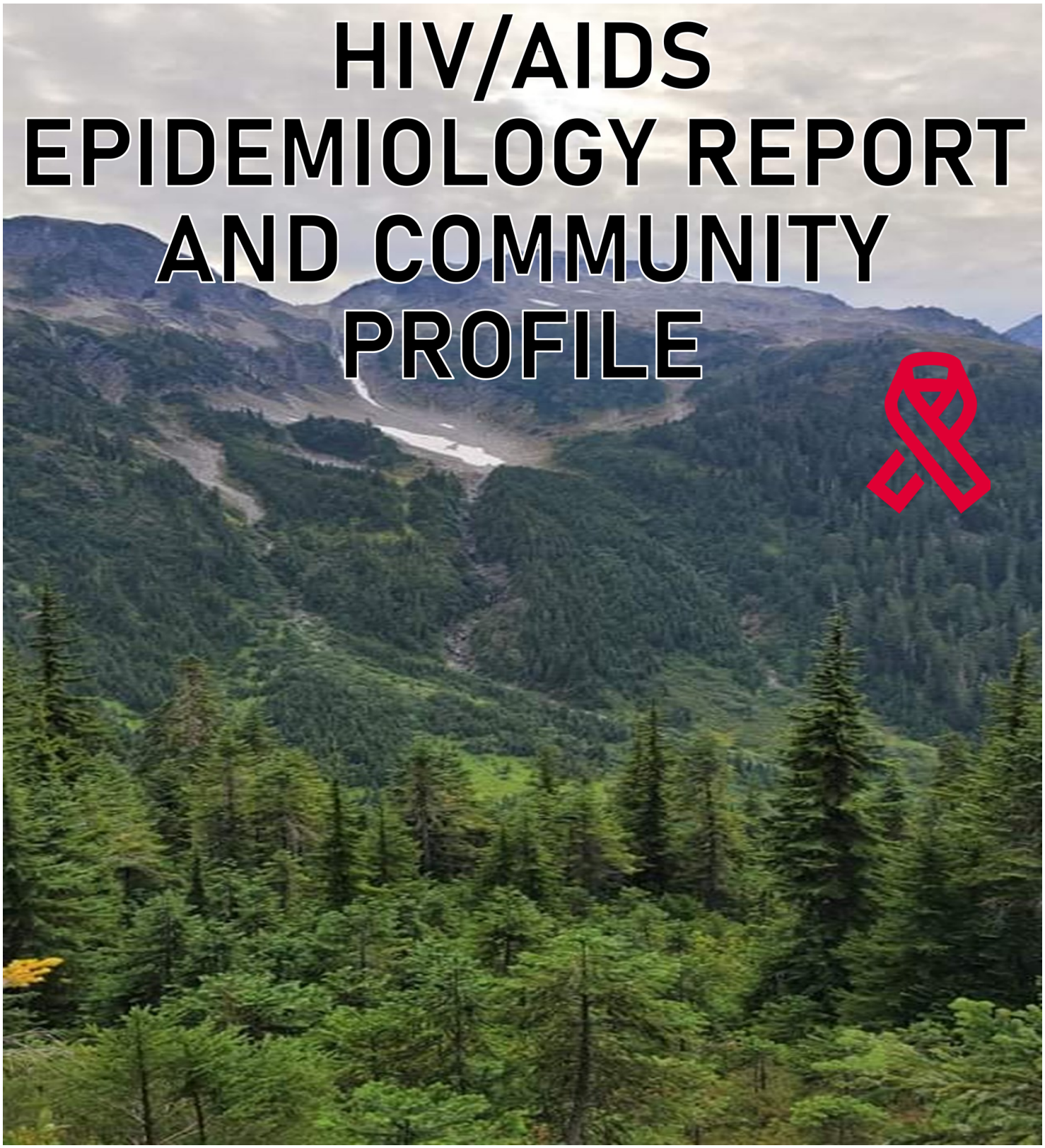
HIV/AIDS EPIDEMIOLOGY REPORT AND COMMUNITY PROFILE



2021

WASHINGTON STATE & KING COUNTY

HIV/AIDS

EPIDEMIOLOGY REPORT AND COMMUNITY PROFILE

Contents

Acknowledgements

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Photo Credit

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HIV/AIDS Reporting Requirements

Detailed requirements for reporting of communicable diseases including HIV/AIDS are described in the Washington Administrative Code (WAC), section 246-101 (http://apps.leg.wa.gov/WAC/default.aspx?cite=246-101).

Washington health care providers are required to report all HIV infections, regardless of the date of the patient's initial diagnosis, to the health department. Providers are also required to report new diagnoses of AIDS in a person previously diagnosed with HIV infection. Local health department officials forward case reports to the Department of Health. Names are never sent to the federal government.

Laboratories are required to report evidence of HIV infection (i.e., positive HIV screening tests, p24 antigen detection, viral culture, and nucleic acid detection), all HIV viral load tests (detectable or not), and all CD4 counts in the setting of HIV infection. If the laboratory cannot distinguish tests (e.g., CD4 counts) performed due to HIV versus other diseases (e.g., cancer), the laboratory tests should be reported, and the health department will investigate. However, laboratory reporting does not relieve health care providers of their duty to report, as most of the critical information necessary for surveillance and follow-up is not available to laboratories.

For further information about HIV/AIDS reporting requirements, please call your local health department or the Washington State Department of Health at 888-236-3484. In King County, call 206-263-2000.

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Alternate Formats

- HIV/AIDS Epidemiology publications are online at: www.kingcounty.gov/hivepi
- Alternate formats provided upon request.
- To be included on the mailing list or for address corrections, please call 206-263-2000

Technical Note:

PAST DATA ESTIMATES MAY CHANGE: HIV surveillance data are dynamic with databases often being updated with new data, including data on characteristics of people living with HIV, laboratory results, and causes of death. Health departments may also change their definitions for defining outcomes, including new HIV diagnoses. These changes can affect current calculations of estimates from prior years. Thus, differences between reports for estimates for a given year are expected.

Definitions & Technical Notes

Acute HIV Infection: The earliest stage of HIV infection during which many people experience a flu-like illness occurring within 2 to 4 weeks of HIV infection. People with acute infection usually have a high viral load and are very contagious.

AIDS: The late stage of HIV infection that is characterized by a severely damaged immune system due to the virus. A person is considered to have AIDS if their CD4+ T-cell count falls below 200 cells per cubic millimeter of blood (or the percent of CD4+ lymphocytes is less than 14% if count is unavailable), or if they develop one or more opportunistic illness (OI).

CD4 Count: A measure of the number of CD4+ T cells in the bloodstream, the normal range of which is between 500-1,500 CD4+ T-cells per cubic millimeter of blood. HIV virus infects and kills CD4+ T cells, decreasing the strength of the immune system at fighting various infections and eventually leading the individual to develop AIDS (CD4 < 200 cells/mm3 or an OI). Through effective HIV treatment, CD4 count can rise to more normal levels.

Epidemiology: The branch of medicine which deals with the incidence, determinants, distribution, and possible control of diseases and other factors relating to health.

Gender: The range of identities possible outside of and including the socially established categories of male and female.

Heterosexual Contact / Presumed Heterosexual Contact: This is an HIV risk transmission category defined at the national level, which is defined based on a person's sex assigned at birth and sex with an opposite sex partner. This category excludes men who have sex with men and people who inject drugs. To meet criteria for this category, persons must: (a) have an opposite sex partner living with HIV or at high risk of HIV (heterosexual contact) or (b) if female, report sex with a male partner and deny injection drug use (presumed heterosexual contact).

HIV Viral Load: The amount of HIV viral RNA is in the bloodstream. Higher amounts of HIV viral load have been linked to faster HIV progression and poorer outcomes. Through taking antiretroviral therapy (ART) medication, individuals can reach viral suppression, which is the presence of less than 200 copies of HIV per milliliter of blood. People with suppressed viral loads cannot transmit HIV sexually.

HIV: Human immunodeficiency virus (HIV) is the virus that causes AIDS. HIV puts people at higher risk for some types of infection and other medical problems by targeting the cells that help the body fight infection. Contact with specific bodily fluids - most commonly through condomless sex or sharing of injection drug equipment - allows the virus to spread between individuals.

Homelessness: Lacking a stable and safe place to live. This includes those who are unhoused, unsheltered, and sheltered, as well as those living in temporary settings due to lack of adequate economic resources.

Incidence Or Incident Diagnoses: Theoretically refers to newly acquired HIV in a time period, but the exact time of acquisition of HIV is often unknown, so incident diagnoses are a proxy. In WA State incident diagnoses exclude individuals reporting a positive HIV test 6 or more months before their first documented HIV (this is a new method with lower incidence relative to earlier reports). Incident diagnoses in King County exclude individuals first diagnosed with HIV outside WA State yet lacking documentation of that earlier diagnosis. Additionally, new HIV diagnoses in King County exclude people self-reporting an initial HIV diagnosis one year or more before an initial documented diagnosis.

Latinx: A gender inclusive description used throughout this report for Latina/Latino individuals.

MSM: An epidemiologic term defined as a man who has had at least one male sexual partner. Depending on the source and use of data, this may be defined as in the past 1 year, 5 years, since 1977, or during a man's lifetime. While this primarily includes MSM who identify as gay or bisexual, it also encompasses non-gay or bisexual identified MSM.

PLWH (People living with HIV): HIV-positive people presumed to be living in a jurisdiction at a certain point or period of time. Unless otherwise noted, this typically refers to people who have been diagnosed with HIV. This estimate excludes individuals lost to follow up (no reported laboratory test results for 10 or more years). To increase the precision of the King County care continuum we further exclude individuals who had no HIV-related laboratory results reported for 18 months or more and for whom we had some evidence of a relocation, but the relocation was not confirmed by the other jurisdiction.

Population Sizes of Men Who Have Sex with Men (MSM) in King County: The Behavioral Risk Factor Surveillance Survey (BRFSS) contains an annual percent of adult men who report being gay or bisexual. This serves as a proxy for MSM status. Up through 2013 BRFSS suggested 5.7% of adult males were MSM. Starting in 2014, we took the average of the prior 2 years and estimate that the proportion of adolescent and adult males who are MSM increased to 6.7% in 2018.

PWID: Defined as an individual who has used a syringe to inject drugs that were not prescribed to them, or drugs that were prescribed but are used in a different way than as prescribed (e.g., to get high). This is primarily based on current injection drug use (IDU) but can also be based on recent or lifetime IDU.

Sex: For purposes of this report, refers to sex assigned at birth.

Surveillance: The continuous collection, analysis, and distribution of data regarding a health-related event.

Transgender Man: Person who identifies as a man but was assigned female sex at birth.

Transgender Woman: Person who identifies as a woman but was assigned male sex at birth.

Executive Summary

Background

The HIV/AIDS Epidemiology Report & Community Profile is a longstanding joint effort between the Washington State Department of Health (WA DOH) and Public Health – Seattle & King County (PHSKC). Our goal each year is to provide a comprehensive summary and evaluation of efforts related to HIV/AIDS in our respective jurisdictions. The report includes HIV surveillance data, snapshots of key populations affected by HIV, and critical evaluations of each component of our program. We aim to answer these questions: What is the scope of the HIV epidemic in Washington State and King County? Who does the epidemic affect? and What are we doing to prevent HIV and ensure the successful treatment of people living with HIV?

In 2019, the U.S. Department of Health and Human Services released its Ending the HIV Epidemic (EHE) plan, which includes jurisdictions most impacted by HIV, including King County. The primary objective of EHE is to reduce the number of new HIV infections by 75% in 2025 and by 90% in 2030. This 2021 report – which includes data through the end of 2020 – focuses on each of the four pillars of EHE: 1) Diagnose, 2) Treat, 3) Prevent, and 4) Respond. Each pillar article includes data documenting progress toward meeting an EHE objective, including descriptions of ongoing local prevention activities. Our dashboard of key indicators reflects the goals and final assessment of the 2020 End AIDS Washington initiative, established in 2014.

Over the past decade, Washington State and King County have met numerous goals related to HIV prevention, treatment, and care. To our knowledge, King County was the first urban jurisdiction in the U.S. to meet the World Health Organization's 90-90-90 goals, including ensuring that 90% of all people living with HIV (PLWH) know of their infection, 90% of diagnosed people receive medical care, and that 90% of those in care are virally suppressed. Unfortunately, the past three years have presented significant challenges in maintaining this success. First, in 2018 there was a substantial increase in new HIV diagnoses among people who inject drugs (PWID), including a defined outbreak in north Seattle. Although that outbreak has been contained, the vulnerability that fostered the outbreak persists. Next, the COVID-19 pandemic that started in early 2020 has led to disruptions in HIV testing and access to care for some people living with HIV. We observed a slight worsening for many indicators this year, although the changes were not drastic. Because many of our core metrics (new diagnoses, linkage to care, retention in care, and viral suppression) are based on reported laboratory data, the 2020 numbers should be interpreted with caution. We are unable to determine if changes in indicators seen in 2020 were related to actual changes in transmission, ART

adherence, lack of access to testing or treatment, or changes in how treatment was provided (i.e., no labs).

EHE Pillar 1: Diagnose

In 2020, there were 359 new HIV diagnoses in Washington State, including 157 new HIV diagnoses in King County. These are the lowest numbers of diagnoses recorded since 1994, although it is not yet clear if this reflects a decline in the incidence of HIV transmission or a decline in HIV testing due to the COVID-19 pandemic. In both Washington State and King County, the majority of new HIV cases were among men who have sex men (MSM) including MSM who inject drugs (68% and 78%, respectively), while 3% and 2%, respectively, were among non-MSM PWID. New HIV diagnoses in both Washington State and King County were also disproportionately high among Black people (16% in Washington State and 17% in King County), given that only 7% and 4%, respectively, of residents are Black. At the state level, the proportion of new HIV diagnoses that were among Latinx people was disproportionately high (16% of cases vs. 10% of the population), although a similar pattern was not observed in King County (12% of cases vs. 13% of the population). Among both Black and Latinx populations, new HIV diagnoses disproportionately affect people born outside of the U.S.

In King County, we estimate that 94% of residents with HIV are aware of their status, which surpasses the national goal of 90% and approaches the local goal of 95%. The proportion of new HIV diagnoses that were identified "late" in 2019 – defined within one year of an AIDS diagnosis – was 22%, which is slightly higher than the PHSKC goal of <20%. PHSKC recommends annual HIV testing for sexually active MSM who are not in a long-term, mutually monogamous, HIV concordant relationship. Over 70% of MSM newly diagnosed with HIV reported testing in the prior two years, which reflects only a minor improvement over recent years. To continue to improve access to HIV testing for MSM and other populations at increased risk for HIV, PHSKC and WA DOH provide HIV testing at the PHSKC Sexual Health Clinic, community-based organizations, through syringe service outreach, and in King County jails.

EHE Pillar 2: Treat

People living with HIV on sustained antiretroviral therapy (ART) improve their own health outcomes and, if virally suppressed, cannot sexually transmit HIV to their partners. Both Washington State and King County have made tremendous progress toward meeting and exceeding ambitious goals related to HIV treatment and viral suppression. Likely due to the COVID-19 pandemic, there were some small declines among indicators related to HIV care and treatment in 2020 compared to 2019. At the state level, 85% of people diagnosed with HIV are in care and 79% are virally suppressed. These estimates are very close to meeting national goals (90% and 80%, respectively). In King County, 89% of people newly diagnosed with HIV were linked to care within one month (94% within 3 months), 88% of people diagnosed with HIV are in care, and 86% are estimated to be virally suppressed. (Note, due to COVID-19 related reductions in viral load testing in 2020, the 86% estimate of viral suppression includes people with no viral load reported in 2020 but had a suppressed viral load in both 2019 and the first half of 2021.) While King County continues to surpass the national one-month linkage to care and viral suppression goals, these indicators fell just below local goals for 2020. We continue to observe disparities in viral suppression with lower rates among people of color – particularly U.S.-born Black individuals – and PWID.

