165	31.0%	*	4,866	39.2%	*
Perinatal transmission	0	0.0%		172	1.4%	
Other	0	0.0%	*	23	0.2%	*

[a]Source: Texas eHARS, analyzed by the Houston Health Department
[b]HIV = People diagnosed with HIV, including stage 3 HIV, with residence at diagnosis in Houston/Harris County in 2017
[c]PLWH at end of 2016 = People living with HIV, including stage 3 HIV, in Houston/Harris County at the end of 2016
[d]Rate per 100,000 population. Source: U.S. Census Bureau, 2017 American Community Survey 1-Year Estimates and 2016 American Community Survey 1-Year Estimates
[e]Rate was calculated for age group 0-24 years
[f] People with no risk reported were recategorized into standard categories using the multiple imputation or risk program of the Centers for Disease Control and Prevention (CDC)
*Population data are not available for 0-12 age group and transmission risks; therefore, it is not possible to calculate rate by risk

Roughly half of all people *living* with HIV in Houston/Harris County and in the Houston EMA is also African American at 12,424 and 13,830 persons, respectively. When compared to all people living with HIV in the Houston EMA in 2017 regardless of race, larger proportions of HIV positive African Americans were again (1) female at birth (34.8% v. 25.0%) and (2) with heterosexual transmission risk (39.3% v. 29.3%). However, prevalence rates remain higher among African males at birth at 1,841 for every 100,000 population.

AFRICAN AMERICANS/BLACK TABLE 2-New Diagnoses of HIV and Persons Living with HIV in the Houston EMA by Sex at Birth, Age, and Risk[a]

	New HIV Diagnoses[b]			Persons Living with HIV[c]		
	Cases	%	Rate[d]	Cases	%	Rate[d]
Total PLWH	1,234	100%	20.0	28,225	100%	457.8
Total African American PLWH	581	100%	47.1	13,830	100%	1265.1
Sex at birth						
Male	434	74.7%	88.5	9,023	65.2%	1840.7
Female	147	25.3%	26.6	4,807	34.8%	870.5
Age						
0 - 12	N	N	N	36	0.3%	19.1
13 - 24	141	24.3%	73.1	720	5.2%	373.4
25 - 34	211	36.3%	140.2	3,170	22.9%	2106.2
35 - 44	115	19.8%	76.4	1,932	14.0%	1283.6
45 - 54	68	11.7%	49.5	3,554	25.7%	2586.6
55 - 64	39	6.7%	31.7	2,378	17.2%	1932.1
65+	7	1.2%	7.0	719	5.2%	719.1
Transmission Risk[e,f]						
Male-male sexual contact (MSM)	352	60.6%	*	6,121	44.3%	*
Person who injects drugs (PWID)	26	4.5%	*	1,585	11.5%	*
MSM/PWID	5	0.9%	*	471	3.4%	*
Sex with Male/Sex with Female	180	31.0%	*	5,432	39.3%	*
Perinatal transmission	N	N	*	214	0.8%	*
Other	N	N	*	7	0.1%	*

[a]Sources: Texas eHARS. New Diagnoses and Diagnosed PLWH as of 12/31/17.

[b]HIV = People diagnosed with HIV with residence at diagnosis in the Houston EMA

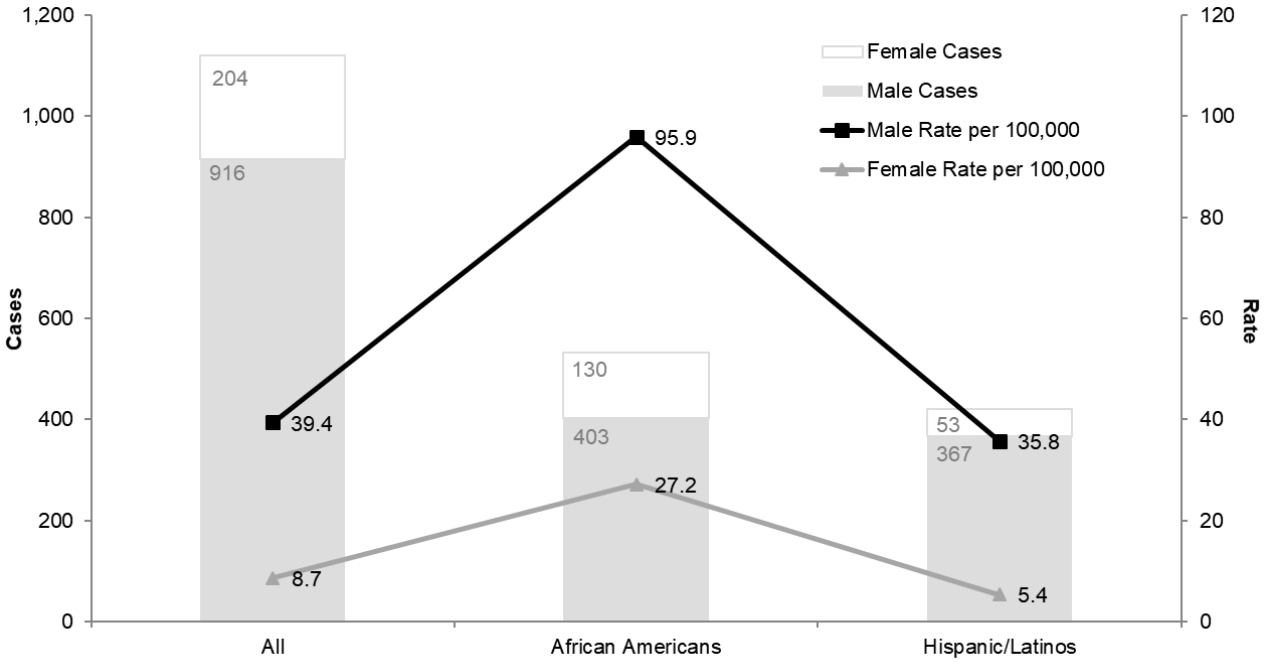
[d]PLWH at end of 2017 = People living with HIV in the Houston EMA at the end of 2017

[e]Rate per 100,000 population. Source: DSHS Center for Health Statistics 2017 Population Projection.
[f]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification
[f]Cases for new diagnoses data by transmission risk do not comprise the total African American new diagnoses case number.

(**Graph 1**) A subpopulation analysis of new HIV diagnoses by race/ethnicity and sex assigned at birth in Houston/Harris County in 2017 reveals that the highest rate of new HIV cases occurred in African American/Black males. In 2017, their rate of new HIV diagnoses in Houston/Harris County was 100 cases for every 100,000 African American/Black males in the jurisdiction compared to 39 per 100,000 for all males in Houston/Harris County and 29 per 100,000 for African American/Black females in Houston/Harris County.

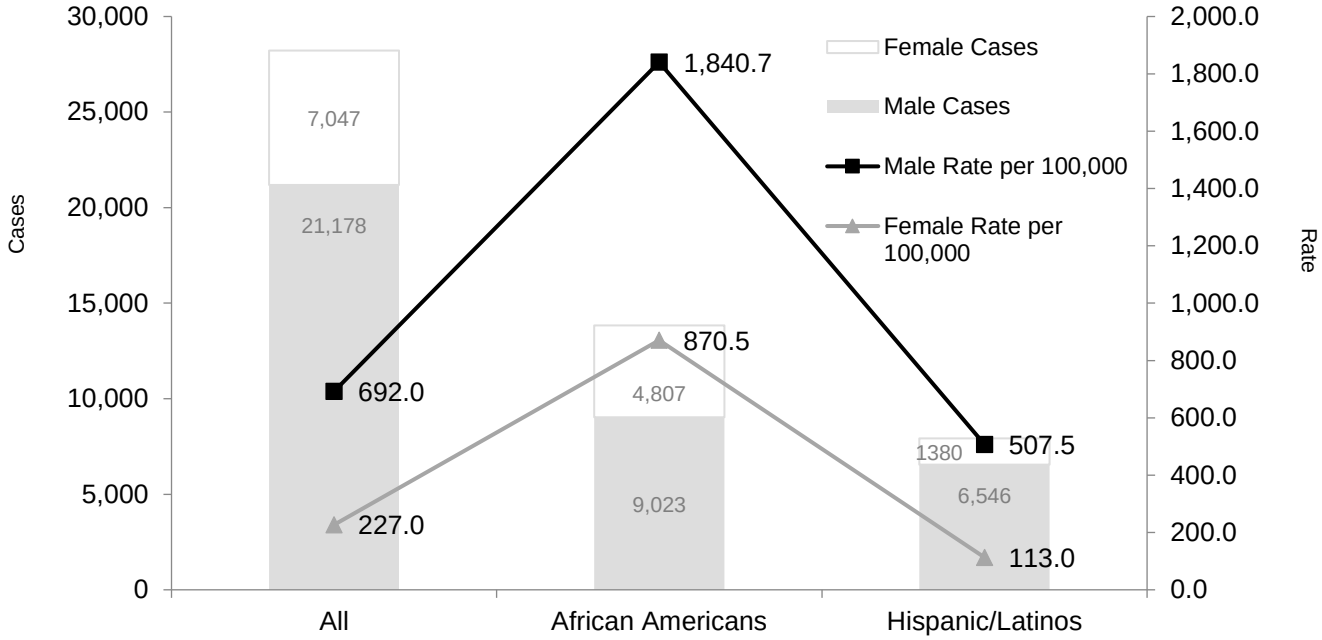
(**Graph 2**) A race/ethnicity and sex at birth subpopulation analysis of people living with HIV in the Houston EMA in 2017 reveals that just under third (32%) of all people living with HIV are African American males at birth and 17% of all people living with HIV in the Houston EMA are African American females at birth.

AFRICAN AMERICAN/BLACK GRAPH 1- Number of Cases and Rates of New HIV Diagnoses in *Houston/Harris County* by Sex assigned at birth and Race/Ethnicity, 2017



Source: Texas eHARS, analyzed by the Houston Health Department

AFRICAN AMERICANS GRAPH 2-Number of Cases and Rates of People Living with HIV in the *Houston EMA* by Sex at birth and Race/Ethnicity, 2017



Source: Texas eHARS. Diagnosed PLWH as of 12/31/17.

Hispanic/Latinos

(**Table 1 and Table 2**) In 2017, 420 Hispanic/Latinos were diagnosed with HIV in Houston/Harris County. When the jurisdiction of analysis is expanded to the Houston EMA, there were an additional 40 Hispanic/Latinos newly diagnosed in 2017 for a total of 460. For both jurisdictions, Hispanic/Latinos were roughly 37% of all new HIV diagnoses in that year. When compared to all new HIV diagnoses in Houston/Harris County in 2017 regardless of race, larger proportions of newly diagnosed Hispanic/Latinos were (1) male (87.4% v. 81.8%) and (2) MSM (79.8% v. 71.7%).

HISPANIC/LATINOS TABLE 1- New Diagnoses of HIV and Persons Living with HIV in Houston/Harris County by Sex assigned at birth, Age, and Risk[a]

	New HIV[b]			Persons Living with HIV[c]		
	Cases	%	Rate[d]	Cases	%	Rate[d]
Total: All Races/Ethnicities	1,120	100.0%	23.9	25,132	100.0%	544.1
Total: Hispanic/Latino	420	100.0%	20.9	7,132	100.0%	364.6
Sex assigned at birth						
Male	367	87.4%	35.8	5,921	83.0%	593.3
Female	53	12.6%	5.4	1,211	17.0%	126.4
Age						
0 - 24[e]	98	23.3%	10.9	1,514	21.2%	*
25 - 34	173	41.2%	53.4	3,004	42.1%	165.3
35 - 44	82	19.5%	26.9	1,731	24.3%	942.8
45 - 54	50	11.9%	21.2	658	9.2%	582.1
55 - 64	13	3.1%	8.6	186	2.6%	289.8
65+	4	1.0%	3.7	39	0.5%	129.3
Transmission Risk[f]						
MSM	335	79.8%	*	4,766	66.8%	*
PWID	8	1.9%	*	313	4.4%	*
MSM/PWID	5	1.2%	*	230	3.2%	*
Sex with Male/Sex with Female	71	16.9%	*	1,743	24.4%	*
Perinatal transmission/Other	1	0.2%	*	80	1.1%	*

[a]Source: Texas eHARS, analyzed by the Houston Health Department

[b]New HIV = People diagnosed with HIV, including stage 3 HIV, with residence at diagnosis in Houston/Harris County in 2017

[c]PLWH at end of 2016 = People living with HIV, including stage 3 HIV, in Houston/Harris County at the end of 2016

[d]Rate per 100,000 population. Source: U.S. Census Bureau, 2017 American Community Survey 1-Year Estimates and 2016 American Community Survey 1-Year Estimates

[e]Age group 0-12 years was combined with 13-24 years since 0-12 years category had less than 5 individuals and could not be reported

[f]People with no risk reported were recategorized into standard categories using the multiple imputation or risk program of the Centers for Disease Control and Prevention (CDC)

*Population data are not available for 0-12 age group and transmission risk; therefore, it is not possible to calculate rate by risk

Roughly 28% of all people *living* with HIV in Houston/Harris County and in the Houston EMA is also Hispanic/Latino at 7,132 and 7,926 persons, respectively. This is an increase of 22%, up from 23% in 2011. When compared to all people living with HIV in the EMA in 2017 regardless of race, larger proportions of HIV positive Hispanic/Latinos were again (1) male (82.6% v. 75.0%) and (2) MSM (66.8% v. 57.2%).

HISPANIC/LATINOS TABLE 2-New Diagnoses of HIV and Persons Living with HIV in the Houston EMA by Sex at Birth, Age, and Risk[a]

	New HIV Diagnoses[b]			Persons Living with HIV[c]		
	Cases	%	Rate[d]	Cases	%	Rate[d]
Total PLWH	1,234	100%	20.0	28,225	100%	457.8
Total Hispanic/Latino	460	100.0%	18.3	7,926	100.0%	315.6
Sex at birth						
Male	400	87.0%	31.0	6,546	82.6%	507.5
Female	60	13.0%	4.9	1,380	17.4%	113.0
Age						
0 - 12	N	N	N	17	0.1%	3.0
13 - 24	108	23.5%	21.1	366	4.6%	71.3
25 - 34	190	41.3%	42.7	1,731	21.8%	389.2
35 - 44	85	18.5%	21.8	2,243	28.3%	574.6
45 - 54	56	12.2%	19.5	2,166	27.3%	753.6
55 - 64	18	3.9%	10.0	1,056	13.3%	584.6
65+	N	N	N	346	4.4%	279.7
Transmission Risk[e,f]						
Male-male sexual contact (MSM)	345	75.0%	*	5,295	66.8%	*
Person who injects drugs (PWID)	11	2.4%	*	352	4.4%	*
MSM/PWID	10	2.2%	*	247	3.1%	*
Sex with Male/Sex with Female	77	16.7%	*	1,943	24.5%	*
Perinatal transmission	N	N	*	82	0.3%	*
Other	N	N	*	7	0.1%	*

[a]Sources: Texas eHARS. New Diagnoses and Diagnosed PLWH as of 12/31/17.

[b]HIV = People diagnosed with HIV with residence at diagnosis in the Houston EMA

[d]PLWH at end of 2017 = People living with HIV in the Houston EMA at the end of 2017

[e]Rate per 100,000 population. Source: DSHS Center for Health Statistics 2017 Population Projection.

[f]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification

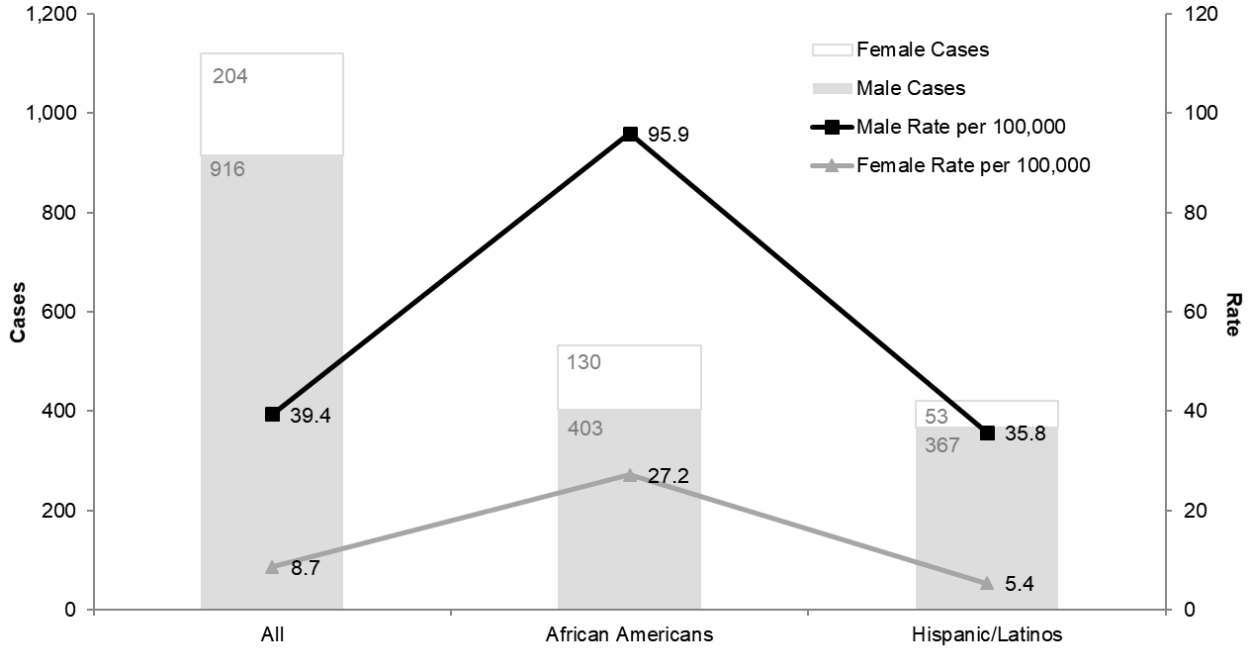
[f]Cases for new diagnoses data by transmission risk do not comprise the total Hispanic/Latino new diagnoses case number.

[N]Data has been suppressed to meet cell size limit of 5

(**Graph 1**) A subpopulation analysis of new HIV diagnoses by race/ethnicity and sex assigned at birth in Houston/Harris County in 2017 reveals that the highest rate of new HIV cases occurred in African American/Black males at birth. In 2017, Hispanic/Latino males at birth had a rate of new HIV diagnoses of 36 cases for every 100,000 Hispanic/Latino males in Houston/Harris County compared to 100 per 100,000 for African American/Black males, 39 per 100,000 for all males, and 5 per 100,000 for Hispanic/Latino females.

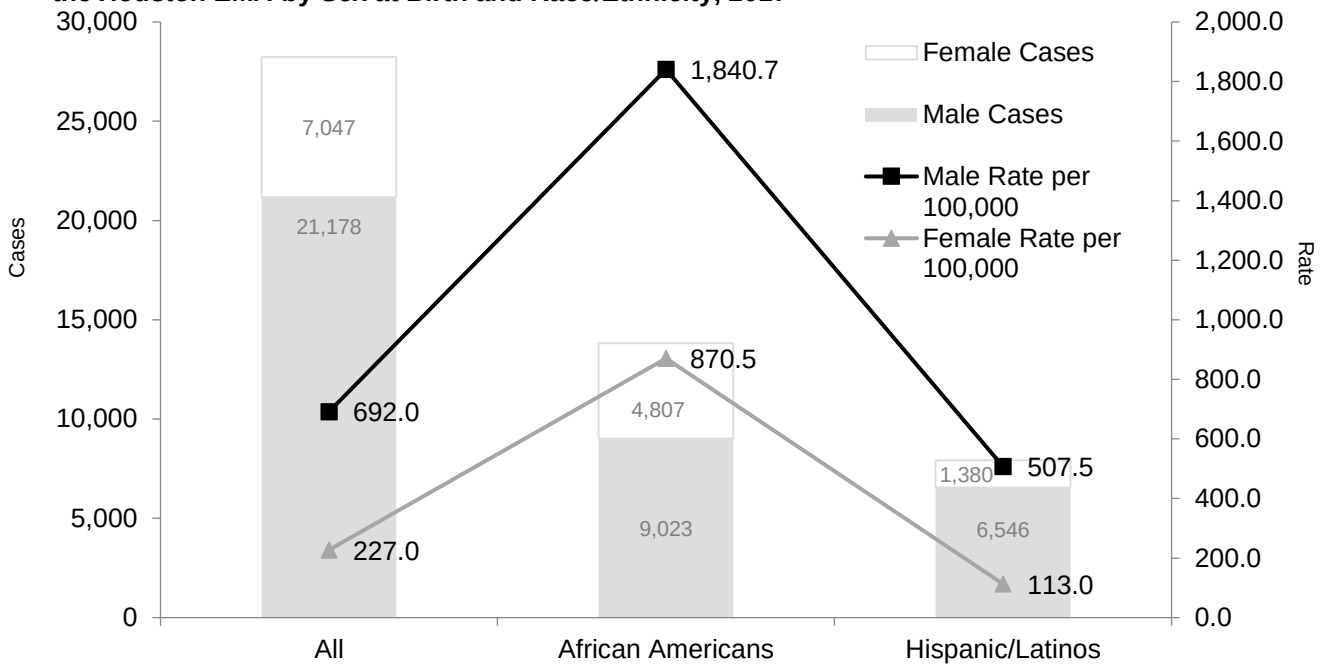
(**Graph 2**) A race/ethnicity and sex at birth subpopulation analysis of people living with HIV in the Houston EMA in 2017 reveals that 23% of all people living with HIV are Hispanic/Latino males. Almost 5% of all people living with HIV in the Houston EMA are Hispanic/Latino females. The highest single proportion of people living with HIV in the Houston EMA is African American males at 32%.

HISPANIC/LATINOS GRAPH 1- Number of Cases and Rates of New HIV Diagnoses in *Houston/Harris County* by Sex assigned at birth and Race/Ethnicity, 2017



Source: Texas eHARS, analyzed by the Houston Health Department

HISPANIC/LATINOS GRAPH 2-Number of Cases and Rates of People Living with HIV in the *Houston EMA* by Sex at Birth and Race/Ethnicity, 2017



Source: Texas eHARS. Diagnosed PLWH as of 12/31/17.

Homeless

A point-in-time (PIT) count of sheltered and unsheltered people experiencing homelessness is conducted annually in most major cities and towns across the country.[1] The purpose of the count is to approximate the number of homeless individuals in a defined geographic area according to the Department of Housing and Urban Development (HUD) definition of homelessness, which is: those staying in emergency shelter, transitional housing, or safe haven programs with beds dedicated for homeless persons or those persons who are unsheltered (i.e., staying in a place not meant for human habitation)] on a single night.[1] Commonly referred to as a homeless enumeration or count, the last PIT count for the Houston Area took place in January 2019 in Houston and Pasadena in Harris County, along with Fort Bend and Montgomery Counties.[1]

According to the PIT count, there were 3,938 people experiencing homelessness in the enumeration area in 2019.[1] This calculates into 0.065% of the total population in the area, or one out of every 1,541 residents, experiencing homelessness in 2019.[1] By comparison, the PIT count found one out of every 1,446 area residents experienced homelessness in 2018.[1]

Of those currently homeless in PIT count area, it is estimated that one out of every 35, or 2.9%, has been diagnosed with HIV.[1]

(**Table 1**) In 2017, 2,124 persons who received HIV care through the Ryan White HIV/AIDS Program in the Houston EMA were indicated as homeless. Of these, 79.5% were male at birth, 20.5% were female at birth, and 1.2% were transgender. In addition, 17.4% were White, 57.1% were Black/African American, and 23.4% were Hispanic/Latino. Two-thirds (66.9%) were age 35 and over while 4.9% were age 13 to 24. Forty percent (40.1%) indicated male-to-male sexual contact (MSM), 34.0% indicated sex with male/sex with female contact, and 22.3% reported no known risk or other risk.

Compared to the proportions of all people in HIV medical care in the Houston EMA in 2017, higher proportions of homeless individuals in care were male at birth (+4.9%), more Black/African American (+8.8%), and younger (+7.8% more persons under age 35) than in the general in care population in the EMA. Due to differences in data calculation methodology, reported risk cannot be compared.

(**Table 2**) In 2017, the proportion of out of care homeless people living with HIV in the Houston EMA was 2.6 times the proportion of non-homeless persons living with HIV. Fifty-one percent (51%) of homeless persons living with HIV in the EMA were not in HIV care in 2017. This is a 17% than for the state as a whole at 43% of homeless people living with HIV in Texas.

[1]Houston, Pasadena, Harris, Fort Bend, and Montgomery Counties 2019 Point-In-Time Homeless Count & Survey Independent Analysis 2019. Prepared by Catherine Troisi, Ph.D., UTHealth School of Public Health and the Coalition for the Homeless of Houston/Harris County for the Way Home Continuum of Care, April 2019

HOMELESS TABLE 1-People Receiving HIV Care in the Houston EMA by Sex at Birth and Transgender, Race/Ethnicity, Age, Risk, and Homeless Status, 2017

	Homeless Persons in the Ryan White HIV/AIDS Program[a]		All People in HIV Care[b]
	Cases	%	%
Total	2,124	100.0%	100.0%
Sex at Birth and Transgender			
Male (at birth)	1,688	79.5%	74.6%
Female (at birth)	436	20.5%	25.4%
Transgender[c]	25	1.2%	1.2%
Race/Ethnicity			
White	369	17.4%	19.4%
Black/African American	1,212	57.1%	48.3%
Hispanic/Latino	498	23.4%	27.9%
Other/Multiracial	45	2.1%	4.4%
Age			
0 - 12	9	0.4%	0.3%
13 - 24	104	4.9%	4.5%
25 - 34	588	27.7%	20.4%
35 - 44	538	25.3%	23.1%
45 - 54	505	23.8%	27.5%
55 - 64	332	15.6%	18.6%
65+	48	2.3%	5.6%
Transmission Risk[c]			
Male-male sexual contact (MSM)	869	40.1%	57.7%
Person who injects drugs (PWID)	43	2.0%	8.1%
MSM/PWID	12	0.6%	3.9%
Sex with Male/Sex with Female	736	34.0%	29.1%
Perinatal transmission	23	1.1%	1.2%
Other	483	22.3%	0.1%

[a]Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management System (CPCDMS) Reporting Period: January 1, 2018 - December 31, 2018

[b]Source: Texas Department of State Health Services, Unmet Need, 2017. Data reflect persons in HIV care not limited to the Ryan White HIV/AIDS Program.

[c]Homeless program clients who are transgender was calculated using the total proportion of all RW transgender clients in 2018.

[c]Total case number does not add to 2,124 due to multiple transmission risk factors.

HOMELESS TABLE 2-Percent of People Living with HIV in the Houston EMA with Unmet Need for HIV Care by Type of Residence, 2017

	Houston EMA	Texas
Total Unmet Need	24.6%	23.4%
All Housed (house, apartment, etc.)	24.0%	22.3%
Homeless	50.7%	43.4%
In Jail	49.2%	39.1%
In Temporary Housing	90.0%	80.0%

Source: Texas Department of State Health Services, Homeless, Insurance, and Poverty, 2017.

Incarcerated

(**Table 1**) The average number of people incarcerated in public jail facilities in the Houston EMA in between October 2018 and September 2019 was 10,914. This equates to a rate of incarceration of 1.74 persons incarcerated for every 1,000 persons residing in the EMA, a rate lower than the statewide rate of 2.12 persons incarcerated for every 1,000 Texas residents. Within counties in the EMA, the incarceration rate is highest in Chambers County at 2.94 persons incarcerated for every 1,000 residents while the volume of incarcerated persons is highest in Houston/Harris County at 8,793 total persons incarcerated.

INCARCERATION TABLE 1-Number and Rate of Incarcerated Persons in the Houston EMA by County, 2019[a]

County	Total Population	Average Daily Incarcerated Population	Incarceration Rate[b]
Chambers	42,454	125	2.94
Fort Bend	787,858	765	0.97
Harris	4,698,619	8,793	1.87
Liberty	86,323	216	2.50
Montgomery	590,925	940	1.59
Waller	53,126	75	1.41
EMA Total	6,259,305	10,914	1.74
Texas Total	28,737,131	60,947	2.12

[a]Source: Texas Commission on Jail Standards, Incarceration Rate Report - Highest to Lowest, September 1, 2019
[b]Rate is per 1,000 population

(**Table 2**) In 2017, 43 persons were incarcerated at the time of their HIV diagnosis in Houston/Harris County. This represents 3.8% of all new HIV diagnoses reported in the jurisdiction in that year and 0.5% of the average daily incarcerated population in Houston/Harris County.

Of those incarcerated at the time of HIV diagnosis, 81.4% were male, 62.8% were African American/Black, and 58.1% reported male-male sexual contact (MSM). When compared to all new HIV diagnoses in Houston/Harris County in 2017, larger proportions of newly diagnosed inmates were African American/Black (62.8% v. 47.6%), and of younger age.

INCARCERATED TABLE 2- New Diagnoses of HIV in Houston/Harris County by Sex assigned at birth, Race/Ethnicity, Age, Risk, and Incarceration Status, 2017[a]

	New HIV, Incarcerated[b]		New HIV, All Persons	
	Cases	%	Cases	%
Total	43	100.0%	1,120	100.0%
Sex assigned at birth				
Male	35	81.4%	916	81.8%
Female	8	18.6%	204	18.2%
Race/Ethnicity				
White	5	11.6%	125	11.2%
African American/Black	27	62.8%	533	47.6%
Hispanic/Latino	11	25.6%	420	37.5%
Multiple Races	0	0	19	1.7%
Other	0	0	23	2.1%
Age				
0 - 12	0	0.0%	1	0.1%
13 - 24	11	25.6%	252	22.5%
25 - 34	18	41.9%	420	37.5%
35 - 44	10	23.3%	221	19.7%
45+	4	9.3%	221	19.7%
Transmission Risk[c]				
MSM	25	58.1%	803	71.7%
Sex with Male/Sex with Female	10	23.3%	260	23.2%
Other adult risk	8	18.6%	57	5.1%

[a]Source: Texas eHARS, analyzed by the Houston Health Department
[b]HIV = People diagnosed with HIV, including stage 3 HIV, with residence at diagnosis in Houston/Harris County in 2017. This dataset reflects individuals who were incarcerated at the time of their HIV diagnosis.
[c]People with no risk reported were recategorized into standard categories using the multiple imputation or risk program of the Centers for Disease Control and Prevention (CDC)

(**Table 3**) The Ryan White HIV/AIDS Program in the Houston EMA supports pre-discharge planning services to people living with HIV who are incarcerated at the Harris County Jail. These services connect individuals living with HIV who are leaving incarceration to community-based HIV care, treatment, and support services at reentry. In 2018, 789 individuals received this service while incarcerated at the Harris County Jail. Of these, 84.5% were male, 15.5% were female, and 1.9% were transgender. In addition, 15.7% were White, 70.3% were Black/African American, and 13.1% were Hispanic/Latino. Just under two-thirds (60.4%) were age 35 and over, and 7.1% were age 13 to 24. Most (44.9%) reported sex with male/sex with female contact, and 20.9% reported no known risk or other risk.