EHE Pillar 3: Prevent

The EHE initiative promotes two highly effective HIV prevention strategies: pre-exposure prophylaxis (PrEP) and syringe services programs (SSPs). King County's PrEP implementation guidelines recommend PrEP use among MSM and transgender people who have sex with men based on specific criteria that identify people at elevated risk for HIV acquisition. Approximately 44% of MSM at elevated risk for HIV are currently on PrEP. This estimate is shy of King County's goal of 50% and has stalled during the COVID-19 pandemic. PrEP use data for transgender populations at higher risk for HIV is limited, but we estimate that 20-50% of transgender people at elevated risk for HIV are currently on PrEP. PrEP use among PWID is very low (<1%). King County supports several ongoing efforts to promote PrEP use, including running a large PrEP program at the PHSKC Sexual Health Clinic, offering PrEP to people receiving sexually transmitted infections (STI) partner services, partnering with community-based PrEP programs, and providing online resources. SSPs provide PWID with sterile syringes to reduce the risk of infectious disease (HIV and hepatitis C) transmission, as well as overdose prevention services, wound care, and linkages to treatment for substance use disorder. The PHSKC SSP's sites distributed over 5 million syringes in 2020, which is higher than any previous year. Across all SSPs in King County, we estimate that over 8.8 million syringes were distributed, which equates to 333 syringes per PWID per year. This is higher than the current World

Health Organization goal of 200, but below King County's goal of 365. Finally, condoms are not included in the EHE Prevent pillar but remain an important component of the PHSKC HIV/STI prevention toolkit. In 2020, PHSKC continued several condom distribution efforts to increase condom use among the populations with the highest incidence of HIV and other STI, including MSM and sexually active youth.

EHE Pillar 4: Respond

Pillar 4 of EHE promotes a rapid response to HIV outbreaks to get prevention and treatment services to PLWH who are part of clusters of linked infections, as well as the sex and needle sharing partners of these people. King County response efforts blend traditional epidemiologic and partner services investigations with molecular cluster identification using viral genetic sequencing techniques. When clusters are identified, PHSKC can employ focused interventions to expand HIV testing, HIV prevention, and linkage to HIV care for people living with HIV. Cluster identification has been used by PHSKC for many years, including the identification of the 2018 HIV outbreak among PWID in north Seattle. As of July 2021, King County had seven clusters, each with three to eleven linked members diagnosed with HIV in the past year; most clusters are largely comprised of MSM. The EHE initiative will permit us to develop additional services to help meet the needs of underserved populations in both north Seattle and south King County.

End AIDS Washington Goals

The End AIDS Washington initiative was announced on World AIDS Day (December 1) in 2014 to complement the National HIV/AIDS Strategy. The primary two goals were to reduce the rate of new HIV diagnoses by 50% and reduce disparities in health outcomes among people living with HIV. To achieve these goals, End AIDS Washington identified 11 recommendations and action items to remove barriers to prevention and care, reduce stigma, and increase access to needed services. Starting with the 2016 version of this report (which reported on data through 2015), we have included a dashboard of key indicators and tracked progress at the state and county level toward meeting each goal. Washington State used the 2020 End AIDS Washington goals in its dashboard, while King County used a combination of national and (typically higher) local goals for its indicators. For each goal, we have provided an annual assessment of whether the goal had been met, was on pace to be met, or had not been met. Because this report uses data from 2020, this dashboard is the final dashboard that will use the 2020 goals established in 2014. Next year's dashboard will be updated to reflect new goals. Unfortunately, the COVID-19 pandemic which started in the United States in early 2020 also affected access and use of HIV prevention and care services, and many indicators were negatively impacted. The outcomes for some goals which had previously been met slipped backward.

Although not all End AIDS Washington goals were met, Washington State and King County made at least some progress with nearly every indicator, and overall, local indicators in Washington State and King County exceeded national estimates. From 2014 to 2020, there was a 13% decline in the rate of new HIV diagnoses in Washington State, which did not reach the End AIDS Washington goal of 50%. King County had a 36% reduction in the rate of new diagnoses, which exceeded its local goal of 25%. Both jurisdictions were close to the goal of having 90% of people living with HIV in care: 85% in Washington State and 88% in King County. The state and national goals of 80% viral suppression among people living with HIV was met by Washington State in 2019 but the estimate of suppression slipped to 79% in 2020. In King County we estimated 86% of PLWH were suppressed, which met the national goal but not the local goal of 90%. Neither jurisdiction met their goal related to reducing HIV/AIDS mortality (25% reduction for Washington State and 33% reduction for King County), with little change over time at the state level and a 17% reduction at the county level. Finally, both jurisdictions made progress toward reducing disparities in viral suppression among people living with HIV. In Washington State, the state achieved its goal of reducing differences across racial/ethnic groups, specifically non-Latinx Black and foreign-born Latinx people living with HIV. In King County, there were relatively high levels of viral suppression across many key subpopulations, including foreign-born Black and Latinx populations, with a notable increase in viral suppression between 2014 and 2020 among transgender people living with HIV (71% to 81%). PWID in King County continue to have lower levels of viral suppression with 73% virally suppressed in 2020 (and 78% in 2014), likely due, at least in part, to reduced health care access due to the COVID-19 pandemic. Finally, King County had two ambitious goals related to HIV prevention. We estimate that 44% of MSM at high-risk for HIV are on PrEP, which does not quite reach the 50% goal, but is still a marker of success. In addition, across King County, we estimate that local SSPs distribute approximately 333 syringes per

PWID per year, which exceeds the WHO's 2030 goal of 300.

Conclusion

This HIV Epidemiology Report and Community Profile reports data primarily collected during the COVID-19 pandemic. The myriad challenges and barriers posed by this pandemic have affected the populations we serve and the community partners we support, and some of the recent progress made with respect to HIV-related outcomes has diminished. However, there is still much to celebrate with respect to progress made toward eliminating the HIV epidemic in Washington State and King County. EHE funding is actively being used to support an array of expanded services to diagnose, treat, prevent, and respond to the HIV epidemic. We remain optimistic that the immense progress that our community has made toward reducing HIV incidence and improving the lives and well-being of PLWH will continue.

WA State and King County HIV Goals and Evaluation Metrics: 2021 Dashboard

Washington State	2020 End AIDS Washington Goals[1]	WA State Data, 2014-2020		Outcome (See Key Below)
		2014	2020	
DIAGNOSE				
New HIV diagnoses, rate	↓50%	5.4/100,000	4.7/100,000 (↓13%)	✗
TREAT				
In HIV care among PLWH[2,3]	≥90%	85%	85%	✗
Viral suppression among PLWH[2]	≥80%	72%	79%	↑
Disparities in viral suppression among PLWH[2]				
All PLWH	Reference group	72%	79%	—
Non-Latina/o/x and Hispanic Black PLWH	Difference ≤ 4.0%	68%	76%	✓
Foreign-born Latina/o/x and Hispanic PLWH	Difference ≤ 5.2%	69%	78%	✓
HIV/AIDS mortality[2,4]	↓25% (1.6/100,000)	2.3/100,000 1.4/100 PWDH	2.3/100,000 1.2/100 PWDH	✗

King County	2020 Goals[1]		King County Data, 2014-2020		Outcome (See Key Below)
	National	King County	2014[5]	2020	
DIAGNOSE					
New HIV diagnoses, rate	↓25%	↓25%[6]	11.0/100,000	7.0/100,000 (↓36%)	✓
Know HIV status[6]	90%	≥95%	92%	94%	✗ ★
Late HIV diagnosis[7]	--	≤20%	24%	22%	✗
Recent HIV testing[8], MSM	--	≥75%	72%	72%	✗
TREAT					
Linked to care in 1 month[9]	85%	≥90%	88%	89%	↑ ★
Linked to care in 3 months[9]	--	95%[10]	92%	94%	↑
In HIV care among PLWH[2,3]	90%	95%	89%	88%	✗
Viral suppression among PLWH[2,11]	80%	90%	79%	86%	✗ ★
Viral suppression in 4 months[9, 12]	--	75%	51%	65%	✗

Abbreviations: PrEP, pre-exposure prophylaxis for HIV; PLWH, people living with diagnosed HIV; MSM, men who have sex with men.
Technical notes on following page.

Key:

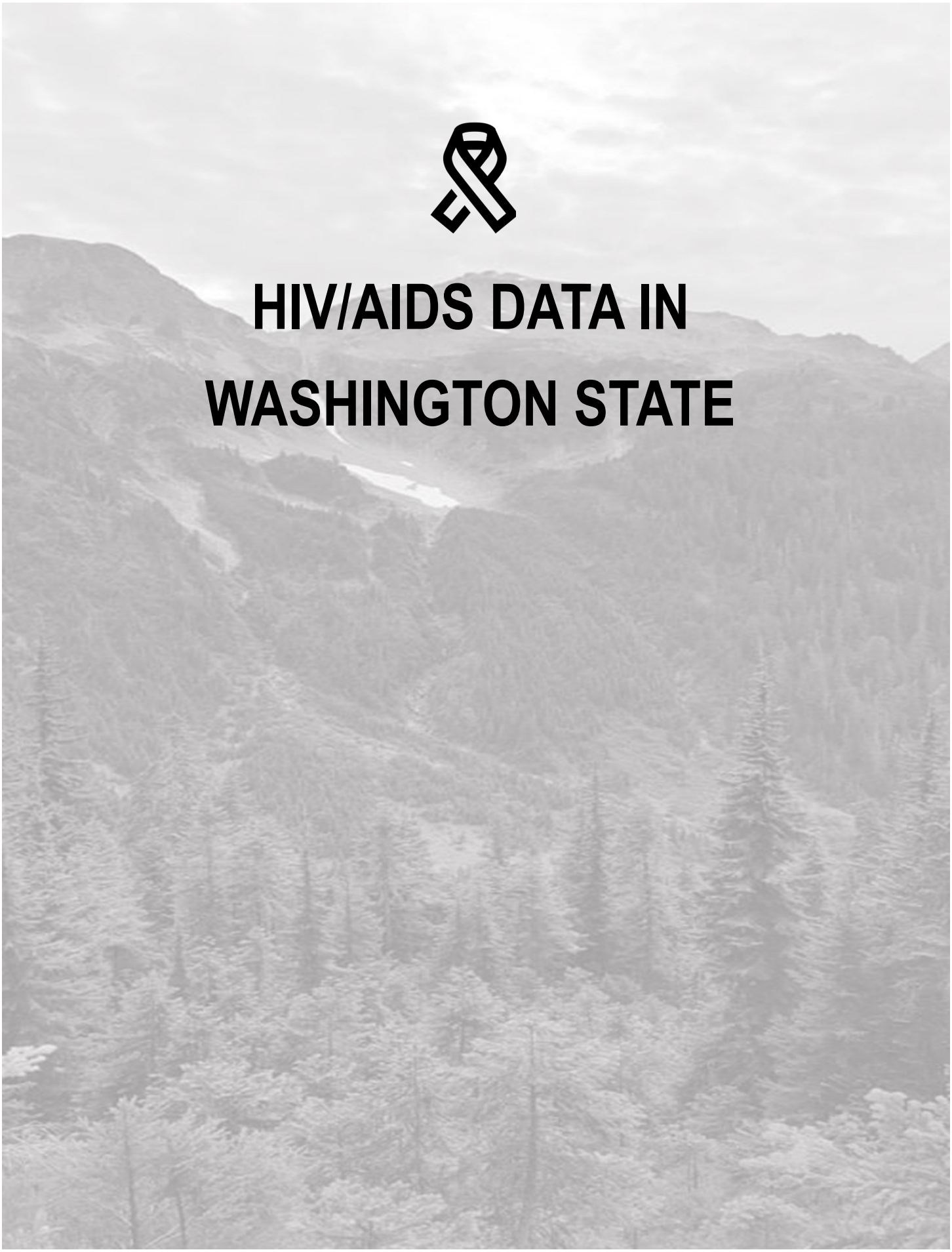
✓ Goal met ↑ Goal currently not met, was met prior to the pandemic ✗ Goal not met ★ National goal was met, but the local goal has not been met

King County (continued)	2020 Goals[1]		King County Data, 2014-2020		Outcome (Key on prior page)
	National	King County	2014[5]	2020	
HIV/AIDS mortality[2,13,14]	↓33%	↓33% (0.8/100)	1.2/100 PWDH	1.0/100 PWDH	✗
Homelessness among PLWH[2,15]	<5%	<5%	12%	12%	✗
Disparities in viral suppression among PLWH					
Non-Latinx White	--	No difference between groups	81%	88%	✗
Non-Latinx Black, foreign-born			84%	86%	
Non-Latinx Black, U.S.-born			77%	79%	
Latinx, foreign-born			85%	88%	
Latinx, U.S.-born			81%	85%	
Transgender			71%	81%	
People who inject drugs			78%	73%	
PREVENT					
PrEP use, high-risk MSM[16]	--	≥ 50%	9%	44%	✗
Syringe coverage[17]	200/PWID	365/PWID	258/PWID[18]	333/PWID	✗ ★

Abbreviations: PrEP, pre-exposure prophylaxis for HIV; PLWH, people living with diagnosed HIV; MSM, men who have sex with men; PWID, people who inject drugs

Technical Notes to Dashboard

[1] All 2020 goals use 2014 as the baseline. Some of the goals are different between Washington State and King County due to King County establishing its goals prior to the release of the End AIDS Washington goals.
[2] Among people who have been diagnosed with HIV
[3] Defined as 1+ reported laboratory results (CD4, viral load, genotype) in a calendar year (see Treat article).
[4] Mortality data from 2019; WA mortality goal is based on HIV/AIDS mortality rate per 100,000 population; PHSKC mortality goal is based on HIV/AIDS mortality rate per 100 people living with HIV; for comparability between WA and PHSKC, both measures are provided for WA.
[5] Some 2014 estimates differ from previously published estimates due to enhanced methods and data cleaning efforts.
[6] Based partly on an estimation method developed by the University of Washington (see Treat article).
[7] AIDS within 1 year of HIV diagnosis, among people diagnosed in 2019.
[8] Among MSM with new HIV diagnoses in 2020 and a known testing history, last HIV test within prior 2 years (see Diagnose article).
[9] Among people with a new HIV diagnosis (see Treat article).
[10] The original King County goal of 85% was increased to 95% due to early achievement of this objective.
[11] Due to less viral load testing in 2020 due to the COVID-19 pandemic, viral suppression in 2020 was monitored over a longer time period (January 2019 through June 2021) if there was no viral load test reported in 2020.
[12] Goal established in 2017.
[13] Age-and lag-adjusted mortality rates per 100 people living with HIV/AIDS (see Treat article).
[14] 2019 mortality data are used as 2020 data are incomplete; it generally takes 21 months for 95% of deaths to be reported.
[15] Data on homelessness among people living with HIV come from three sources: (1) addresses reported with laboratory results in HIV surveillance data; (2) self-reported housing information from partner services interviews; and (3) data on housing status from Ryan White clients. Data on homelessness for people newly diagnosed with HIV comes from medical records and partner services interviews.
[16] In King County, "MSM at high risk for HIV" are defined as HIV-negative MSM with any: methamphetamine/popper use, 10+ sex partners, non-concordant condomless anal sex, bacterial STI diagnosis in the past year. The 2020 estimate of PrEP use among high-risk MSM is an average across multiple contemporaneous surveys (see Prevention article).
[17] Defined as the number of syringes provided by SSPs per PWID per year. There is no national goal, but the WHO has a benchmark of 200 syringes per PWID per year by 2020.
[18] This goal was first established in 2019.



HIV/AIDS DATA IN WASHINGTON STATE

TABLE 1-1. NEW HIV AND AIDS CASES, LATE HIV DIAGNOSES, AND LINKAGE TO CARE, BY DEMOGRAPHIC AND RISK CHARACTERISTICS, WA STATE, 2020

	New AIDS Cases Column			New HIV Cases Column			Late HIV Diagnoses[A]		Initial Linkage to HIV Care[B]	
	No.	%	Rate	No.	%	Rate	No.	Row %	No.	Row %
Total	154	100%	2.0	359	100%	4.7	85	24%	290	81%
Gender										
Cisgender women[C]	35	23%	0.9	48	13%	1.3	21	44%	39	81%
Cisgender men	115	75%	3.0	306	85%	8.0	63	21%	249	81%
Transgender women	3	2%	n/a	5	1%	n/a	1	20%	2	40%
Transgender men	1	1%	n/a	0	0%	n/a	0	0%	0	0%
Age at HIV diagnosis										
< 13	0	0%	0.0	0	0%	0.0	0	0%	0	0%
13-24	5	3%	0.4	15%	4.7	4	4	7%	43	80%
25-34	34	22%	3.2	127	35%	11.8	18	14%	104	82%
35-44	46	30%	4.6	84	23%	8.3	25	30%	64	76%
45-54	36	23%	3.9	46	13%	4.9	17	37%	39	85%
55-64	21	14%	2.2	37	10%	3.8	13	35%	29	78%
65+	12	8%	0.9	11	3%	0.9	8	73%	11	100%
Race/Ethnicity										
American Indian / Alaska Native	1	0%	1.1	6	2%	6.3	0	0%	3	1%
Asian	14	4%	1.9	30	8%	4.2	13	43%	25	83%
Black	32	28%	10.6	58	16%	19.2	17	29%	47	81%
Foreign-born[D,E]	23	16%	29.7	21	6%	27.2	13	62%	18	86%
U.S.-born[D,E]	6	12%	2.6	26	7%	11.2	3	12%	22	85%
Latina/o/x and Hispanic	25	18%	2.4	56	16%	5.5	12	21%	46	82%
Foreign-born[D,E]	10	10%	3.2	19	5%	6.1	4	21%	16	84%
U.S.-born[D,E]	9	4%	1.3	18	5%	2.6	2	11%	16	89%
Native Hawaiian / Pacific Islander	1	2%	1.8	4	1%	7.2	1	25%	3	75%
White	75	42%	1.5	190	53%	3.7	42	22%	154	81%
Multiple	6	6%	1.8	15	4%	4.4	0	0%	12	80%
Mode of Exposure										
Male / Male Sex (MSM)	66	43%	n/a	223	62%	n/a	39	17%	184	83%
People Who Inject Drugs (PWID)	12	8%	n/a	11	3%	n/a	3	27%	10	91%
MSM and PWID	15	10%	n/a	21	6%	n/a	2	10%	13	62%
Heterosexual Contact	20	13%	n/a	27	8%	n/a	11	41%	23	85%
Transfusion / Hemophiliac /Pediatric	2	1%	n/a	0	0%	n/a	0	0%	0	0%
No Identified Risk	39	25%	n/a	77	21%	n/a	30	39%	60	78%

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2021; **n/a** = Rate cannot be calculated due to no available population estimate. Population estimate for 2020 was extrapolated using previous estimates from years 2010-2019.

[A] Late HIV diagnoses = AIDS diagnoses within 12 months of HIV diagnoses.

[B] Initial linkage to care = at least one CD4 or viral load result within 30 days of HIV diagnoses.

[C] Cisgender is presumed for those not known to be transgender.

[D] All race categories exclude Latino/a/x/Hispanic individuals. AI/AN = American Indian or Alaska Native, NHOPI = Native Hawaiian or Other Pacific Islander.

[E] Country of origin data are missing for approximately 19% and 34% of newly diagnosed cases among Black and Hispanics, respectively.

TABLE 1-2. NEW HIV CASES, INCLUDING LATE HIV DIAGNOSES AND LINKAGE TO CARE, BY COUNTY AND HEALTH DISTRICT (HD) OF RESIDENCE AT HIV DIAGNOSIS, WA STATE, 2020

County or Health District or Residence	New HIV Cases			Late HIV Diagnoses [A]		Initial Linkage to HIV Care [B]	
	No.	Col %	Rate	No.	Row %	No.	Row %
Adams Co.	2	1%	9.8	1	50%	2	100%
Asotin Co.	0	0%	0.0	0	0%	0	0%
Benton Co.	7	2%	3.4	1	14%	5	71%
Benton-Franklin HD	11	3%	3.6	1	9%	7	64%
Chelan Co.	1	0%	1.3	0	0%	0	0%
Chelan-Douglas HD	3	1%	2.4	0	0%	1	33%
Clallam Co.	1	0%	1.3	1	100%	1	100%
Clark Co.	23	6%	4.6	8	35%	21	91%
Columbia Co.	0	0%	0.0	0	0%	0	0%
Cowlitz Co.	1	0%	0.9	0	0%	0	0%
Douglas Co.	2	1%	4.6	0	0%	1	50%
Ferry Co.	0	0%	0.0	0	0%	0	0%
Franklin Co.	4	1%	4.1	0	0%	2	50%
Garfield Co.	0	0%	0.0	0	0%	0	0%
Grant Co.	2	1%	2.0	1	50%	2	100%
Grays Harbor Co.	1	0%	1.3	0	0%	0	0%
Island Co.	3	1%	3.5	0	0%	2	67%
Jefferson Co.	0	0%	0.0	0	0%	0	0%
King Co.	169[D]	47%	7.5	43	25%	141	83%
Kitsap Co.	4	1%	1.5	1	25%	2	50%
Kittitas Co.	1	0%	2.1	0	0%	0	0%
Klickitat Co.	1	0%	4.4	0	0%	1	100%
Lewis Co.	1	0%	1.2	0	0%	1	100%
Lincoln Co.	0	0%	0.0	0	0%	0	0%
Mason Co.	4	1%	6.1	0	0%	4	100%
Ne Tri-County HD	2	1%	3.0	0	0%	1	50%
Okanogan Co.	0	0%	0.0	0	0%	0	0%
Pacific Co.	0	0%	0.0	0	0%	0	0%
Pend Oreille Co.	1	0%	7.2	0	0%	1	100%
Pierce Co.	51	14%	5.7	11	22%	39	76%
San Juan Co.	2	1%	11.5	1	50%	2	100%
Skagit Co.	3	1%	2.3	1	33%	2	67%
Skamania Co.	0	0%	0.0	0	0%	0	0%
Snohomish Co.	23	6%	2.8	7	30%	17	74%
Spokane Co.	33	9%	6.3	3	9%	26	79%
Stevens Co.	1	0%	2.2	0	0%	0	0%
Thurston Co.	8	2%	2.7	1	13%	8	100%
Wahkiakum Co.	0	0%	0.0	0	0%	0	0%
Walla Walla Co.	1	0%	1.6	1	100%	1	100%
Whatcom Co.	3	1%	1.3	1	33%	3	100%
Whitman Co.	1	0%	2.0	1	100%	1	100%
Yakima Co.	5	1%	1.9	0	0%	5	100%
Total [C]	359	100%	4.7	85	24%	290	81%

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2021.

[A] Late HIV diagnoses = AIDS diagnoses within 12 months of HIV diagnoses.

[B] Initial linkage to care = at least one CD4 or viral load result within 30 days of HIV diagnosis.

[C] Two cases did not have a reported county of diagnosis.

[D] Washington State and King County numbers may differ slightly due to differences in data cleaning, record access, or date of analysis.

TABLE 1-3. NEW HIV CASE COUNTS OVER TIME, BY DEMOGRAPHIC AND RISK CHARACTERISTICS, WA STATE, 2016-2020

	2016	2017	2018	2019	2020	2016-2020			
	No.	No.	No.	No.	No.	Total No.	Avg. No.	%	Rate
Total	370	375	401	408	359	1,913	383	100%	5.2
Gender									
Cisgender women	75	66	88	64	48	341	68	18%	1.8
Cisgender men	290	303	310	336	306	1545	309	81%	8.3
Transgender women	5	5	3	7	5	25	5	1%	n/a
Transgender men	0	1	0	1	0	2	0	0%	n/a
Age at HIV Diagnosis									
< 13	2	3	0	0	0	5	1	0%	0.1
13-24	63	59	54	61	54	291	58	15%	5.1
25-34	116	144	140	164	127	691	138	36%	13.3
35-44	78	62	92	77	84	393	79	21%	8.2
45-54	63	63	66	64	46	302	60	16%	6.4
55-64	36	35	41	31	37	180	36	9%	3.7
65+	12	9	8	11	11	51	10	3%	0.9
Race/Ethnicity									
American Indian / Alaska Native	9	5	3	3	6	26	5	1%	5.6
Asian	27	24	16	19	30	116	23	6%	3.6
Black	64	72	83	68	58	345	69	18%	24.6
Foreign-born[A,B]	27	37	43	29	21	157	31	8%	44.0
U.S.-born[A,B]	32	31	33	33	26	155	31	8%	14.8
Latina/o/x and Hispanic	63	80	71	96	56	366	73	19%	7.6
Foreign-born[A,B]	31	39	29	50	19	168	34	9%	11.0
U.S.-born[A,B]	27	34	30	28	18	137	27	7%	4.2
Native Hawaiian / Pacific Islander	4	3	5	3	4	19	4	1%	7.3
White	184	178	201	202	190	955	191	50%	3.8
Multiple	19	13	22	17	15	86	17	4%	5.4
Mode of Exposure									
Male / Male Sex (MSM)	193	211	199	240	223	1066	213	56%	n/a
People Who Inject Drugs (PWID)	28	19	43	41	11	142	28	7%	n/a
MSM and PWID	27	27	40	24	21	139	28	7%	n/a
Heterosexual Contact	53	38	52	38	27	208	42	11%	n/a
Transfusion / Hemophiliac /Pediatric	1	5	0	2	0	8	2	0%	n/a
No identified risk	68	75	67	63	77	350	70	18%	n/a

Table based on HIV surveillance data reported to the WA State Department of Health as of June, 30 2021.

n/a Rate cannot be calculated due to no available population estimate.

[A] Country of origin data are missing for approximately 19% and 34% of newly diagnosed cases among Black and Hispanics, respectively.

[B] Population estimate for 2020 was extrapolated using previous estimates from years 2010-2019.

TABLE 1-4. NEW HIV CASE COUNTS OVER TIME, BY COUNTY AND HEALTH DISTRICT (HD) OF RESIDENCE AT HIV DIAGNOSIS, WA STATE, 2016-2020

County and Health District of Residence	2016	2017	2018	2019	2020	2016-2020			
	No.	No.	No.	No.	No.	Total No.	Avg. No.	%	Rate
Adams Co.	0	0	0	1	2	3	1	0%	3.0
Asotin Co.	0	0	0	0	0	0	0	0%	0.0
Benton Co.	7	2	0	13	7	29	6	2%	2.9
Benton-Franklin HD	10	3	5	19	11	48	10	3%	3.3
Chelan Co.	6	1	3	2	1	13	3	1%	3.3
Chelan-Douglas HD	6	2	4	4	3	19	4	1%	3.2
Clallam Co.	2	2	5	2	1	12	2	1%	3.2
Clark Co.	18	24	21	28	23	114	23	6%	4.8
Columbia Co.	0	1	0	0	0	1	0	0%	4.8
Cowlitz Co.	2	4	1	3	1	11	2	1%	2.0
Douglas Co.	0	1	1	2	2	6	1	0%	2.8
Ferry Co.	0	0	0	0	0	0	0	0%	0.0
Franklin Co.	3	1	5	6	4	19	4	1%	4.1
Garfield Co.	0	0	0	0	0	0	0	0%	0.0
Grant Co.	0	0	4	2	2	8	2	0%	1.6
Grays Harbor Co.	1	4	0	2	1	8	2	0%	2.2
Island Co.	2	3	2	5	3	15	3	1%	3.6
Jefferson Co.	2	0	1	0	0	3	1	0%	1.9
King Co.	181	177	227	191	169[A]	945	189	49%	8.6
Kitsap Co.	7	9	9	9	4	38	8	2%	2.8
Kittitas Co.	1	0	1	2	1	5	1	0%	2.2
Klickitat Co.	0	1	0	0	1	2	0	0%	1.8
Lewis Co.	0	0	1	2	1	4	1	0%	1.0
Lincoln Co.	1	1	0	0	0	2	0	0%	3.7
Mason Co.	3	4	5	5	4	21	4	1%	6.6
NE Tri-County HD	1	0	0	1	2	3	1	0%	0.9
Okanogan Co.	1	0	0	1	0	2	0	0%	0.9
Pacific Co.	0	0	1	0	0	1	0	0%	0.9
Pend Oreille Co.	0	0	0	1	1	2	0	0%	3.0
Pierce Co.	42	41	49	53	51	236	47	12%	5.4
San Juan Co.	0	0	0	0	2	2	0	0%	2.4
Skagit Co.	7	4	3	3	3	20	4	1%	3.2
Skamania Co.	0	0	0	0	0	0	0	0%	0.0
Snohomish Co.	36	27	20	29	23	135	27	7%	3.4
Spokane Co.	26	22	17	26	33	124	25	6%	4.9
Stevens Co.	1	0	0	0	1	2	0	0%	0.9
Thurston Co.	8	10	8	6	8	40	8	2%	2.8
Wahkiakum Co.	0	0	0	0	0	0	0	0%	0.0
Walla Walla Co.	1	2	1	0	1	5	1	0%	1.6
Whatcom Co.	2	8	3	5	3	21	4	1%	1.9
Whitman Co.	0	0	3	0	1	4	1	0%	1.6
Yakima Co.	10	26	10	9	5	60	12	3%	4.7
Total	370	375	401	408	359	1913	383	100%	5.2

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2021.

[A] Washington State and King County numbers may differ slightly due to differences in data cleaning, record access, or date of analysis.

TABLE 1-5. NEW CASES OF HIV INFECTION, BY CURRENT GENDER[A], RACE/ETHNICITY, AND HIV EXPOSURE CATEGORY, WA STATE, 2016-2020

Gender	Exposure Category	Asian		Black		Latina/o/x and Hispanic		Other		White	
		No.	%	No.	%	No.	%	No.	%	No.	%
Cisgender Women	People Who Inject Drugs (PWID)	1	5%	3	2%	5	13%	6	25%	47	38%
	Heterosexual Contact	12	55%	72	55%	27	69%	11	46%	46	37%
	Transfusion / Hemophiliac /Pediatric	0	0%	4	3%	0	0%	0	0%	0	0%
	No Identified Risk	9	41%	52	40%	7	18%	7	29%	32	26%
	Total Women	22	100%	131	100%	39	100%	24	100%	125	100%
Cisgender Men	Male / Male Sex (MSM)	67	74%	122	58%	254	79%	70	69%	534	65%
	Injecting Drug Use (IDU)	2	2%	6	3%	5	2%	4	4%	63	8%
	MSM and IDU	0	0%	9	4%	12	4%	12	12%	101	12%
	Heterosexual Contact	0	0%	11	5%	12	4%	1	1%	16	2%
	Transfusion / Hemophiliac /Pediatric	0	0%	3	1%	0	0%	0	0%	1	0%
	No Identified Risk	21	23%	59	28%	38	12%	15	15%	107	13%
	Total Men	90	100%	210	100%	321	100%	102	100%	822	100%
Transgender Women	Male / Male Sex (MSM)	19	76%	-	-	-	-	-	-	-	-
	MSM and PWID	5	20%	-	-	-	-	-	-	-	-
	No Identified Risk	1	4%	-	-	-	-	-	-	-	-
	Total Transgender Women	25	100%	-	-	-	-	-	-	-	-

		Total	
		No.	%

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2020.

[A] Due to the small number of HIV cases reported among transgender men, further stratification is not possible.

TABLE 1-6. PREVALENT CASES OF HIV, INCLUDING ENGAGEMENT IN CARE AND VIRAL LOAD SUPPRESSION, BY DEMOGRAPHIC AND RISK CHARACTERISTICS, WA STATE, 2020

	Prevalent Cases of HIV			Engaged in Care [A]		Suppressed Viral Load [B]	
	No.	Column %	Prevalence per 100,000	No.	Row %	No.	Row %
Total	14,061	100%	183.7	12,004	85%	11,064	79%
Gender							
Cisgender women	2,176	15%	56.9	1,846	85%	1,678	77%
Cisgender men	11,744	84%	306.2	10,032	85%	9,278	79%
Transgender women	125	1%	n/a	112	90%	98	78%
Transgender men	16	0%	n/a	14	88%	10	63%
Current Age							
< 13	27	0%	2.2	23	85%	22	81%
13-24	288	2%	24.9	243	84%	201	70%
25-34	1,891	13%	175.4	1,524	81%	1,338	71%
35-44	2,796	20%	277.4	2,303	82%	2,067	74%
45-54	3,701	26%	398.0	3,154	85%	2,908	79%
55-64	3,837	27%	393.3	3,399	89%	3,215	84%
65+	1,521	11%	118.7	1,358	89%	1,313	86%
Race/Ethnicity							
American Indian / Alaska Native	130	1%	136.8	106	82%	89	68%
Asian	525	4%	73.0	452	86%	423	81%
Black	2,439	17%	807.0	2,047	84%	1,862	76%
Foreign-born [C,D]	1,048	7%	1,355.5	898	86%	842	80%
U.S.-born [C,D]	1,279	9%	552.8	1,060	83%	940	73%
Hispanic	2,154	15%	210.6	1,808	84%	1,660	77%
Foreign-born [C,D]	1,074	8%	342.3	891	83%	843	78%
U.S.-born [C,D]	894	6%	127.3	765	86%	688	77%
Native Hawaiian / Pacific Islander	64	0%	114.8	49	77%	44	69%
White	7,866	56%	153.5	6,795	86%	6,311	80%
Multiple	877	6%	260.2	741	84%	669	76%
Mode of Exposure							
Male / Male Sex (MSM)	8,633	61%	n/a	7,469	87%	6,997	81%
People Who Inject Drugs (PWID)	797	6%	n/a	646	81%	545	68%
MSM and PWID	1,256	9%	n/a	1,072	85%	938	75%
Heterosexual Contact	1,753	12%	n/a	1,493	85%	1,379	79%
Transfusion / Hemophiliac /Pediatric	186	1%	n/a	155	83%	137	74%
No identified risk	1,436	10%	n/a	1,169	81%	1,068	74%

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2021.
n/a Prevalence per 100,000 cannot be calculated due to no available population estimate.
[A] Engaged in care = at least one reported CD4 or VL result within calendar year.
[B] Suppressed viral load = last reported viral load result in calendar year was < 200 copies/mL.
[C] Country of origin data are missing for approximately 6% and 9% of newly living cases among Black and Hispanic people, respectively.
[D] Population estimate for 2020 was extrapolated using previous estimates from years 2010-2019.