INCARCERATED TABLE 3-Persons Receiving HIV Care in the Houston EMA by Sex at Birth and Transgender, Race/Ethnicity, Age, Risk, and Incarceration Status, 2018

	Incarcerated Persons in the Ryan White HIV/AIDS Program[a]		All People in HIV Care[b]
	Cases	%	%
Total	789	100.0%	100.0%
Sex at Birth and Transgender			
Male (at birth)	667	84.5%	74.6%
Female (at birth)	122	15.5%	25.4%
Transgender	15	1.9%	1.2%
Race/Ethnicity			
White	124	15.7%	19.4%
African American	555	70.3%	48.3%
Hispanic/Latino	103	13.1%	27.9%
Other/Multiple Races	7	0.9%	4.4%
Age			
0 - 12	0	0.0%	0.3%
13 - 24	56	7.1%	4.5%
25 - 34	256	32.4%	20.4%
35 - 44	193	24.5%	23.1%
45 - 54	190	24.1%	27.5%
55 - 64	84	10.6%	18.6%
65+	10	1.3%	5.6%
Transmission Risk[c]			
Male-male sexual contact (MSM)	233	29.5%	57.7%
Person who injects drugs (PWID)	31	3.9%	8.1%
MSM/PWID	6	0.8%	3.9%
Heterosexual contact	354	44.9%	29.1%
Perinatal transmission	8	1.0%	1.2%
Other/unknown	165	20.9%	0.1%

[a]Source: Harris County Public Health, Ryan White Grant Administration. Centralized Patient Care Data Management Sysytem (CPCDMS) Reporting Period: January 1, 2018 - December 31, 2018. The incarceration location for this dataset is the Harris County Jail. The service received is Early Intervention Services for pre-discharge planning and linkage to HIV primary medical care post-release. HIV primary medical care while incarcerated is provided by another funding source.

[b]Source: Texas Department of State Health Services, Unmet Need, 2017. Data reflect persons in HIV care not limited to the Ryan White HIV/AIDS Program.

[c]Cases with unknown risk have been redistributed for the denominator of all persons in HIV care only

(**Table 4**) In 2017, 49.2% of people living with HIV who were incarcerated in jail in the Houston EMA had no record of HIV medical care. This is 26% higher than the state as a whole at 39.1% of incarcerated people living with HIV with no record of HIV medical care. The unmet need percentage for incarcerated individuals is nearly two times higher than the general EMA population.

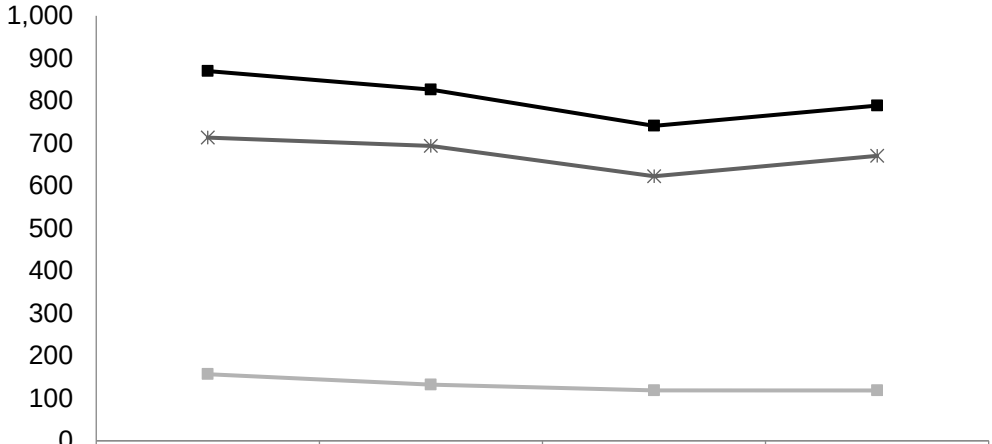
INCARCERATED TABLE 4-Percent of People Living with HIV in the Houston EMA with Unmet Need for HIV Care by Type of Residence, 2017

	Houston EMA	Texas
Total Unmet Need	24.6%	23.4%
All Housed (house, apartment, etc.)	24.0%	22.3%
Homeless	50.7%	43.4%
In Jail	49.2%	39.1%
In Temporary Housing	90.0%	80.0%

Source: Texas Department of State Health Services, Homeless, Insurance, and Poverty, 2017.

(**Graph 1**) The number of people living with HIV receiving pre-discharge planning in the Harris County Jail through the Ryan White HIV/AIDS Program has remained stable over a four year period at an average of 807 clients served per year. The number of male at birth clients has consistently exceeded the number of female at birth clients. In total, 3,226 clients were provided pre-discharge planning during this four year period.

INCARCERATED GRAPH 1-Number of People Receiving Pre-Discharge Planning Services through the Ryan White HIV/AIDS Program in the Harris County Jail by Sex at Birth, 2015 to 2018



	2015	2016	2017	2018
Male	713	694	622	671
Female	157	132	119	118
Total	870	826	741	789

Source: The Houston Regional HIV/AIDS Resource Group, AIDS Regional Information and Evaluation System (ARIES), 2015-2018

People Who Injects Drugs (PWID)

(**Table 1 and Table 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 Houston/Harris County. When the jurisdiction of analysis is expanded to the Houston EMA, there were an additional 10 new cases of HIV in PWIDs. In general, when PWIDs were newly diagnosed with HIV in Houston/Harris County and in the EMA in 2017, they were male, African American/Black, and over age 25.

The same general demographic trends are observed in the total numbers of PWIDs living with HIV in both jurisdictions. In Houston/Harris County, males comprise 55.8% of all PWIDs living with HIV, Africans Americans are 69.0%, and people over age 25 are 85.2%. In the EMA, males are 53.4% of all PWIDs living with HIV, Africans Americans are 66.0%, and people over age 35 are 92%. Again, in general, PWIDs living with HIV in Houston/Harris County and in the EMA are male, African American/Black, and over age 35.

PWID TABLE 1- New Diagnoses of HIV and Persons Living with HIV in Houston/Harris County by Sex assigned at birth, Race/Ethnicity, and Age[a]

	New HIV[b]		New Stage 3 HIV[c]		Persons Living with HIV[d]	
	Cases	%	Cases	%	Cases	%
Total: PWID[e]	37	100.0%	38	100.0%	2,186	100.0%
Sex assigned at birth						
Male	20	54.1%	21	55.3%	1,220	55.8%
Female	17	45.9%	17	44.7%	966	44.2%
Race/Ethnicity						
White	6	16.2%	3	7.9%	292	13.4%
African American/Black	22	59.5%	29	76.3%	1,509	69.0%
Hispanic/Latino	8	21.6%	5	13.2%	313	14.3%
Other/Multiple Race	1	2.7%	1	2.6%	72	3.3%
Age						
0 - 12	0	0.0%	0	0.0%	0	0.0%
13 - 24	4	10.8%	5	13.2%	321	14.7%
25 - 34	12	32.4%	9	23.7%	719	32.9%
35 - 44	8	21.6%	8	21.1%	722	33.0%
45 - 54	7	18.9%	10	26.3%	318	14.5%
55+	6	16.2%	6	15.8%	106	4.8%
Total: All Persons	1,120	100.0%	591	100.0%	25,132	100.0%

[a]Source: Texas eHARS, analyzed by the Houston Health Department

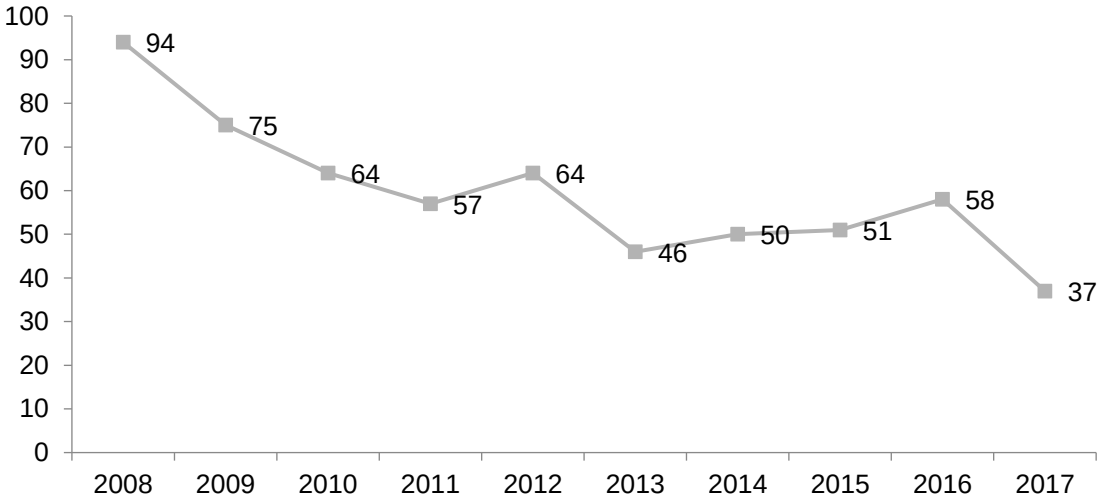
[b]HIV = People diagnosed with HIV, including stage 3 HIV, with residence at diagnosis in Houston/Harris County in 2017
[c]Stage 3 HIV = People diagnosed with stage 3 HIV with residence at diagnosis in Houston/Harris County in 2017

[d]PLWH at end of 2016= People living with HIV, including stage 3 HIV, in Houston/Harris County at the end of 2016
[e]People with no risk reported were recategorized into standard categories using the multiple imputation or risk program of the Centers for Disease Control and Prevention (CDC)

PWID TABLE 2-New Diagnoses of HIV and People Living with HIV in the Houston EMA by Sex at Birth, Race/Ethnicity, and Age[a], 2017				
	New HIV[b]		People Living with HIV[d]	
	Cases	%	Cases	%
Total PWID[e]	47	100.0%	2,246	100.0%
Sex				
Male	25	53.2%	1,199	53.4%
Female	22	46.8%	1,047	46.6%
Race/Ethnicity				
White	7	14.9%	330	14.7%
African American	25	53.2%	1,490	66.3%
Hispanic/Latino	13	27.7%	335	14.9%
Other/Multiple Race	N	N	92	4.1%
Age				
0 - 12	N	N	N	N
13 - 24	6	12.8%	18	0.8%
25 - 34	14	29.8%	151	6.7%
35 - 44	9	19.1%	409	18.2%
45 - 54	9	19.1%	742	33.0%
55 - 64	7	14.9%	707	31.5%
65+	N	N	218	9.7%
Total All Persons	1,234	100.0%	28,225	100.0%

(**Graph 1**) Over time, the number of PWIDs newly diagnosed with HIV in Houston/Harris County has declined, from a high of 94 in 2008 to the current low of 37 for 2017.

PWID GRAPH 1- Number of New HIV Diagnoses in Persons Who Inject Drugs in Houston/Harris County, 2008 to 2017



Source: Texas eHARS, analyzed by the Houston Health Department

MSM

Male-Male Sexual Contact (MSM), including MSM of Color (MSMOC)

(**Table 1**) In 2017, 803 persons newly diagnosed with HIV in Houston/Harris County were identified as having male-male sexual contact (MSM). Of these, a majority (87.8%) was MSM of color (MSMOC), with 42.5% African American/Black, 41.7% Hispanic/Latino, and 3.6% Other/Multiple Races. White MSM made up 12.2% of new HIV diagnoses among MSM that year. In total, MSM were 71.7% of all new HIV diagnoses in Houston/Harris County in 2017, and African American/Black MSM were 30.4% of all new diagnoses. Most newly diagnosed MSM in Houston/Harris County were under age 35 (67.4%), and 26.2% were young MSM (MSM between the ages of 13 and 24).

When HIV prevalence among MSM is analyzed, there are demographic differences. For example, of all MSM living with HIV in Houston/Harris County, a smaller percentage is MSMOC (75.1%) than are newly diagnosed MSM. Although 24.9% of people living with HIV are White, new HIV diagnoses have increasingly been concentrated among people of color. A similar age distribution is seen in prevalent cases in MSM, with 63.8% of PLWH are MSM in Houston/Harris County under age 35.

MSM TABLE 1- New Diagnoses of HIV and Persons Living with HIV in Houston/Harris County by Race/Ethnicity and Age[a]

	New HIV[b]		Persons Living with HIV[c]	
	Cases	%	Cases	%
Total: MSM[d]	803	100.0%	14,307	100.0%
Race/Ethnicity				
White	98	12.2%	3,558	24.9%
African American/Black	341	42.5%	5,412	37.8%
Hispanic/Latino	335	41.7%	4,766	33.3%
Multiple Race	12	1.5%	351	2.5%
Other	17	2.1%	220	1.5%
Age				
0 - 12	0	0.0%	0	0.0%
13 - 24	210	26.2%	3,532	24.7%
25 - 34	331	41.2%	5,594	39.1%
35 - 44	141	17.6%	3,450	24.1%
45 - 54	81	10.1%	1,347	9.4%
55 - 64	34	4.2%	331	2.3%
65+	6	0.7%	53	0.4%
Total: All Persons	1,120	100.0%	25,132	100.0%

[a]Source: Texas eHARS, analyzed by the Houston Health Department
[b]New HIV = People diagnosed with HIV, including stage 3 HIV, with residence at diagnosis in Houston/Harris County in 2017
[c]PLWH = People living with HIV, including stage 3 HIV, in Houston/Harris County in 2016
[d]People with no risk reported were recategorized into standard categories using the multiple imputation or risk program of the Centers for Disease Control and Prevention (CDC)

(**Table 2**) Similar trends are seen when the jurisdiction of analysis is expanded to the Houston EMA. In 2017, 864 people newly diagnosed with HIV were identified as MSM (an increase of 57 cases from the number in Houston/Harris County). Of these, a majority (87.6%) was also MSM of color (MSMOC), with White MSM comprising 12.4% of new HIV diagnoses among MSM in that year. In total, MSM were 70.0% of all new HIV diagnoses in the EMA in 2018, and Hispanic/Latino MSM were 41.8% of all new HIV diagnoses in the EMA in 2018. Most newly diagnosed MSM in the EMA were under age 35 (68.1%), and 26.0% were young MSM (MSM between the ages of 13 and 24).

Again, demographic differences are seen between prevalence of HIV among MSM and newly diagnosed MSM in the EMA. For example, a smaller proportion of all MSM living with HIV in the EMA is MSMOC (76.0% vs. 87.6%), and more than half the proportion is under age 35 (31.2%% vs. 68.1%). In addition, young MSM are 5.1% of prevalent cases compared to 26.0% of newly diagnosed MSM in the EMA.

MSM TABLE 2-New Diagnoses of HIV and Persons Living with HIV (2017) in the *Houston EMA* by Race/Ethnicity and Age[a], 2017

	New Diagnoses[b]		Persons Living with HIV[c]	
	Cases	%	Cases	%
Total MSM[d]	864	100.0%	16,150	100.0%
Race/Ethnicity				
White	107	12.4%	3,877	24.0%
African American	360	41.7%	6,027	37.3%
Hispanic/Latino	361	41.8%	5,428	33.6%
Other/Multiple Race	36	4.2%	818	5.1%
Age				
0 - 12	N	N	N	N
13 - 24	225	26.0%	827	5.1%
25 - 34	363	42.0%	4,225	26.2%
35 - 44	143	16.6%	3,508	21.7%
45 - 54	86	10.0%	4,075	25.2%
55 - 64	40	4.6%	2,694	16.7%
65+	6	0.7%	821	5.1%
Total All Persons	1,234	100.0%	28,225	100.0%

[a]Source: Texas eHARS. New diagnoses and diagnosed PLWH as of 12/31/17

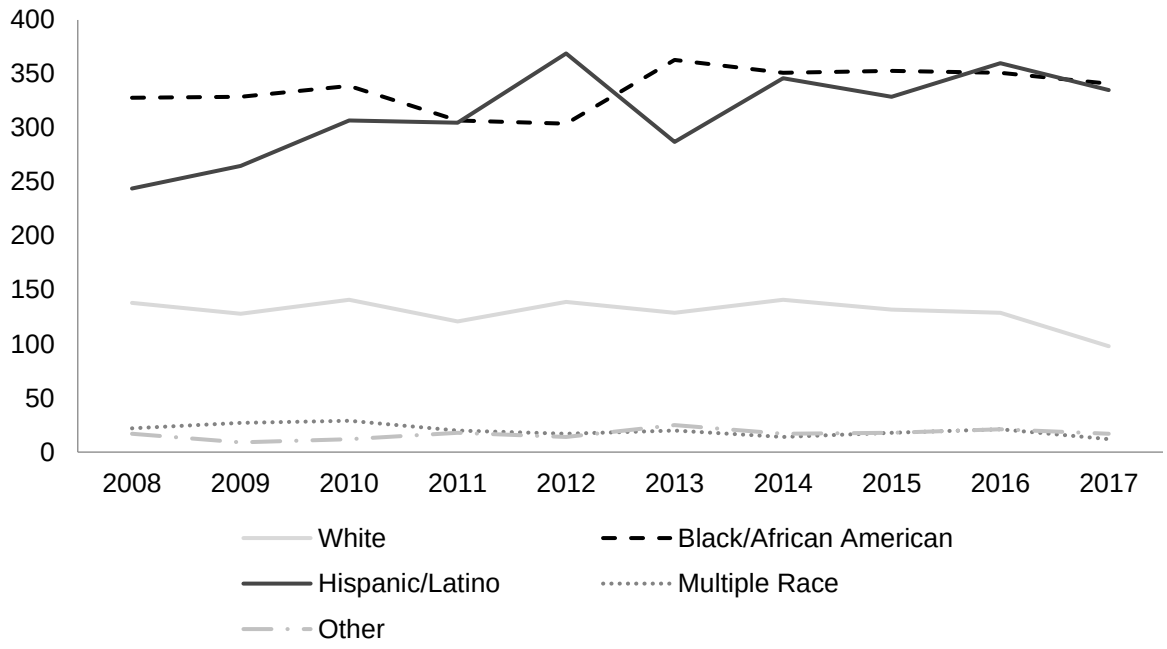
[b]New Diagnoses = People newly diagnosed with HIV, regardless of stage with residence at diagnosis in the Houston EMA in 2017

[c]PLWH = People living with HIV disease, regardless of stage with residence at diagnosis in the Houston EMA in 2017

[d]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification

(**Graph 1**) Over a ten year period, an average of 689 MSM of color (MSMOC) were diagnosed with HIV in Houston/Harris County each year compared to an average of 130 White MSM annually. This breaks down to 337 African American/Black MSM and 315 Hispanic/Latino MSM diagnosed each year on average. In 2017, there were 341 and 335 cases in these groups, respectively.

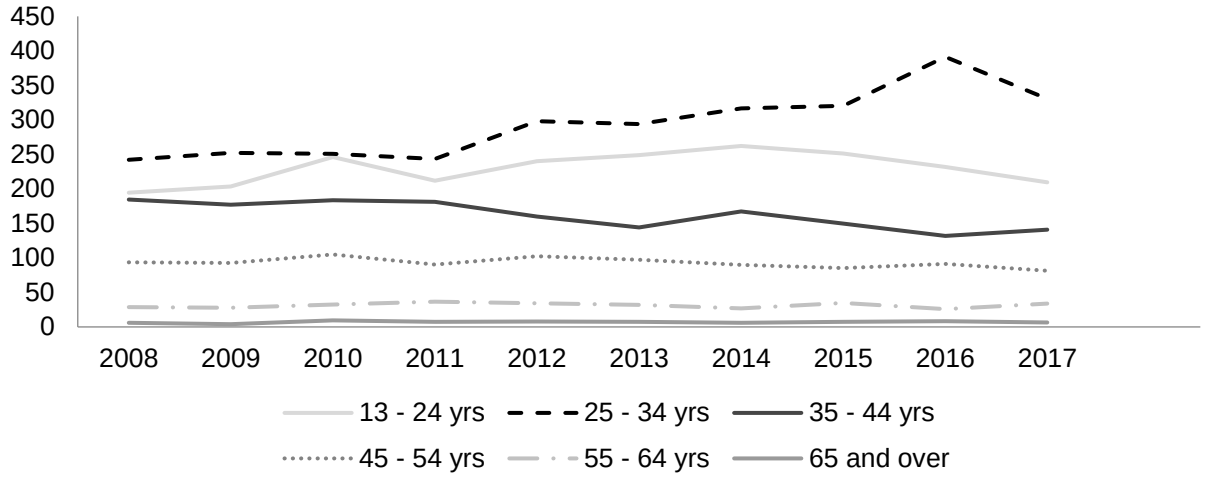
MSM GRAPH 1- Number of New HIV Diagnoses in MSM in Houston/Harris County by Race/Ethnicity, 2008 to 2017



Source: Texas eHARS, analyzed by the Houston Health Department

(**Graph 2**) When analyzed by age, the numbers of newly diagnosed MSM in Houston/Harris County in each age range have remained relatively stable over a ten year period. However, the numbers of new HIV cases in young MSM ages 25 to 34 have increased each year (from 2008 to 2016) while, in the case of MSM ages 35 to 44, the numbers of new HIV cases have mostly declined since 2008. Overall, the most new cases among MSM are diagnosed in the age group of 25 to 34 years.

MSM GRAPH 2- Number of New HIV Diagnoses in MSM in Houston/Harris County by Age, 2008 to 2017



Source: Texas eHARS, analyzed by the Houston Health Department

Young MSM (MSM age 13 to 24) (YMSM)

(**Table 3**) Young MSM (MSM ages 13 to 24) (YMSM) were 18.8% of all new HIV diagnoses in Houston/Harris County in 2017. Of these, the majority (90.0%) was African American/Black or Hispanic/Latino. Young MSMOC still make up the majority of people living with HIV (84.5%), but there are more White YMSM living with HIV (11.0%) when compared to the proportion newly diagnosed. By proportion, YMSM are 14.1% of all people living with HIV in Houston/Harris County.

YMSM (MSM ages 13 to 24) TABLE 3 - New Diagnoses of HIV and Persons Living with HIV in Houston/Harris County by Race/Ethnicity[a]

	New HIV[b]		Persons Living with HIV[c]	
	Cases	%	Cases	%
Total YMSM[d]	210	100.0%	3,532	100.0%
Race/Ethnicity				
White	12	5.7%	390	11.0%
African American/Black	102	48.6%	1,953	55.3%
Hispanic/Latino	87	41.4%	1,031	29.2%
Other/Multiple Race	9	4.3%	158	4.5%
Total All Persons	1,120	100.0%	25,132	100.0%

[a]Source: Texas eHARS, analyzed by the Houston Health Department

[b]HIV = People diagnosed with HIV, including stage 3 HIV, with residence at diagnosis in Houston/Harris County in 2017

[c]PLWH at end of 2016 = People living with HIV disease, including stage 3 HIV, in Houston/Harris County at the end of 2016

[d]People with no risk reported were recategorized into standard categories using the multiple imputation or risk program of the Centers for Disease Control and Prevention (CDC)

(**Table 4**) The same trends are observed when the jurisdiction of analysis is expanded to the Houston EMA. In 2017, 225 cases of HIV were newly diagnosed in YMSM, which represents 18.2% of all new HIV diagnoses in the EMA in that year. Again, a majority of newly diagnosed YMSM (88.3%) was African American or Hispanic/Latino. Among all persons living with HIV in the Houston EMA, YMSM were 2.9%, down from 3.4% in 2011. Again, the majority of these (94.2%) were MSMOC.

YMSM (MSM age 13 to 24) TABLE 2-New Diagnoses of HIV and People Living with HIV in the Houston EMA by Race/Ethnicity[a]				
	New Diagnoses[b]		People Living with HIV[c]	
	Cases	%	Cases	%
Total YMSM[d]	225	100.0%	827	100.0%
Race/Ethnicity				
White	13	5.8%	55	6.7%
African American	109	48.4%	470	56.8%
Hispanic/Latino	92	40.9%	266	32.2%
Other/Multiple Race	11	4.9%	36	4.4%
Total All Persons	1,234	100.0%	28,225	100.0%

[a]Source: Texas eHARS. New diagnoses and diagnosed PLWH as of 12/31/17

[b]New Diagnoses = People newly diagnosed with HIV, regardless of stage with residence at diagnosis in the Houston EMA in 2017

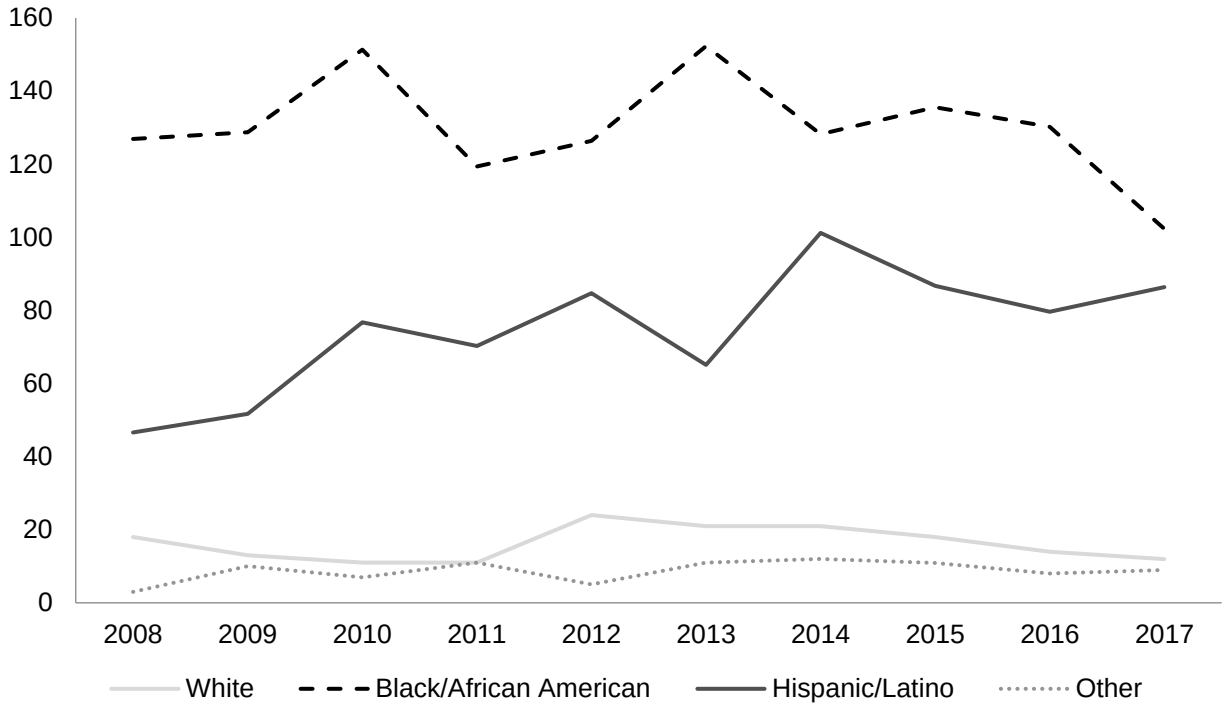
[c]PLWH = People living with HIV disease, regardless of stage with residence at diagnosis in the Houston EMA in 2017

[d]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification

[N]Data has been suppressed to meet cell size limit of 5

(**Graph 3**) Over a ten-year period, the numbers of YMSM diagnosed with HIV in Houston/Harris County have been highest in those who are African American/Black. Between 2008 and 2017, the number of African American/Black YMSM newly diagnosed with HIV in Houston/Harris County decreased by 19.7%. During this same time period, the number of new HIV diagnoses among Hispanic/Latino YMSM increased by 83.0%. On average, 130 African American/Black YMSM are diagnosed with HIV each year in Houston/Harris County, 75 Hispanic/Latino YMSM are diagnosed, and 16 White YMSM are diagnosed. In 2017, there was a decline in the number of new HIV cases for African American/Black YMSM by 28 cases, while the number of new cases in Hispanic/Latino YMSM increased by 6 cases.

YMSM (MSM age 13 to 24) GRAPH 3- Number of New HIV Diagnoses in YMSM in Houston/Harris County by Race/Ethnicity, 2008 to 2017



Source: Texas eHARS, analyzed by the Houston Health Department

Rural

Urban and Rural Population Distribution

(**Table 1**) The geographic service areas for HIV prevention and care planning in the Houston Area include a total of 10 counties. Six of these counties, including Houston/Harris County, form the Houston Eligible Metropolitan Area (EMA) defined federally by the Health Resources and Services Administration (HRSA). These six counties plus four additional counties form the Houston Health Services Delivery Area (HSDA) defined locally by the Texas Department of State Health Services (DSHS). The EMA has a total population of 5,800,581, and the HSDA has a total population of 5,961,783. Of these total populations, 5% and 7% are considered rural, respectively. This is compared to 15% of the total Texas population that is rural.

At the county level, four counties in the HSDA have a majority of the population that is rural (Austin, Colorado, Liberty, Waller). Houston/Harris County is the least rural at 1%, and Austin County is the most rural at 66%.