TABLE 1-7. PREVALENT CASES OF HIV, INCLUDING ENGAGEMENT IN CARE AND VIRAL LOAD SUPPRESSION, BY COUNTY AND HEALTH DISTRICT (HD) OF CURRENT RESIDENCE, WA STATE, 2020

County or Health District of Residence	Prevalent Cases of HIV			Engaged in Care [A]		Suppressed Viral Load [B]	
	No.	Column %	Rate	No.	Row %	No.	Row %
Adams Co.	13	0%	63.6	10	77%	9	69%
Asotin Co.	18	0%	79.5	13	72%	12	67%
Benton Co.	191	1%	92.9	169	88%	112	59%
Benton-Franklin HD	277	2%	91.6	193	70%	132	48%
Chelan Co.	61	0%	76.6	51	84%	48	79%
Chelan-Douglas HD	90	1%	72.9	75	83%	68	76%
Clallam Co.	80	1%	104.2	68	85%	63	79%
Clark Co.	832	6%	166.7	676	81%	626	75%
Columbia Co.	3	0%	71.7	3	100%	3	100%
Cowlitz Co.	152	1%	137.6	125	82%	118	78%
Douglas Co.	29	0%	66.3	24	83%	20	69%
Ferry Co.	4	0%	50.6	2	50%	2	50%
Franklin Co.	86	1%	88.9	70	81%	55	64%
Garfield Co.	2	0%	89.9	2	100%	2	100%
Grant Co.	58	0%	57.9	51	88%	48	83%
Grays Harbor Co.	99	1%	132.5	81	82%	71	72%
Island Co.	106	1%	123.9	80	75%	74	70%
Jefferson Co.	46	0%	142.9	39	85%	38	83%
King Co.	7,074[C]	50%	312.9	6,166	87%	5,727	81%
Kitsap Co.	351	2%	128.9	300	85%	285	81%
Kittitas Co.	32	0%	66.5	26	81%	25	78%
Klickitat Co.	20	0%	87.8	17	85%	14	70%
Lewis Co.	64	0%	79.8	49	77%	44	69%
Lincoln Co.	6	0%	54.3	5	83%	5	83%
Mason Co.	74	1%	112.7	56	76%	53	72%
NE Tri-County HD	38	0%	56.1	29	76%	27	71%
Okanogan Co.	27	0%	62.6	18	67%	16	59%
Pacific Co.	35	0%	160.3	25	71%	24	69%
Pend Oreille Co.	11	0%	79.4	7	64%	7	64%
Pierce Co.	1,581	11%	175.5	1,268	80%	1,140	72%
San Juan Co.	22	0%	126.9	18	82%	17	77%
Skagit Co.	98	1%	75.1	85	87%	77	79%
Skamania Co.	5	0%	40.9	4	80%	4	80%
Snohomish Co.	1,229	9%	148.0	1,069	87%	1,015	83%
Spokane Co.	727	5%	139.1	631	87%	573	79%
Stevens Co.	23	0%	50.1	18	78%	16	70%
Thurston Co.	327	2%	112.4	278	85%	255	78%
Wahkiakum Co.	4	0%	95.0	3	75%	3	75%
Walla Walla Co.	53	0%	84.7	43	81%	41	77%
Whatcom Co.	250	2%	109.6	216	86%	202	81%
Whitman Co.	25	0%	49.5	22	88%	21	84%
Yakima Co.	243	2%	94.1	216	89%	199	82%
Total	14,061	100%	183.7	12,004	85%	11,064	79%

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2021.

[A] Engaged in care = at least one reported CD4 or VL result within calendar year.

[B] Suppressed viral load = last reported viral load result in calendar year was < 200 copies/mL.

[C] Washington State and King County numbers may differ slightly due to differences in data cleaning, record access, or date of analysis.

TABLE 1-8. PREVALENT CASES OF HIV, BY CURRENT GENDER[A], RACE/ETHNICITY, AND HIV EXPOSURE CATEGORY, WA STATE, 2020

		Asian		Black		Latina/o/x/and Hispanic		Other		White	
Gender	Exposure Category	No.	%	No.	%	No.	%	No.	%	No.	%
Cisgender Women	People Who Inject Drugs (PWID)	2	2%	38	4%	30	12%	41	26%	207	27%
	Heterosexual Contact	65	69%	551	60%	182	71%	95	59%	439	58%
	Transfusion / Hemophiliac / Pediatric	3	3%	53	6%	7	3%	4	3%	22	3%
	No Identified Risk	24	26%	269	30%	38	15%	20	13%	85	11%
	Total Women	94	100%	911	100%	257	100%	160	100%	753	100%
Cisgender Men	Male / Male Sex (MSM)	307	73%	813	54%	1,414	76%	607	68%	5,395	76%
	People Who Inject Drugs (PWID)	7	2%	77	5%	44	2%	43	5%	304	4%
	MSM and PWID	10	2%	91	6%	146	8%	135	15%	845	12%
	Heterosexual Contact	13	3%	173	11%	77	4%	36	4%	118	2%
	Transfusion / Hemophiliac / Pediatric	3	1%	39	3%	9	0%	6	1%	38	1%
	No Identified Risk	83	20%	314	21%	170	9%	62	7%	360	5%
	Total Men	423	100%	1,507	100%	1,860	100%	889	100%	7,060	100%
Transgender Women	Male / Male Sex (MSM)	7	88%	18	100%	26	70%	14	74%	26	60%
	People Who Inject Drugs (PWID)	0	0%	0	0%	1	3%	0	0%	0	0%
	MSM and PWID	0	0%	0	0%	9	24%	5	26%	15	35%
	No Identified Risk	1	13%	0	0%	1	3%	0	0%	2	5%
	Total Transgender Women	8	100%	18	100%	37	100%	19	100%	43	100%

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2021.

[A] Due to the small number of HIV cases reported as transgender men, further stratification is not possible.

TABLE 1-9. CHARACTERISTICS AND CARE OUTCOMES OF PEOPLE LIVING WITH HIV REPORTING ANY AMERICAN INDIAN OR ALASKA NATIVE RACE , 2016-2020

	New HIV Cases		Prevalent HIV Cases	
	No.	Column %	No.	Column %
Total	67	2%[A]	554	4%[A]
Gender				
Cisgender women	18	27%	101	18%
Cisgender men	48	72%	442	80%
Transgender women	0	0%	2	0%
Transgender men	1	1%	9	2%
Mode of Exposure				
Male / Male Sex (MSM)	29	43%	296	53%
People Who Inject Drugs (PWID)	10	15%	64	12%
MSM and PWID	10	15%	83	15%
Heterosexual Contact	8	12%	73	13%
No Identified Risk / Other	10	15%	38	7%
Geography				
King County	32	48%	265	48%
Other Western Washington	19	28%	218	39%
Eastern Washington	16	24%	71	13%
Care Metrics				
Initial Linkage to HIV Care [B]	51	76%	n/a	n/a
Engaged in Care [C]	n/a	n/a	460	83%
Viral Suppression [D]	n/a	n/a	407	73%

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2021.
N/A Rate cannot be calculated due to no available population estimate.
[A] Percentage of total Washington Cases.
[B] Initial linkage to care = at least one CD4 or viral load result within 30 days of HIV diagnoses.
[C] Engaged in care = at least one reported CD4 or VL result within calendar year.
[D] Suppressed viral load = last reported viral load result in calendar year was < 200 copies/mL.

TABLE 1-10. DEATHS AMONG CASES OF HIV INFECTION, BY DEMOGRAPHIC AND RISK CHARACTERISTICS, WA STATE, 1982-2019

	Deaths among Cases of HIV Infection 2019					1983-2018	
	No.	Column %	Mortality rate (per 100,000)	Case Fatality Rate (per 1,000)	Standard Mortality Ratio	No.	Column %
Total	172	100%	2.3	12.4	1.6	8,585	100%
Gender							
Cisgender women	26	15%	0.7	12.1	2.4	763	9%
Cisgender men	144	84%	3.8	12.4	1.5	7,800	91%
Transgender women	2	1%	n/a	16.7	0.0	22	0%
Transgender men	0	0%	n/a	0.0	0.0	0	0%
Current Age							
< 13	0	0%	0.0	0.0	0.0	19	0%
13-24	1	1%	0.1	3.3	5.2	101	1%
25-34	9	5%	0.8	4.9	4.1	1,750	20%
35-44	17	10%	1.7	6.2	3.2	3,056	36%
45-54	38	22%	4.1	9.7	2.5	2,075	24%
55-64	61	35%	6.3	16.6	1.9	1,079	13%
65+	46	27%	3.8	33.7	0.9	505	6%
Race/Ethnicity							
American Indian / Alaska Native	2	1%	2.1	14.7	n/a	135	2%
Asian	1	1%	0.1	2.1	n/a	97	1%
Black	22	13%	7.6	9.3	n/a	830	10%
Foreign-born [A]	5	3%	6.2	4.9	n/a	82	1%
U.S.-born [A]	17	10%	7.8	13.5	n/a	734	9%
Hispanic	21	12%	2.1	10.0	n/a	574	7%
Foreign-born [A]	6	3%	1.9	5.7	n/a	199	2%
U.S.-born [A]	14	8%	2.0	15.9	n/a	344	4%
Native Hawaiian / Pacific Islander	2	1%	3.7	32.3	n/a	20	0%
White	110	64%	2.2	14.1	n/a	6,618	77%
Multiple	14	8%	4.3	15.7	n/a	310	4%
Mode of Exposure							
Male / Male Sex (MSM)	76	44%	n/a	8.9	n/a	5,454	64%
People Who Inject Drugs (PWID)	29	17%	n/a	35.7	n/a	972	11%
MSM and PWID	27	16%	n/a	21.5	n/a	953	11%
Heterosexual Contact	17	10%	n/a	9.8	n/a	186	2%
Transfusion / Hemophiliac /Pediatric	1	1%	n/a	5.3	n/a	513	6%
No Identified Risk	22	13%	n/a	16.1	n/a	507	6%

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2021.

n/a Rate cannot be calculated due to no available population estimate.

[A] Country of origin data are missing for approximately 6% and 9% of living cases among Black and Hispanic people, respectively.

TABLE 1-11. PREVALENT CASES OF HIV, BY DEMOGRAPHIC AND RISK CHARACTERISTICS, WA STATE, 2016-2020

	2016		2017		2018		2019		2020	
	No.	Column %	No.	Column %	No.	Column %	No.	Column %	No.	Column %
Total	12,767	100%	13,267	100%	13,652	100%	13,862	100%	14,061	100%
Gender										
Cisgender women	1,856	15%	1,964	15%	2,078	15%	2,147	15%	2,176	15%
Cisgender men	10,792	85%	11,172	84%	11,439	84%	11,582	84%	11,744	84%
Transgender women	109	1%	120	1%	122	1%	120	1%	125	1%
Transgender men	10	0%	11	0%	13	0%	13	0%	16	0%
Current Age										
< 13	43	0%	43	0%	37	0%	30	0%	27	0%
13-24	307	2%	302	2%	297	2%	306	2%	288	2%
25-34	1,700	13%	1,783	13%	1,813	13%	1,832	13%	1,891	13%
35-44	2,625	21%	2,686	20%	2,763	20%	2,752	20%	2,796	20%
45-54	4,332	34%	4,240	32%	4,079	30%	3,902	28%	3,701	26%
55-64	2,848	22%	3,152	24%	3,538	25%	3,673	26%	3,837	27%
65+	912	7%	1,061	8%	1,225	9%	1,367	10%	1,521	11%
Race/Ethnicity										
American Indian / Alaska Native	128	1%	130	1%	133	1%	136	1%	130	1%
Asian	414	3%	436	3%	453	3%	485	3%	525	4%
Black	1,971	15%	2,125	16%	2,277	17%	2,369	17%	2,439	17%
Foreign-born [A]	754	6%	848	6%	955	7%	1,012	7%	1,048	7%
U.S.-born [A]	1,141	9%	1,198	9%	1,238	9%	1,262	9%	1,279	9%
Hispanic	1,798	14%	1,932	15%	2,018	15%	2,102	15%	2,154	15%
Foreign-born [A]	880	7%	952	7%	985	7%	1,054	8%	1,074	8%
U.S.-born [A]	788	6%	845	6%	884	6%	881	6%	894	6%
Native Hawaiian / Pacific Islander	51	0%	56	0%	61	0%	62	0%	64	0%
White	7,544	59%	7,704	58%	7,814	57%	7,813	56%	7,866	56%
Multiple	855	7%	878	7%	890	7%	889	6%	877	6%
Mode of Exposure										
Male / Male Sex (MSM)	7,878	62%	8,160	62%	8,355	61%	8,501	61%	8,633	61%
People Who Inject Drugs (PWID)	788	6%	780	6%	799	6%	812	6%	797	6%
MSM and PWID	1,234	10%	1,283	10%	1,300	10%	1,256	9%	1,256	9%
Heterosexual Contact	1,602	13%	1,670	13%	1,712	13%	1,737	13%	1,753	12%
Transfusion / Hemophiliac /Pediatric	165	1%	182	1%	182	1%	189	1%	186	1%
No Identified Risk	1,100	9%	1,192	9%	1,304	10%	1,367	10%	1,436	10%

Table based on HIV surveillance data reported to the WA State Department of Health as of June, 30 2021

[A] Population estimate for 2020 was extrapolated using previous estimates from years 2010-2019

TABLE 1-12. PREVALENT CASES OF HIV, BY COUNTY AND HEALTH DISTRICT (HD) OF RESIDENCE AT DIAGNOSIS, WA STATE. 2016-2020

County or Health District of Residence	2016		2017		2018		2019		2020	
	No.	Column %	No.	Row %	No.	Row %	No.	Row %	No.	Row %
Adams Co.	13	0%	11	0%	13	0%	14	0%	13	0%
Asotin Co.	24	0%	22	0%	22	0%	19	0%	18	0%
Benton Co.	126	1%	151	1%	171	1%	185	1%	191	1%
Benton-Franklin HD	193	2%	228	2%	254	2%	266	2%	277	2%
Chelan Co.	57	0%	57	0%	58	0%	62	0%	61	0%
Chelan-Douglas HD	73	1%	72	1%	74	1%	82	1%	90	1%
Clallam Co.	76	1%	77	1%	78	1%	83	1%	80	1%
Clark Co.	655	5%	701	5%	737	5%	769	6%	832	6%
Columbia Co.	7	0%	6	0%	4	0%	3	0%	3	0%
Cowlitz Co.	122	1%	142	1%	149	1%	148	1%	152	1%
Douglas Co.	16	0%	15	0%	16	0%	20	0%	29	0%
Ferry Co.	4	0%	4	0%	5	0%	6	0%	4	0%
Franklin Co.	67	1%	77	1%	83	1%	81	1%	86	1%
Garfield Co.	3	0%	3	0%	3	0%	2	0%	2	0%
Grant Co.	41	0%	40	0%	43	0%	50	0%	58	0%
Grays Harbor Co.	81	1%	94	1%	94	1%	91	1%	99	1%
Island Co.	82	1%	88	1%	98	1%	101	1%	106	1%
Jefferson Co.	36	0%	43	0%	50	0%	45	0%	46	0%
King Co.	6,806	53%	6,930	52%	7,019	51%	7,048	51%	7,074[A]	50%
Kitsap Co.	309	2%	328	2%	325	2%	344	2%	351	2%
Kittitas Co.	29	0%	29	0%	28	0%	32	0%	32	0%
Klickitat Co.	16	0%	18	0%	18	0%	20	0%	20	0%
Lewis Co.	56	0%	63	0%	67	0%	66	0%	64	0%
Lincoln Co.	8	0%	9	0%	5	0%	7	0%	6	0%
Mason Co.	68	1%	67	1%	68	0%	68	0%	74	1%
NE Tri-County HD	39	0%	41	0%	43	0%	44	0%	38	0%
Okanogan Co.	30	0%	29	0%	28	0%	29	0%	27	0%
Pacific Co.	29	0%	25	0%	29	0%	33	0%	35	0%
Pend Oreille Co.	12	0%	12	0%	10	0%	12	0%	11	0%
Pierce Co.	1,411	11%	1,444	11%	1,532	11%	1,557	11%	1,581	11%
San Juan Co.	23	0%	21	0%	23	0%	23	0%	22	0%
Skagit Co.	98	1%	99	1%	98	1%	98	1%	98	1%
Skamania Co.	5	0%	7	0%	6	0%	5	0%	5	0%
Snohomish Co.	1,038	8%	1,080	8%	1,155	8%	1,205	9%	1,229	9%
Spokane Co.	608	5%	634	5%	676	5%	688	5%	727	5%
Stevens Co.	23	0%	25	0%	28	0%	26	0%	23	0%
Thurston Co.	290	2%	329	2%	334	2%	334	2%	327	2%
Wahkiakum Co.	4	0%	4	0%	6	0%	4	0%	4	0%
Walla Walla Co.	54	0%	60	0%	57	0%	54	0%	53	0%
Whatcom Co.	182	1%	245	2%	243	2%	250	2%	250	2%
Whitman Co.	23	0%	25	0%	25	0%	28	0%	25	0%
Yakima Co.	235	2%	253	2%	248	2%	251	2%	243	2%
Total	12,767	100%	13,267	100%	13,652	100%	13,862	100%	14,061	100%

Table based on HIV surveillance data reported to the WA State Department of Health as of June 30, 2021.

[A] Washington State and King County numbers may differ slightly due to differences in data cleaning, record access, or date of analysis.

FIGURE 1-1. HIV CARE CONTINUUM, WASHINGTON STATE 2020 (BASED ON DATA REPORTED THROUGH JUNE 2021)

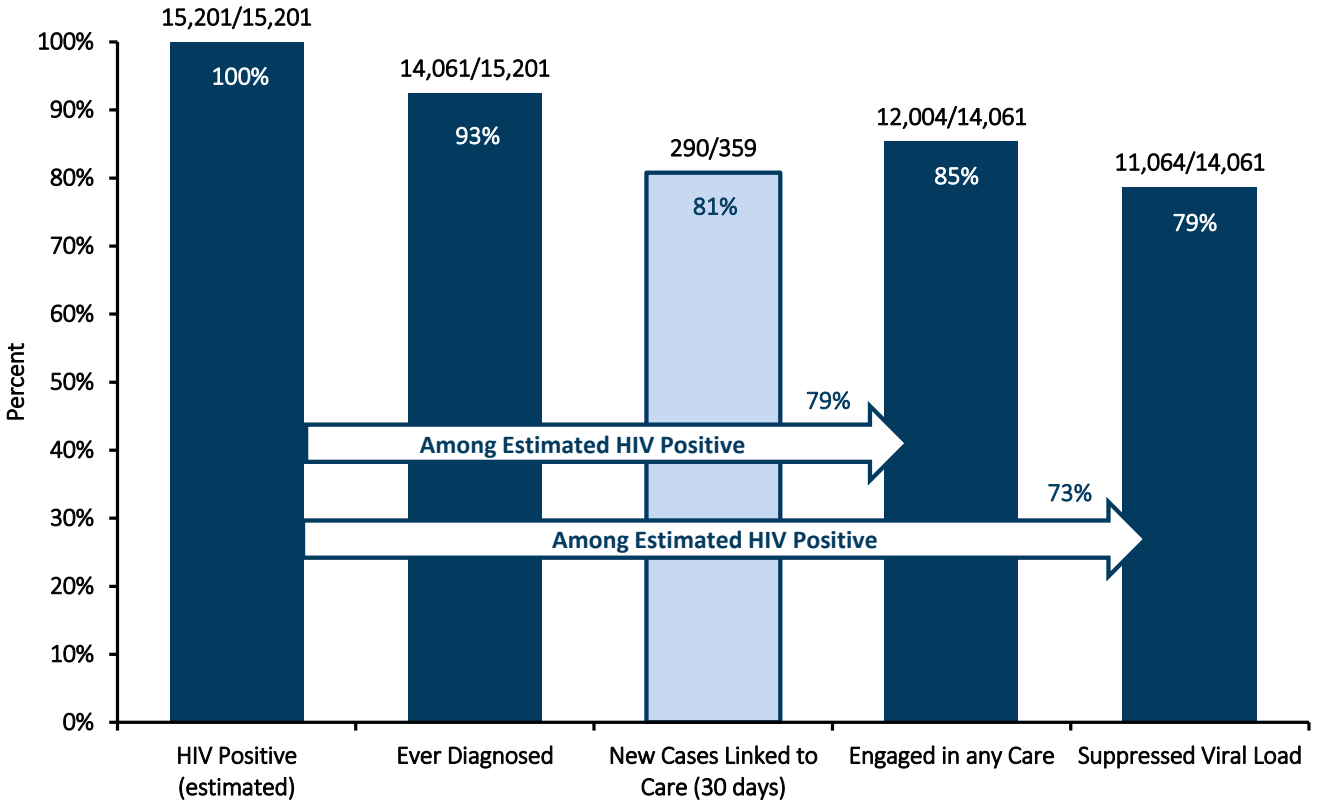
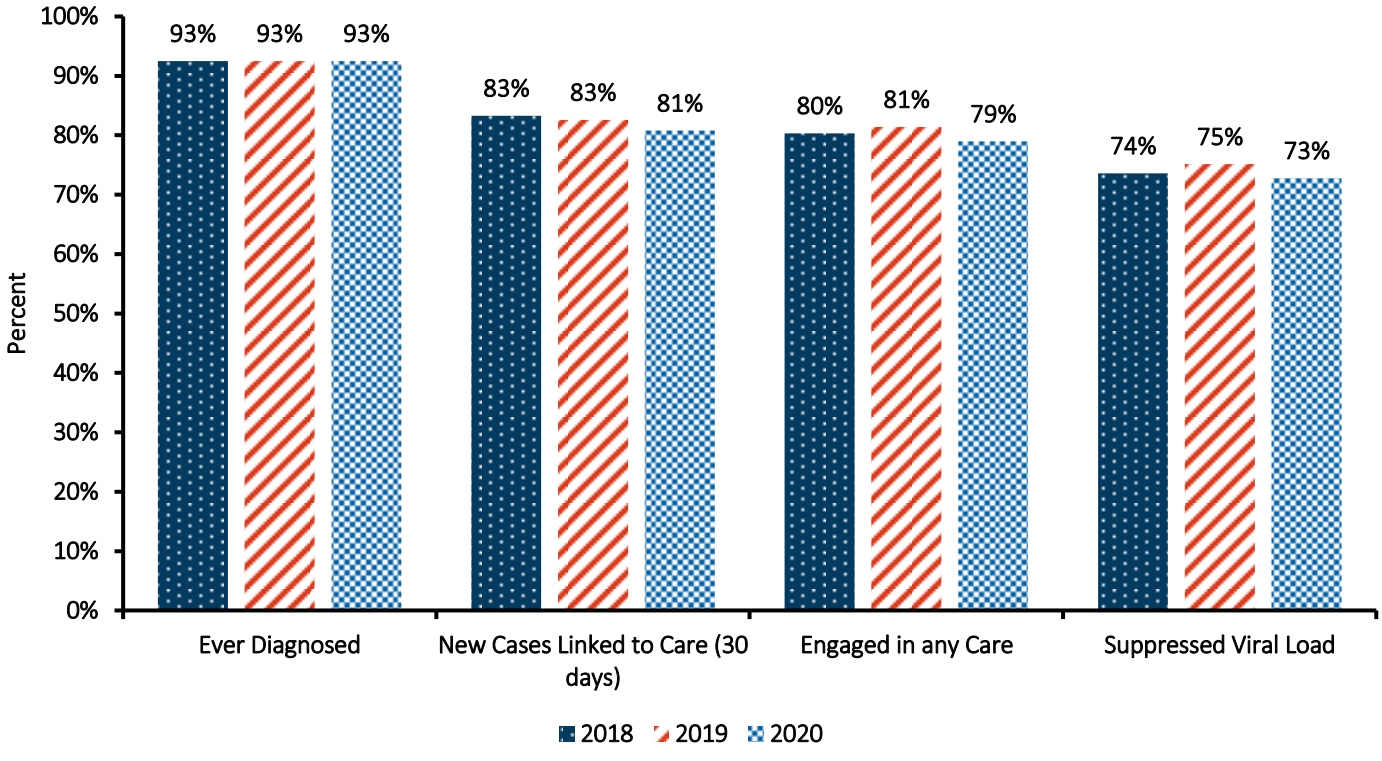


FIGURE 1-2. 2017-2019 THREE-YEAR TRENDS, WASHINGTON STATE HIV CARE CONTINUUM AS OF JULY, 2021



COVID-19 Vaccination Among People Living with HIV

Background and Aims

The Centers for Disease Control and Prevention (CDC) identified people living with HIV (PLWH) as a population with heightened risk from COVID-19.[1] With the distribution of vaccine underway, it is critically important to ensure that populations at increased risk of severe COVID-19 outcomes are being vaccinated and to identify subpopulations that may face particular obstacles to vaccination.

PLWH have been demonstrated to have more severe outcomes from COVID-19 than the general population. A 2021 systematic review of hospital-based case-control studies found that PLWH were 1.78 times more likely to die from COVID-19 than the general population.[2] As of 8/30/2021, only 64.3% of the eligible population in Washington was fully vaccinated from COVID-19, indicating that there are subpopulations that are not protected.[3] Many PLWH have regular access to a health care provider, while others face numerous barriers to healthcare access that may prevent them from seeking or being able to access the COVID-19 vaccine. Particular groups of PLWH, such as Black PLWH and PLWH who inject drugs, are at the intersection of overlapping epidemics that may make vaccination challenging.[4]

The purpose of this study was to estimate the proportion of PLWH who have been vaccinated against COVID-19, compare this proportion to the general population of Washington State, and identify subgroups of PLWH who have low vaccination rates. The Washington State Department of Health (WA DOH) and Public Health – Seattle & King County (PHSKC) have established service-delivery programs for PLWH and are well-positioned to contribute to vaccination efforts for PLWH. A more complete understanding of vaccine uptake would benefit these organizations' abilities to meet this population's needs.

Methods

We extracted name, date of birth, and COVID-19 vaccination date(s) from the WA DOH's Vaccine Registry for all people who received one or more doses of COVID-19 vaccine through June 7th, 2021. Vaccinated individuals were manually matched to identifiers from HIV surveillance data using LinkPlus software and an algorithmic filter to remove pairs with a low probability of being a true match.

The number and percent of PLWH who had received one or more doses of COVID-19 vaccine were tabulated for all PLWH and for sex, age, race/ethnicity, and HIV transmission category. A log-binomial model was used to estimate prevalence ratios and confidence intervals. We calculated the cumulative proportion of PLWH and other

Washingtonians who received one or more doses of COVID-19 vaccine by date and displayed this information in a time-series. We compared the final proportion using a chi-squared test. We calculated percentages using denominators from United States Census estimates of population eligible for the vaccine — above the age of 12 and HIV surveillance estimates from the WA DOH.[5,6]

Results

As of 6/7/2021, 9,468 PLWH had received one or more doses of COVID-19 vaccine, representing 66% of PLWH in Washington State. In comparison, 4,176,405 Washingtonians who were not living with diagnosed HIV received the vaccine, representing 64% of this population ($p<0.01$, Figure 2-1). Vaccine uptake was lowest among female PLWH; PLWH who are Black, Native Hawaiian or other Pacific Islander (NHOPI), or American Indian/Alaska Native (AI/AN); young PLWH; and PLWH who inject drugs (Table 2-1). Vaccine uptake was higher in King County than in other parts of the state.

Conclusions

Since arrival of the COVID-19 vaccine in December of 2020, at least 66% of PLWH have received one or more doses of the COVID-19 vaccine. This is comparable to the proportion of the general population that has been vaccinated in Washington state. Vaccine uptake was lowest among female PLWH, PLWH who are Black, NHOPI, or AI/AN; young PLWH, and PLWH who inject drugs.

This data suggests that campaigns to promote vaccination have been reasonably effective in reaching PLWH, although as a population at higher risk of COVID-19 morbidity, a higher rate of vaccination should be targeted. PLWH have had access to the vaccine for

Table 2-1: COVID Vaccination Status (One or More Doses) Among People Living with HIV by Demographic Categories, Washington State 6/7/2021

Attribute	Value	COVID-19 Vaccinated	All PLWH	Percent	Prevalence Ratio
Total	-	9,468	14,332	66%	-
Sex at Birth	Female	1,304	2,211	59%	0.87 (0.84-0.91)
	Male	8,164	12,111	67%	Reference
Race[A]	White	5,505	7,998	69%	Reference
	Black	1,474	2,487	59%	0.54 (0.52-0.56)
	Hispanic	1,389	2,211	63%	0.91 (0.88-0.95)
	Asian	398	531	75%	1.09 (1.03-1.15)
	NHOPI	35	64	55%	0.79 (0.64-0.99)
	AI/AN	77	139	55%	0.52 (0.43-0.62)
	Multiple Races	585	886	66%	0.96 (0.91-1.01)
Age in years	12-19	0	10	0%	-
	20-39	440	966	46%	0.78 (0.72-0.83)
	40-59	3,312	5,644	59%	Reference
	60-79	5,150	7,004	74%	1.25 (1.22-1.29)
	≥80	566	719	79%	1.34 (1.28-1.40)
Transmission Category	MSM	6,308	8,820	72%	Reference
	IDU	379	805	47%	0.66 (0.61-0.71)
	MSM+IDU	788	1,281	62%	0.86 (0.82-0.90)
	Heterosexual	1,070	1,782	60%	0.84 (0.81-0.87)
	NRR	823	1,456	57%	0.79 (0.75-0.82)
	Other	100	178	56%	0.79 (0.69-0.89)
Geography	King County	5,178	7115	73%	1.23 (1.20-1.26)
	Other	4,290	7228	59%	Reference

[A] Six PLWH were of unknown race and are not represented.

approximately three months longer than entire general population, suggesting that uptake may be slower.[7] There is scant literature on the uptake of the COVID-19 vaccine among other populations at high risk of COVID-19 morbidity.

The subpopulations of PLWH with low vaccination rates overlap those that are not engaged in HIV care more generally. Black PLWH (78% viral suppression), young PLWH (74% viral suppression among those between 25 and 34), and PLWH who inject drugs (75% viral suppression) have the lowest rates of viral suppression rates in the state (82% viral suppression overall).[5] This suggests that the factors affecting access to HIV care may also be barriers to vaccination. The population trends among PLWH are distinct from the general population, where females have a higher rate of vaccination and the racial differences are less pronounced.[3]

There is potential for misclassification and underestimation of vaccination rates if not all vaccinations are present in the vaccine registry. However, there is no evidence that this would differ according to HIV status or the demographic characteristics we investigated. The accuracy of our estimates of the vaccination rates among PLWH is also dependent on the accuracy of the Link Plus match.

The results of our analysis suggest that PLWH are being vaccinated at a rate comparable to the general population, but significant disparities remain. The WA DOH, PHSKC, and other HIV service providers should prioritize vaccine education and distribution to increase uptake in this high-risk population.

References

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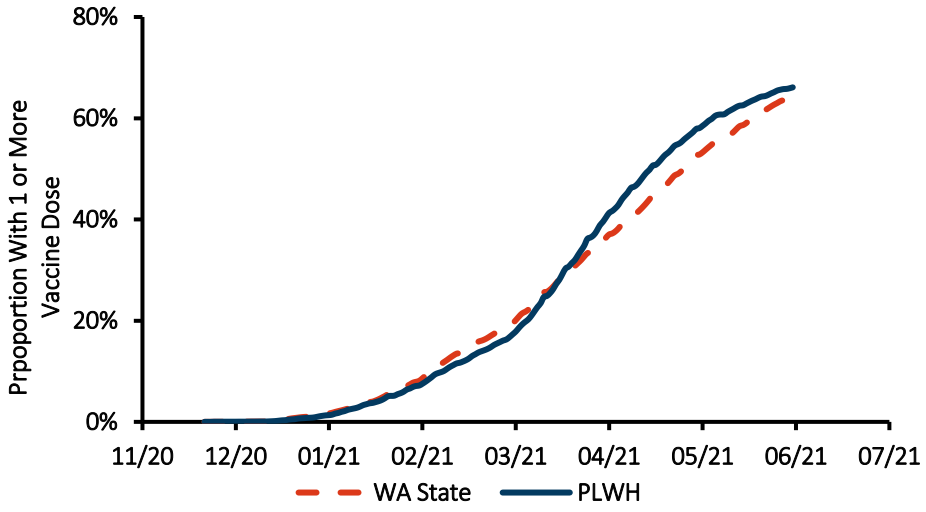
Contributed by Steven Erly, Kelly Naismith, and Jennifer Reuer

FIGURE 2-1: PROPORTION OF POPULATION (AGE 12+ YEARS) RECEIVING ONE OR MORE DOSES OF COVID-19 VACCINE BY HIV STATUS, WASHINGTON STATE, 6/7/2021



PLWH=People living with HIV

The Impact of the COVID-19 Pandemic on Core HIV Surveillance Metrics

Introduction

Standardized HIV metrics are the cornerstone of monitoring HIV prevention and care and allow public health professionals to plan, evaluate, and compare programs. The four most prominent HIV metrics, which are used across the United States, are the number of new diagnoses, the proportion of people newly diagnosed with HIV linked to care within 30 days of diagnosis, the proportion of people living with HIV (PLWH) engaged in care, and the proportion of PLWH virally suppressed. Three of these metrics - linkage to care, engagement in care, and viral suppression - have shown continual improvement over the preceding five years in Washington State, but declined markedly during the first year of the COVID-19 pandemic. Conversely, the number of new diagnoses in Washington state gradually increased from 2015 to 2019 but dropped precipitously in 2020.