RURAL TABLE 1-Distribution of Urban and Rural Population in the Houston EMA and HSDA by County, 2016

County	Total Population	Percent of Population-Urban	Percent of Population-Rural
Chambers	38,072	54%	46%
Fort Bend	683,756	94%	6%
Harris (incl. Houston)	4,434,257	99%	1%
Liberty	78,598	37%	63%
Montgomery	518,849	77%	23%
Waller	47,049	38%	62%
EMA Total	5,800,581	95%	5%
Austin	29,107	34%	66%
Colorado	20,792	37%	63%
Walker	69,926	54%	46%
Wharton	41,377	50%	50%
HSDA Total	5,961,783	93%	7%
Texas Total	26,959,435	85%	15%

[a]Source: Population - U.S. Census (2016). Urban and Rural - U.S. Census (2010).

Population Density

(**Table 2**) Population density is a measure of the number of people living per square mile in a defined geographic area. It is commonly used as a measure of proximity of people to each other and to various resources. Rural areas tend to have lower population density (or fewer people per square mile), while urban areas tend to have higher population density (or more people per square mile).

In the Houston Area, population density mirrors urban and rural population distribution above. Houston/Harris County is the most densely populated at 2,495 people per square mile while Colorado is the least densely populated at 21 people per square mile. Overall, population density increased in both the EMA (3.0%) and HSDA (4.8%) between 2010 and 2016.

RURAL TABLE 2-Population Density in the Houston EMA and HSDA by County, 2010 and 2016

County	Population Density-2010a	Population Density-2016b
Chambers	58.6	43.7
Fort Bend	669.3	772.6
Harris (incl. Houston)	2,367.2	2,495.4
Liberty	65.2	66.8
Montgomery	436.5	481.8
Waller	84.1	90.8
EMA Total	893.1	920.1
Austin	43.5	44.4
Colorado	21.7	21.3
Walker	86.2	87.2
Wharton	37.9	37.8
HSDA Total	578.5	606.5
Texas Total	96.0	100.4

aSource: U.S. Census (2010). Geographic Identifiers. Census 2000 Summary File 1 (SF 1) 100-Percent Data. Retrieved on 2/26/13

bSource: Calculated using U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates (Retrieved on 02/16/2018) and total county land area

Distribution of Total Population in the Rural Counties of the Houston EMA

(**Table 3**) Between 2010 and 2016, the population in the rural counties of the Houston EMA grew by 14.3%, compared to a 9.7% growth for the EMA as a whole and a 7.2% growth for the state of Texas. Over 170,000 more people lived in the rural counties of the EMA in 2016 than in 2010. The largest percent change in population occurred in Fort Bend and Montgomery Counties, with 16.8% and 13.8% more people in 2016 than in 2010, respectively. Liberty County grew the least with a 3.9% increase between 2010 and 2016.

RURAL TABLE 3-Distribution of Total Rural[a] Population and Population Change in the Houston EMA by County, 2010 and 2016

			Change in Population	
County	Total-2010[a]	Total-2016[b]	#	%
Chambers	35,096	38,072	2,976	8.5%
Fort Bend	585,375	683,756	98,381	16.8%
Harris	4,092,459	4,434,257	341,798	8.4%
Liberty	75,643	78,598	2,955	3.9%
Montgomery	455,746	518,849	63,103	13.8%
Waller	43,205	47,049	3,844	8.9%
Rural EMA Total	1,195,065	1,366,324	171,259	14.3%
EMA Total	5,287,524	5,800,581	513,057	9.7%
Texas Total	25,145,561	26,959,435	1,813,874	7.2%

[a]Source: U.S. Census (2010). Profile of General Population and Housing Characteristics. 2010 Census Summary File 1. Retrieved on 1/31/13

[b]Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. Retrieved on 02/16/2018

(**Table 4**) In 2016, the population of the rural counties in the Houston EMA was 47.7% White (non-Hispanic), 25.7% Hispanic/Latino, 13.9% Black/African American, and 12.5% all other races. This is *dissimilar* when the urban county of Harris is included in the analysis and racial/ethnic minorities comprise the majority of the population. In rural EMA counties, Whites (non-Hispanics) remain the population majority.

RURAL TABLE 4-Distribution of Total Rural Population in the Houston EMA by Sex at Birth, Race/Ethnicity, and Age, 2016[a]

	Number	Percent of Total Population
Total Rural[b] EMA Population	1,502,448	100.0%
Sex at Birth		
Male	735,086	48.9%
Female	767,362	51.1%
Race/Ethnicity		
White	716,779	47.7%
Black/African American	209,094	13.9%
Hispanic/Latino	385,534	25.7%
Other	188,041	12.5%
Age		
Under 2	35,481	2.4%
2 - 12	229,695	15.3%
13 - 24	276,253	18.4%
25 - 34	161,375	10.7%
35 - 44	217,804	14.5%
45 - 54	222,787	14.8%
55 - 64	188,618	12.6%
65+	170,435	11.3%

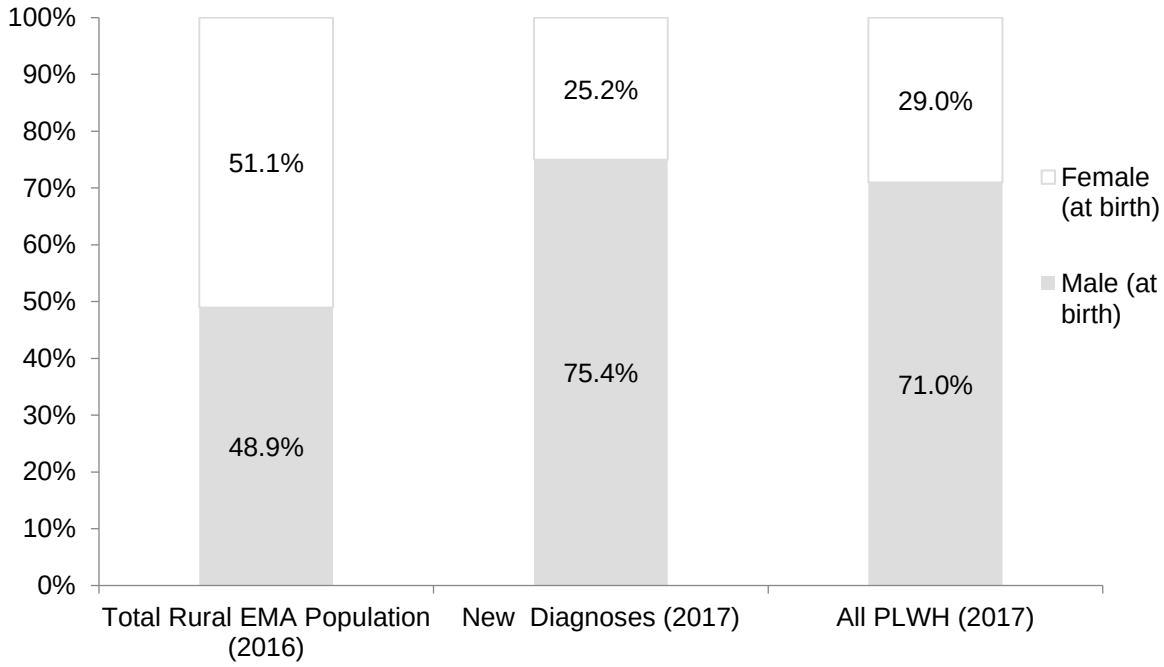
[a]Source: DSHS Center for Health Statistics 2016 Population Projection: http://www.dshs.state.tx.us/chs/popdat/detailX.shtm

[a]For the purpose of this analysis, "rural" has been defined as all counties in the Houston EMA except Harris County. Total Rural EMA population differs from previous tables due to different data source (US Census v. DSHS)

Comparison of Total Rural Population to the Population Living with HIV

(**Graph 1**) The population of the rural counties in the Houston EMA is fairly evenly divided between males and females at 48.9% and 51.1%, respectively. However, more males than females were newly diagnosed with HIV in 2017 (75.4% vs. 25.2%) and more males than females are currently living with HIV (71.0% vs. 29.0%). These differences are comparable when the urban county of Harris is included in the analysis.

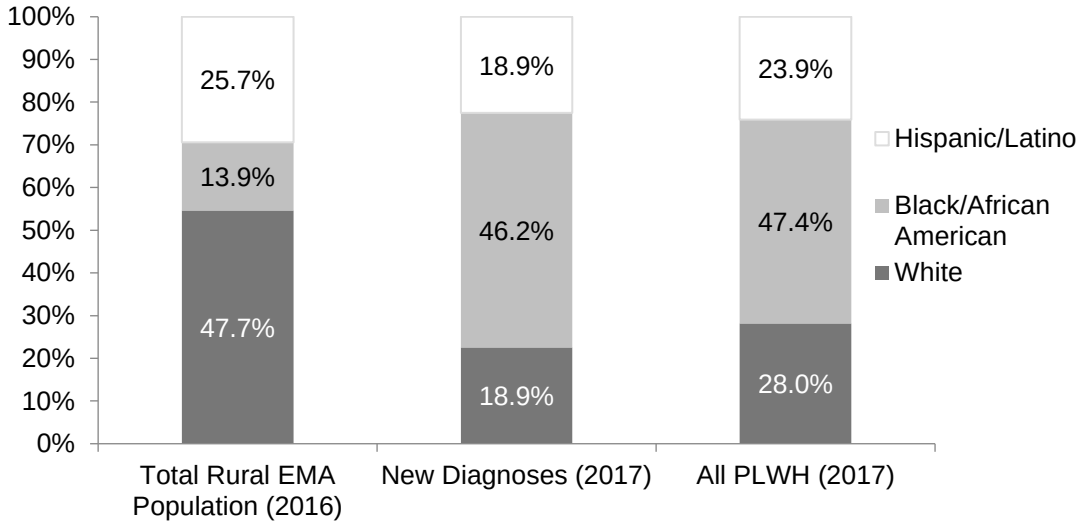
RURAL GRAPH 1-Comparison of Total Rural Population[a] in the Houston EMA to the Rural Population Living with HIV[b] by Sex at Birth, 2017



[a]Source: DSHS Center for Health Statistics 2016 Population Projection
For the purpose of this analysis, "rural" is defined as all counties in the Houston EMA *except* Harris County. This definition is consistent with how HIV care services are currently targeted in the EMA.
[b]Source: Texas eHARS. New diagnoses and diagnosed PLWH as of 12/31/17

(**Graph 2**) The populations in the rural counties in the Houston EMA that are newly diagnosed with HIV and living with HIV are more racially diverse than the general population of the rural counties. While Black/African Americans and Hispanic/Latinos account for 39.6% of the total population in the rural counties, they comprise 65.2% of all new HIV diagnoses and 71.3% of all people living with HIV in the rural counties. These differences are *more* than when the urban county of Harris is included in the analysis. In other words, in the rural counties, the proportion of the HIV burden by race/ethnicity and the demographic distribution of the population by race/ethnicity are *less* analogous.

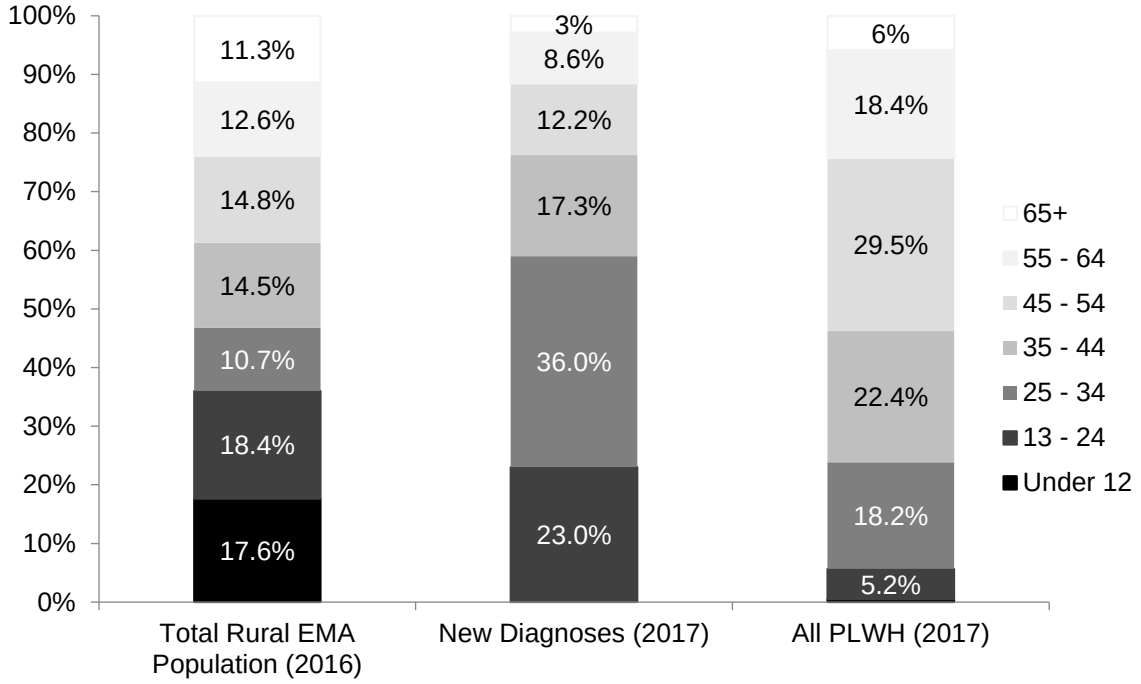
RURAL GRAPH 2-Comparison of Total Rural Population[a] in the Houston EMA to the Rural PLWH Population[b] by Race/Ethnicity, 2017



[a]Source: DSHS Center for Health Statistics 2016 Population Projection
For the purpose of this analysis, "rural" is defined as all counties in the Houston EMA *except* Harris County. This definition is consistent with how HIV care services are currently targeted in the EMA.
[b]Source: Texas eHARS. New diagnoses and diagnosed PLWH as of 12/31/17

(**Graph 3**) When analyzed by age, people age 25 to 34 account for a larger proportion of new HIV diagnoses (36.0%) than their share of the general population in the rural counties of the Houston EMA (10.7%). Similarly, people age 45 to 54 account for a larger proportion of those living with HIV (29.5%) than their share of the total rural population (12.2%). This is comparable to when the urban county of Harris is included in the analysis.

RURAL GRAPH 3-Comparison of Total Rural Population[a] in the Houston EMA to the Rural PLWH Population[b] by Age, 2017



[a]Source: DSHS Center for Health Statistics 2016 Population Projection
For the purpose of this analysis, "rural" is defined as all counties in the Houston EMA *except* Harris County. This definition is consistent with how HIV care services are currently targeted in the EMA.
[b]Source: Texas eHARS. New diagnoses and diagnosed PLWH as of 12/31/17

HIV in the Rural Counties of the Houston EMA

(**Table 5**) In 2017, 139 new diagnoses of HIV (regardless of stage 3 HIV status) were reported in the rural counties of the Houston EMA. This is a rate of 9 new HIV diagnoses for every 100,000 people in the rural counties. At the end of 2018, there were 2,589 people living with HIV in the rural counties of the Houston EMA, or 166 for every 100,000 people residing in the rural counties. The majority of newly diagnosed people (74.8%) and people living with HIV (71.0%) in the rural counties were males. Black/African Americans had the highest rate of both new diagnoses and people living with HIV in the rural counties with 28 new HIV diagnoses and 528 people living with per 100,000 Black/African Americans. The age distribution of new diagnoses in the rural counties peaks with 25-34 year olds (36.0%) for new diagnoses and 45-54 year olds (29.5%) for people living with HIV. Male-to-male sexual contact or MSM was reported most often in 2018 for both new diagnoses (59.7%) and people living with HIV (52.7%), followed by sex with male/sex with female (28.8% and 33.3%, respectively.

RURAL TABLE 5-New Diagnoses of HIV and Persons Living with HIV in the Rural Houston EMA Counties by Sex at Birth, Race/Ethnicity, Age, and Transmission Risk[a], 2017

	New Diagnoses[b]			Persons Living with HIV[c]		
	Cases	%	Rated	Cases	%	Rated
Total Rural EMA	139	100%	8.9	2,589	100%	165.9
Sex at Birth						
Male	104	74.8%	13.6	1,838	71.0%	241.1
Female	35	25.2%	4.4	751	29.0%	94.1
Race/Ethnicity						
White	25	18.0%	3.4	677	26.1%	92.2
Black/African American	61	43.9%	28.0	1,148	44.3%	527.5
Hispanic/Latino	46	33.1%	11.2	597	23.1%	145.7
Other/Multiple Races	7	5.0%	3.5	167	6.5%	84.0
Age						
0 - 12	N	N	N	12	0.5%	4.5
13 - 24	32	23.0%	11.0	135	5.2%	46.5
25 - 34	50	36.0%	30.3	471	18.2%	285.0
35 - 44	24	17.3%	10.7	579	22.4%	259.1
45 - 54	17	12.2%	7.3	764	29.5%	328.5
55 - 64	12	8.6%	6.1	476	18.4%	241.6
65+	N	N	N	152	5.9%	82.6
Transmission Risk[e]						
Male-male sexual contact (MSM)	83	59.7%	*	1,364	52.7%	*
Person who injects drugs (PWID)	9	6.5%	*	218	8.4%	*
MSM/PWID	7	5.0%	*	105	4.1%	*
Sex with Male/Sex with Female	40	28.8%	*	863	33.3%	*
Perinatal transmission	N	N	*	37	1.4%	*
Other	N	N	*	N	N	*

aSource: Texas eHARS. New diagnoses and prevalence as of 12/31/17. For the purpose of this analysis, "rural" has been defined as all counties in the Houston EMA except Harris County

[b]New Diagnoses = People newly diagnosed with HIV, regardless of stage with residence at diagnosis in the Houston EMA in 2017

[c]PLWH = People living with HIV disease, regardless of stage with residence at diagnosis in the Houston EMA in 2017

[e]Rate per 100,000 population. Source: DSHS Center for Health Statistics 2017 Population Projection.

[e]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification

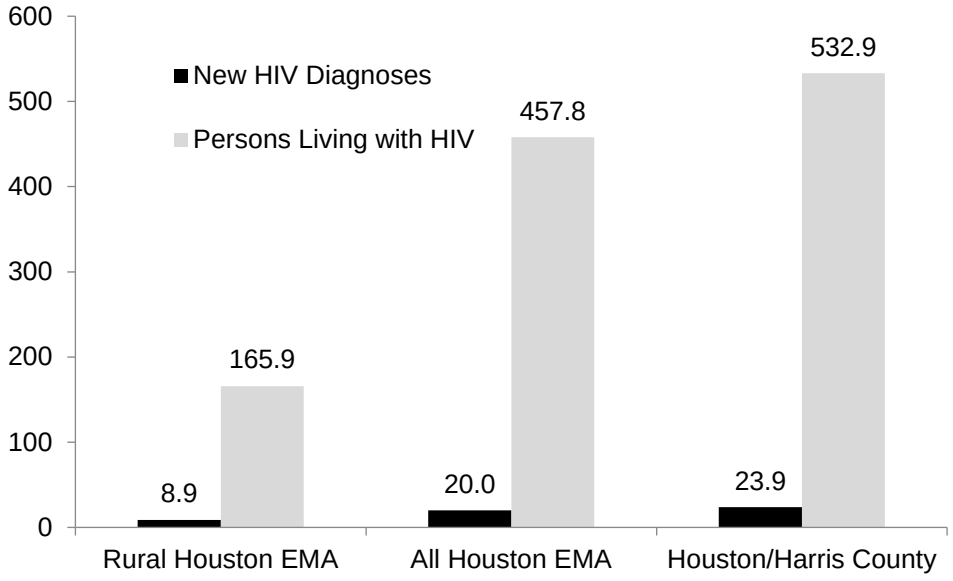
*Population data are not available for risk groups; therefore, it is not possible to calculate rate by risk

[N]Data has been suppressed to meet cell size limit of 5

Summary of HIV Epidemiology by Rural and Urban Counties

(**Graph 4**) Overall, the urban county of Harris has the highest rates of core HIV indicators, which, in turn, increase the rates of the Houston EMA as a whole. In this comparison, the rural counties of the Houston EMA have the lowest rates of core HIV indicators.

RURAL GRAPH 4-HIV Diagnosis and Prevalence Rates by Rural and Urban Jurisdiction



Sources:
Rural Houston EMA and All Houston EMA: Texas eHARS. For the purpose of this analysis, "rural" is defined as all counties in the Houston EMA *except* Harris County. This definition is consistent with how HIV care services are currently targeted in the EMA.
Houston/Harris County: Houston/Harris County eHARS. Diagnoses, 2017; Prevalence, 2017

Seniors (age 50+)

(**Table 1 and Table 2**) In 2017, 155 people ages 50 and older were newly diagnosed with HIV in Houston/Harris County. This equates to 13.8% of all new HIV diagnoses in that year. When compared to all new HIV diagnoses in Houston/Harris County in 2017 regardless of age, larger proportions of newly diagnosed seniors were (1) female (27.1% v. 18.2%), (2) White (21.9% v. 11.2%), (3) person who injects drugs (PWID) (6.5% v. 3.3%). In addition, newly diagnosed seniors were more evenly distributed between MSM and sex with male/sex with female than were all new HIV diagnoses in 2017 in Houston/Harris County. The same demographic trends can be seen in new HIV diagnoses in seniors in the Houston EMA.

AGING/SENIORS (Age 50+) TABLE 1-New Diagnoses of HIV and Persons Living with HIV in *Houston/Harris County* by Sex assigned at birth, Race/Ethnicity, and Risk[a]

	New HIV[b]		Persons Living with HIV[c]	
	Cases	%	Cases	%
Total: Seniors	155	100.0%	1,980	100.0%
Sex assigned at birth				
Male	113	72.9%	1,411	71.3%
Female	42	27.1%	569	28.7%
Race/Ethnicity				
White	34	21.9%	482	24.3%
African American/Black	80	51.6%	957	48.3%
Hispanic/Latino	35	22.6%	476	24.0%
Other/Multiple Races	6	3.8%	65	3.3%
Transmission Risk[d]				
MSM	82	52.9%	856	43.2%
PWID	10	6.5%	225	11.4%
MSM/PWID	3	1.9%	47	2.4%
Sex with Male/Sex with Female	60	38.7%	851	43.0%
Perinatal transmission/other	0	0.0%	1	0.1%
Total: All Ages	1,120	100.0%	25,132	100.0%

[a]Source: Texas eHARS, analyzed by the Houston Health Department
[b]HIV = People diagnosed with HIV, including stage 3 HIV, with residence at diagnosis in Houston/Harris County in 2017
[c]PLWH at end of 2016 = People living with HIV, including stage 3 HIV, in Houston/Harris County at the end of 2016
[d]People with no risk reported were recategorized into standard categories using the multiple imputation or risk program of the Centers for Disease Control and Prevention (CDC)

Of all persons living with HIV in the Houston EMA, people age 50 and older comprise 38.4% at 10,829 diagnosed individuals. When compared to all people living with HIV in the Houston EMA in 2017 regardless of age, larger proportions of seniors living with HIV (1) were again White (28.4% v. 18.9) and (2) reported injection drug use transmission risk (12.4% v. 8.4%). However, prevalence rates among seniors remain highest in Black/African Americans at 1,671 per 100,000 population.

AGING/SENIORS (Age 50+) TABLE 2-New Diagnoses and People Living with HIV in the *Houston EMA* by Sex at Birth, Race/Ethnicity, and Risk[a] 2017

	New HIV Diagnoses[b]			People Living with HIV[c]		
	Cases	%	Rate[d]	Cases	%	Rate[d]
Total Seniors	175	100.0%	10.2	10,829	100.0%	632.1
Sex at Birth						
Male	126	72.0%	15.5	8,379	77.4%	1033.8
Female	49	28.0%	5.4	2,450	22.6%	271.4
Race/Ethnicity						
White	41	23.4%	5.0	3,034	28.0%	369.0
Black/African American	85	48.6%	29.4	4,838	44.7%	1670.5
Hispanic/Latino	42	24.0%	9.7	2,531	23.4%	582.9
Other/Multiracial	7	4.0%	4.2	426	3.9%	255.0
Transmission Risk[e]						
Male-male sexual contact (MSM)	90	51.4%	*	5,679	52.4%	*
Person who injects drugs (PWID)	12	6.9%	*	1,348	12.4%	*
MSM/PWID	N	N	*	634	5.9%	*
Heterosexual contact	69	39.4%	*	3,153	29.1%	*
Adult other risk	N	N	*	14	0.1%	*
Total All Ages	1,234	100.0%	20	28,225	100.0%	457.8

[a]Sources: Texas eHARS. New Diagnoses and Diagnosed PLWH as of 12/31/17.

[b]HIV = People diagnosed with HIV with residence at diagnosis in the Houston EMA

[c]PLWH at end of 2017 = People living with HIV in the Houston EMA at the end of 2017

[d]Rate per 100,000 population. Source: DSHS Center for Health Statistics 2017 Population Projection

[e]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification

*Population data are not available for risk groups; therefore, it is not possible to calculate rate by transmission risk

[N]Data has been suppressed to meet cell size limit of 5

Transgender

HIV surveillance data on transgender people is not uniformly collected by HIV surveillance systems.[1] As a result, minimal epidemiological data are available on new HIV diagnoses and persons living with HIV among transgender individuals both nationally and in the Houston Area.[1] The epidemiological data that are available are presented below. Discrepancies exist between these two data sources due to data collection differences between surveillance and care data management systems.

(**Table 1**) In 2017, 18 new HIV diagnoses and four new stage 3 HIV diagnoses were reported among transgender persons in Houston/Harris County. This equates to 1.6% of all new HIV diagnoses and 0.8% of all new stage 3 HIV diagnoses made in the jurisdiction in that year. In addition, transgender persons were 0.7% of all persons living with HIV in Houston/Harris County at the end of 2016.

TRANSGENDER TABLE 1- New Diagnoses of HIV and Stage 3 HIV and People Living with HIV in Houston/Harris County[a]

	Cases of New HIV, 2017[b]	Cases of New Stage 3 HIV, 2017[c]	Persons Living with HIV, 2016[d]
Total: Transgender	18	4	177
Total: All Persons	1,120	497	25,132

[a]Source: Texas eHARS, analyzed by the Houston Health Department
[b]HIV = People diagnosed with HIV, including stage 3 HIV, with residence at diagnosis in Houston/Harris County in 2017
[c]New Stage 3 HIV = People diagnosed with stage 3 HIV with residence at diagnosis in Houston/Harris County in 2017
[d]PLWH at end of 2016 = People living with HIV, including stage 3 HIV, in Houston/Harris County at the end of 2016

(**Table 2**) In 2017, 146 transgender individuals living with HIV were served by the Ryan White HIV/AIDS Program in the Houston EMA. This equates to 1.1% of all Ryan White clients served in that year. Of the 146 transgender clients documented, 21.9% were new to care.

TRANSGENDER TABLE 2-Number of Clients Served by the Ryan White HIV/AIDS Program Part A, B, MAI, and State Services in the Houston EMA/HSDA, 2017

	Total Clients Served	New Clients Served
Total Transgender	146	32
Total All Persons Served	13,641	2,965

Source: Ryan White Grant Administration and The Resource Group. All Services/All Grants. Presented 4/01/18

[1]Centers for Disease Control and Prevention, "HIV and Transgender People." https://www.cdc.gov/hiv/group/gender/transgender/index.html

Women of Childbearing Age (age 13 to 44)

(**Table 1 and Table 2**) In 2017, 144 women of childbearing age (ages 13 to 44) were newly diagnosed with HIV in Houston/Harris County. This equates to 12.9% of all new HIV diagnoses in Houston/Harris County in that year. In the Houston EMA of 2017, 165 persons newly diagnosed with HIV were women of childbearing (21 more cases than in Houston/Harris County in 2017). In both jurisdictions, the majority of new diagnoses in women age 13 to 44 were African American/Black (at 60.4% and 59.4% respectively). In addition, almost all newly diagnosed women of this age range reported sex with male(s).

WOMEN OF CHILDBEARING AGE (ages 13 to 44) TABLE 1- New Diagnoses of HIV and Persons Living with HIV in *Houston/Harris County* by Race/Ethnicity, Age, and Risk[a]

	New HIV[b]		Persons Living with HIV[c]	
	Counts	%	Counts	%
Total: Women (ages 13 to 44)	144	100.0%	5,030	100.0%
Race/Ethnicity				
White	8	5.6%	330	6.6%
African American/Black	87	60.4%	3,557	70.7%
Hispanic/Latino	43	29.9%	961	19.1%
Multiple Races	3	2.1%	138	2.7%
Other	3	2.1%	44	0.9%
Age				
13 -17	0	0	224	4.5%
18 - 24	33	22.9%	1,323	26.3%
25 - 34	60	41.7%	2,109	41.9%
35 - 44	51	35.4%	1,374	27.3%
Transmission Risk[e]				
PWID	11	7.6%	806	16.0%
Sex with male	132	91.7%	4,215	83.8%
Perinatal transmission/other	1	9.0%	9	0.2%
Total: All Persons	1,120	100.0%	25,132	100.0%

[a]Source: Texas eHARS, analyzed by the Houston Health Department

[b]HIV = People diagnosed with HIV, including stage 3 HIV, with residence at diagnosis in Houston/Harris County in 2017

[c]PLWH at end of 2016 = People living with HIV, including stage 3 HIV, in Houston/Harris County at the end of 2016
[e]People with no risk reported were recategorized into standard categories using the multiple imputation or risk program of the Centers for Disease Control and Prevention (CDC)

Women of childbearing age (ages 13 to 44) are about 20% of all persons living with HIV in Houston/Harris County and about 12% of all persons living with HIV in the Houston EMA. Again, the majority of women living with HIV in this age range are Black/African American and have sex with male/sex with female transmission risk in both jurisdictions.

WOMEN OF CHILDBEARING AGE (age 13 to 44) TABLE 2-New Diagnoses of HIV and Persons Living with HIV in the *Houston EMA* by Race/Ethnicity, Age, and Risk[a]

	New HIV Diagnoses[b]			Persons Living with HIV[c]		
	Cases	%	Rate[d]	Cases	%	Rate[d]
Total Women (age 13 to 44)	165	100.0%	11.6	3,496	100.0%	245.0
Race/Ethnicity						
White	11	6.7%	2.9	188	5.4%	49.4
Black/African American	100	60.6%	38.8	2,379	68.0%	922.6
Hispanic/Latino	48	29.1%	7.5	751	21.5%	117.4
Other/Multiple Races	6	3.6%	4.0	178	5.1%	119.8
Age						
13 - 24	40	24.2%	7.8	276	7.9%	53.9
25 - 34	66	40.0%	14.5	1,091	31.2%	239.3
35 - 44	59	35.8%	12.8	2,129	60.9%	463.2
Transmission Risk[e]						
Person who injects drugs (PWID)	14	8.5%	*	329	9.4%	*
Sex with Male/Sex with Female	150	90.9%	*	3,023	86.5%	*
Perinatal transmission	N	N	*	144	4.1%	*
Total All Persons	1,234	100.0%	20	28,225	100.0%	457.8

[a]Sources: Texas eHARS. New Diagnoses and Diagnosed PLWH as of 12/31/17.