The change in these metrics is noteworthy, but it isn't clear if they represent a change in HIV transmission and population viral load, access to HIV testing and care, or an artifact of the way the outcomes are measured, or some combination of these factors. The core HIV surveillance metrics are dependent on laboratory reporting and are only accurate if laboratory reporting presents a valid picture of HIV care quality. There is anecdotal evidence that many PLWH switched to telehealth in the beginning of the COVID-19 pandemic and were able to continue accessing medical care and antiretroviral therapy without routine laboratory monitoring. Concern about the safety of healthcare settings may have also led to a decrease in the amount of HIV diagnostic testing and new infections may have gone undetected. Individuals already experiencing barriers to care access may have found those barriers increased due to pandemic impacts.

To understand the relationship between the change in these metrics and changes in HIV prevention and care, it is necessary to examine the data in the context of multiple data sources. The purposes of this study were to: 1) quantify deviation from historical trends in core HIV metrics associated with the COVID-19 pandemic; 2) examine changes to the volume of electronic laboratory reporting (ELR) reporting and HIV testing during the same time period; and 3) identify commensurate changes in AIDS Drug Assistance Program (ADAP) data and demographic trends in new HIV diagnoses during 2020.

Methods

We compiled all HIV laboratory reports received by the Washington State Department of Health's (WA DOH) automated ELR system between 10/1/2019 (when the most recent ELR system was implemented) and 12/1/2020. This includes all positive HIV tests (antigen

and antibody), HIV genotype testing, HIV viral load testing, and CD4 tests related to HIV care. It also includes a relatively small number of CD4 tests that are performed for non-HIV conditions and are reported. We categorized tests as either "diagnostic" (HIV tests and genotypes) or "care" (viral load and CD4 tests) and displayed the number of reports as a time series. Washington also receives all HIV test results in Washington state from a nationwide laboratory, which prior unpublished work suggests are regionally and demographically representative of the population at high risk of HIV in the state. We calculated the number of tests performed by month between 10/1/2019 and 12/1/2020 and displayed these numbers as a time series. Finally, we extracted the number of new diagnoses by mode of transmission and the total number of PLWH from the Washington state HIV registry from 2016 through 2020. We also extracted the total number of ADAP clients and the number of ADAP clients who filled one or more antiretroviral (ART) prescription from the Washington Ryan White data system.

We calculated the proportion of people newly diagnosed with HIV who received a CD4 or viral load test within 30 days of diagnosis (linked to care in 30 days), the number PLWH who received a CD4 or viral load test in each calendar year (engaged in care), the number of PLWH who received a viral load test in a calendar year and whose final viral load result was less than or equal to 200 copies per mL (virally suppressed), and the number of ADAP clients who filled one or more ART prescription.

We presented the overall counts and percentages for each metric by year. We used a Poisson model to estimate the values for 2020 if trends from prior years had continued using a linear term for year. This model contained a term for calendar year and an indicator for the presence of the COVID pandemic in 2020. To assess the significance of the divergence of historical trends in 2020, we reported the p-value from the Wald statistic of the indicator variable.

Results

From 10/1/2019 to 12/1/2020, an average of 5,074 HIV labs were reported through the WA DOH ELR system per month. Of these 5,074, an average of 4,172 (82%) were HIV care labs and 902 (18%) were diagnostic labs. There was a large decrease in ELR reports in the beginning of 2020, centered in April of 2020, when there were only 3,044 labs (40% decrease). The decrease was equivalent between care (2,495 labs reported; 40% decrease) and diagnostic labs (549 labs reported; 40% decrease; **Figure 3-1**). There was a similar decrease in the volume of overall testing performed (**Figure 3-2**). While there was an increase in laboratory testing starting in May 2020, the volume of testing did not return to that seen at the end of 2019, much less increase to make up for testing missed in the spring. There was a significant deviation from historical trends in 2020 in engagement in care (projected 88%, actual 85%, p=0.03) and viral suppression (projected 83%, actual 79%, p<0.01), but not linkage to care (projected 83%, actual 81%, p=0.73) or viral suppression among those engaged in care (projected 93%, actual 92%, p=0.21). New HIV diagnoses were similarly depressed in total (projected 424, actual 359, p=0.03) and among people who inject drugs (PWID) (projected 52, actual 11, p<0.01), but not among men who have sex with men (MSM) (projected 245, actual 223, p=0.37). The percentage of ADAP clients who filled ART prescriptions exceeded what would be expected from prior years, but not significantly so (projected 80%, actual 82%, p=0.31, **Table 3-1**).

Discussion

During the 2020 COVID-19 pandemic, there were significant deviations from historical trends in the metrics of engagement in HIV care and viral suppression but not linkage to care or viral suppression among those engaged in care. The overall number of new HIV diagnoses in 2020 was significantly lower than predicted, as were the number of diagnoses among PWID but not MSM. There was a large decrease in the number of HIV labs performed in Washington at the beginning of 2020.

Taken together, the HIV care data point to a disconnect between the surveillance metrics and the ability of PLWH to access care. The consistency in the proportion of ADAP clients who filled an ART prescription and viral suppression among those engaged in care suggest that the ability to access care within these populations was not disrupted by the pandemic. The decrease in ELR volume at the beginning of the pandemic suggests that many people forewent routine laboratory testing, but this does not preclude access to ART.

The decrease in HIV testing during the pandemic suggests that the decrease in HIV diagnoses seen during 2020 may, at least in part, represent a lack of detection rather than a decrease in transmission. Although it is possible that some of this decline represents a change in

FIGURE 3-1. HIV LABS REPORTED THROUGH WASHINGTON STATE AUTOMATED ELECTRONIC LABORATORY SYSTEM BY MONTH AND TYPE, 10/2019-12/2020

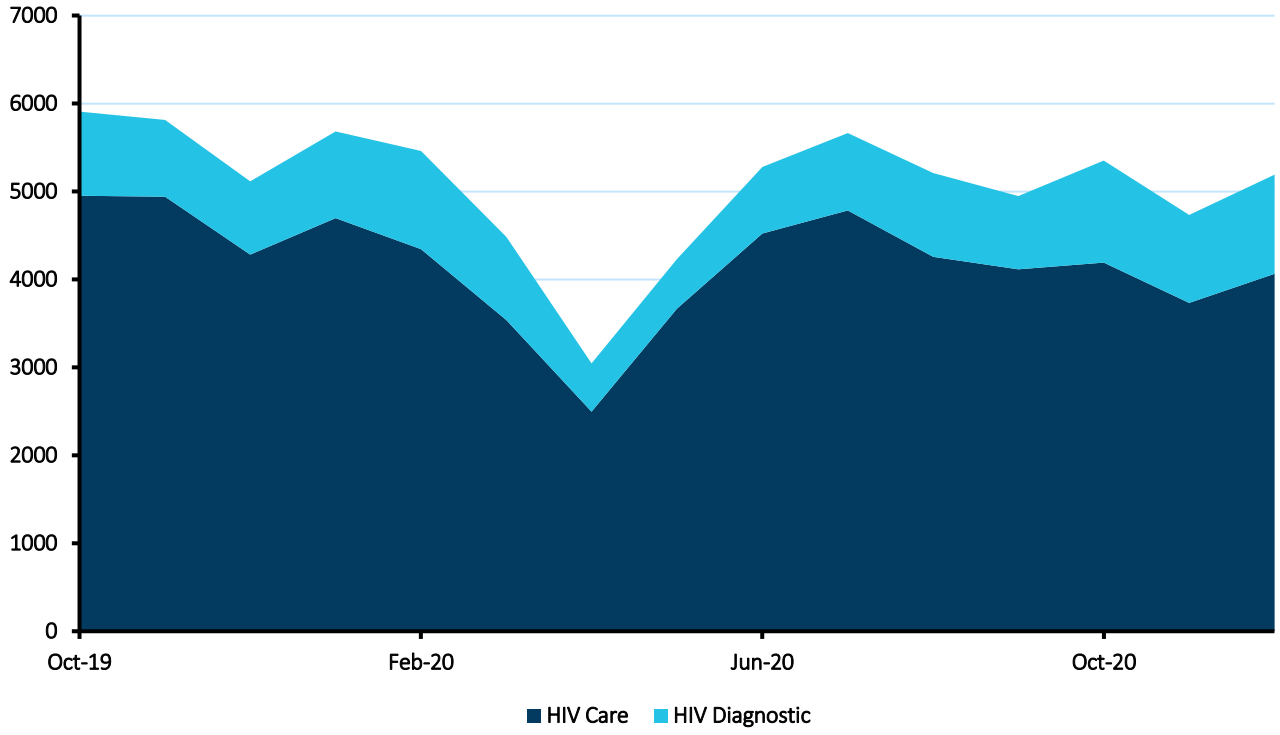


FIGURE 3-2. HIV TESTS REPORTED TO WASHINGTON STATE, 10/2019-12/2020

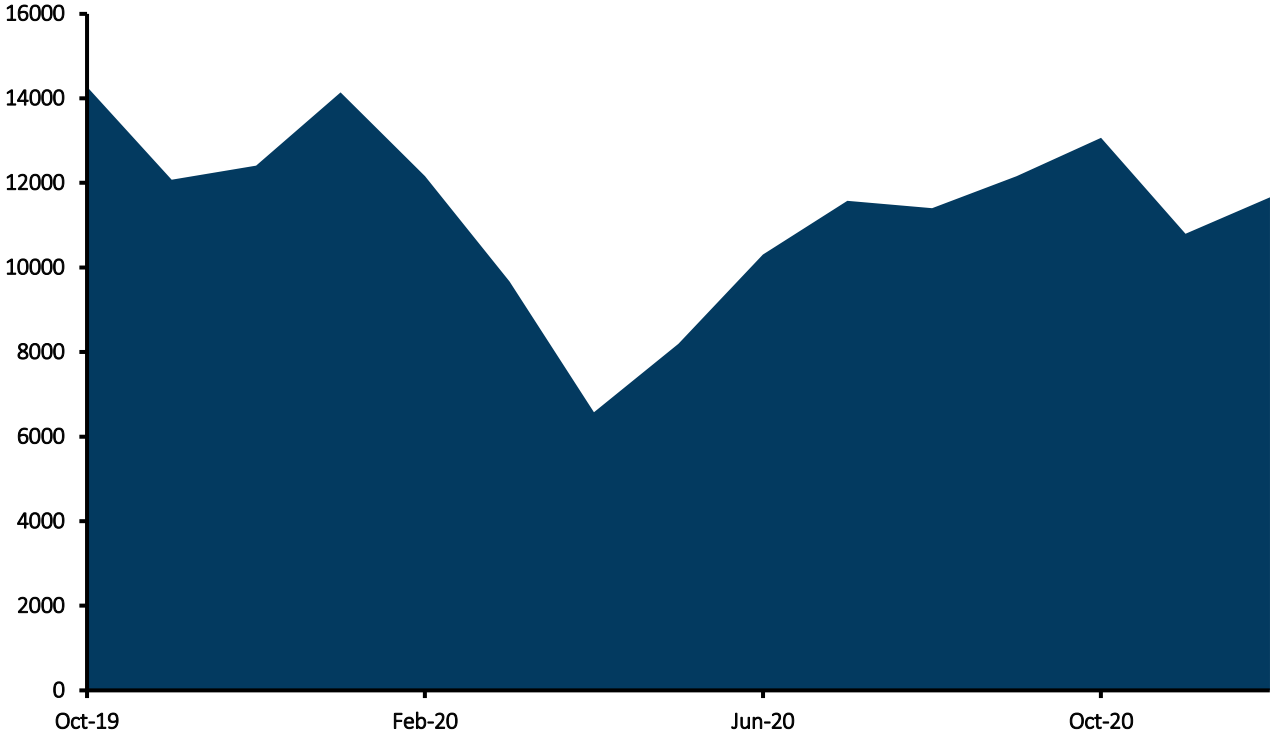


TABLE 3-1: HIV DIAGNOSES, CARE METRICS, AND ADAP UTILIZATION FOR WASHINGTON STATE, PROJECTED AND ACTUAL, 2016-2020

Metric[A]	2016	2017	2018	2019	2020 Actual	2020 Projected[B]	P-value
Prevalence	12,776	13,274	13,652	13,862	14,061	-	-
-Linkage to Care (30 Days)	302 (82%)	313 (83%)	334 (83%)	337 (83%)	290 (81%)	83% (73-90%)	0.73
-Engagement in Care	11,068 (87%)	11,526 (87%)	11,858 (87%)	12,198 (88%)	12,004 (85%)	88% (86-90%)	0.03
-Viral Suppression	9,783 (77%)	10,427 (79%)	10,863 (80%)	11,260 (81%)	11,064 (79%)	83% (81-85%)	<0.01
-Viral Suppression Among Those Engaged in Care	9,783 (88%)	10,427 (90%)	10,863 (92%)	11,260 (92%)	11,064 (92%)	93% (92-96%)	0.21
New HIV Diagnoses	370	375	401	408	359	424 (376-478)	0.03
-MSM Diagnoses	193	211	199	240	223	245	0.37
-IDU Diagnoses	28	19	43	41	11	52	<0.01
ADAP Enrollment	4,079	4,265	4,514	4,783	4,682	5,033 (4,858-5,215)	**<0.01**
# (%) of Clients with ART Fills	3,268 (80%)	3,416 (80%)	3,612 (80%)	3,806 (80%)	3,822 (82%)	80% (76-83%)	0.31

[A] Engaged in care defined as receiving one or more CD4 or viral load test in a calendar year. Virally suppressed defined as receiving one or more viral load in a calendar year and the final viral load result being less than or equal to 200 copies per mL. Linked to care defined as receiving a CD4 or viral load test within 30 days of HIV diagnosis

[B] Projected value and p-value from Poisson model with linear term for year and an indicator variable for the year 2020.

MSM=men who have sex with men; IDU = Injection drug users; ART=antiretroviral

risk behavior during the pandemic, the large median time between infection and treatment among PLWH (three years according to national estimates) suggests that any impact would occur on a much longer timescale that what was assessed here.[1] The contrast between the sharp decrease in new HIV diagnoses among PWID and small decrease among MSM is suggests that populations with greater barriers to HIV testing and care may have been more affected by the pandemic. The high level of linkage to care among individuals newly diagnosed may also support the idea that barriers were exacerbated during the earlier days of the pandemic. Indeed, there is data from syringe services programs that HIV testing stopped at many programs and has likely led to a decrease in HIV testing among PWID during the pandemic.[2,3]

There are a number of limitations to this study. Our projection of 2020 data relies on an assumption of linear trends, which may be an oversimplification. In particular, the number of new diagnoses and the proportion of PLWH who are virally suppressed among those who are engaged in care changed more at the beginning of our study time period than at the end, and the projections may be an overestimate of what would have been seen in 2020 if the pandemic had not occurred. There was also an outbreak of HIV among PWID in King County in 2018 and 2019 which likely inflated the expected number of new diagnoses attributed to injection drug use in 2020. The population of PLWH who are engaged in care or who use ADAP services are a subset of PLWH in the state who are successful in navigating medical systems, and their ability to access ART during the pandemic may not represent the experience of all.

The core HIV metrics defined by CDC are valuable tools for evaluating progress in the HIV epidemic and comparing jurisdictions. However, the evidence we present suggests that they do not accurately reflect the complex changes to healthcare that occurred during the COVID-19 pandemic. We suggest that the data from 2020 be interpreted with caution and that other sources of information be integrated in program decision-making.

Contributed by: Steven Erly, Jen Reuer, Leticia Campos

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Risk Information for HIV Cases Classified as No Identified Risk (NIR) in Washington State

Background

Transmission risk ascertainment is a key component of HIV surveillance and program planning. The diversity of ways that HIV can be transmitted means that HIV programs need to be informed by the populations they seek to serve. The standard way to categorize risk in surveillance data is via the CDC algorithm that is implemented in the enhanced HIV/AIDS Reporting System (eHARS), the national HIV surveillance database. This algorithm assigns risk based on the person's behavior that carries the highest HIV transmission risk (Table 4-1). The most common categories involve male-to-male sexual contact and injection drug use. People who do not report a risk that meets the CDC's threshold for HIV transmission risk are assigned to the category "NIR" or No Indicated Risk. Although this category is generally interpreted as "unknown", it is not homogenous; it is comprised of a mixture of people for whom no information was collected and people who report heterosexual contact but no partner known to be or likely living with HIV.

Table 4-1: Washington State Mode of Transmission Categories Used for Reporting, 2017 to present

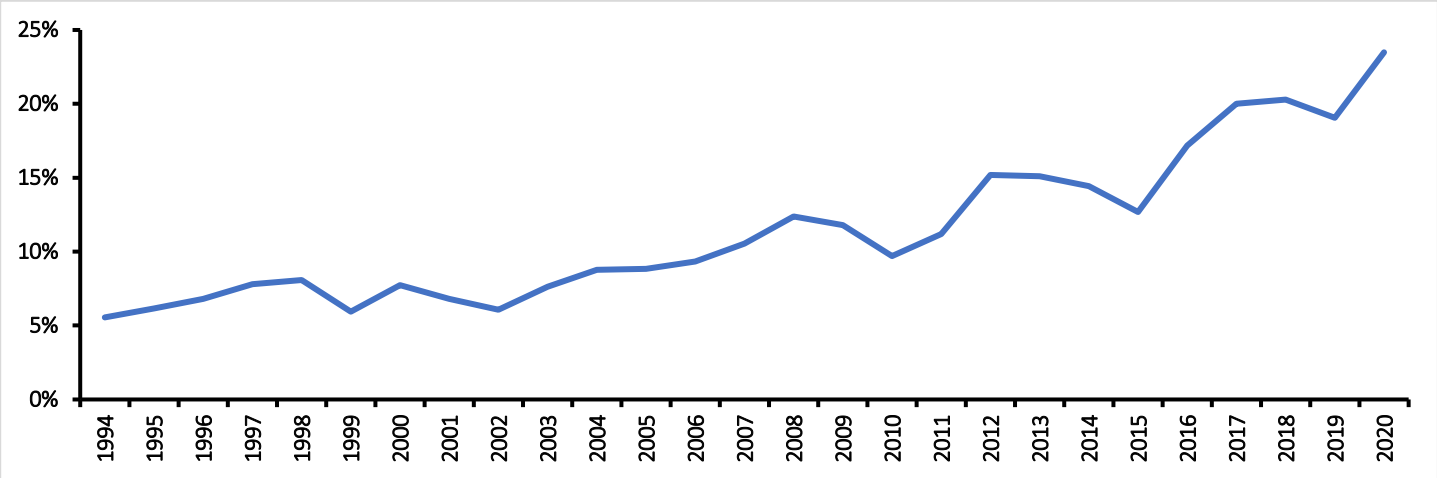
- Male-to-male sexual contact (MSM)
- Injection drug use (IDU)
- Male-to-male sexual contact and injection drug use (MSM & IDU)
- Heterosexual contact:
  Heterosexual contact with a person known to have HIV o with a risk factor for HIV infection
- Blood/pediatric:
  Includes people aged 13 and under at the time of diagnosis, perinatal exposure, hemophilia, and blood transfusion.
- NIR:
  Includes risk factor not reported (NRR) or not identified (NIR) and other confirmed risk

The NIR category has historically represented an insignificant number of cases and its heterogeneity did not have implications for program planning purposes. However, the percentage of cases assigned to this transmission category has increased by 35% in the last 5 years.[1] (Figure 4-1). Despite this increase, there has not been an effort to understand the composition of people in this category. People who report heterosexual transmission are a distinct group that may have specific HIV care needs, but a large portion of them may be hidden in a category that is largely ignored. The purpose of this evaluation is to describe the known risk information of NIR cases over time and by their demographic characteristics in Washington State.

Methods

We analyzed all new HIV diagnoses classified as NIR by Washington State Department of Health (WA DOH) HIV surveillance data between 1994 to 2020. This contained cases with other confirmed risk, cases not yet confirmed

FIGURE 4-1: PROPORTION OF NEW HIV CASES CATEGORIZED AS NO IDENTIFIED RISK (NIR) BY YEAR OF HIV DIAGNOSIS, WA STATE, 1994-2020



as cases of public health importance (COPHI), cases that had not yet undergone epidemiologic follow up, and cases that had insufficient risk information to be categorized elsewhere.[2] Insufficient risk information may consist of cases with either "No identified risk" or "Child had no identified risk" selected as a risk factor, cases who only report "No" to risk factors, cases where "Unknown" is reported for all risk factors, male-to-female sexual contact with no other risk factors selected, female-to-male sexual contact with no other risk factors selected, and female-to-male-and-female sexual contact.

We further classified NIR cases into four categories using the sex of the reported case and available risk factor information. Male cases who reported sex with a female and no other risk factors were classified as MSF. Female cases who reported sex with a male and no other risk factors and female cases who reported sex with both a female and a male and no other risk factors were classified as FSM. All cases with risk factor information left blank, reported with only "Unknown", reported with only "No", "No identified risk" or "Child had no identified risk" selected as a risk factor were categorized as missing. All cases considered unconfirmed COPHI were categorized as COPHI. We described the proportion of cases in each category by year, race, age, and accountable community of health (ACH) region.

Results

In the years 2017-2020, there were 280 people diagnosed with HIV categorized as NIR in Washington State. Comparing the year 2019 to the year 2020, the proportion of NIR cases classified as missing doubled with over 40% of all NIR cases in 2020 containing no risk information (**Figure 4-2**).

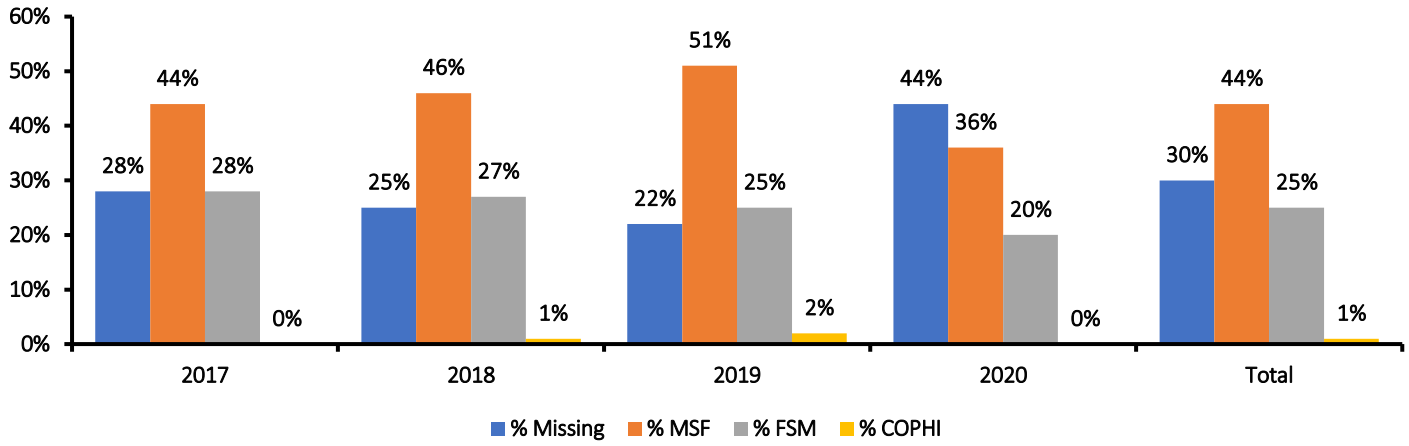
A greater proportion of NIR cases were classified as MSF than missing across all race and geographic subgroups. The highest proportions of NIR cases with MSF reported were among U.S-born Black (82%), Hispanic and Latinx (57%), and Native Hawaiian or other Pacific Islander (NHOPI) (67%) people (**Table 4-2**).

All ACH regions (see **Figure 4-3**) experienced an increase in 2020 in the number of cases that had missing risk factor information. Fifty-five percent of all NIR cases in the Healthier Here region (which includes King County) are missing risk data in 2020. This proportion more than doubled when compared to the 25% of cases that had missing data in 2019 (**Table 4-3**).

Conclusion

The proportion of people newly diagnosed with HIV who are categorized as NIR has increased over the past 25 years in Washington State from 6% in 1994 to 23% in 2020. On a much shorter timescale, the subset of NIR for which no risk information has been reported has increased dramatically during the COVID-19 pandemic. Many investigation regions experienced staffing shortages as HIV program staff were reassigned to work on a COVID-19 response team. Additionally, interactions with providers could have been impacted by limited access or telehealth visits, which could have lessened the likelihood of collecting risk information. It is possible that as investigation staff return to their usual duties and medical provider interactions normalize, the number of cases categorized as missing will decrease, resulting in a smaller percentage of NIR cases in future

FIGURE 4-2: PROPORTION OF CASES CATEGORIZED AS NO IDENTIFIED RISK (NIR) BY REASONS FOR ASSIGNMENT, WA STATE, 2017-2020



years.

Heterosexual sexual contact as a risk requires additional information about partners to be counted as a risk factor in CDC HIV risk hierarchy ("Heterosexual relations with [any of the following]: Injection drug user, Bisexual man, Person with Hemophilia, Person with HIV risk not specified"). Gaps in the current transmission category hierarchy are evident for both women and those who do not know the risk of their heterosexual sex partners[1-5]. To address this, the Council of State and Territorial Epidemiologists has proposed adding a "Presumed Heterosexual" category to describe cases classified as FSM. If trends from 2017-2020 continue, this would decrease the number of NIR cases reported in Washington by approximately 25%.

Social stigmatization of male-to-male sex is seen among Hispanic/Latinx and Black or African American populations and may produce under-reporting of MSM transmission[5]. When compared to other race/ethnicity groups, greater proportions of Washington NIR cases were classified as MSF in both U.S.-born Black and U.S.-born Hispanic/Latinx populations. Further work to understand how providers can improve trust and increase patient comfort in risk reporting would be beneficial.

Overall, the results of this evaluation suggest that Washington State has been experiencing barriers surrounding HIV risk ascertainment, especially during the COIVD-19 pandemic. A complete understanding of mode of

TABLE 4-2: PROPORTION OF NO IDENTIFIED RISK (NIR) HIV CASES THAT ARE MISSING RISK INFORMATION, MALES WHO HAD SEX WITH FEMALES (MSF), FEMALES WHO HAD SEX WITH MALES OR FEMALES WHO HAD SEX WITH BOTH MALES AND FEMALES (FSM), AND UNCONFIRMED CASES OF PUBLIC HEALTH IMPORTANCE (COPHI) BY RACE/ETHNICITY, WA STATE, 2017-2020

Race/ethnicity	No.	Percent Missing	Percent MSF	Percent FSM	Percent COPHI
AI/AN[A]	4	25%	25%	50%	0%
Asian	25	44%	28%	24%	4%
Black	93	27%	37%	37%	0%
Foreign-born	70	23%	31%	46%	0%
U.S.-born	11	18%	82%	0%	0%
Latina/o/x and Hispanic	37	32%	57%	8%	3%
Foreign-born	25	28%	64%	4%	0%
U.S.-born	3	0%	100%	0%	0%
NHOPI [a]	3	0%	67%	33%	0%
White	111	32%	49%	20%	0%
Multi	7	14%	57%	29%	0%
Total	280	30%	44%	25%	1%

[A]AI/AN=American Indian or Alaska Native, NHOPI = Native Hawaiian or Other Pacific Islander

TABLE 4-3: PROPORTION OF NO IDENTIFIED RISK (NIR) HIV CASES THAT ARE MISSING TRANSMISSION RISK INFORMATION OVER TIME BY ACCOUNTABLE COMMUNITY OH HEALTH (ACH) REGION, WA STATE, 2017-2020

	2017		2018		2019		2020	
ACH REGION	NO.	%	NO.	%	NO.	%	NO.	%
Better Health Together	2	67%	1	50%	1	20%	2	22%
Cascade Pacific Action Alliance	2	29%	1	33%	2	100%	3	43%
Elevate Health	4	31%	3	25%	2	17%	7	47%
Greater Columbia ACH	2	50%	1	20%	1	11%	2	40%
Healthier Here	3	12%	7	24%	5	25%	12	55%
North Central ACH	1	100%	3	50%	0	0%	1	100%
North Sound ACH	6	38%	0	0%	1	13%	4	40%
Olympic Community of Health	0	0%	0	0%	1	50%	1	33%
SWACH	1	20%	1	50%	1	25%	1	33%
TOTAL	**21**	**28%**	**17**	**25%**	**14**	**22%**	**33**	**44%**

FIGURE 4-3. WASHINGTON STATE ACCOUNTABLE COMMUNITIES OF HEALTH

transmission and HIV acquisition risk is important for guiding HIV prevention and care programs. A reexamination of the way we collect and present our transmission category data may be necessary to increase the number and proportion of cases classified with a known mode of transmission.

Contributed by Leticia Campos and Steven Erly

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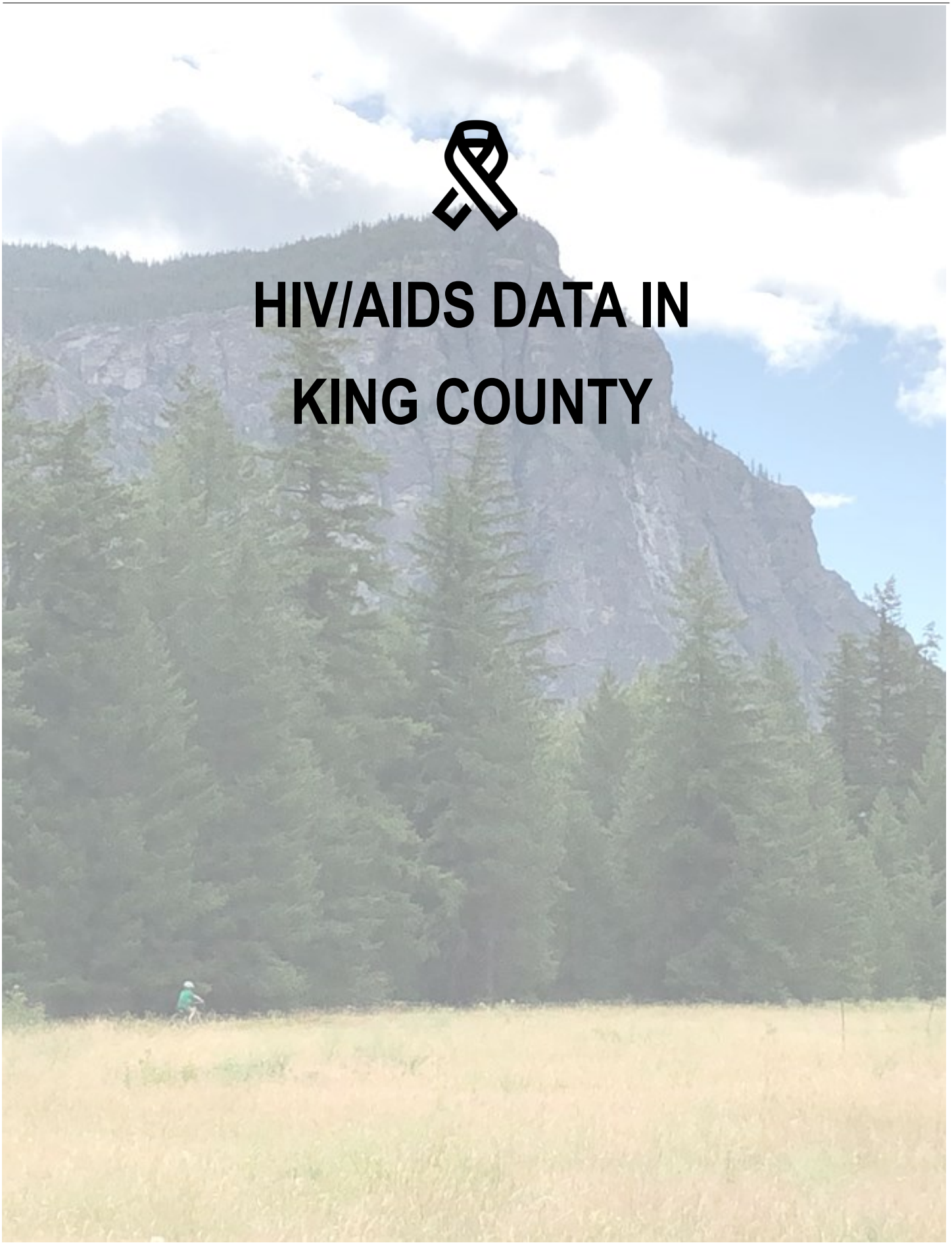