[b]HIV = People diagnosed with HIV with residence at diagnosis in the Houston EMA

[d]PLWH at end of 2017 = People living with HIV in the Houston EMA at the end of 2017

[e]Rate per 100,000 population. Source: DSHS Center for Health Statistics 2017 Population Projection.
[f]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification

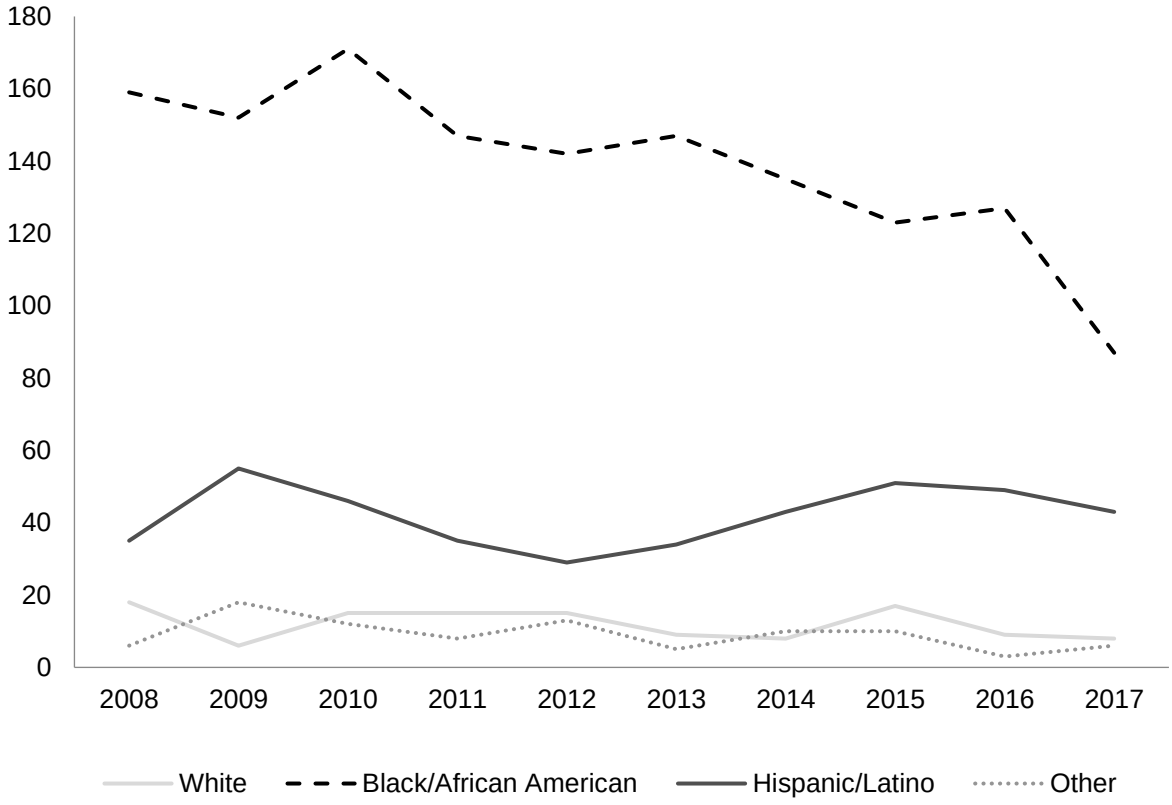
*Population data are not available for risk groups; therefore, it is not possible to calculate rate by risk

[N]Data has been suppressed to meet cell size limit of 5

(**Graph 1**) From 2008 to 2017, the numbers of new HIV diagnoses in women of childbearing age (ages 13 to 44) in Houston/Harris County have declined. For example, in 2008, there were 218 new HIV diagnoses in women of this age range while, in 2017, there were 144. On average, there were 7 fewer new HIV diagnoses per year in women of this age range during this ten year period.

African American/Black women comprised the majority of new HIV diagnoses among women of childbearing age (ages 13 to 44) during this ten-year period. On average, during this period, there have been 139 new HIV diagnoses among African American/Black women of childbearing age (ages 13 to 44), 42 new HIV diagnoses among Hispanic/Latino women of childbearing age (ages 13 to 44), and 12 new HIV diagnoses among White women of childbearing age (ages 13 to 44). For all groups, the numbers of new HIV diagnoses have been on the decline.

WOMEN OF CHILDBEARING AGE (ages 13 to 44) GRAPH 1- Number of New HIV Diagnoses in Women of Childbearing Age in Houston/Harris County by Race/Ethnicity, 2008 to 2017



Source: Texas eHARS, analyzed by the Houston Health Department

Youth (age 13 to 24)

Youth (age 13 to 24)

(**Table 1 and Table 2**) In 2017, 252 youth (people age 13 to 24) were diagnosed with HIV in Houston/Harris County. This equates to 22.5% of all new HIV diagnoses in Houston/Harris County in that year. Most were persons of color and MSM. When compared to all new HIV diagnoses in Houston/Harris County in 2017 regardless of age, larger proportions of newly diagnosed youth were (1) African American/Black (50.4% v. 47.6%) and (2) MSM (83.3% v. 71.7%). The same demographic trends are seen when the jurisdiction of analysis is expanded to the Houston EMA. People age 13 to 24 in the EMA were 22.6% of all new HIV diagnoses in 2017. Again, larger proportions of newly diagnosed youth in the EMA were (1) African American/Black (50.2% v. 47.1%) and (2) MSM (80.6% v. 70.5%) compared to all new HIV diagnoses in that year regardless of age.

YOUTH (age 13 to 24) TABLE 1- New Diagnoses of HIV and Persons Living with HIV in *Houston/Harris County* by Sex assigned at birth, Race/Ethnicity, and Risk[a]

	New HIV[b]		Persons Living with HIV[c]	
	Counts	%	Counts	%
Total: Youth (age 13 to 24)	252	100.0%	5,660	100.0%
Sex assigned at birth				
Male	219	86.9%	4,113	72.7%
Female	33	13.1%	1,547	27.3%
Race/Ethnicity				
White	18	7.1%	558	9.9%
African American/Black	127	50.4%	3,409	60.2%
Hispanic/Latino	97	38.5%	1,440	25.4%
Multiple Races	6	2.4%	213	3.8%
Other	4	1.6%	40	0.7%
Transmission Risk[d]				
MSM	210	83.3%	3,532	62.4%
PWID	4	1.6%	321	5.7%
Sex with Male/Sex with Female	32	12.7%	1,585	28.0%
Perinatal/MSM-PWID/other	6	2.4%	222	3.9%
Total: All Ages	1,120	100.0%	25,132	100.0%

[a]Source: Texas eHARS, analyzed by the Houston Health Department

[b]HIV = People diagnosed with HIV, including stage 3 HIV, with residence at diagnosis in Houston/Harris County in 2017

[c]PLWH at end of 2016 = People living with HIV, including stage 3 HIV, in Houston/Harris County at the end of 2016

[d]People with no risk reported were recategorized into standard categories using the multiple imputation or risk program of the Centers for Disease Control and Prevention (CDC)

The people ages 13 to 24 living with HIV in Houston/Harris County reflect the number of new diagnoses, with this group making up about 20% of all new diagnoses and prevalent HIV. However, the number of prevalent cases of HIV in people age 13 to 24 is only 4.3% of all people living with HIV in the Houston EMA in 2017. Prevalent cases in youth in both jurisdictions also tend to be MSMOC. About 15% of people age 13 to 24 living with HIV in the Houston EMA were perinatally exposed.

YOUTH (age 13 to 24) TABLE 2-New Diagnoses of HIV and Persons Living with HIV in the *Houston EMA* by Sex at Birth, Race/Ethnicity, and Risk[a], 2017

	New HIV Diagnoses[b]			Persons Living with HIV[c]		
	Cases	%	Rate[d]	Cases	%	Rate[d]
Total Youth (age 13 to 24)	279	100.0%	26.3	1,240	100.0%	117.0
Sex at birth						
Male	237	84.9%	43.3	958	77.3%	174.9
Female	42	15.1%	8.2	282	22.7%	55.1
Race/Ethnicity						
White	18	6.5%	7.0	74	6.0%	28.7
Black/African American	140	50.2%	72.6	722	58.2%	374.4
Hispanic/Latino	109	39.1%	21.2	374	30.2%	72.9
Other/Multiple Races	12	4.3%	12.5	70	5.6%	72.9
Transmission Risk[e]						
Male-male sexual contact (MSM)	225	80.6%	*	827	66.7%	*
Person who injects drugs (PWID)	6	2.2%	*	18	1.5%	*
MSM/PWID	7	2.5%	*	21	1.7%	*
Sex with Male/Sex with Female	39	14.0%	*	188	15.2%	*
Perintal transmission	N	N	*	186	15.0%	*
Total All Ages	1,234	100.0%	20	28,225	100.0%	487.8

[a]Sources: Texas eHARS. New Diagnoses and Diagnosed PLWH as of 12/31/17.

[b]HIV = People diagnosed with HIV with residence at diagnosis in the Houston EMA

[c]PLWH at end of 2017 = People living with HIV in the Houston EMA at the end of 2017

[d]Rate per 100,000 population. Source: DSHS Center for Health Statistics 2017 Population Projection.

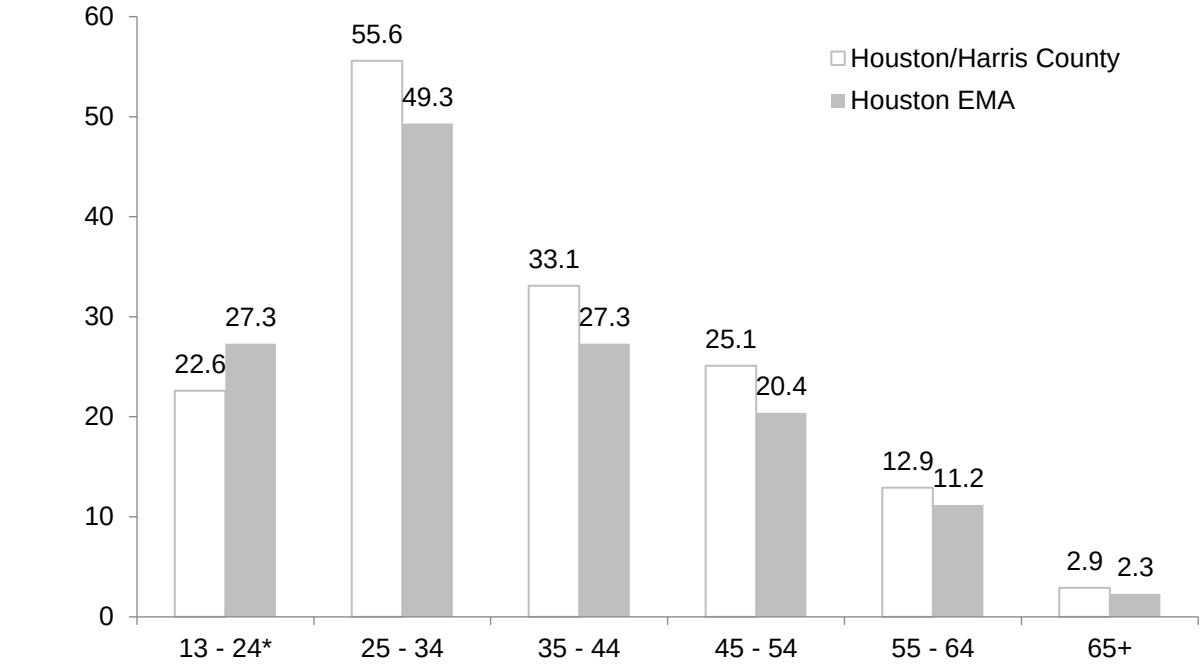
[e]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification

*Population data are not available for risk groups; therefore, it is not possible to calculate rate by risk

[N]Data has been suppressed to meet cell size limit of 5

(**Graph 1**) Rates of new HIV diagnoses by age in Houston/Harris County and in the Houston EMA follow a general bell curve, with a peak among people age 25 to 34 in both jurisdictions. For people age 0 to 24, the rate of new HIV diagnoses in Houston/Harris County at 23 new HIV diagnoses for every 100,000 child and youth in the jurisdiction. People age 13 - 24 comprise *second* highest rate of new HIV diagnoses by age group in Houston (behind people age 25 to 34, and tied with 35 to 44). In the Houston EMA, there were 27 new HIV diagnoses for every 100,000 youth in 2017

YOUTH (age 13 to 24) GRAPH 1-Rate[a] of New HIV Diagnoses in the Houston EMA[b] and Houston/Harris County[c] by Age as of December 31, 2017

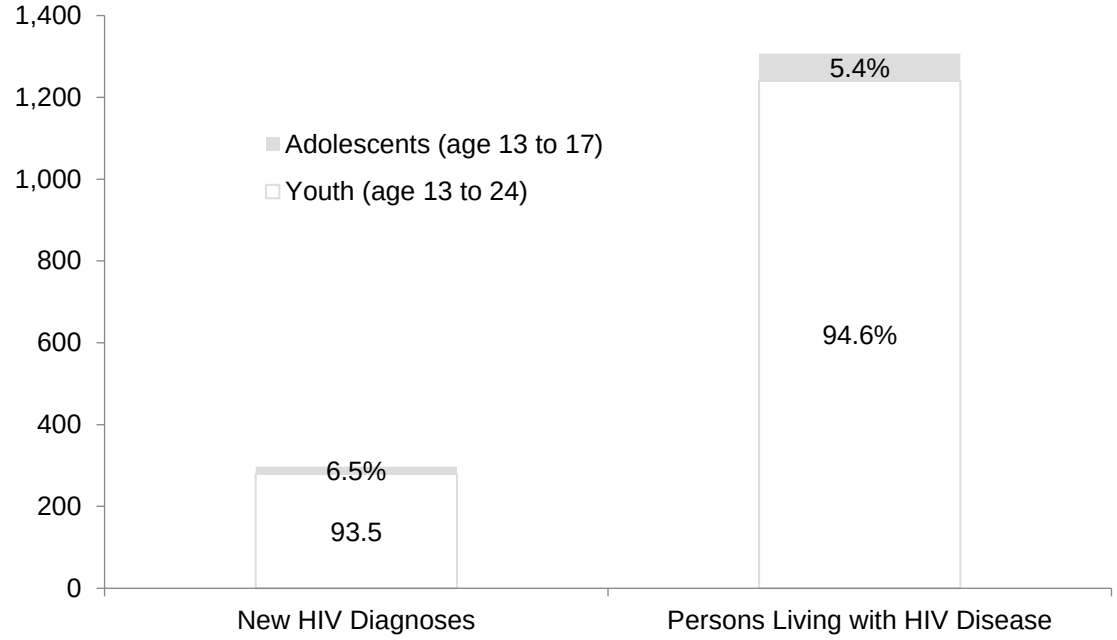


[a]Source: DSHS Center for Health Statistics 2016 Population Projection
[b]Source: Texas eHARS. New diagnoses as of 12/31/17
[c]Source: Texas eHARS, analyzed by Houston Health Department
*Age range 13-24 for Houston/Harris County reflects the diagnosis rate for age range 0-24 due to data suppression.

Adolescents (age 13 to 17)

(**Graph 2**) In 2018, adolescents (people age 13 to 17) were 6.5% of all new HIV diagnoses that occurred in youth (people age 13 to 24) and 5.4% of all youth living with HIV in the Houston EMA.

ADOLESCENTS (age 13 to 17) GRAPH 2-Number and Proportion of New HIV Diagnoses and Persons Living with HIV in the Houston EMA, Adolescents and Youth, 2017



Source: Texas eHARS. Living HIV cases as of 12/31/17

(**Table 3 and Table 4**) In 2017, 14 adolescents (people ages 13 to 17) were diagnosed with HIV in both Houston/Harris County. Of those newly diagnosed, 92.9% were African American/Black or Hispanic/Latino. The majority were also identified as MSM (92.9%). This is divergent from persons living with HIV in this age group in Houston/Harris County, for which more people were heterosexual (46.8%) than MSM (40.0%).

ADOLESCENTS (age 13 to 17) TABLE 3- New Diagnoses of HIV and Persons Living with HIV in *Houston/Harris County* by Sex assigned at birth, Race/Ethnicity, and Risk[a]

	New HIV[b]		Persons Living with HIV[c]	
	Counts	%	Counts	%
Total: Adolescents (ages 13 to 17)	14	100.0%	432	100.0%
Sex assigned at birth				
Male	14	100.0%	208	48.1%
Female	0	0.0%	224	51.9%
Race/Ethnicity				
White	1	7.1%	30	6.9%
African American/Black	9	64.3%	293	67.8%
Hispanic/Latino	4	28.6%	95	22.0%
Multiple Races	0	0.0%	13	3.0%
Other	0	0.0%	1	0.2%
Transmission Risk[d]				
MSM	13	92.9%	173	40.0%
PWID	0	0.0%	34	7.9%
Sex with Male/Sex with Female	0	0.0%	202	46.8%
Perinatal/MSM-PWID/other	1	7.1%	23	5.3%
Total: All Ages	1,120	100.0%	25,132	100.0%

[a]Source: Texas eHARS, analyzed by the Houston Health Department

[b]HIV = People diagnosed with HIV, including stage 3 HIV, with residence at diagnosis in Houston/Harris County in 2017

[c]PLWH at end of 2016 = People living with HIV, including stage 3 HIV, in Houston/Harris County at the end of 2016

[d]People with no risk reported were recategorized into standard categories using the multiple imputation or risk program of the Centers for Disease Control and Prevention (CDC)

Sixty-seven (67) adolescents (people age 13 to 17) are living with HIV in the Houston EMA. Most are (80.6%) are Black/African American or Hispanic/Latino. The majority were also perinatally exposed (88.1%). However, a small percentage reported male-male sexual contact (7.5%) as their transmission risk factor. This is divergent from *new* HIV diagnoses in this age group in the EMA, for which the majority were MSM (83.3%).

ADOLESCENTS (age 13 to 17) TABLE 2-New Diagnoses of HIV and Persons Living with HIV in the *Houston EMA* by Sex, Race/Ethnicity, and Risk[a]

	New HIV Disease[b]			Persons Living with HIV[c]		
	Cases	%	Rate[d]	Cases	%	Rate[d]
Total Adolescents (age 13 to 17)	18	100.0%	3.8	67	100.0%	14.3
Sex						
Male	16	88.9%	6.6	29	43.3%	12.0
Female	N	N	N	38	56.7%	16.7
Race/Ethnicity						
White	N	N	N	6	9.0%	5.1
Black/African American	10	55.6%	12.1	37	55.2%	44.8
Hispanic/Latino	6	33.3%	2.6	17	25.4%	7.5
Other/Multiple Races	N	N	N	7	10.4%	16.5
Risk Category[e]						
Male-to-male sexual activity (MSM)	15	83.3%	*	5	7.5%	*
Injection drug use (IDU)	N	N	*	N	N	*
MSM/IDU	N	N	*	N	N	*
Heterosexual contact	N	N	*	N	N	*
Perintal transmission	N	N	*	59	88.1%	*
Total All Ages	1,234	100.0%	20	28,225	100.0%	457.8

[a]Sources: Texas eHARS. New Diagnoses and Diagnosed PLWH as of 12/31/17.
[b]HIV = People diagnosed with HIV with residence at diagnosis in the Houston EMA
[c]PLWH at end of 2017 = People living with HIV in the Houston EMA at the end of 2017
[d]Rate per 100,000 population. Source: DSHS Center for Health Statistics 2017 Population Projection.
[e]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification

*Population data are not available for risk groups; therefore, it is not possible to calculate rate by risk

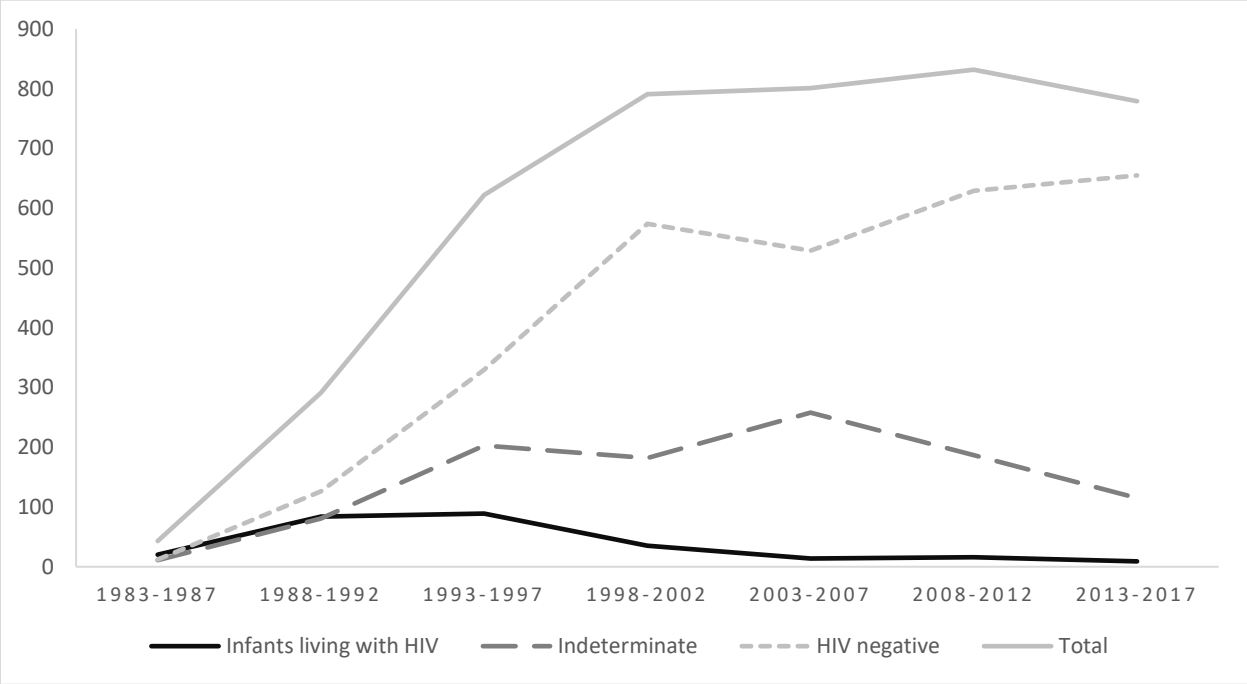
[N]Data has been suppressed to meet cell size limit of 5

Perinatal HIV Exposure in Infants

Perinatal HIV Exposure in Infants Graph 1 shows the number of infants born to mothers living with HIV by the year of birth, stratified by the HIV status of the infants. The data were reported through 2017. Infants proven to have HIV are classified as “Infants living with HIV”. Infants who have been proven not have HIV are classified as “HIV negative”. Infants whose final HIV status has not been determined or has not been reported to the Health Department are classified as “Indeterminate”.

Graph 1 shows that the number of perinatal HIV-exposed infants increased from 1983 as the number of women living with HIV of childbearing age was increasing. It appeared to have reached a steady state of about 800 perinatal-exposed infants born every 5 years from 1998 through 2017. The number of infants living with HIV decreased from 1993 and reached a steady state of about 15 cases every 5 years from 2003 to 2012; the trend has decreased to 9 cases within 5 year-period of 2013-2017. During 2013-2017, the percentage of infants living with HIV, Indeterminate, and HIV negative were 1%, 15%, and 84%, respectively. The frequency of infants with perinatal HIV exposure has decreased over time due to early diagnoses of HIV during pregnancy

PERINATAL HIV EXPOSURE IN INFANTS, GRAPH 1- Transmission Status in Houston/Harris County, 1983-2017

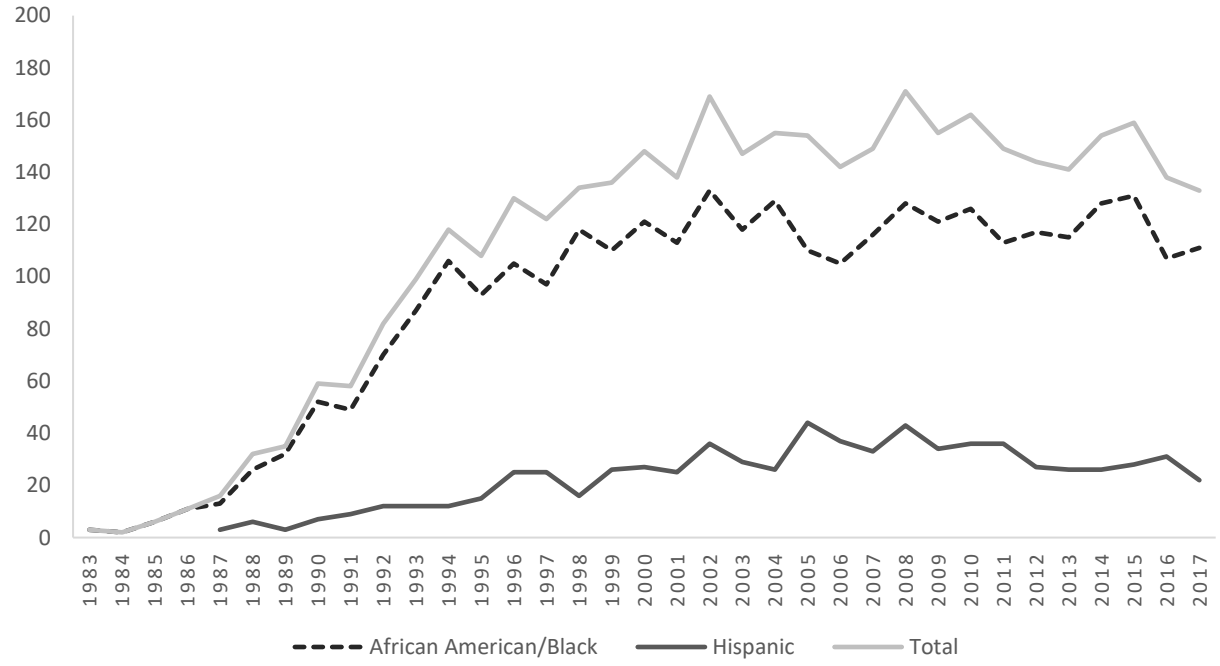


Source: Texas eHARS, 2018, analyzed by the Houston Health Department

Graph 2 shows the number of infants born to mothers living with HIV by the year of birth, stratified by race/ethnicity. In African Americans, the number of perinatal HIV exposures increased from 1983 to 2002 and has remained relatively stable. In Hispanic/Latinos, the number of perinatal HIV exposures showed a slight increase from 1987 to 2008 followed by a decrease.

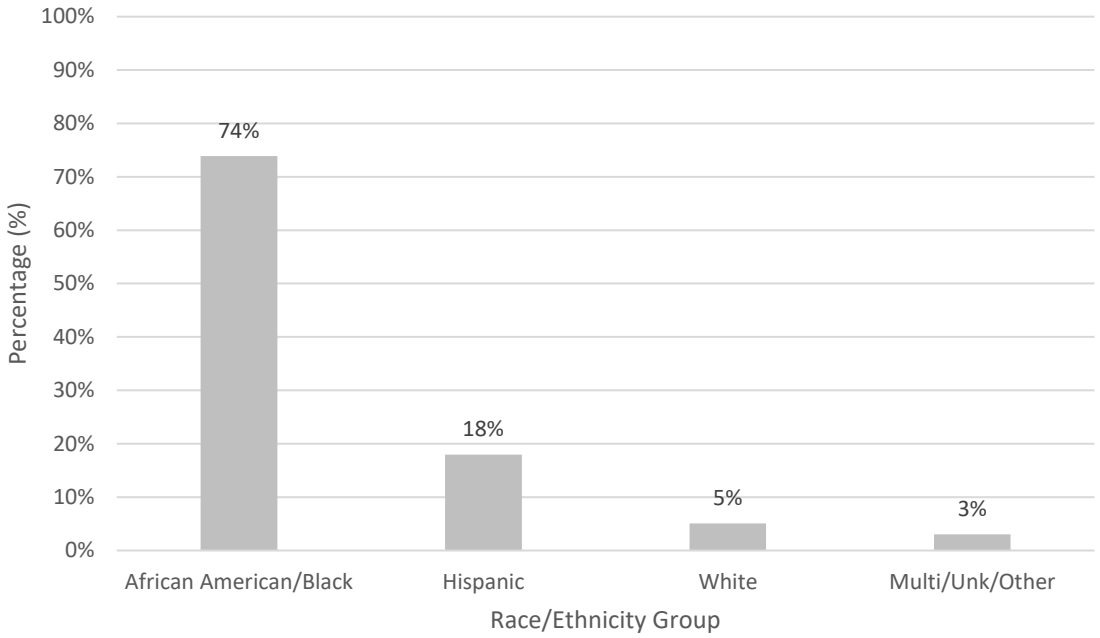
Averaging perinatal exposures for 2015 and 2016, 74% of the perinatal exposures were in African Americans, 18% in Hispanic/Latinos, and 5% in Whites. This roughly reflected the race proportions of women of child bearing age living with HIV (**Graph 3**).

PERINATAL HIV EXPOSURE IN INFANTS, GRAPH 2- by Race/Ethnicity in Houston/Harris County, 1983-2017



Source: Texas eHARS, 2018, analyzed by the Houston Health Department

PERINATAL HIV EXPOSURE IN INFANTS, GRAPH 3- by Race/Ethnicity in Houston/Harris County, 2016-2017



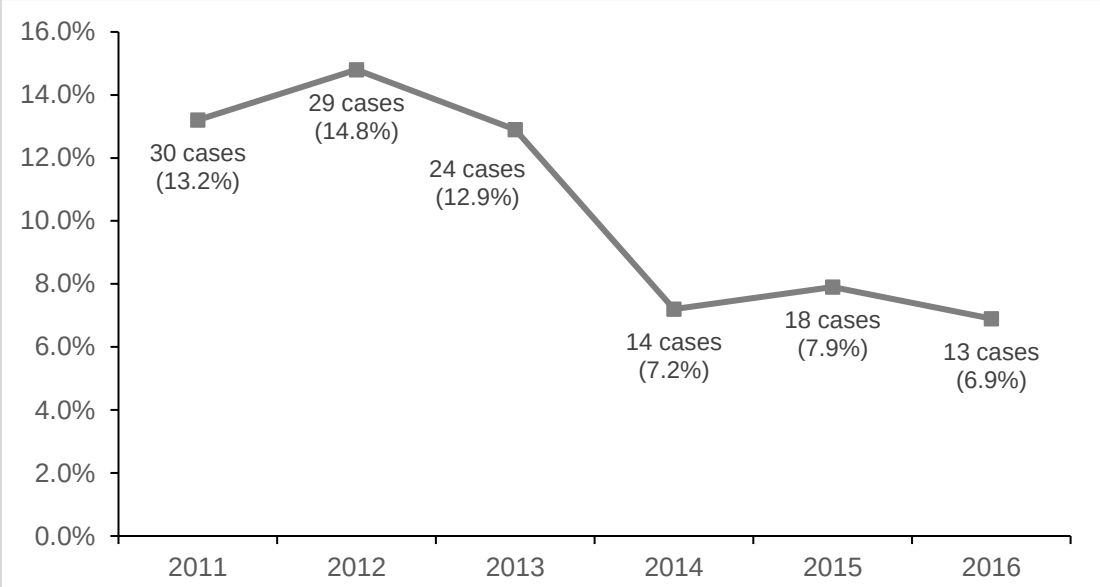
Source: Texas eHARS, 2018, analyzed by the Houston Health Department

Co-Occurring Condition:
HIV and Active TB Disease

There are two types of tuberculosis (TB): (1) active TB disease and (2) latent TB infection. Active TB disease occurs when the TB bacteria are multiplying in the body and cause illness. Latent TB infection occurs when the TB bacteria do not multiply because the immune system has suppressed them; there are no symptoms, and the individual is not infectious. People living with HIV are at greater risk for developing active TB disease than people not living with HIV due to their weakened immune systems.1 An individual who has co-occurring HIV and active TB disease is considered to have stage 3 HIV-defining condition.1 Moreover, a person who is living with HIV and has latent TB infection can progress to active TB disease more easily than a person not living with HIV. 1 Data on co-occurring HIV and active TB disease are presented here.

(**Graph 1**) On average, about 21 cases of active TB disease diagnosed in the city of Houston are also co-occurred with HIV each year. In 2016, HIV co-occurring conditions were 6.9% of all persons diagnosed with active TB disease in the city of Houston in that year.

TB GRAPH 1- Percent and Number of Person with TB who are Co-occurred with HIV in Houston (excluding Harris County), 2011 to 2016



Source: Bureau of Tuberculosis, Houston Health Department

Only includes cases within City of Houston. Any cases within Harris County, but outside of Houston are not included in this analysis.

[1]Centers for Disease Control and Prevention, "TB and HIV Coinfection." Last Reviewed: March 15, 2016. Located at https://www.cdc.gov/tb/topic/basics/tbhivcoinfection.htm

(**Table 1**) In 2017, 8 persons newly diagnosed with stage 3 HIV in Houston were also co-occurred with active TB disease. Of all persons living with HIV in the jurisdiction in 2017, 627 cases were co-occurred with active TB disease. In general, the majority of people with co-occurring HIV and TB in Houston are male, African American/Black or Hispanic/Latino, and ages 25 and older. Most people with co-occurring conditions report the transmission risk of MSM, followed by sex with male/sex with female.

TB TABLE 1- HIV Cases with a TB Diagnosis in Houston by Sex assigned at birth, Race/Ethnicity, Age, and Risk[a]

	New Stage 3 HIV Diagnoses[b]		Persons Living with HIV[c]	
	Cases	%	Cases	%
Total Cases with TB[d]	8	100.0%	627	100.0%
Sex assigned at birth				
Male	6	75.0%	487	77.7%
Female	1	12.5%	140	22.3%
Race/Ethnicity				
White	1	12.5%	57	9.1%
African American/Black	3	37.5%	302	48.2%
Hispanic/Latino	4	50.0%	237	37.8%
Multiple Races	0	0.0%	11	1.8%
Other	0	0.0%	20	1.8%
Age				
0 - 12	0	0.0%	7	1.1%
13 - 24	0	0.0%	74	11.8%
25 - 34	4	50.0%	272	43.4%
35 - 44	0	0.0%	191	30.5%
45 - 54	3	37.5%	67	10.7%
55 - 64	0	0.0%	13	2.1%
65+	1	12.5%	3	0.5%
Transmission Risk				
MSM	6	75.0%	247	39.4%
PWID	0	0.0%	105	16.7%
Adult MSM & PWID	0	0.0%	62	9.9%
Sex with Male/Sex with Female	2	25.0%	204	32.5%
Perinatal exposure	0	0	7	1.1%

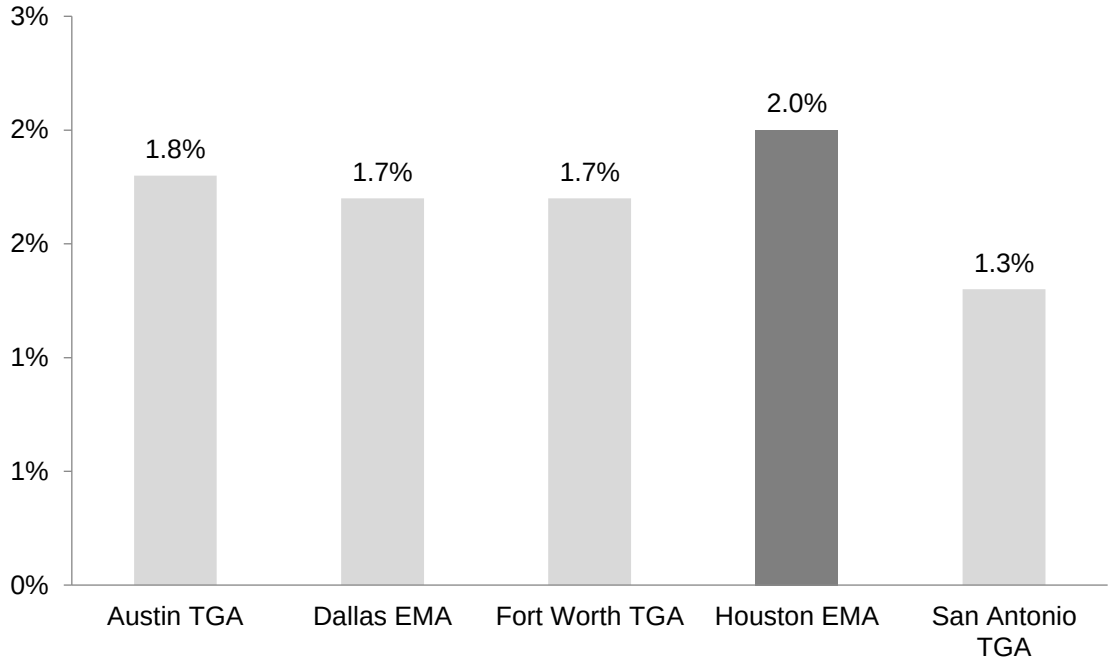
[a]Source: Texas eHARS, analyzed by the Houston Health Department

[b]Stage 3 HIV = People diagnosed with stage 3 HIV with residence at diagnosis in Houston/Harris County in 2017
[c]PLWH at end of 2016 = People living with HIV, including stage 3 HIV, in Houston/Harris County at the end of 2016
[d]Analysis includes pulmonary and extrapulmonary mycobacterium tuberculosis (TB). TB, of any site, pulmonary (among people age 13 or older), disseminated, or extrapulmonary is a stage 3 HIV-defining condition
[e]People with no risk reported were recategorized into standard categories using the multiple imputation or risk program of the Centers for Disease Control and Prevention (CDC)

Only includes cases within City of Houston. Any cases within Harris County, but outside of Houston are not included in this analysis

(**Graph 2**) The Houston EMA is highest among the federally-designated geographic service areas in Texas (i.e., other EMAs or Transitional Grant Areas/TGA) in terms of the percent of people living with HIV who have also ever been diagnosed with active TB disease. Currently, the Houston EMA is at 2.0% of all people living with HIV and TB comorbidity.

TB GRAPH 2- Percent of People Living with HIV/PLWH) with TB Comorbidity by HRSA Geographic Service Area in Texas, 2017



Source: Texas Department of State Health Services, HIV TB Comorbidity. PLWH reported through Dec 31, 2017 with a diagnosis of M. tuberculosis or pulmonary TB (excluding "unknown" diagnoses).

Co-Occurring Condition:
HIV and Hepatitis B and C

Hepatitis refers to a group of viral infections that affect the liver. The most common types are hepatitis A, hepatitis B, and hepatitis C. Hepatitis A is an acute disease with no long-term health implications once it is treated whereas hepatitis B and C can be both acute and chronic.[1] Chronic untreated hepatitis B or C can lead to serious liver problems, including liver damage, cirrhosis, liver failure, or liver cancer.[1] Hepatitis infections tend to progress more rapidly to liver damage in people living with HIV, and people living with HIV who are co-occurred with hepatitis have an increased risk for liver-related morbidity and mortality.[2] In addition, hepatitis C infection may impact the course of HIV treatment in persons with co-occurring conditions.[2]

In Texas, it is mandatory for providers and laboratories to report acute hepatitis B and C.[3] While reporting of chronic hepatitis is not mandatory, voluntary reporting continues to occur in Houston/Harris County on a limited basis.

[1]Centers for Disease Control and Prevention, "Viral Hepatitis." Last Modified: April 8, 2019. Located at http://www.cdc.gov/hepatitis/
[2]Centers for Disease Control and Prevention, "Epidemiology and Prevention of HIV and Viral Hepatitis Co-Infections." Last Modified: January 23, 2019. Located at http://www.cdc.gov/hepatitis/Populations/HIV.htm
[3]Texas Department of State Health Services, "Notifiable Conditions." Last Modified: March 27, 2019. Located at: https://dshs.texas.gov/IDCU/investigation/Notifiable-Conditions.aspx

(**Table 1**) In 2016, 1373 persons living with HIV in Houston/Harris County had been diagnosed with hepatitis B or C. This translates into 5.4% of all persons living with HIV in the jurisdiction at that time having been co-occurred with either hepatitis B or C. In general, people with co-occurring HIV and hepatitis B or C tend to be male, African American, and age 25 and older. The most co-occurring cases have the transmission risk category of MSM followed by PWID.

HEPATITIS TABLE 1- HIV Cases with Hepatitis B or C in Houston/Harris County by Sex assigned at birth, Race/Ethnicity, Age, and Risk, 2016

	HIV[a] and Hepatitis B or C[b]	
	Cases	%
Total Co-Occurring Conditons[c]	1373	100.0%
Sex assigned at birth		
Male	1147	83.5%
Female	226	16.5%
Race/Ethnicity		
White	248	18.1%
African American/Black	685	49.9%
Hispanic/Latino	351	25.6%
Multiple race	38	2.8%
Other/Unknown	51	3.7%
Age at Diagnosis		
0 - 12	9	0.7%
13 - 24	254	18.5%
25 - 34	530	38.6%
35 - 44	362	26.4%
45 - 54	171	12.5%
55 - 64	42	3.1%
65+	5	0.4%
HIV Transmission Risk[d]		
Male-to-Male Sexual Contact (MSM)	797	58.1%
Person who inject drugs (PWID)	176	12.8%
MSM/PWID	100	7.3%
Sex with Male/Sex with Female /other risk	300	21.8%

[a]Source: Texas eHARS, analyzed by the Houston Health Department
[b]Source: The data were obtained from Houston Electronic Disease Surveillance System (HEDSS). HEDSS cannot differentiate acute HCV from chronic HCV and only a few cases will meet the clinical case definition.
[c]People living with HIV as of 2016 in Houston/Harris County with Hepatitis B and/or C diagnoses
[d]Cases with unknown risk have been redistributed based on historical patterns of risk ascertainment and reclassification

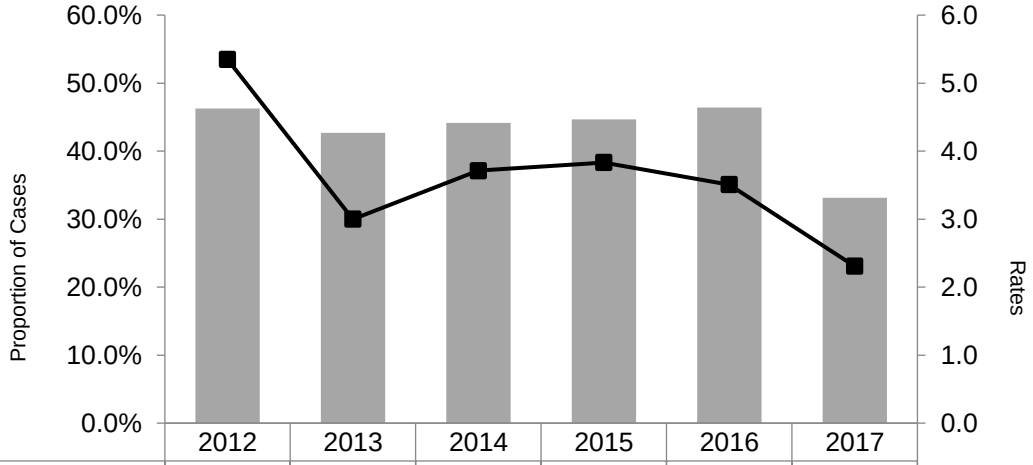
Co-Occurring Condition:
HIV and Infectious Syphilis

There are four general stages of syphilis: (1) primary, (2) secondary, (3) latent, and (4) tertiary. The primary and secondary stages are of most concern epidemiologically as this is when syphilis is most communicable, or infectious, to others. Therefore, primary and secondary syphilis, taken together, are commonly referred to as *infectious syphilis*. Co-occurring of syphilis and HIV is also of concern because of the implications co-occurring condition has for both HIV transmission and syphilis treatment. For example, when a person living with HIV has co-occurring syphilis, the syphilis infection increases the infectiousness of the HIV to sex partners.[1] Moreover, research has shown that HIV-infected persons may experience a more rapid course of illness associated with syphilis, including a greater risk of neurological complications.[2] Data on co-occurring condition between HIV and infectious syphilis, all syphilis stages, and early latent syphilis are described here

[1]Centers for Disease Control and Prevention, "Syphilis & MSM (Men Who Have Sex With Men) - CDC Fact Sheet." Last Modified: September 1, 2010. Located at http://www.cdc.gov/std/syphilis/STDFact-MSM-Syphilis.htm
[2]Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2010, MMWR 2010; 59. Diseases Characterized by Genital, Anal, or Perianal Ulcers

(**Graph 1**) On average, about 43% of individuals diagnosed with infectious syphilis in Houston/Harris County each year also have co-occurring HIV. The current rate of co-occurring HIV and infectious syphilis in Houston/Harris County is 2.3 persons for every 100,000 persons in the jurisdiction. The co-occurring condition rate has been on a downward trend since 2015, when the rate was 3.8 people for every 100,000 population and the proportion of syphilis cases co-occurred with HIV was 44.6%.

SYPHILIS GRAPH 1- Proportion and Rate of Co-Occurring HIV and Infectious Syphilis in Houston/Harris County, 2012 to 2017



	2012	2013	2014	2015	2016	2017
Proportion of Infectious Syphilis Cases with HIV	46.3%	42.7%	44.1%	44.6%	46.4%	33.1%
Comorbidity Rate	5.3	3.0	3.7	3.8	3.5	2.3

Source: Houston/Harris County STD*MIS as of October 2018. Rate per 100,000 population.
Population Source: Harris County population projections from U.S. Census Bureau, American Community Survey 1-Year Estimates; Census tracts outside of Harris where at least 50% of the population reside in Houston (census tracts: 48157670101, 48157670102, 48157670200, 48157670300, 48157670400, 48157670602) from U.S. Census

(**Table 1**) In 2017, 108 cases of infectious syphilis were also co-occurred with HIV in Houston/Harris County. Of these, the majority was African American (56.5.0%), between the ages of 25 and 34 (45.4%), and MSM (88.0%). When all syphilis stages are included in the analysis, 1,051 cases were co-occurred with HIV in 2017 for a rate of 22.4 persons for every 100,000 persons living in Houston/Harris County.

SYPHILIS TABLE 1- Syphilis Cases Co-Occurred with HIV in Houston/Harris County by Sex assigned at birth, Race/Ethnicity, Age, and Risk, 2017[a]

	HIV and Infectious Syphilis[b]			HIV and All Syphilis[c]		
	Cases	%	Rate[d]	Cases	%	Rate[d]
Total Co-Occurring Conditions[e]	108	100.0%	2.3	1,051	100.0%	22.4
Sex assigned at birth						
Male	105	97.2%	4.5	1,034	98.4%	44.4
Female	3	2.8%	0.1	17	1.6%	0.7
Race/Ethnicity						
White				182	17.3%	13.2
Black/African American	61	56.5%	7.0	523	49.8%	59.6
Hispanic/Latino	25	23.1%	1.2	314	29.9%	15.6
Other/Unknown				32	3.0%	7.6
Age at Diagnosis						
0 - 14	0	0.0%	0.0	0	0.0%	0.0
15 - 24	22	20.4%	3.4	124	11.8%	19.4
25 - 34	49	45.4%	6.5	455	43.3%	60.3
35 - 44	22	20.4%	3.3	251	23.9%	37.6
45-54	12	11.1%	1.4	162	15.4%	27.6
55+	3	2.8%	0.9	59	5.6%	6.0
Syphilis Transmission Risk						
Male-to-male sexual activity (MSM)	95	88.0%	*	671	63.8%	*
Non-MSM sexual risk	13	12.0%	*	380	36.2%	*

[a]Source: STD*MIS Interview Records
[b]Infectious syphilis is primary and secondary syphilis only
[c]All syphilis includes primary, secondary, and latent syphilis, but not congenital syphilis
[d]Rate per 100,000 population. Population Source: Harris County population projections from U.S. Census Bureau, American Community Survey 1-Year Estimates; Census tracts outside of Harris where at least 50% of the population reside in Houston (census tracts: 48157670101, 48157670102, 48157670200, 48157670300, 48157670400, 48157670602) from U.S. Census Bureau
[e]HIV status will be unknown for those not interviewed
[f]For the purpose of this analysis, the rate for "other" race/ethnicity includes those for whom race/ethnicity s unknown.
*Population data are not available for transmission risk; therefore, it is not possible to calculate rate by risk

(**Table 2**) Though not as easily spread as *infectious syphilis*, early latent syphilis can still be transmitted to sex partners, and there are typically no symptoms.[3] Moreover, if latent syphilis remains untreated, it can result in damage to internal organs.[3]

In 2017, there were 290 persons in the Houston EMA who have co-occurring HIV and early latent syphilis. Of these, the majority was African American (6=50.0%), between the ages of 25 and 34 (43.8%), and MSM (69.0%).

SYPHILIS TABLE 2- Early Latent Syphilis Cases Co-Occurred with HIV in Houston/Harris County by Sex assigned at birth, Race/Ethnicity, Age, and Risk, 2017[a]

	HIV and Early Latent Syphilis[b]	
	Cases	%
Total with HIV	290	100.0%
Sex assigned at birth		
Male	289	99.6%
Female	1	0.4%
Race/Ethnicity		
White	56	19.3%
Black/African American	145	50.0%
Hispanic/Latino	82	28.3%
Other/Unknown	7	2.4%
Age		
0 - 14	0	0.0%
15 - 24	32	11.0%
25 - 34	127	43.8%
35 - 44	73	25.2%
45 - 54	40	13.8%
55+	18	6.2%
Risk Category		
Male-to-male sexual contact (MSM)	201	69.3%
Non-MSM	89	30.7%

[a]Source: STD*MIS Interview Records

[b]Latent syphilis is syphilis detectable via testing but with no evidence of disease. Peoples who have latent syphilis and acquired it during the preceding year are classified as having early latent syphilis.

[3]Centers for Disease Control and Prevention, "Syphilis & MSM (Men Who Have Sex With Men) - CDC Fact Sheet." Last Modified: January 31, 2017. Located at http://www.cdc.gov/std/syphilis/STDFact-MSM-Syphilis.htm

Explanation of Data Sources

What are the sources for the data presented in the 2019 Houston Area HIV Epidemiologic Profile?

The data that comprise the 2019 Epidemiologic Profile for the Houston Area was drawn from local, state, and national sources. Some data were extracted from databases specifically for this document, and others were provided in summary form only. Below is a brief description of each of the major data sources used in this document:

U.S. Bureau of the Census

A decennial census of the U.S. population is required by the U.S. Constitution, and the U.S. Census Bureau was established in 1902 for this purpose. The most recent decennial census of the American population was conducted in 2010. The U.S. Census Bureau also collects yearly statistics about the U.S. population through the American Community Survey (ACS). Like the decennial census, the ACS collects detailed information on demographic, social, and economic characteristics of the U.S. population. Because the ACS is conducted every year, it provides more current estimates of population statistics throughout the decade. It is recommended that the decennial census and ACS be used in conjunction to produce an accurate representation of the U.S. population. 2010 U.S. Census data and 2012-2016 ACS five-year estimates have been used to supply the county level population and demographic statistics presented in this document. For more information about the methodology and limitations of these data sources, please visit the following:

- U.S. Census: http://www.census.gov/
- American Fact Finder: http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml
- American Community Survey (ACS): http://www.census.gov/acs/www/

Texas Department of State Health Services (DSHS) Center for Health Statistics

The DSHS Center for Health Statistics is a clearinghouse for Texas-specific health-related data, including a population database for all Texas counties that can provide denominators for rates of disease. These data are extracted from the Texas State Data Center and presented as a single series of yearly population estimates and projections by demographic characteristics for the period of 1990 through 2040. The Center also maintains a series of Health Facts Profiles of selected community health indictors for each Texas county. The Center's 2016 and 2017 population projection file was used as the denominator for all rates presented in this document. Data from the 2016Health Facts Profiles for relevant counties were used in Chapter 1. For more information about the methodology and limitations of these data sources, please visit the following:

- Texas Center for Health Statistics: http://www.dshs.state.tx.us/chs/
- Population Data for Texas: http://www.dshs.state.tx.us/chs/popdat/detailX.shtm
- Texas Health Facts Profiles: http://www.dshs.state.tx.us/chs/cfs/Texas-Health-Facts-Profiles.doc

Enhanced HIV/AIDS Reporting System (eHARS)

The Enhanced HIV/AIDS Reporting System (**eHARS**) is an HIV surveillance system deployed at all state and local health departments by the Centers for Disease Control and Prevention (**CDC**). Its purpose is to serve as a centralized source for the ongoing, systematic collection and dissemination of data on HIV in local jurisdictions. All laboratory evidence of HIV is entered into the eHARS system using case reports and laboratory reports. On a monthly basis, health departments submit de-identified data electronically to the national HIV database at the CDC. For the local jurisdiction of Houston/Harris County, eHARS is administered by the Houston Health Department (**HHD**); for counties outside of Harris, the system is managed by the Texas Department of State Health Services (**DSHS**). The eHARS database is the source of data on HIV diagnoses, prevalence, and mortality presented in this document. For the document sections on Houston/Harris County, data were extracted directly from the HHD instance of eHARS through December 2016; for the document sections on the Houston Eligible Metropolitan Area (EMA), data were aggregated from files extracted by DSHS from the Texas instance of eHARS through December 2017. Because data were extracted at different times and cover different calendar years, there may be inconsistencies at the individual case level between the jurisdictional data presented in this document. For more information about the methodology and limitations of these data sources, please visit the following:

- Centers for Disease Control and Prevention (CDC) HIV/AIDS Surveillance System: http://www.cdc.gov/hiv/topics/surveillance/index.htm
- Texas Department of State Health Services (DSHS) HIV-STD **Epidemiology and Surveillance Branch**: http://www.dshs.state.tx.us/hivstd/contractor/surveillance.shtm
- Houston Health Department (HHD) Epidemiology and Disease Reporting: http://www.dshs.state.tx.us/hivstd/contractor/surveillance.shtm

In addition to the raw data extracted from eHARS and presented in this document, several data reports from the Texas eHARS database developed and formatted by DSHS were also used. These reports are provided annually to the Houston EMA for use in grant writing and other planning activities. DSHS also furnished Texas eHARS data by special request (Chapter 6).

Sexually Transmitted Disease Management Information System (STD*MIS)

The Sexually Transmitted Disease Management Information System (STD*MIS) is an application provided by the CDC to state and local health departments for the purpose of STD surveillance, including managing evidence of reportable STDs received from laboratories, health care providers, facilities, and Disease Intervention Specialists (DIS) as well as tracking STD treatment, partner services, and other public health follow-up activities. For the local jurisdiction of Houston/Harris County, STD*MIS is administered by the HHD; for counties outside of Harris, STD*MIS is managed by DSHS. STD*MIS is the source of data on Chlamydia, gonorrhea, and syphilis in Houston/Harris County presented in this document. Data were extracted directly from the HDHHS instance of STD*MIS and reflect only cases that were diagnosed and reported. For more information about the methodology and limitations of this data source, please visit the following:

- Centers for Disease Control and Prevention (CDC) STD Surveillance System: http://www.cdc.gov/std/std-mis/default.htm
- Houston Department of Health and Human Services (HDHHS) Epidemiology and Disease Reporting: http://www.dshs.state.tx.us/hivstd/contractor/surveillance.shtm

Centralized Patient Care Data Management System (CPCDMS)

The Centralized Patient Care Data Management System (CPCDMS) is a browser-based client level database unique to the Houston Area. It links all Ryan White HIV/AIDS Program Part A, B, C, and State Services (State of Texas matching funds) funded agencies on specific client level data variables, including registration, encounter, medical information, demographics, co-occuring conditions, biological marker, service utilization, outcomes survey, and assessment data for each client served. Its purpose is to manage and produce real-time client level data for tracking service utilization, planning for services, and quality improvement of services community-wide. All entities in the Houston Area receiving Ryan White HIV/AIDS Program funds other than Part D enter data into CPCDMS. CPCDMS is administered by the Harris County Public Health Ryan White Grant Administration, the Administrative Agent for Ryan White HIV/AIDS Program Part A and the Minority AIDS Initiative (MAI) for the Houston EMA. All data on Ryan White HIV/AIDS Program service utilization presented in this document have been extracted from CPCDMS either as raw data for the purpose of this document or in previously developed data reports. For more information about the methodology and limitations of this data source, please visit the following:

- Ryan White Grant Administration Centralized Patient Care Data Management System (CPCDMS): http://publichealth.harriscountytx.gov/Services-Programs/Programs/RyanWhite/CPCDMS

Other Sources

Additional sources are used throughout this document as indicated in the source and footnotes. Please refer directly to these sources for more information about their methodology and limitations.

National HIV Behavioral Surveillance (NHBS)

Introduction

In 2002, as an initial step towards meeting one of the goals of the CDC HIV Prevention Strategic Plan, CDC awarded supplemental funds to state and local health departments to develop and implement the National HIV Behavioral Surveillance System (NHBS). The goal was to strengthen the national capacity to monitor the HIV epidemic to better direct and evaluate prevention efforts, which has been further highlighted in the 2015 National HIV/AIDS Strategy for the United States[1]. As a result, NHBS was established to monitor HIV-associated selected behaviors that put people at risk for HIV. NHBS targets three high-risk populations for HIV: men who have sex with men (MSM), people who inject drugs (PWID) - defined by CDC as the injection drug use or IDU cycle (PWID/IDU), and heterosexuals at increased risk of HIV (HET). NHBS project sites are comprised of state and local health departments in areas with the highest HIV prevalence[2]. Houston has been one of the NHBS participating sites since the project's inception in 2003. As of 2018, 22 jurisdictions with high HIV prevalence are funded to conduct NHBS.

Rationale for the Development of NHBS

NHBS resulted from the need to develop ongoing bio-behavioral surveillance to strengthen the national capacity to monitor the HIV epidemic. The goals of the project are to ascertain the prevalence and trends of HIV risk behaviors, develop an ongoing program to evaluate changes over time in behaviors, and to develop a mechanism to incorporate and utilize the behavioral data gathered during this project and other sources of HIV-related behavioral risk data to effectively summarize what is currently known about HIV risk taking behaviors, specially of those at highest risk for HIV . The overarching goal of NHBS is to help evaluate and direct local and national prevention efforts[2].

Survey Methodology

NHBS consists of an anonymous cross-sectional survey that utilizes the same standardized questionnaire in all project sites, including the Houston project area. The NHBS data collection focuses primarily on sexual and drug-use behaviors that place individuals at risk for HIV, as well as their use of HIV prevention services. Data on demographic characteristics, alcohol use, other health conditions, discrimination, intimate partner violence, HIV stigma, and HIV testing and incarceration history are also collected for each cycle. The NHBS activities are implemented in rotating annual cycles, primarily from three different populations at high risk for HIV so that data are collected from each risk group every three years. The NHBS cycles are referred to by the group of interest or at-risk group (NHBS-MSM, NHBS-PWID/IDU and NHBS-HET).

Data Collection

For each NHBS cycle, formative research is conducted to prepare for the recruitment of hard to reach populations. Formative research activities include ethnographic mapping, observations, interviews, review of secondary data sources, focus groups and other operational activities including identification of interview locations. During recruitment, eligible consenting participants are asked to complete a standardized anonymous questionnaire and HIV testing is offered to all study participants. NHBS data collection in Houston has been ongoing for approximately 16 years. Table 1 presents NHBS data collection periods in Houston since 2003.

TABLE 1 - Data Collection Periods – Completed and Upcoming* Cycles (from 2003-2019)

	NHBS Cycle		
NHBS Round	**MSM**	**PWID/IDU**	**HET**
1	Dec 2003-Dec 2004	Jan-Dec 2005	Jan 2006-Oct 2007
2	Jan-Dec 2008	Jan-Dec 2009	Jan-Dec 2010
3	Jan-Dec 2011	Jan-Dec 2012	Jan-Dec 2013
4	Jan-Dec 2014	Jan-Dec 2015	Jan-Dec 2016
5	Jan-Dec 2017	Jan-Dec 2018	Jan-Dec 2019*

Sampling Methodology

Two sampling methods are used in NHBS, namely Respondent Driven Sampling (RDS) and Venue based Sampling (VBS). The sampling method used during the PWID and HET cycles of NHBS is the RDS, a type of peer-driven chain-referral sampling. During the MSM cycle, a VBS is used. The VBS relies on a sampling frame and a two-stage sampling design.

RDS

RDS begins with the non-random selection of a small number of initial recruiters or “seeds.” These “seeds” recruit project participants who in turn recruit other participants. This chain of recruiters and recruits then continues for multiple “waves” of recruitment. Ongoing recruitment is fostered with a dual incentive system: one incentive for participating in the project and another incentive for each person recruited who participates. Recruiters are linked to their recruits by an encoded number on the recruitment coupons, who are limited to the number of people they can recruit, based on the number of recruitment coupons they are given. The NHBS protocol states that the maximum number of coupons that can be distributed to each participant is five, but it can range from 3 to 5 (Centers for Disease Control and Prevention, 2015).

VBS

- **Constructing sampling frames**

Before sampling can begin for VBS, two sampling frames need to be constructed: a venue frame and a day-time frame. The venue frame is a list of venues where recruitment could potentially take place during the upcoming month and the day-time frame is a list of day and time periods when recruitment could occur at each venue.

- **Stage 1 sampling: venue selection**

The selection of venues where recruitment will occur during the upcoming month is done by a random selection of venues from the venue frame that will correspond to the number of recruitment events planned for that particular month.

- **Stage 2 sampling: day-time period selection**

Starting with the venue with the fewest number of day-time periods, project staff will randomly select a day-time period and schedule it on the recruitment calendar for the upcoming month. The process of stage 2 sampling is repeated for each of the venues selected in stage 1 until all venues have been scheduled on the recruitment calendar.

Eligibility Criteria

An eligible NHBS participant is aged 18 years and above, lives in the participating project area, has not previously participated in the current cycle and is able to complete the interview in English or Spanish. Specific population eligibility criteria are presented in Table 2.

TABLE 2 - Eligibility Criteria for Specific NHBS Cycles per CDC Protocols

MSM	Were assigned male at birth and self-identifies as male Have ever had oral or anal sex with another man[a] Report having had sex with another man[a] in the past 12 months
PWID/IDU	Present a valid NHBS-PWID/IDU coupon Have injected drugs without a prescription in the past 12 months
HET	Present a valid NHBS-HET coupon Are between 18 and 60 years of age [b] Have had vaginal or anal sex with an opposite sex partner in the past 12 months Identifies themselves as cisgender man or cisgender woman Have not injected drugs without a prescription in the past 12 months Have low socioeconomic status (SES) [c]

[a] NBHS questionnaire does not capture sex at birth for partners

[b] The upper age limit for the NHBS-HET cycles is based on unpublished analyses of NHBS-HET1 data and information from CDC's Incidence Surveillance System; rates of new HIV diagnoses were higher in participants 25 years old and younger.

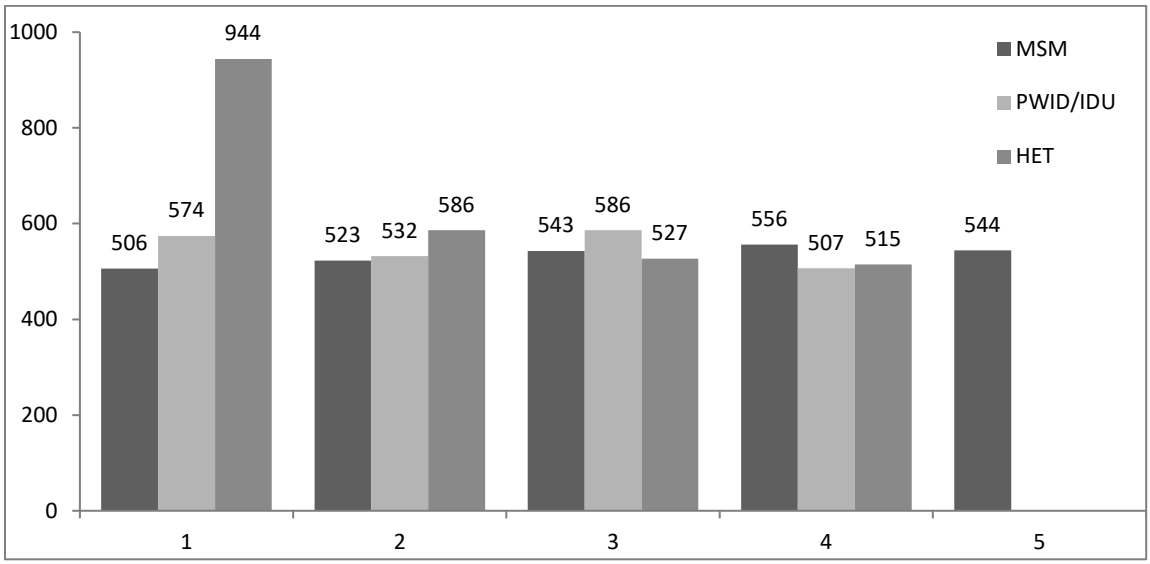
[c] Low SES is defined as having income that does not exceed Health and Human Services (HHS) poverty guidelines or educational attainment not greater than high school.

Note: cisgender refers to someone who is not transgender and whose current gender identity aligns with the sex they were assigned at birth.

Recruitment

Every NHBS project site must complete at least 500 interviews for each cycle period. Nationwide, data from approximately 10,000 interviews are collected each year for the NHBS. Figure 1 shows the total number of eligible participants recruited for each cycle period in the Houston project area.

FIGURE 1 - Recruitment of NHBS Eligible Participants



Source: NHBS project, Houston Health Department

*The number of eligible participants recruited for PWID5 is preliminary. The final data has not been released by CDC at the time of this report.

Survey Outcomes

The survey outcomes presented below are based on data analysis conducted using unweighted data. No statistical tests were performed, and no attempts were made to infer any causal relationships.

Demographic Characteristics

Figure 2 presents the race/ethnicity of MSM who participated in the NHBS by cycle periods. From MSM1 to MSM3, Whites represented more than 50% of the study participants (52%-58%); this percentage was lower for MSM4 (36%) and MSM5 (34.2%). The proportion of African Americans participants increased over the years from 15% (in 2004) to 38% (in 2014) although there was a decrease (27.8%) during 2017. During the MSM5 cycle (2017), the number of Hispanic/Latino participants increased (32.7%) when compared with the previous MSM4 cycle (21.0%).

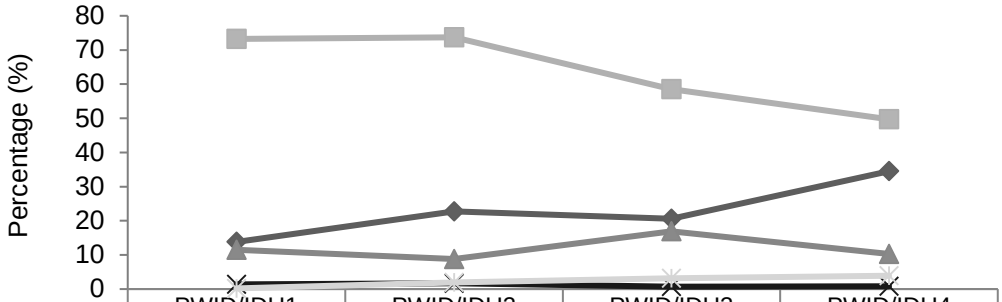
FIGURE 2 - Distribution of Eligible Survey Participants in NHBS-MSM Cycles by Race/Ethnicity

	MSM1 (2003-2004)	MSM2 (2008)	MSM3 (2011)	MSM4 (2014)	MSM5 (2017)
White	56.2	57.6	52.1	35.6	34.2
African American	14.5	21.4	21.0	37.9	27.8
Hispanic	22.1	15.1	21.2	20.7	32.7
Other	4.2	2.5	2.6	2.3	2.0
Multiple	3.0	3.4	3.1	3.4	3.3

Source: NHBS project, Houston Health Department

Figure 3 presents the race/ethnicity of PWID who participated in the NHBS by cycle periods. Consistently, participants have been predominantly African American, but this trend has decreased over time from 74.0% in 2009 to 49.7% in 2015. In 2015, the percentage of White participants increased (34.5%) in comparison with the previous cycle (21.0%).

FIGURE 3 - Distribution of Eligible Survey Participants during NHBS-PWID/IDU Cycles by Race/Ethnicity

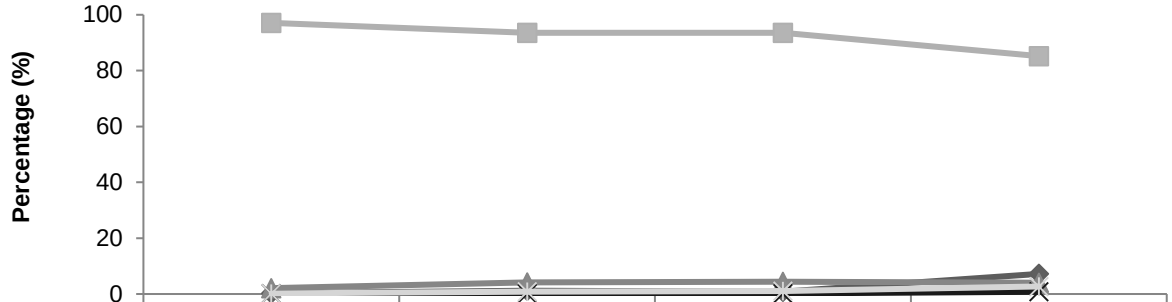


	PWID/IDU1 (2005)	PWID/IDU2 (2009)	PWID/IDU3 (2012)	PWID/IDU4 (2015)
White	13.8	22.7	20.6	34.5
African American	73.2	73.7	58.5	49.7
Hispanic	11.5	8.8	16.9	10.3
Other	1.4	1.7	0.7	0.8
Multiple	0.2	1.9	3.2	3.9

Source: NHBS project, Houston Health Department

Figure 4 presents the race/ethnicity of heterosexuals who participated in the NHBS by cycle periods. Overall, HET participants were primarily African American (more than 85% in all cycles). In 2016, the Houston project area, and 4 additional NHBS project areas in the nation, conducted the high-risk women (HRW) cycle during HET4. This cycle was focused on women who exchanged sex for money or drugs. Although 515 participants met general eligibility criteria for HET4, 331 (64%) participants exchanged sex (HRW) and were eligible to recruit. During this special cycle, although less than in previous HET cycles, the majority of the participants continued to be African American (85.2%) and there were more White (7.2%) participants than in previous cycles (range 0.3% - 1.0%).

FIGURE 4 - Distribution of Eligible Survey Participants during NHBS-HET Cycles by Race/Ethnicity



	HET1 (2006-2007)	HET2 (2010)	HET3 (2013)	HRW-HET4* (2016)
White	0.3	1.2	0.8	7.2
African American	97.1	93.6	93.5	85.2
Hispanic	2.1	4.2	4.4	4.1
Other	0.2	0.2	0.2	0.8
Multiple	0.2	0.8	1.1	2.7

*HRW, High Risk Women - High-Risk Heterosexuals Cycle, Round 4
Source: NHBS project, Houston Health Department

Risk Behaviors

Table 3 presents high risk behaviors reported by men who have sex with men (MSM) during five cycle periods conducted among MSM in Houston. The data shows that from MSM1 to MSM4, more than 25% (26.4% - 28.2%) of MSM had unprotected anal sex (UAS) with their main partner in the past 12 months, and more than 30% during MSM5. MSM participants showed higher rates of unprotected sex when they engaged in insertive sex (anal sex where participant puts his penis in his partner's anus) than when compared to receptive sex (anal sex where partner puts his penis in the participant's anus). In general, approximately a third of the MSM participants were unaware of the HIV status of their last sex partner. Almost half of the time in MSM1-4 cycles, alcohol and/or drugs were used during their most recent sexual encounter. Consistently throughout the years, very high rates (>90%) of ever being tested for HIV have been reported among MSM participants.

TABLE 3 MSM† High-Risk Behaviors by Survey Cycle					
	MSM1 2004	MSM2 2008	MSM3 2011	MSM4 2014	MSM5 2017
UAS* with main partner in past 12 months	26.7%	26.4%	28.2%	26.1%	32.5%
UAS with casual partner in past 12 months	0.6%	7.3%	5.0%	5.9%	7.9%
UAS with main partner at last sex (insertive)	24.3%	23.7%	23.8%	22.8%	31.3%
UAS with main partner at last sex (receptive)	18.2%	15.3%	18.8%	18.6%	24.8%
Use of alcohol and drugs during the last sex	--	45.3%	49.9%	47.3%	N/A
Did not know HIV status of last sex partner	---	28.7%	36.1%	34.2%	30.9%
Ever tested for HIV	95.8%	93.1%	90.8%	93.2%	96.0%

*UAS - unprotected anal sex

Note: A main partner is defined as a person the participant has sex with and feels committed to above anyone else. This is a partner he/she would call girlfriend/boyfriend, wife/husband, significant other, or life partner.

A casual partner is defined as a person the participant has sex with but does not feel committed to or doesn't know very well.

N/A, not applicable. This information was not collected during MSM5.

† NHBS does not capture transgender MSM in the MSM cycle.

Source: NHBS project, Houston Health Department

High risk behaviors reported among PWID during the four completed cycles of NHBS-PWID/IDU are displayed in Table 4. Sharing of injection equipment comprised one of the major drug-related risk behaviors for current injectors (people who have injected non-prescribed drugs in the past 12 months). When compared to the previous PWID/IDU2 cycle, in PWID/IDU3 sharing of injection drug use equipment decreased (57.2% and 35.3%, respectively) but increased again in PWID/IDU4 (39.6%). The proportions of non-awareness of the HIV status of the last injecting partner were considered high, ranging from 37.6% to 55.1%, with no clear pattern identified. However, the HIV testing rates increased consistently from 76.0% in PWID/IDU1 (2005) to 92.5% in PWID/IDU3-4 (2012-2015).

TABLE 4- PWID High-Risk Behaviors by Survey Cycle				
High Risk Behaviors	**PWID/IDU1 2005**	**PWID/IDU2 2009**	**PWID/IDU3 2012**	**PWID/IDU4 2015**
Shared cooker, cotton, or water - last time shared	33.7%	57.2%	35.3%	39.6%
Divided drugs with same syringe - last time shared	51.1%	28.3%	17.8%	18.5%
Used needle	45.5%	28.5%	17.8%	13.4%

after someone else - last time shared				
Did not know HIV status of last injecting partner	37.6%	55.1%	37.6%	44.8%
Ever tested for HIV	76.0%	89.6%	92.5%	92.5%

Source: NHBS project, Houston Health Department

Table 5 and 6 present high-risk behaviors among heterosexuals (HET). Table 5 presents high-risk behaviors among males in HET1 (2006), HET2 (2010) and HET3 (2013), and Table 6 presents high-risk behaviors among females for the same cycles and the HET4 (2016) cycle, which focused on high risk women (HRW), or women who exchanged sex for money or drugs.

Table 5 shows that over the cycle periods, there has been a decrease in males who had unprotected vaginal sex (UVS) with both main and casual partners in the past 12 months. The number of males who did not know the HIV status of their last sex partner has increased over the cycle periods, from 44.0% to 61.9%. Although showing a slight decrease, the use of alcohol and drugs during their most recent sexual encounter continues to be consistently high among study participants during the three cycles. Testing rates in this male population seem to be increasing over time, from 76.2% to 82.6%.

TABLE 5 - HET High-Risk Behaviors in Cisgender Males by Survey Cycle

High Risk Behaviors in Cisgender Males	HET1 2006	HET2 2010	HET3 2013
UVS* with main female partner in past 12 months	53.4%	45.5%	39.6%
UAS with main female partner in past 12 months**	4.5%s	9.0%	7.8%
UVS* with casual female partner in past 12 months	8.8%	7.6%	6.7%
UAS with casual female partner in past 12 months**	1.9%	6.9%	2.7%
Use of alcohol and drugs during the last sex	65.3%	55.9%	53.7%
Did not know HIV status of last sex partner	44.0%	55.2%	61.9%
Ever tested for HIV	76.2%	78.0%	82.6%

*UVS: Unprotected vaginal sex **UAS: Unprotected anal sex

Note: A main partner is defined as a person the participant has sex with and feels committed to above anyone else. This is a partner he/she would call girlfriend/boyfriend, wife/husband, significant other, or life partner.
A casual partner is defined as a person the participant has sex with but do not feel committed to or don't know very well.
Cisgender refers to someone who is not transgender and whose current gender identity aligns with the sex they were assigned at birth.
Source: NHBS project, Houston Health Department

High risk heterosexual cisgender females maintained high rates of UVS in the past 12 months with their main cisgender male partners. Although rates for ever being tested are increasingly high, ranging from 82.9% to 90.0%, the rates for not knowing the HIV status of the last sex partner are also high, ranging from 47.5% - 61.9%, and even higher for the HRW cycle (69.1%). The use of alcohol and drugs during their most recent sexual encounter is a high-risk behavior throughout the cycle periods (> 40%), although this information was not collected for the HRW cycle. Having unprotected vaginal or anal sex with any partner, main or casual, is substantially elevated in the HRW cycle which focused on sex workers, or women who exchange sex for money or drugs. This is the first time NHBS collected information on this highly HIV-impacted and at-risk population.

TABLE 6 - HET High-Risk Behaviors in Cisgender Females by Survey Cycle

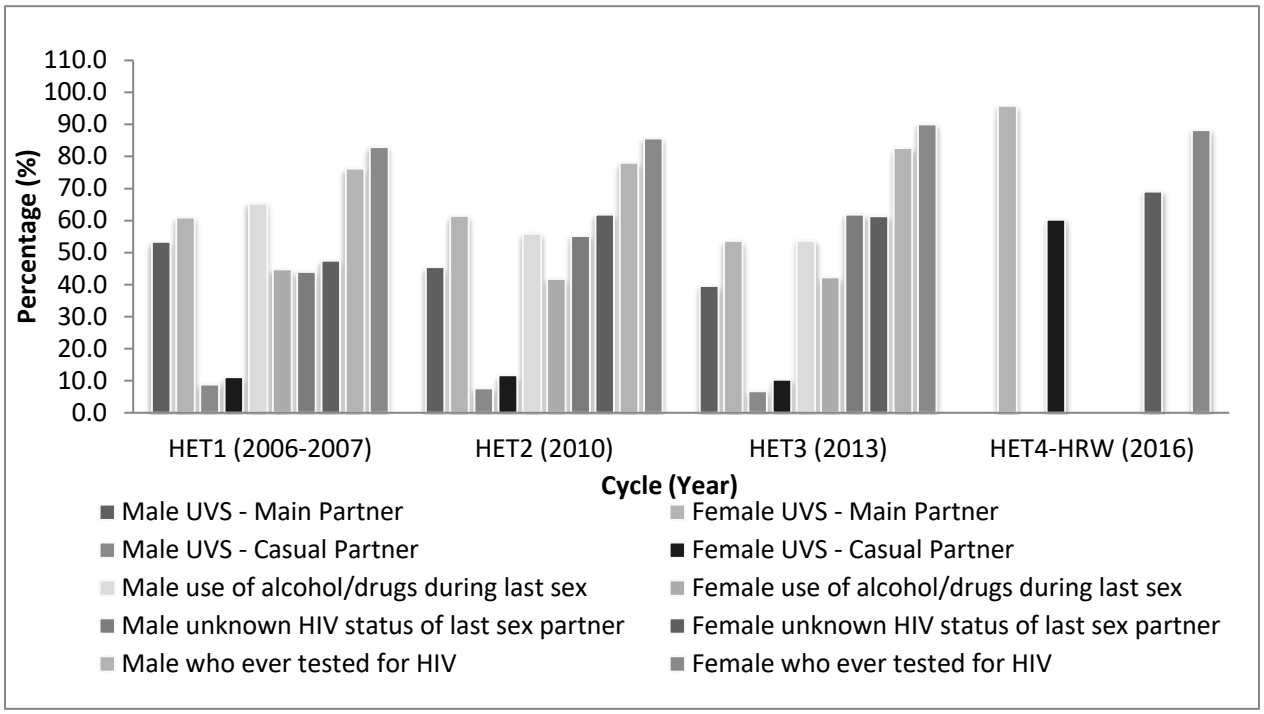
High Risk Behaviors in Cisgender Females	HET1 2006	HET2 2010	HET3 2013	HRW-HET4 2016
UVS* with main male partner in past 12 months	61.0%	61.5%	53.7%	95.8%
UAS with main male partner in past 12 months**	7.8%	17.7%	14.7%	90.3%
UVS* with casual male partner in past 12 months	11.1%	11.7%	10.3%	60.3%
UAS with casual male partner in past 12 months**	0.68%	6.4%	5.9%	66.7%
Use of alcohol and drugs during the last sex	44.8%	41.8%	42.3%	N/A
Did not know HIV status of last sex partner	47.5%	61.9%	61.4%	69.1%
Ever tested for HIV	82.9%	85.6%	90.0%	88.2%

*UVS: Unprotected vaginal sex **UAS: Unprotected anal sex

Note: A main partner is defined as a person the participant has sex with and feels committed to above anyone else. This is a partner he/she would call girlfriend/boyfriend, wife/husband, significant other, or life partner.
A casual partner is defined as a person the participant has sex with but do not feel committed to or don't know very well.
Cisgender refers to someone who is not transgender and whose current gender identity aligns with the sex they were assigned at birth.
Source: NHBS project, Houston Health Department

Figure 5 presents high risk behaviors reported by heterosexual cisgender males and cisgender females who participated in NHBS-HET (1, 2, 3 and 4). Overall, cisgender females maintained higher rates of UVS in the past 12 months with their main and casual partners when compared to cisgender males. The use of alcohol and drugs during their most recent sexual encounter was persistently higher in cisgender males. The proportions of cisgender females who were unaware of the HIV status of their last sex partner were slightly higher than that of cisgender males for the years 2007 and 2010, but lower in 2013. Although the rates for ever being tested among the HET cisgender males and cisgender females increased over time, cisgender females tend to get tested more often than cisgender males do.

FIGURE 5 - HET High-Risk Behaviors by Survey Cycle (Year)



Note: only reflects cisgender males and cisgender females. Transgender persons are excluded from participation in HET per CDC eligibility criteria

Source: NHBS project, Houston Health Department

Data Dissemination and Use

Data obtained from the NHBS project is used at the local, state, and federal levels to help direct and evaluate local and national HIV prevention efforts. Dissemination efforts are directed to inform prevention/treatment-utilization-services. Although HIV behavioral surveillance data cannot be used to evaluate the efficacy of specific interventions, they are important for monitoring whether HIV prevention efforts within the Houston/Harris County are reaching at-risk hard to reach populations and whether these efforts meet national and local prevention goals. At the individual level, NHBS participants may benefit directly from HIV prevention counseling, knowledge of their HIV status, and referrals for additional HIV care services.

References

1. 2015 NATIONAL HIV/AIDS STRATEGY for the UNITED STATES: UPDATED TO 2020 downloaded from https://www.hiv.gov/federal-response/national-hiv-aids-strategy/nhas-update
2. Centers for Disease Control and Prevention. National HIV Behavioral Surveillance: Round 5. Model Surveillance Protocol. Version Date: December 15, 2017.

Houston Medical Monitoring Project (HMMP)

Introduction

The Medical Monitoring Project (MMP) is a nationwide supplemental HIV surveillance system funded by CDC and designed to produce nationally representative estimates of behavioral and clinical characteristics of people living with HIV in the United States and Puerto Rico. It is supported by several government agencies and conducted by state and local health departments along with the Centers for Disease Control and Prevention (CDC). The Houston Health Department (HHD) is one of 23 city/state sites participating in the project. The purpose of the Houston Medical Monitoring Project (HMMP) is to produce population-based estimates of characteristics of persons living with HIV (PLWH) in Houston/Harris County. The MMP provides information on risk behaviors, clinical outcomes, use of prevention services, and identifies met and unmet needs for HIV care and prevention services. The MMP provides answers to questions such as: how many people living with HIV are receiving medical care for HIV? how easy is it to access medical care, prevention, and support services? what are the met and unmet needs of people living with HIV and how is treatment affecting people living with HIV?

Sampling Methodology

From 2005-2014, the MMP used a three-stage probability proportional to size (PPS) sampling design to obtain cross-sectional samples of PLWH receiving medical care in the United States and Puerto Rico. The first stage involved the selection of participating geographic areas based on HIV/AIDS prevalence at the end of 2002; the second stage involved the selection of outpatient facilities providing HIV medical care (i.e., providers who prescribe antiretroviral therapy [ART] or order CD4 or HIV viral load tests) within the participating project areas. Facilities of different sizes (i.e., small, medium, and large) were included based on the estimated patient loads (EPLs) to obtain optimal representativeness. The third sampling stage involved the selection of persons at least 18 years of age who were receiving care for HIV at the selected facilities. Persons in care were sampled from January through April of each data collection cycle. The annual sample of facilities participating in MMP in Houston/Harris County ranged from 20-25 healthcare facilities with a total of 400 persons sampled annually from the selected facilities. Through an informed consent process, selected persons were offered participation in a face-to-face or telephone interview by a trained interviewer with the understanding that their medical records would also be reviewed.

To improve the usefulness of MMP data, in 2015 it was expanded to include PLWH who are not receiving medical care, and thus, ensuring that all adults diagnosed with HIV in the United States are captured. This is accomplished by using a two-stage sampling strategy. The first stage, being the state level, in which all the 50 states, the District of Columbia and Puerto Rico were eligible. The second stage of the sampling process being the person level. Instead of sampling from within facilities as in the previous phase (2005-

2014), a sample of 400 PLWH from Houston/Harris County, Texas is selected each year from the National HIV Surveillance System.

Data Collection

The interviews, which generally take about 60 minutes, cover questions about demographics (e.g., age, gender, race/ethnicity and education level), access to care, HIV treatment and adherence to medications, drug and alcohol use, sexual behavior, met and unmet needs for social services, health insurance or medical coverage and receipt of prevention counseling in a clinical setting. MMP abstractors then collect additional information on clinical outcomes, prescription of antiretroviral therapy, and other healthcare services provided and the quality of these services from persons' medical charts. Special precautions are carried out to ensure the security and confidentiality of data collected throughout the entire process. Since 2009, 23 jurisdictions, which include over 80% of the total cases of HIV and AIDS in the United States, have been conducting MMP activities[1].

Since the project began in 2004, there have been 14 data collection cycles. Over 150 HIV Medical Care Providers in Houston/Harris County have participated in the project since data collection activities began in 2005. At the end of the 2017 cycle, a total of 1,961 interviews and 3,444 medical record abstractions have been completed since the project began. The success of the MMP is dependent upon high participation rates by the selected persons and the HIV care providing facilities willingness to cooperate with the project team by providing medical charts for survey participants. High participation rates help increase the likelihood of obtaining information that is truly representative of PLWH in Houston/Harris County, especially as those who participate represent PLWH like them who were not selected to participate. However, the project area has recorded increasing trends in participation rates with increased support from HIV care providers and community and provider advisory boards. These efforts have resulted in greater HMMP visibility in Houston/Harris County and led to a steady increase in provider and patient participation rates. During the 2009-2014 phase of the project, the participation rates among providers increased from 65% in the 2009 cycle to 85% in the 2014 cycle (Figure 1). However, with the change in methodology to two-stage sampling in 2015, providers were no longer part of the sampling process. Similarly, patients' participation rates, represented by the number of interviews completed increased from 166 in 2009 cycle to 240 during the 2014 cycle. However, the number of interviews completed decreased in 2015 following a change to a new sampling methodology and the associated logistical adjustments, before gradually increasing again (Figure 2). On the average, 99% of the medical records of sampled patients were completed between 2009 and 2014. Due to the change in methodology in 2015, it was required that interviews completed be directly matched with medical abstractions (Figure 3). Figure 4 displays the proportion of sampled patients during 2009-2017 that refused to participate in HMMP (11.3-20.8%), were ineligible (0.3-6.0%) or who were lost-to-follow-ups or moved out of the HMMP project area (24.5-39.5%).

FIGURE 1: Response Rate of Sampled Providers that Participated in HMMP, 2009-2014 Cycles

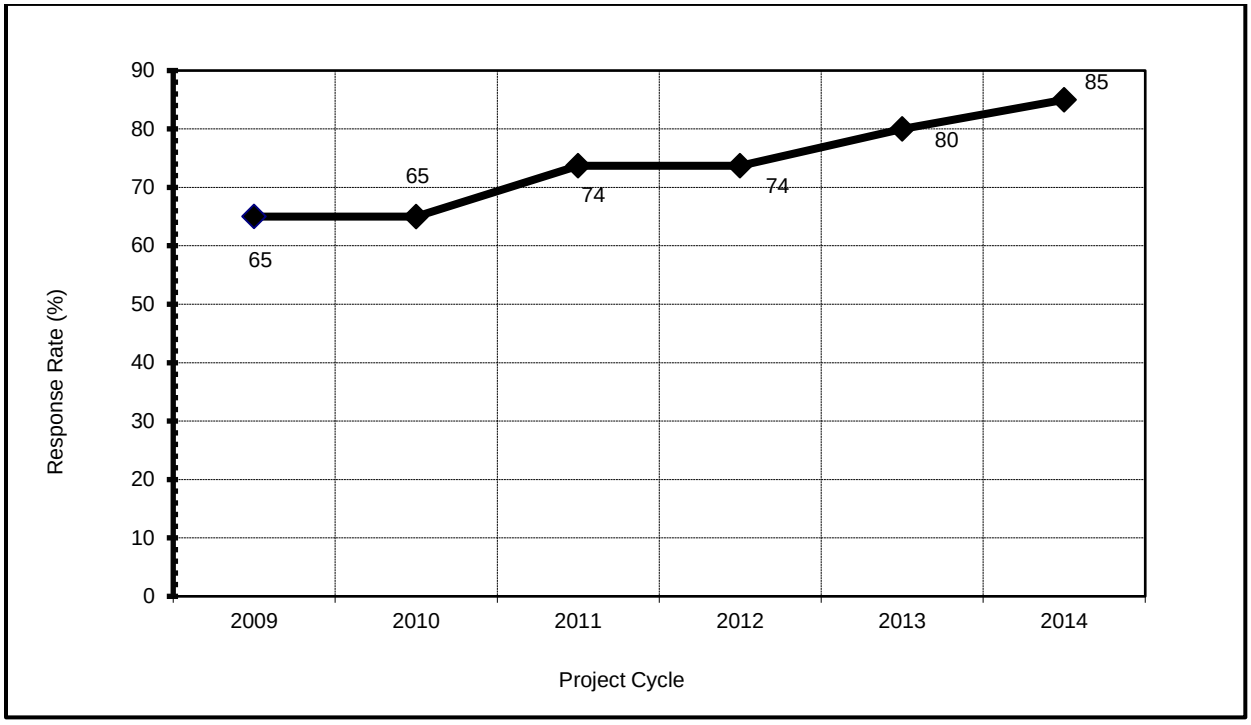


FIGURE 2 - Number of Interviews Completed, 2009-2017 Cycle Years

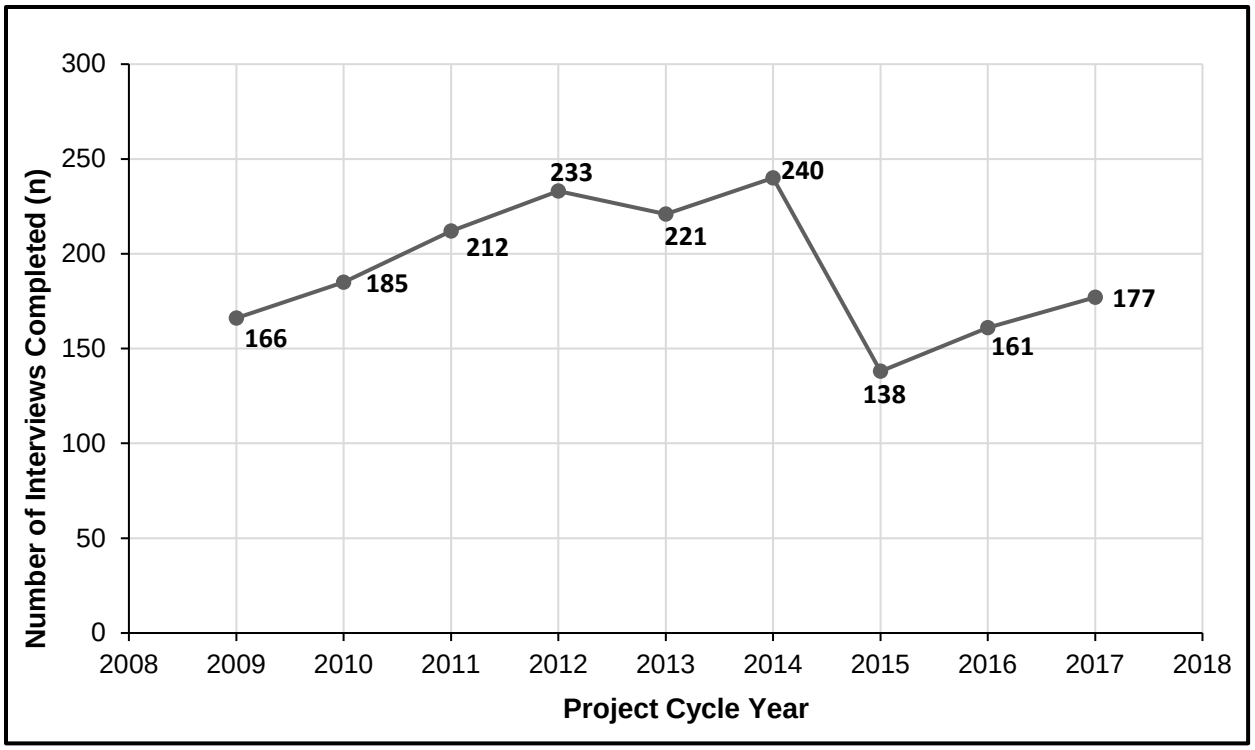


FIGURE 3 - Number of Medical Record Abstractions Completed, 2009-2017 Cycle Years

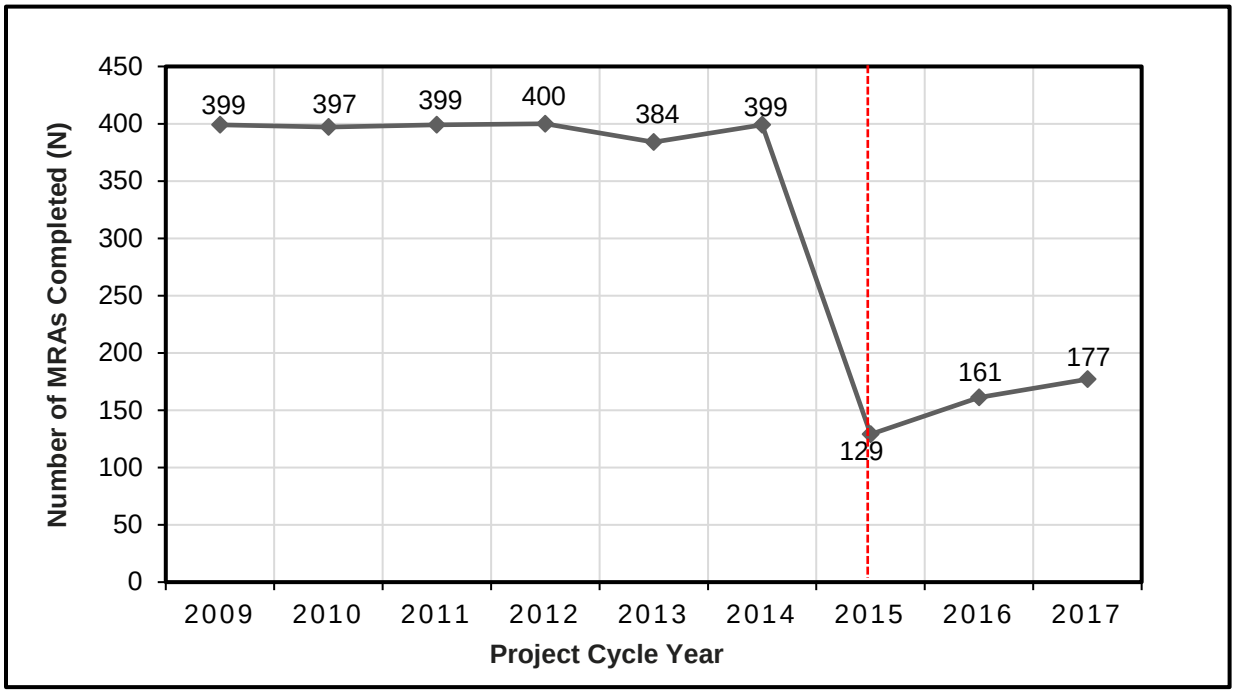
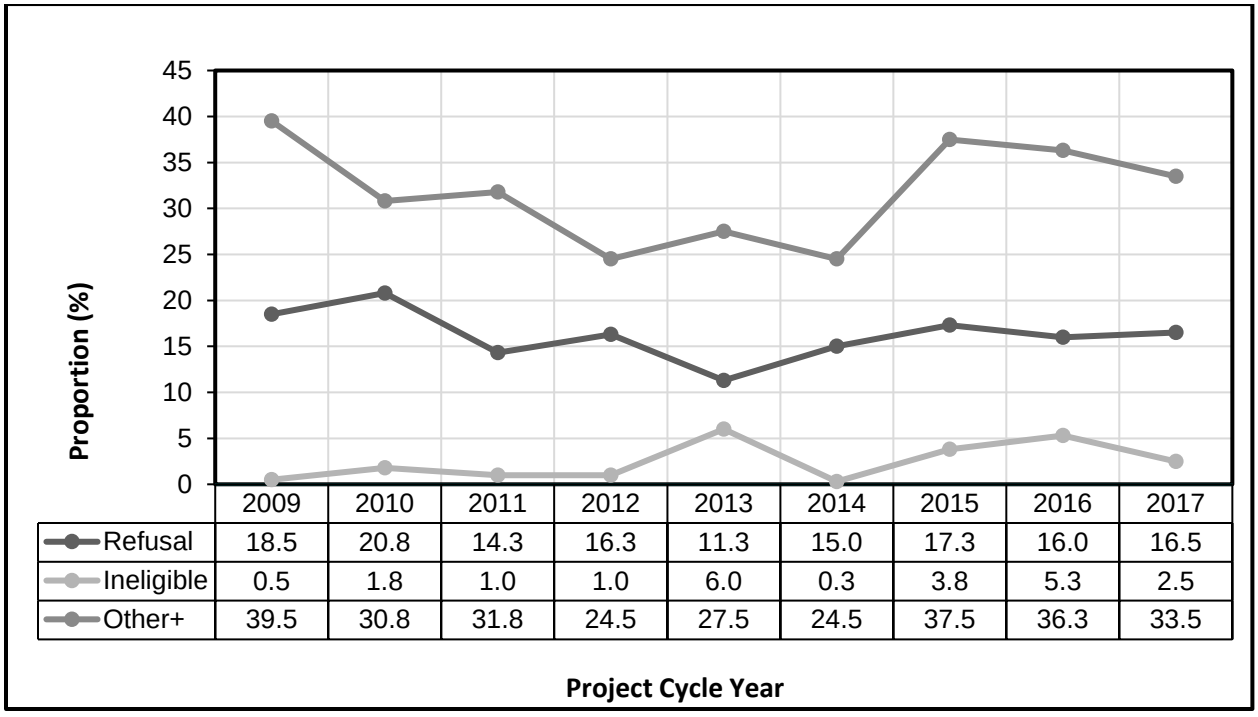


FIGURE 4 - Refusals, Ineligible Patients and Other Statuses+ 2009-2017 Cycle Years



	2009	2010	2011	2012	2013	2014	2015	2016	2017
Refusal	18.5	20.8	14.3	16.3	11.3	15.0	17.3	16.0	16.5
Ineligible	0.5	1.8	1.0	1.0	6.0	0.3	3.8	5.3	2.5
Other+	39.5	30.8	31.8	24.5	27.5	24.5	37.5	36.3	33.5

+ Refer to those who could not be contacted because they were lost-to-follow-up or moved out of the HMMP project area.

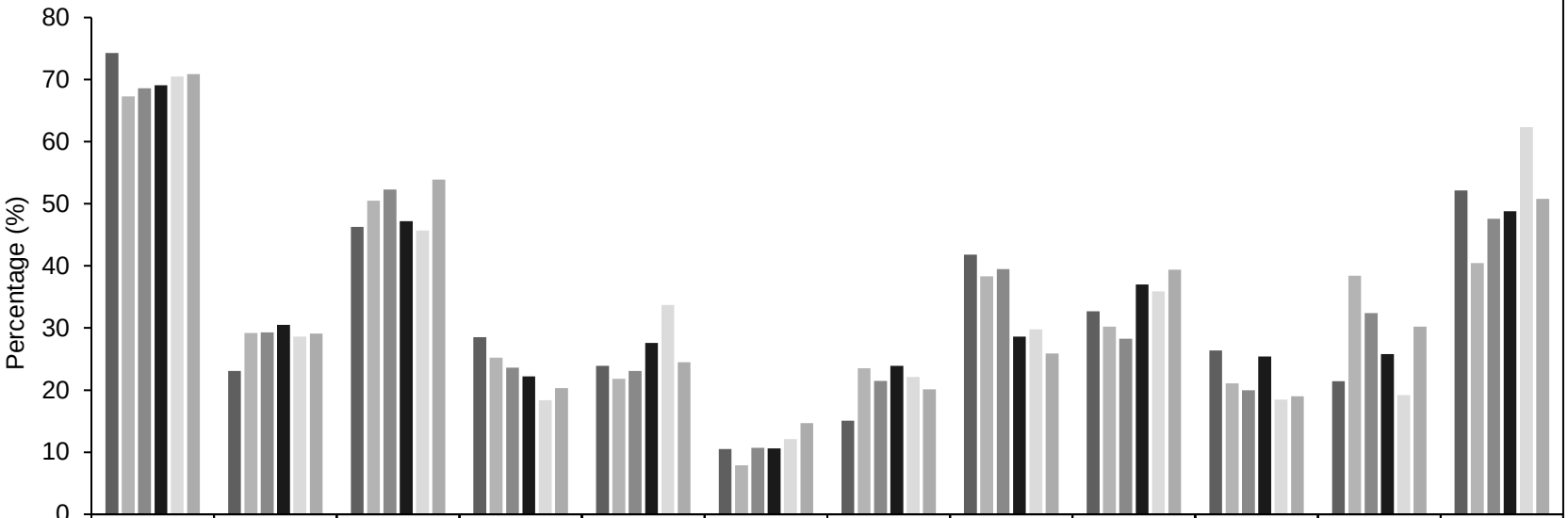
Survey Outcomes

The HMMP survey outcomes presented below were based on data analysis conducted using weighted overlap datasets (data were weighted to adjust for non-response bias), which combine both the interview and medical record abstraction (MRA) data completed during the 2009-2017 data collection cycles. Thus, the number of records may vary slightly from the actual numbers of interviews and MRAs completed during each project cycle. No statistical tests were performed to test differences across variables and no attempts were made to infer any causal relationships.

Demographic Characteristics

Trends in demographic characteristics of MMP participants between 2009 and 2014 are shown in Figure 5. In general, the survey outcomes showed slight fluctuations in demographic characteristics over the survey period. About 70% of participants were males. The majority of participants were African Americans (45.7-53.9%). While the proportions of White participants generally tended to decrease with each cycle year (28.5-18.4%), the proportion of Hispanic/Latino people tended to increase (21.8-33.7%). Most participants were aged 40 years and above (65.3-74.5%) and generally had greater than high school education. Between 2010 and 2013 cycles, the proportion of participants with higher than high school education increased from 40.5% to 62.3%, while the proportion of those with only a high school diploma or GED decreased (38.4-19.2%) during the same period. Using the new MMP sampling methodology, a similar distributional trend was reported for demographic characteristics in 2015-2016 (Table 1). However, a comparison of the income of PLWH during the two phases of the project is depicted in Figure 6. A decrease of 17.2% was noted among persons whose income ranged from $0 to 19,999, while increases were reported in all other income brackets between the two phases. The income categories of $40,000 to 74, 999 and $75,000 or more doubled during the 2015-2016 data collection cycle.

FIGURE 5 - Distribution of Demographic Characteristics of HMMP Participants, 2009-2014



	Gender		Race/Ethnicity			Age at time of Interview (yrs)				Educational Level		
	Male	Female	Black or Afriacn American	White	Hispanic or Latino	18-29 yrs	30-39 yrs	40-49 yrs	>=50 yrs	<High School	High School diploma or GED	>High School
2009	74.3	23.1	46.3	28.5	23.9	10.5	15.1	41.8	32.7	26.4	21.4	52.2
2010	67.3	29.2	50.5	25.2	21.8	7.9	23.5	38.3	30.2	21.1	38.4	40.5
2011	68.6	29.3	52.3	23.6	23.1	10.7	21.5	39.5	28.3	20.0	32.4	47.6
2012	69.1	30.5	47.2	22.2	27.6	10.6	23.9	28.6	37.0	25.4	25.8	48.8
2013	70.5	28.6	45.7	18.4	33.7	12.1	22.1	29.8	35.9	18.5	19.2	62.3
2014	70.9	29.1	53.9	20.3	24.5	14.7	20.1	25.9	39.4	19.0	30.2	50.8

FIGURE 6 - Comparison of Income of PLWH during the two phases of HMMP

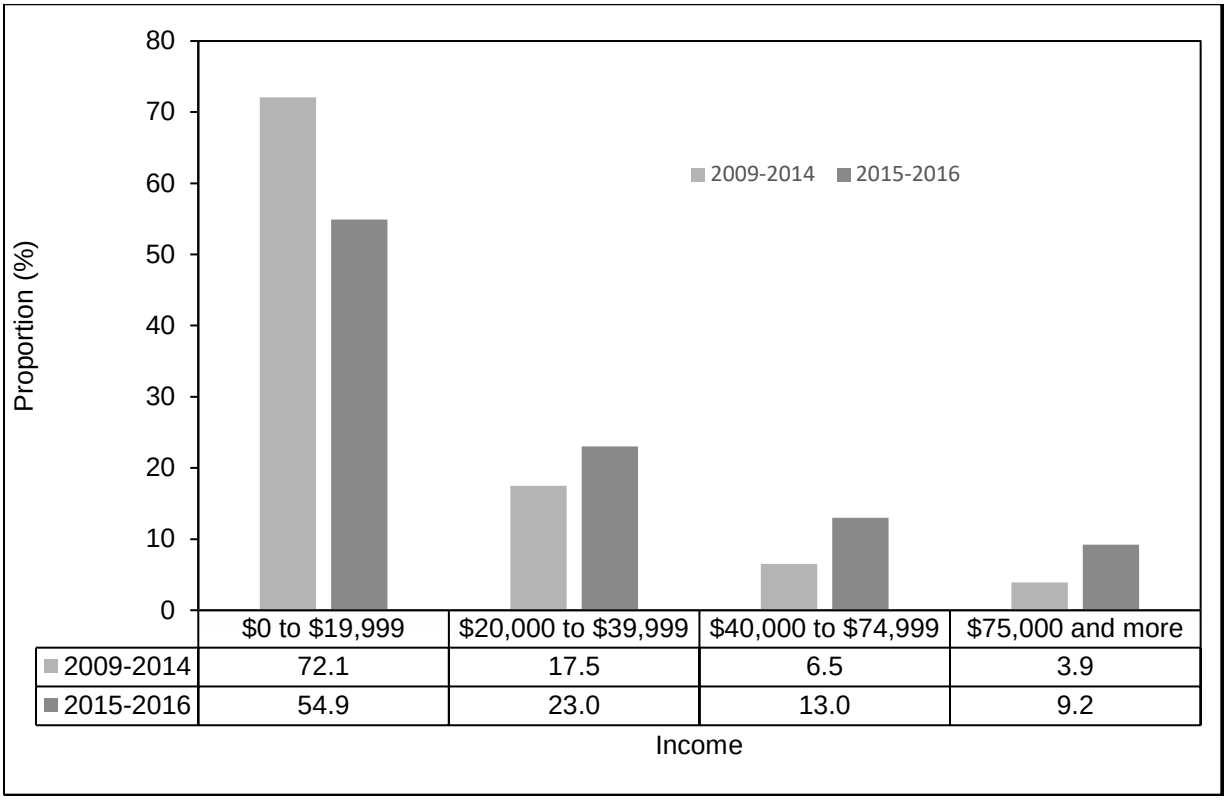


TABLE 1 - Characteristics of adults with diagnosed HIV--HMMP, 2015-2016*

	n	col % (95% CI∞)
Overall	294	100
Age at time of interview, in years		
18-29	37	14.3 (9.6-18.9)
30-39	62	21.3 (16.0-26.6)
40-49	83	26.6 (20.9-32.2)
≥50	112	37.9 (31.5-44.3)
Race/ethnicity		
White, non-Hispanic	40	17.5 (12.0-23.0)
Black, non-Hispanic	164	48.7 (42.2-55.2)
Hispanic or Latino†	72	26.5 (20.7-32.3)
Other	18	7.3 (3.6-11.1) *
Country of birth		
United States	240	82.0 (77.3-86.8)

Country outside United States	52	18.0 (13.2-22.7)
English proficiency		
Speaks English well	270	92.5 (89.3-95.7)
Does not speak English well	23	7.5 (4.3-10.7)*
Gender**		
Male	189	74.3 (69.1-79.5)
Female	102	24.8 (19.7-29.9)
Transgender‡	--	--
Sexual orientation		
Lesbian or gay	101	40.2 (33.7-46.8)
Heterosexual or straight	159	46.4 (39.9-52.9)
Bisexual	24	11.5 (6.7-16.3)*
Other	--	--
Educational attainment		
<High School	66	20.3 (15.3-25.4)
High School diploma or equivalent	80	26.5 (20.9-32.2)
>High School	147	53.2 (46.7-59.7)
Combined yearly household income (US$)		
0–19,999	156	54.9 (48.2-61.6)
20,000–39,999	64	23.0 (17.1-28.8)
40,000–74,999	33	13.0 (8.5-17.4)
≥75,000	22	9.2 (5.3-13.1)*
Household at or below federal poverty line, past 12 months§		
Yes	139	48.3 (41.6-54.9)
No	136	51.7 (45.1-58.4)
Homeless, past 12 months¶		
Yes	38	15.7 (10.5-21.0)
No	255	84.3 (79.0-89.5)
History of incarceration, past 12 months		
Yes	29	10.0 (6.2-13.9)*
No	264	90.0 (86.1-93.8)
Type of health insurance or coverage for antiretroviral medications, past 12 months**		
Private health insurance		
Yes	97	33.4 (27.4-39.5)
No	194	66.6 (60.5-72.6)
Medicare		

	Yes	65	22.0 (16.3-27.7)
	No	227	78.0 (72.3-83.7)
Medicaid			
	Yes	71	21.2 (15.9-26.5)
	No	221	78.8 (73.5-84.1)
Ryan White HIV/AIDS program or ADAP			
	Yes	169	58.2 (51.7-64.6)
	No	122	41.8 (35.4-48.3)
TRICARE/CHAMPUSπ or VA			
	Yes	--	--
	No	276	92.2 (87.5-96.9)
Other publicly funded insurance			
	Yes	68	21.9 (16.7-27.1)
	No	225	78.1 (72.9-83.3)

*All numbers are unweighted and all percentages are weighted percents; CIs incorporate weighted percents. Excluded are values for which the percentage estimates have a coefficient of variation >0.30, "don't know" responses, and skipped (missing) responses. Values with a denominator sample size <30, values with an absolute confidence interval width >30% and values with an absolute confidence interval width of between 5% and 30% and a relative confidence interval width >130% should be interpreted with caution.

**Gender - The final gender variable used in HMMP (_GENDER) combines gender at birth (BIRTGEN) and described gender [GENDER] and has the following final four formatted values for GENDER in the datasets: (1) Male, (2) Female, (3) Transgender, (4) Intersex

∞Confidence interval (CI) is a type of interval estimate, it measures the level of confidence that the parameter lies in the interval. E.g. 95% chance that the calculated confidence interval contains the true population mean.

†Hispanics or Latinos might be of any race. Persons are classified in only 1 race/ethnicity category.

‡Persons were classified as transgender if sex at birth and gender reported by the person were different, or if the person chose transgender in response to the question about self-identified gender.

§Poverty guidelines as defined by HHS; the 2014 guidelines were used for persons interviewed in 2015 and the 2015 guidelines were used for persons interviewed in 2016. More information regarding HHS poverty guidelines can be found at https://aspe.hhs.gov/frequently-askedquestions-related-poverty-guidelines-and-poverty.

πTRICARE and CAMPUS are federally funded health programs that provides health benefits to uniformed service member, retirees and their families.

¶Living on the street, in a shelter, in a single-room–occupancy hotel, or in a car.

**Persons could select more than 1 response for health insurance or coverage for antiretroviral medications.

Health Insurance Status

The type of health insurance or coverage for antiretroviral medications during the last 12 months is given in Table 1. During 2015-2016 cycle, 58.2% of PLWH were covered under the Ryan White HIV/AIDS program or AIDS Drug Assistance Program (ADAP). About 22.0% of PLWH were on Medicare, 21.2% on Medicaid, 33.4% on private insurance, while 21.9% were on other public funded insurance during the same period. There were differences in health insurance status based on the federal poverty line (Table 2). For instance, PLWH who had private insurance were 81.2% were above federal poverty line, while only 18.8% in this group were at or below the federal poverty line. Among PLWH that used the Ryan White HIV/AIDS program or ADAP, 50.7% of them were at or below the federal poverty line compared to those that were above federal poverty line (49.3%). As much as 80.7% of PLWH who were on Medicaid and 51.6% on Medicare were at or below the federal poverty line.

Poverty Status of PLWH

Table 2 shows the federal poverty line characteristics of adults diagnosed with HIV in Houston/Harris County, Texas during 2015-2016 cycle of the project. Approximately, 48.3% of the households of PLWH were at or below federal poverty line, while 51.7% were above federal poverty line. Majority of the PLWH who were Black, non-Hispanic (53.7%) were at or below federal poverty line compared to Hispanic or Latino (48.5%) and White, non-Hispanic (30.6%). More males (58.1%) than females (32.0%) were above federal poverty line. The poverty divide across the various age groups were generally similar for those who were at or below and those above the federal poverty line (Table 2). About 71.7% of PLWH whose educational attainments were less than high school were at or below the federal poverty line compared to 28.3% classified as being above the federal poverty line. As much as 63.8% of PLWH who had more than high school education were above federal poverty line compared to 36.2 % who were at or below the federal poverty line. Among PLWH who had other publicly funded insurance, 63.3% of them were at or below federal poverty line, while 36.7% were above federal poverty level.

TABLE 2 - Characteristics of adults with diagnosed HIV, by poverty status in the past 12 months-HMMP, 2015-2016*

Characteristic	Household at or below federal poverty line§		Household above federal poverty line§	
	n	row % (95% CI)	n	row % (95% CI∞)
Overall	139	48.3 (41.6-54.9)	136	51.7 (45.1-58.4)

Age at time of interview, in years				
18-29	13	46.9 (27.2-66.6) *	17	53.1 (33.4-72.8) *
30-39	29	46.2 (32.4-60.1) *	31	53.8 (39.9-67.6)
40-49	43	52.8 (40.3-65.4)	35	47.2 (34.6-59.7)
≥50	54	46.7 (35.6-57.8)	53	53.3 (42.2-64.4)
Race/ethnicity				
White, non-Hispanic	13	30.6 (14.6-46.5) *	27	69.4 (53.5-85.4) *
Black, non-Hispanic	81	53.7 (44.9-62.5)	74	46.3 (37.5-55.1)
Hispanic or Latino†	36	48.5 (34.9-62.0)	28	51.5 (38.0-65.1) *
Other	9	57.0 (30.1-83.9) *	--	--
Country of birth				
United States	116	49.5 (42.1-57.0)	114	50.5 (43.0-57.9)
Country outside United States	23	42.9 (28.0-57.9) *	21	57.1 (42.1-72.0)*
English proficiency				
Speaks English well	126	47.5 (40.5-54.5)	130	52.5 (45.5-59.5)
Does not speak English well	13	59.0 (35.2-82.8) *	6	41.0 (17.2-64.8)*
Gender[**]				
Male	76	41.9 (33.9-49.8)	104	58.1 (50.2-66.1)
Female	60	68.0 (58.0-78.1)	32	32.0 (21.9-42.0)
Transgender‡	3	100*	0	
Sexual orientation				
Lesbian or gay	30	30.1 (20.2-40.0)	67	69.9 (60.0-79.8)
Heterosexual or straight	93	63.8 (55.1-72.5)	54	36.2 (27.5-44.9)
Bisexual	12	51.8 (29.4-74.2) *	12	48.2 (25.8-70.6)*
Other	4	81.5 (48.3-100.0) *	--	--
Educational attainment				

<High School	42	71.7 (59.1-84.2)	16	28.3 (15.8-40.9)*
High School diploma or equivalent	43	57.2 (44.8-69.6)	32	42.8 (30.4-55.2)
>High School	54	36.2 (27.2-45.3)	88	63.8 (54.7-72.8)
Combined yearly household income (US$)				
0–19,999	131	84.4 (78.4-90.4)	25	15.6 (9.6-21.6) *
20,000–39,999	--	--	56	91.6 (85.5-97.6)
40,000–74,999	0		33	100
≥75,000	0		22	100*
Homeless, past 12 months¶				
Yes	28	83.4 (69.7-97.0) *	--	--
No	111	42.1 (35.1-49.0)	130	57.9 (51.0-64.9)
History of incarceration, past 12 months				
Yes	18	75.6 (58.3-92.8) *	--	--
No	121	45.5 (38.5-52.5)	129	54.5 (47.5-61.5)
Type of health insurance or coverage for antiretroviral medications, past 12 months**				
Private health insurance				
Yes	19	18.8 (9.9-27.6) *	77	81.2 (72.4-90.1)
No	118	64.0 (55.5-72.5)	59	36.0 (27.5-44.5)
Medicare				
Yes	34	51.6 (36.5-66.7) *	29	48.4 (33.3-63.5)*
No	104	47.1 (39.6-54.5)	107	52.9 (45.5-60.4)
Medicaid				
Yes	54	80.7 (66.6-94.7)	--	--
No	84	39.3 (31.9-46.7)	125	60.7 (53.3-68.1)

Ryan White HIV/AIDS program or ADAP				
Yes	82	50.7 (41.5-59.8)	72	49.3 (40.2-58.5)
No	55	44.4 (34.3-54.4)	64	55.6 (45.6-65.7)
TRICARE/CHAMPUSπ or VA				
Yes	--	--	--	--
No	129	46.9 (40.2-53.7)	131	53.1 (46.3-59.8)
Other publicly funded insurance				
Yes	38	63.3 (49.9-76.8)	22	36.7 (23.2-50.1)*
No	101	44.4 (36.8-52.0)	114	55.6 (48.0-63.2)

*All numbers are unweighted and all percentages are weighted percents; CIs incorporate weighted percents. Excluded are values for which the percentage estimates have a coefficient of variation >0.30, "don't know" responses, and skipped (missing) responses. Values with a denominator sample size <30, values with an absolute confidence interval width >30% and values with an absolute confidence interval width of between 5% and 30% and a relative confidence interval width >130% should be interpreted with caution.

**Gender - The final gender variable used in HMMP (_GENDER) combines gender at birth (BIRTGEN) and described gender [GENDER] and has the following final four formatted values for GENDER in the datasets: (1) Male, (2) Female, (3) Transgender, (4) Intersex∞Confidence interval (CI) is a type of interval estimate, it measures the level of confidence that the parameter lies in the interval. E.g. 95% chance that the calculated confidence interval contains the true population mean.

†Hispanics or Latinos might be of any race. Persons are classified in only 1 race/ethnicity category.

‡Persons were classified as transgender if sex at birth and gender reported by the person were different, or if the person chose transgender in response to the question about self-identified gender.

§Poverty guidelines as defined by HHS; the 2014 guidelines were used for persons interviewed in 2015 and the 2015 guidelines were used for persons interviewed in 2016. More information regarding HHS poverty guidelines can be found at https://aspe.hhs.gov/frequently-askedquestions-related-poverty-guidelines-and-poverty.

¶Living on the street, in a shelter, in a single-room–occupancy hotel, or in a car.

**Persons could select more than 1 response for health insurance or coverage for antiretroviral medications.

πTRICARE and CAMPUS are federally funded health programs that provides health benefits to uniformed service member, retirees and their families.

Sexual Behaviors Among Adults Diagnosed with HIV

Sexual behaviors among PLWH during the 2015-2016 cycle are summarized in Tables 3 and 4. Approximately, 30.3% and 69.7% of the PLWH 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. However, 40% of those who had more than high school education had condomless sex with their partners compared to those with less than high school education (16.9%) and those with high school diploma or its equivalent (22.0%). Of the number of PLWH who had condomless sexual encounters, 26.1% of them were at or below federal poverty line. On the other hand, about 73.9% of PLWH who were in the same poverty category did not have condomless sex.

TABLE 3 - Sexual behaviors in the past 12 months among adults with diagnosed HIV--HMMP, 2015-2016*

	n	col % (95% CI∞)
Condomless sex		
Yes	85	30.3 (24.3-36.3)
No	202	69.7 (63.7-75.7)
Condomless sex with an HIV-negative or HIV-unknown partner		
Yes	51	16.2 (11.7-20.7)
No	237	83.8 (79.3-88.3)
Condomless sex with an HIV-negative or HIV-unknown partner while not sustainably virally suppressed		
Yes	25	8.6 (5.0-12.3)*
No	263	91.4 (87.7-95.0)
PrEP use among persons with HIV-negative partners		
Yes	12	41.6 (23.1-60.1) *
No	21	58.4 (39.9-76.9)*
Indication of high risk sex†		
Yes	25	8.7 (5.0-12.3)*
No	265	91.3 (87.7-95.0)
Exchange sex		
Yes	--	--
No	169	94.8 (90.8-98.7)

*All numbers are unweighted and all percentages are weighted percents; CIs incorporate weighted percents. Excluded are values for which the percentage estimates have a coefficient of variation >0.30, “don’t know” responses, and skipped (missing) responses. Values with a denominator sample size <30, values with an absolute confidence interval width >30% and values with an absolute confidence interval width of between 5% and 30% and a relative confidence interval width >130% should be interpreted with caution.

∞Confidence interval (CI) is a type of interval estimate, it measures the level of confidence that the parameter lies in the interval. E.g. 95% chance that the calculated confidence interval contains the true population mean.

†Vaginal or anal sex with at least 1 HIV-negative or unknown status partner while not sustainably virally suppressed, a condom was not used, and the partner was not on PrEP. PrEP use was only measured among the 5 most recent partners.

TABLE 4 - Characteristics of adults with diagnosed HIV by condomless sex in the past 12 months--HMMP, 2015-2016*

	Had condomless sex		Did not have condomless sex	
	n	row % (95% CI)	n	row % (95% CI[∞])
Overall	85	30.3 (24.3-36.3)	202	69.7 (63.7-75.7)
Age at time of interview, in years				
18-29	16	48.1 (29.9-66.3)*	19	51.9 (33.7-70.1)*
30-39	28	43.1 (29.4-56.9)*	34	56.9 (43.1-70.6)
40-49	20	27.4 (15.9-38.9)*	60	72.6 (61.1-84.1)
≥50	21	18.4 (10.8-26.0)*	89	81.6 (74.0-89.2)
Race/ethnicity				
White, non-Hispanic	10	25.8 (11.0-40.5)*	29	74.2 (59.5-89.0)*
Black, non-Hispanic	49	32.4 (24.1-40.6)	111	67.6 (59.4-75.9)
Hispanic or Latino†	19	28.2 (16.2-40.3)*	51	71.8 (59.7-83.8)
Other	--	--	11	65.5 (41.9-89.1)*
Country of birth				
United States	72	31.9 (25.0-38.7)	163	68.1 (61.3-75.0)
Country outside United States	13	23.6 (11.7-35.4)*	39	76.4 (64.6-88.3)
English proficiency				
Speaks English well	81	31.7 (25.3-38.0)	183	68.3 (62.0-74.7)
Does not speak English well	--	--	19	85.6 (71.9-99.3)*
Gender**				
Male	54	29.7 (22.5-37.0)	129	70.3 (63.0-77.5)
Female	29	30.7 (20.2-41.2)*	72	69.3 (58.8-79.8)
Transgender‡	--	--	--	--
Sexual orientation				
Lesbian or gay	36	37.5 (27.2-47.9)	63	62.5 (52.1-72.8)
Heterosexual or straight	39	23.0 (15.9-30.1)	117	77.0 (69.9-84.1)
Bisexual	--	--	15	62.3 (39.8-84.9)*

Other	--	--	--	--
Educational attainment				
<High School	12	16.9 (7.6-26.3)*	54	83.1 (73.7-92.4)
High School diploma or equivalent	17	22.0 (11.6-32.3)*	61	78.0 (67.7-88.4)
>High School	56	40.0 (30.9-49.0)	87	60.0 (51.0-69.1)
Combined yearly household income (US$)				
0–19,999	44	28.0 (20.0-35.9)	107	72.0 (64.1-80.0)
20,000–39,999	16	30.9 (16.6-45.2)*	47	69.1 (54.8-83.4)
40,000–74,999	12	36.3 (18.8-53.9)*	21	63.7 (46.1-81.2)*
≥75,000	8	38.0 (16.5-59.4)*	14	62.0 (40.6-83.5)*
Household at or below federal poverty line, past 12 months§				
Yes	37	26.1 (17.9-34.4)	98	73.9 (65.6-82.1)
No	43	35.0 (25.9-44.1)	91	65.0 (55.9-74.1)
Homeless, past 12 months¶				
Yes	--	--	26	78.0 (62.7-93.3)*
No	76	31.8 (25.4-38.3)	176	68.2 (61.7-74.6)
History of incarceration, past 12 months				
Yes	10	36.2 (16.1-56.3)*	19	63.8 (43.7-83.9)*
No	75	29.6 (23.4-35.9)	183	70.4 (64.1-76.6)
Type of health insurance or coverage for antiretroviral medications, past 12 months**				
Private health insurance				
Yes	34	35.7 (25.5-46.0)	63	64.3 (54.0-74.5)
No	50	27.3 (19.8-34.8)	138	72.7 (65.2-80.2)
Medicare				
Yes	18	24.4 (13.4-35.4)*	46	75.6 (64.6-86.6)
No	67	32.0 (25.1-39.0)	155	68.0 (61.0-74.9)
Medicaid				
Yes	18	25.4 (14.1-36.8)*	51	74.6 (63.2-85.9)
No	67	31.7 (24.7-38.6)	150	68.3 (61.4-75.3)
Ryan White HIV/AIDS program or ADAP				
Yes	55	34.2 (25.9-42.5)	109	65.8 (57.5-74.1)

No	29	25.0 (16.5-33.5)*	92	75.0 (66.5-83.5)
TRICARE/CHAMPUSπ or VA				
Yes	--	--	10	80.8 (58.5-100.0)*
No	80	30.7 (24.5-36.9)	191	69.3 (63.1-75.5)
Other publicly funded insurance				
Yes	22	32.3 (19.9-44.7)*	45	67.7 (55.3-80.1)
No	63	29.8 (22.9-36.6)	157	70.2 (63.4-77.1)
Sustained viral suppression††				
Yes	44	25.7 (18.7-32.6)	122	74.3 (67.4-81.3)
No	41	36.1 (26.1-46.1)	80	63.9 (53.9-73.9)

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**Gender - The final gender variable used in HMMP (_GENDER) combines gender at birth (BIRTGEN) and described gender [GENDER] and has the following final four formatted values for GENDER in the datasets: (1) Male, (2) Female, (3) Transgender, (4) Intersex ∞Confidence interval (CI) is a type of interval estimate, it measures the level of confidence that the parameter lies in the interval. E.g. 95% chance that the calculated confidence interval contains the true population mean.

†Hispanics or Latinos might be of any race. Persons are classified in only 1 race/ethnicity category.

‡Persons were classified as transgender if sex at birth and gender reported by the person were different, or if the person chose transgender in response to the question about self-identified gender.

§Poverty guidelines as defined by HHS; the 2014 guidelines were used for persons interviewed in 2015 and the 2015 guidelines were used for persons interviewed in 2016. More information regarding HHS poverty guidelines can be found at https://aspe.hhs.gov/frequently-askedquestions-related-poverty-guidelines-and-poverty.

¶Living on the street, in a shelter, in a single-room–occupancy hotel, or in a car.

**Persons could select more than 1 response for health insurance or coverage for antiretroviral medications.

††Sustained viral suppression defined as having all viral load measurements documented undetectable or <200 copies/mL in the past 12 months.

πTRICARE and CAMPUS are federally funded health programs that provides health benefits to uniformed service member, retirees and their families.

Receipt of medical care and support services among adults diagnosed with HIV

Table 5 shows the receipt of medical care services among adults diagnosed with HIV in Houston/Harris County, Texas during the 2015-2016 data collection cycle. About 40.4% of PLWH who needed HIV case management service received the service, while as much as 49.4% indicated that they did not need and did not receive this service during the period. A majority of the PLWH (67.2%) indicated that they did not need any professional help remembering to take their medicines on time and correctly (adherence support services). Dental care needs of 51.3% of persons needing it were met during this period. Although, only 37.3% of PLWH needed, and received mental health service, 56.9%

indicated that they did not need and did not receive this service. Similarly, 58.9% of the PLWH needed and did receive medications from ADAP. On the other hand, a majority of this population indicated that they did not need and did not receive the following services during the period under review: patient navigation service (75.5%), HIV peer support group (78.9%), transportation assistance (65.6%), shelter or housing services (69.5%), drug or alcohol counseling or treatment (92.1%), meal or food services (70.2%), domestic violence services (99.2%) and interpreter services (94.8%). When considering only those who needed and received the medical care and support services and those who needed, but did not receive these services, a different pattern emerged in term of the actual population served (Table 6). For all services considered, those who needed and received the services ranged from 47.4% (shelter or housing services) to 98.5% (professional help remembering to take HIV medicines on time or correctly - adherence support services). On the other hand, the PLWH who needed, but did not receive these services ranged from 6.9% (Medicine through ADAP) to 52.6% (shelter or housing services).

TABLE 5 - Receipt of medical care services among adults with diagnosed HIV--HMMP, 2015-2016*

	n	col % (95% CI∞)
HIV case management services		
Needed and received this service	114	40.4 (33.9-46.9)
Needed, but did not receive this service	33	10.2 (6.3-14.0)
Did not need and did not receive this service	145	49.4 (42.8-55.9)
Professional help remembering to take HIV medicines on time or correctly (adherence support services)		
Needed and received this service	97	32.3 (26.3-38.4)
Needed, but did not receive this service	--	--
Did not need and did not receive this service	192	67.2 (61.1-73.2)
Medicine through ADAP		
Needed and received this service	169	58.9 (52.6-65.3)
Needed, but did not receive this service	15	4.4 (2.1-6.7)*
Did not need and did not receive this service	105	36.7 (30.4-42.9)
Patient navigation services		
Needed and received this service	46	16.7 (11.5-21.9)
Needed, but did not receive this service	22	7.8 (4.2-11.4)*
Did not need and did not receive this service	224	75.5 (69.6-81.4)
HIV peer support group		
Needed and received this service	37	15.2 (9.7-20.7)

Needed, but did not receive this service	19	5.9 (2.9-8.9)*
Did not need and did not receive this service	236	78.9 (73.0-84.8)
Dental care		
Needed and received this service	145	51.3 (44.7-57.8)
Needed, but did not receive this service	79	25.1 (19.5-30.6)
Did not need and did not receive this service	68	23.7 (18.1-29.2)
Drug or alcohol counseling or treatment		
Needed and received this service	19	6.9 (3.5-10.3)*
Needed, but did not receive this service	--	--
Did not need and did not receive this service	270	92.1 (88.5-95.7)
Mental health services		
Needed and received this service	106	37.3 (30.9-43.6)
Needed, but did not receive this service	20	5.8 (3.2-8.5)*
Did not need and did not receive this service	166	56.9 (50.4-63.4)
Transportation assistance		
Needed and received this service	65	24.1 (18.0-30.1)
Needed, but did not receive this service	29	10.3 (6.2-14.4)*
Did not need and did not receive this service	198	65.6 (59.2-72.1)
Shelter or housing services		
Needed and received this service	40	14.5 (9.6-19.3)
Needed, but did not receive this service	51	16.1 (11.4-20.8)
Did not need and did not receive this service	200	69.5 (63.4-75.5)
Supplemental Nutrition Assistance Program (SNAP) or Special Supplemental Nutrition Program for Women, Infants, and Child		
Needed and received this service	106	33.2 (27.1-39.2)
Needed, but did not receive this service	46	15.7 (11.1-20.3)
Did not need and did not receive this service	139	51.1 (44.6-57.6)
Meal or food services, including (soup kitchens, food pantries, food banks, church dinners, or food delivery services)		
Needed and received this service	57	18.6 (13.5-23.7)
Needed, but did not receive this service	32	11.2 (7.0-15.4)
Did not need and did not receive this service	203	70.2 (64.2-76.2)
Domestic violence services		
Needed and received this service	--	--
Needed, but did not receive this service	--	--

Did not need and did not receive this service	288	99.2 (98.5-100.0)
Interpreter services		
Needed and received this service	13	3.8 (1.7-5.9)*
Needed, but did not receive this service	--	--
Did not need and did not receive this service	276	94.8 (92.3-97.3)

*All numbers are unweighted and all percentages are weighted percents; CIs incorporate weighted percents. Excluded are values for which the percentage estimates have a coefficient of variation >0.30, "don't know" responses, and skipped (missing) responses. Values with a denominator sample size <30, values with an absolute confidence interval width >30% and values with an absolute confidence interval width of between 5% and 30% and a relative confidence interval width >130% should be interpreted with caution.

∞Confidence interval (CI) is a type of interval estimate, it measures the level of confidence that the parameter lies in the interval. E.g. 95% chance that the calculated confidence interval contains the true population mean.

TABLE 6 - Receipt of medical care services among adults with diagnosed HIV who needed services--HMMP, 2015-2016*

	n	col % (95% CI∞)
HIV case management services		
Needed and received this service	114	79.9 (72.6-87.1)
Needed, but did not receive this service	33	20.1 (12.9-27.4)
Professional help remembering to take HIV medicines on time or correctly (adherence support services)		
Needed and received this service	97	98.5 (96.3-100.0)
Needed, but did not receive this service	--	--
Medicine through ADAP		
Needed and received this service	169	93.1 (89.4-96.7)
Needed, but did not receive this service	15	6.9 (3.3-10.6)*
Patient navigation services		
Needed and received this service	46	68.1 (55.2-81.0)
Needed, but did not receive this service	22	31.9 (19.0-44.8)*
HIV peer support group		
Needed and received this service	37	72.1 (58.8-85.3)
Needed, but did not receive this service	19	27.9 (14.7-41.2)*
Dental care		
Needed and received this service	145	67.2 (60.2-74.1)
Needed, but did not receive this service	79	32.8 (25.9-39.8)
Drug or alcohol counseling or treatment		

Needed and received this service	19	87.1 (72.4-100.0)*
Needed, but did not receive this service	--	--
Mental health services		
Needed and received this service	106	86.5 (80.5-92.4)
Needed, but did not receive this service	20	13.5 (7.6-19.5)*
Transportation assistance		
Needed and received this service	65	70.0 (59.2-80.8)
Needed, but did not receive this service	29	30.0 (19.2-40.8)*
Shelter or housing services		
Needed and received this service	40	47.4 (35.3-59.4)
Needed, but did not receive this service	51	52.6 (40.6-64.7)
Supplemental Nutrition Assistance Program (SNAP) or Special Supplemental Nutrition Program for Women, Infants, and Child		
Needed and received this service	106	67.8 (59.4-76.3)
Needed, but did not receive this service	46	32.2 (23.7-40.6)
Meal or food services, including (soup kitchens, food pantries, food banks, church dinners, or food delivery services)		
Needed and received this service	57	62.4 (50.6-74.2)
Needed, but did not receive this service	32	37.6 (25.8-49.4)
Domestic violence services		
Needed and received this service	--	--
Needed, but did not receive this service	--	--
Interpreter services		
Needed and received this service	13	73.4 (50.9-96.0)*
Needed, but did not receive this service	--	--

*All numbers are unweighted and all percentages are weighted percents; CIs incorporate weighted percents. Excluded are values for which the percentage estimates have a coefficient of variation >0.30, “don’t know” responses, and skipped (missing) responses. Values with a denominator sample size <30, values with an absolute confidence interval width >30% and values with an absolute confidence interval width of between 5% and 30% and a relative confidence interval width >130% should be interpreted with caution.

∞Confidence interval (CI) is a type of interval estimate, it measures the level of confidence that the parameter lies in the interval. E.g. 95% chance that the calculated confidence interval contains the true population mean.

Level of Satisfaction with HIV care received

Table 7 shows the level of satisfaction with HIV care received by persons living with HIV in Houston/Harris County, Texas. Overall, they are very satisfied with the medical care received (94.8%). This high level of satisfaction (range: 93.6-95.8%) was also reflected when assessed across race/ethnicity, federal poverty line and attendance of Ryan White funded facilities during the past 12 months (Table 7).

TABLE 7 - Satisfaction with HIV care received overall and by selected characteristics among adults with diagnosed HIV--HMMP, 2015-2016*

	n	row % (95% CI∞)
Overall	265	94.8 (91.8-97.7)
Race/ethnicity		
White, non-Hispanic	36	95.8 (89.7-100.0)
Black, non-Hispanic	149	93.6 (89.1-98.1)
Hispanic or Latino†	64	94.8 (88.7-100.0)
Household at or below federal poverty line, past 12 months§		
Yes	125	94.9 (90.5-99.3)
No	124	95.0 (91.0-99.1)
Attendance at a RWHAP-funded facility, past 12 months		
Yes	226	94.8 (91.5-98.0)
No	36	94.3 (86.5-100.0)

*Satisfaction with HIV care received was defined using a modified Likert scale, where respondents could rate satisfaction as being very satisfied, somewhat satisfied, somewhat dissatisfied, and very dissatisfied. "Very satisfied" and "somewhat satisfied" responses were considered to be satisfied. All numbers are unweighted and all percentages are weighted percents; CIs incorporate weighted percents. Excluded are values for which the percentage estimates have a coefficient of variation >0.30, "don't know" responses, and skipped (missing) responses. Values with a denominator sample size <30, values with an absolute confidence interval width >30% and values with an absolute confidence interval width of between 5% and 30% and a relative confidence interval width >130% should be interpreted with caution.

∞Confidence interval (CI) is a type of interval estimate, it measures the level of confidence that the parameter lies in the interval. E.g. 95% chance that the calculated confidence interval contains the true population mean.

†Hispanics or Latinos might be of any race. Persons are classified in only 1 race/ethnicity category.

§Poverty guidelines as defined by HHS; the 2014 guidelines were used for persons interviewed in 2015 and the 2015 guidelines were used for persons interviewed in 2016. More information regarding HHS poverty guidelines can be found at https://aspe.hhs.gov/frequently-askedquestions-related-poverty-guidelines-and-poverty.

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 (Table 8). 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.

TABLE 8 - Receipt of prevention services among adults with diagnosed HIV--HMMP, 2015-2016*

	n	col % (95% CI∞)
Received free condoms		
Yes	130	47.1 (40.5-53.6)
No	162	52.9 (46.4-59.5)
Received of informational/educational information on HIV prevention		
Yes	134	45.8 (39.3-52.4)
No	156	54.2 (47.6-60.7)
Had one-on-one HIV/STD risk-reduction conversation with an outreach worker, counselor, or prevention program worker		
Yes	90	30.6 (24.6-36.7)
No	202	69.4 (63.3-75.4)
Had one-on-one HIV/STD risk-reduction conversation with a doctor, nurse, or other healthcare worker		
Yes	150	50.4 (43.8-57.0)
No	141	49.6 (43.0-56.2)
Attended an organized HIV/STD risk-reduction session involving a small group of people		
Yes	50	16.9 (12.0-21.9)
No	241	83.1 (78.1-88.0)

*All numbers are unweighted and all percentages are weighted percents; CIs incorporate weighted percents. Excluded are values for which the percentage estimates have a coefficient of variation >0.30, “don’t know” responses, and skipped (missing) responses. Values with a denominator sample size <30, values with an absolute confidence interval width >30% and values with an absolute confidence interval width of between 5% and 30% and a relative confidence interval width >130% should be interpreted with caution.

∞Confidence interval (CI) is a type of interval estimate, it measures the level of confidence that the parameter lies in the interval. E.g. 95% chance that the calculated confidence interval contains the true population mean.

Sustained viral suppression among adults diagnosed with HIV

Table 9 shows sustained viral suppression among adults diagnosed with HIV. 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%). Household at or below federal poverty line had more sustained viral suppression (58.7%) than those who were above federal poverty line (49.1%). The majority of PLWH who were born in countries outside the United States (69.8%) and those who do not speak English well (65.3%) had more sustained viral suppression than those born in the United States (51.4%) and those who speak English very well (53.6%), respectively.

TABLE 9 - Sustained viral suppression among adults with diagnosed HIV, by sociodemographic and risk characteristics--HMMP, 2015-2016*

	Had sustained viral suppression**		Did not have sustained viral suppression	
	n	row % (95% CI)	n	row % (95% CI∞)
Overall	169	54.1 (47.5-60.6)	125	45.9 (39.4-52.5)
Age at time of interview, in years				
18-29	13	29.0 (14.3-43.7)*	24	71.0 (56.3-85.7)*
30-39	30	44.6 (30.8-58.3)	32	55.4 (41.7-69.2)
40-49	48	54.2 (41.9-66.5)	35	45.8 (33.5-58.1)
≥50	78	68.8 (58.1-79.4)	34	31.2 (20.6-41.9)
Race/ethnicity				
White, non-Hispanic	24	52.5 (34.6-70.3)*	16	47.5 (29.7-65.4)*
Black, non-Hispanic	86	48.1 (39.5-56.7)	78	51.9 (43.3-60.5)
Hispanic or Latino†	46	59.6 (46.7-72.5)	26	40.4 (27.5-53.3)*
Other	13	77.6 (58.1-97.1)*	--	--

Country of birth				
United States	131	51.4 (44.0-58.7)	109	48.6 (41.3-56.0)
Country outside United States	38	69.8 (55.8-83.7)	14	30.2 (16.3-44.2)*
English proficiency				
Speaks English well	153	53.6 (46.7-60.4)	117	46.4 (39.6-53.3)
Does not speak English well	16	65.3 (43.7-86.9)*	--	--
Gender[**]				
Male	112	54.9 (46.9-62.9)	77	45.1 (37.1-53.1)
Female	55	51.0 (39.8-62.2)	47	49.0 (37.8-60.2)
Transgender‡	--	--	--	--
Sexual orientation				
Lesbian or gay	68	62.9 (52.0-73.8)	33	37.1 (26.2-48.0)
Heterosexual or straight	84	50.7 (41.8-59.7)	75	49.3 (40.3-58.2)
Bisexual	11	38.1 (16.5-59.6)*	13	61.9 (40.4-83.5)*
Other	--	--	--	--
Educational attainment				
<High School	38	55.2 (41.4-69.0)	28	44.8 (31.0-58.6)*
High School diploma or equivalent	47	55.3 (42.8-67.8)	33	44.7 (32.2-57.2)
>High School	84	53.7 (44.4-63.0)	63	46.3 (37.0-55.6)
Combined yearly household income (US$)				
0–19,999	95	57.5 (48.5-66.4)	61	42.5 (33.6-51.5)
20,000–39,999	33	46.1 (31.7-60.4)	31	53.9 (39.6-68.3)
40,000–74,999	19	54.2 (35.8-72.6)*	14	45.8 (27.4-64.2)*
≥75,000	11	49.8 (27.6-72.1)*	11	50.2 (27.9-72.4)*
Household at or below federal poverty line, past 12 months[§]				
Yes	87	58.7 (49.0-68.4)	52	41.3 (31.6-51.0)
No	71	49.1 (39.7-58.5)	65	50.9 (41.5-60.3)
Homeless, past 12 months[¶]				
Yes	16	39.2 (20.9-57.4)*	22	60.8 (42.6-79.1)*
No	153	57.3 (50.3-64.3)	102	42.7 (35.7-49.7)
History of incarceration, past 12 months				
Yes	15	43.7 (24.0-63.4)*	14	56.3 (36.6-76.0)*
No	154	55.6 (48.7-62.6)	110	44.4 (37.4-51.3)
Private health insurance				
Yes	49	50.6 (39.9-61.4)	48	49.4 (38.6-60.1)

No	118	56.0 (47.6-64.3)	76	44.0 (35.7-52.4)
Medicare				
Yes	37	52.1 (37.3-67.0)	28	47.9 (33.0-62.7)*
No	131	54.9 (47.6-62.2)	96	45.1 (37.8-52.4)
Medicaid				
Yes	38	45.3 (31.7-58.8)	33	54.7 (41.2-68.3)
No	130	56.7 (49.4-64.1)	91	43.3 (35.9-50.6)
Ryan White HIV/AIDS program or ADAP				
Yes	102	55.1 (46.3-63.9)	67	44.9 (36.1-53.7)
No	65	52.9 (42.9-62.9)	57	47.1 (37.1-57.1)
TRICARE/CHAMPUSπ or VA				
Yes	10	65.7 (33.5-98.0)*	--	--
No	156	53.0 (46.5-59.6)	120	47.0 (40.4-53.5)
Other publicly funded insurance				
Yes	45	58.5 (45.1-71.8)	23	41.5 (28.2-54.9)*
No	124	53.3 (45.8-60.9)	101	46.7 (39.1-54.2)
Injection drug use during the previous 12 months				
Yes	--	--	--	--
No	167	54.7 (48.1-61.3)	122	45.3 (38.7-51.9)
Condomless sex with an HIV-negative or HIV-unknown partner				
Yes	26	46.8 (32.0-61.5)*	25	53.2 (38.5-68.0)*
No	140	55.9 (48.5-63.3)	97	44.1 (36.7-51.5)

*All numbers are unweighted and all percentages are weighted percents; CIs incorporate weighted percents. Excluded are values for which the percentage estimates have a coefficient of variation >0.30, “don’t know” responses, and skipped (missing) responses. Values with a denominator sample size <30, values with an absolute confidence interval width >30% and values with an absolute confidence interval width of between 5% and 30% and a relative confidence interval width >130% should be interpreted with caution.

**Gender - The final gender variable used in HMMP (_GENDER) combines gender at birth (BIRTGEN) and described gender [GENDER] and has the following final four formatted values for GENDER in the datasets: (1) Male, (2) Female, (3) Transgender, (4) Intersex∞Confidence interval (CI) is a type of interval estimate, it measures the level of confidence that the parameter lies in the interval. E.g. 95% chance that the calculated confidence interval contains the true population mean.

†Hispanics or Latinos might be of any race. Persons are classified in only 1 race/ethnicity category.

‡Persons were classified as transgender if sex at birth and gender reported by the person were different, or if the person chose transgender in response to the question about self-identified gender.

§Poverty guidelines as defined by HHS; the 2014 guidelines were used for persons interviewed in 2015 and the 2015 guidelines were used for persons interviewed in 2016. More information regarding HHS poverty guidelines can be found at https://aspe.hhs.gov/frequently-askedquestions-related-poverty-guidelines-and-poverty.

¶Living on the street, in a shelter, in a single-room–occupancy hotel, or in a car.

**Sustained viral suppression defined as having all viral load measurements documented undetectable or <200 copies/mL in the past 12 months.

πTRICARE and CAMPUS are federally funded health programs that provides health benefits to uniformed service member, retirees and their families.

Data Dissemination and Use

To disseminate the outcomes of this project, the HMMP project area regularly conducts data analyses and shares the findings at numerous local, regional and national meetings and conferences. The project site has also published the first volume of the HMMP Book of Abstracts, which is a collection of abstracts emanating from these activities from 2005 through 2012[2]. Although some of the findings were considered preliminary, they have laid a strong foundation for a more comprehensive evaluation of the clinical and behavioral characteristics and health outcomes of patients receiving medical care for HIV in Houston/Harris County. In addition, the project area also disseminates project information and news through the website (www.hmmptx.org) and the Community Monitor Newsletter. The HIV/STD Surveillance program continues to work in collaboration with the HIV/STD Prevention and Care programs to identify ways in which the HMMP data can supplement the HHD planning and prioritizing for activities such as identifying gaps in the scope and reach of HIV prevention interventions, and strategies to enhance the coordination of HIV prevention in Houston/Harris County, Texas. At the national level, several surveillance reports and MMWRs based on MMP data have been published, and can be accessed at http://www.cdc.gov/hiv/statistics/systems/mmp/resources.html.

The HMMP project area has produced series of technical and surveillance reports and peer-reviewed journal publications based on data obtained from the MMP survey[2-10]. In addition, numerous abstracts and presentations based on HMMP data have been presented at local, regional, state and national conferences and meetings during the period under review. Because MMP's estimates are representative, data and information gathered from this project may be used to monitor the U.S. National HIV/AIDS strategy goal of increasing access to care and optimizing health outcomes among persons living with HIV. Locally, MMP data has been used by the Houston Area Ryan White Planning Council, HIV Prevention planning groups, policy leaders, health-care providers, and people living with HIV can use the data to inform HIV prevention activities, highlight disparities in care and services, identify unmet needs, and evaluate services. The data are also used to guide policy and funding decisions aimed at increasing engagement in care and improving the quality of care for people living with HIV in Houston/Harris County, Texas and throughout the United States.

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