HIV/AIDS DATA IN KING COUNTY

TABLE 5-1. PEOPLE LIVING WITH HIV BY RESIDENCE STATUS, KING COUNTY, WA, AS OF DECEMBER 31, 2020

	All Cases of HIV Currently Residing in King County						Out-migrants: Diagnosed in King County but Now Living Out of Jurisdiction	
	Total		King County Resident at Time of Diagnosis		Out of Jurisdiction Resident at Time of Diagnosis			
	No.	%	No.	%	No.	%	No.	%
Total	7,073	100%	4,669	100%	2,404	100%	3,458	100%
Gender								
Cisgender men	6,081	86%	3,963	85%	2,118	88%	3,065	89%
Cisgender women	922	13%	659	14%	263	11%	360	10%
Transgender men	6	<1%	4	<1%	2	<1%	4	<1%
Transgender women	64	1%	43	1%	21	1%	29	1%
Current Age								
< 13	7	<1%	6	<1%	1	<1%	1	<1%
13 - 24	121	2%	87	2%	34	1%	29	1%
25 - 34	960	14%	568	12%	392	16%	266	8%
35 - 44	1,482	21%	870	19%	612	25%	601	17%
45 - 54	1,896	27%	1,239	27%	657	27%	1,015	29%
55+	2,607	37%	1,899	41%	708	29%	1,546	45%
Race and Hispanic/Latinx Origin								
American Indian / Alaska Native	39	1%	25	1%	14	1%	26	1%
Asian	328	5%	245	5%	83	3%	110	3%
Black	1,470	21%	920	20%	550	23%	521	15%
- *U.S.-Born Black*	*776*	*11%*	*414*	*9%*	*362*	*15%*	*246*	*7%*
- *Foreign-Born Black*	*656*	*9%*	*484*	*10%*	*172*	*7%*	*260*	*8%*
Latina/o/x and Hispanic	1,070	15%	671	14%	399	17%	476	14%
- *U.S.-Born Latinx*	*485*	*7%*	*256*	*5%*	*229*	*10%*	*202*	*6%*
- *Foreign-Born Latinx*	*539*	*8%*	*387*	*8%*	*152*	*6%*	*247*	*7%*
Native Hawaiian / Pacific Islander	27	<1%	24	1%	3	<1%	2	<1%
White	3,681	52%	2,502	54%	1,179	49%	2,102	61%
Multiple Races	458	6%	282	6%	176	7%	221	6%
Transmission Category								
Cisgender Men								
- Male / Male Sex (MSM)	4,642	66%	3,051	65%	1,591	66%	2,384	69%
- People Who Inject Drugs (PWID)	174	2%	110	2%	64	3%	74	2%
- MSM and PWID	639	9%	354	8%	285	12%	337	10%
- Heterosexual Contact	195	3%	135	3%	60	2%	75	2%
- Pediatric	19	<1%	10	<1%	9	<1%	7	<1%
- Transfusion / Hemophiliac	12	<1%	10	<1%	2	<1%	3	<1%
- No Identified Risk	400	6%	293	6%	107	4%	185	5%
Cisgender Women								
- People Who Inject Drugs	113	2%	77	2%	36	1%	47	1%
- Heterosexual Contact	582	8%	434	9%	148	6%	237	7%
- Pediatric	38	1%	20	<1%	18	1%	9	<1%
- Transfusion / Hemophiliac	7	<1%	6	<1%	1	<1%	5	<1%
- No Identified Risk	188	3%	126	3%	62	3%	66	2%
Transgender Women	64	1%	43	1%	21	1%	29	1%

All HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2021. Heterosexual contact includes presumed heterosexual contact (women who have sex with men and deny injection drug use). Due to small numbers transgender men are not included in the stratification by transmission categories in this table. In the breakdowns by nativity, people with unknown birthplace are excluded (elsewhere they may be included with U.S.-born PLWH).

TABLE 5-2. NEWLY DIAGNOSED CASES OF HIV INFECTION, KING COUNTY, WA, 2015-2020

	Newly Diagnosed Cases of HIV Disease									Late HIV Diagnoses
Year of HIV Diagnosis:	2015	2016	2017	2018	2019	2020	2019-2020		Annual Rate 2019-2020	2015-2020[A]
	No.	No.	No.	No.	No.	No.	No.	%	Rate	%
Total	206	178	167	215	180	157	337	100%	7.5	24%
Gender										
Cisgender men	181	148	139	168	148	138	286	85%	12.8	23%
Cisgender women	23	27	25	47	29	16	45	13%	2.0	30%
Transgender men	0	0	1	0	0	0	0	0%	---	0%
Transgender women	2	3	2	0	3	3	6	2%	---	20%
Age at HIV Diagnosis										
< 13	0	0	1	0	0	0	0	0%	0.0	0%
13 - 24	29	34	26	26	25	27	52	15%	8.1	13%
25 - 34	72	64	66	81	71	55	126	37%	14.9	17%
35 - 44	49	38	24	50	40	35	75	22%	10.8	27%
45 - 54	37	20	33	30	28	23	51	15%	9.2	35%
55+	19	22	17	28	16	17	33	10%	3.1	44%
Race and Hispanic Origin										
American Indian / Alaska Native	0	3	2	1	1	2	3	1%	11.0	14%
Asian	18	17	11	10	9	17	26	8%	3.1	31%
Black	43	33	38	45	37	26	63	19%	21.2	36%
- *U.S.-Born Black*	*27*	*19*	*20*	*20*	*20*	*15*	35	*10%*	17.0	*25%*
- *Foreign-Born Black*	*13*	*14*	*16*	*25*	*15*	*10*	25	*7%*	27.2	*52%*
Latina/o/x and Hispanic	37	39	34	39	40	19	59	18%	12.8	24%
- *U.S.-Born Latinx*	*14*	*22*	*13*	*24*	*14*	*8*	22	*7%*	7.8	*13%*
- *Foreign-Born Latinx*	*13*	*14*	*16*	*25*	*15*	*10*	25	*7%*	13.9	*35%*
Native Hawaiian / Pacific Islander	1	0	3	3	3	2	5	1%	13.0	40%
White	104	76	74	106	80	84	164	49%	6.3	18%
Multiple Race	3	10	5	11	10	7	17	5%	8.0	15%
Transmission Category by Gender										
Men (cisgender and transgender)										
- Male / Male Sex (MSM)	146	109	104	104	110	107	217	64%	---	20%
- People Who Inject Drugs (PWID)	4	8	4	14	7	3	10	3%	---	24%
- MSM and PWID	11	14	14	25	14	15	29	9%	---	21%
- Heterosexual Contact	2	6	2	5	5	2	7	2%	---	25%
- Pediatric	0	0	0	0	0	0	0	0%	---	0%
- Transfusion / Hemophiliac	0	0	0	0	0	0	0	0%	---	0%
- No Identified Risk	18	11	15	20	12	11	23	7%	---	46%
Cisgender Women										
- People Who Inject Drugs (PWID)	3	4	3	16	9	0	9	3%	---	9%
- Heterosexual Contact	17	20	16	25	15	9	24	7%	---	35%
- Pediatric	0	0	1	0	0	0	0	0%	---	0%
- Transfusion / Hemophiliac	0	0	0	0	0	0	0	0%	---	0%
- No Identified Risk	3	3	6	6	5	7	12	4%		43%
Transgender Women (all transmission categories)	2	3	2	0	3	3	6	2%	---	20%

All HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2021. Rates are per 100,000 residents. Rates assume 31% of Black and 39% of Hispanic/Latinx residents are foreign-born. Heterosexual contact includes presumed heterosexual contact (women who have sex with men and deny injection drug use). In the breakdowns by nativity, people with unknown birthplace are excluded (elsewhere they may be included with U.S.-born PLWH).

[A] Late HIV diagnoses designate an AIDS diagnosis within one year of the HIV diagnosis and are based on new HIV cases diagnosed between 2015 and 2019.

[B] Due to small numbers transgender men are not separated into their own row.

TABLE 5-3. AIDS CASES AND CUMULATIVE DEATHS, KING COUNTY, WA, 1982-2020

	Recent AIDS Cases			Current AIDS Cases Living in King County			Cumulative AIDS Cases		Cumulative Deaths[A]	
	2019-2020			2020			1982-2020		1982-2020	
	No.	%	Rate	No.	%	Rate	No.	%	No.	%
Total	**161**	**100%**	**3.6**	**3,425**	**100%**	**151.5**	**9,278**	**100%**	**5,633**	**100%**
Gender										
Cisgender men	125	78%	5.6	2,938	86%	259.6	775	8%	5,293	94%
Cisgender women	35	22%	1.6	455	13%	40.3	8,459	91%	327	6%
Transgender men	0	0%	---	0	0%		1	0%	1	0%
Transgender women	1	1%	---	32	1%		43	0%	12	0%
Age at AIDS Diagnosis				**Current Age**					**Age at Death**	
< 13	0	0%	0.0	0	0%	0.0	14	0%	7	0%
13 - 24	5	3%	0.8	19	1%	5.9	306	3%	41	1%
25 - 34	41	25%	4.8	200	6%	46.1	3,132	34%	1,165	21%
35 - 44	39	24%	5.6	559	16%	156.8	3,608	39%	2,126	38%
45 - 54	41	25%	7.4	991	29%	357.4	1,626	18%	1,320	23%
55+	35	22%	3.3	1,656	48%	309.3	592	6%	974	17%
Race and Hispanic Origin										
American Indian / Alaska Native	0	0%	0.0	24	1%	175.1	98	1%	73	1%
Asian	14	9%	1.7	157	5%	36.5	216	2%	74	1%
Black	39	24%	13.1	722	21%	471.9	1,316	14%	626	11%
Latina/o/x and Hispanic	35	22%	7.6	525	15%	224.4	899	10%	345	6%
Native Hawaiian / Pacific Islander	2	1%	5.2	14	0%	71.6	25	0%	11	0%
White	62	39%	2.4	1,733	51%	132.9	6,272	68%	4,335	77%
Multiple Race	9	6%	4.3	250	7%	233.6	452	5%	169	3%
Transmission Category by Gender										
Men (cisgender and transgender)										
- Male / Male Sex (MSM)	77	48%	---	2,111	62%	---	6,363	69%	4,008	71%
- Injecting Drug Use (IDU)	9	6%	---	114	3%	---	381	4%	285	5%
- MSM and IDU	21	13%	---	341	10%	---	992	11%	653	12%
- Heterosexual Contact	6	4%	---	130	4%	---	202	2%	67	1%
- Pediatric	0	0%	---	7	0%	---	8	0%	5	0%
- Transfusion / Hemophiliac	0	0%	---	10	0%	---	65	1%	55	1%
- No Identified Risk	12	7%	---	225	7%	---	448	5%	220	4%
Cisgender Women										
- Injecting Drug Use	3	2%	---	65	2%	---	171	2%	129	2%
- Heterosexual Contact	18	11%	---	300	9%	---	491	5%	153	3%
- Pediatric	0	0%	---	12	0%	---	12	0%	5	0%
- Transfusion / Hemophiliac	0	0%	---	5	0%	---	23	0%	18	0%
- No Identified Risk	14	9%	---	73	2%	---	79	1%	23	0%
Transgender Women (all transmission categories)	1	1%	---	32	1%	---	43	0%	12	0%

All HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2021. Heterosexual contact includes presumed heterosexual contact (women who have sex with men and deny injection drug use). Rates are per 100,000 residents.

[A] Includes 376 cases with an HIV-only Diagnosis and 5,246 AIDS Cases. 3,914/5,633 (69%) deaths had HIV listed as an underlying condition.

TABLE 5-4. LIVING CASES OF HIV INFECTION BY GENDER, RACE/ETHNICITY, [A] AND TRANSMISSION CATEGORY, KING COUNTY, WA, AS OF DECEMBER 31, 2020

	American Indian / Alaska Native		Asian		Black		Latina/o/x and Hispanic		White	
Transmission Category	No.	%	No.	%	No.	%	No.	%	No.	%
Cisgender Men										
Male / Male Sex (MSM)	15	60%	217	77%	525	56%	778	81%	2,799	81%
People Who Inject Drugs (PWID)	3	12%	4	1%	49	5%	17	2%	85	2%
MSM and PWID	7	28%	8	3%	60	6%	76	8%	417	12%
Heterosexual Contact	0	0%	7	2%	110	12%	32	3%	37	1%
- U.S.-Born	*0*	*0%*	*0*	*0%*	*30*	*3%*	*6*	*1%*	*27*	*1%*
- Foreign-Born	*0*	*0%*	*7*	*2%*	*79*	*8%*	*26*	*3%*	*8*	*0%*
Pediatric	0	0%	0	0%	14	1%	1	0%	2	0%
Transfusion / Hemophiliac	0	0%	0	0%	2	0%	1	0%	9	0%
No Identified Risk	0	0%	47	17%	179	19%	51	5%	102	3%
Total Cisgender Men	**25**	100%	**283**	100%	**939**	100%	**956**	100%	**3,451**	100%
Cisgender Women										
People Who Inject Drugs (PWID)	6	43%	1	3%	20	4%	8	9%	63	30%
Heterosexual Contact	7	50%	29	74%	323	62%	72	77%	123	59%
- U.S.-Born	*6*	*43%*	*2*	*5%*	*83*	*16%*	*20*	*22%*	*107*	*51%*
- Foreign-Born	*1*	*7%*	*26*	*67%*	*235*	*45%*	*51*	*55%*	*11*	*5%*
Pediatric	0	0%	1	3%	27	5%	2	2%	4	2%
Transfusion / Hemophiliac	0	0%	0	0%	5	1%	0	0%	2	1%
No Identified Risk	1	7%	8	21%	146	28%	11	12%	16	8%
Total Cisgender Women	**14**	100%	**39**	100%	**521**	100%	**93**	100%	**208**	100%
Transgender Women:										
Male Sex Partner	0	0%	5	83%	8	100%	16	76%	11	61%
Male Sex Partner & PWID	0	0%	0	0%	0	0%	5	24%	7	39%
No Identified Risk	0	0%	1	17%	0	0%	0	0%	0	0%
Total Transgender Women	**0**	100%	**6**	100%	**8**	100%	**21**	100%	**18**	100%

All HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2021. Heterosexuals include presumed heterosexuals (women who have sex with men and deny injection drug use). Due to small numbers, transgender men are not included in this table. In the breakdowns by nativity, people with unknown birthplace are excluded (elsewhere they may be included with U.S.-born PLWH).

[A] Race/Ethnicity categories are mutually exclusive. Table excludes 27 Native Hawaiian and Pacific Islander cases due to small numbers. Also excluded are 458 cases reported as belonging to more than one racial or ethnic group. Thus, American Indian/Alaska Native, Asian, Black, and White PLWH exclude Latinx PLWH.

TABLE 5-5. CASES OF HIV INFECTION AMONG TRANSGENDER PEOPLE, KING COUNTY, WA, 2015-2020

	New HIV Diagnoses (2015-2020)				Transgender HIV Cases Presumed Living in King County at the end of 2020	
	Transgender[A] HIV Cases		All HIV Cases			
	No.	%	No.	%	No.	%
Total [B]	14	100%	1,103	100%	70	100%
Race and Hispanic Origin						
Asian	2	14%	82	7%	6	8%
Black	0	0%	222	20%	10	14%
Latina/o/x and Hispanic	5	36%	208	19%	21	30%
White	5	36%	524	48%	22	31%
Other/Unknown	2	14%	67	6%	11	17%
Person Who Injects Drugs						
Yes	3	21%	168	15%	17	24%
No	9	64%	818	74%	51	72%
Unknown	2	14%	117	11%	3	4%
Age at HIV Diagnosis					**Age at end of 2020**	
< 13	0	0%	1	0%	1	1%
13 - 24	4	29%	167	15%	18	27%
25 - 34	6	43%	409	37%	32	45%
35 - 44	2	14%	236	21%	14	20%
45 - 54	2	14%	171	16%	5	7%
55+	0	0%	119	11%	0	0%

All HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2021.

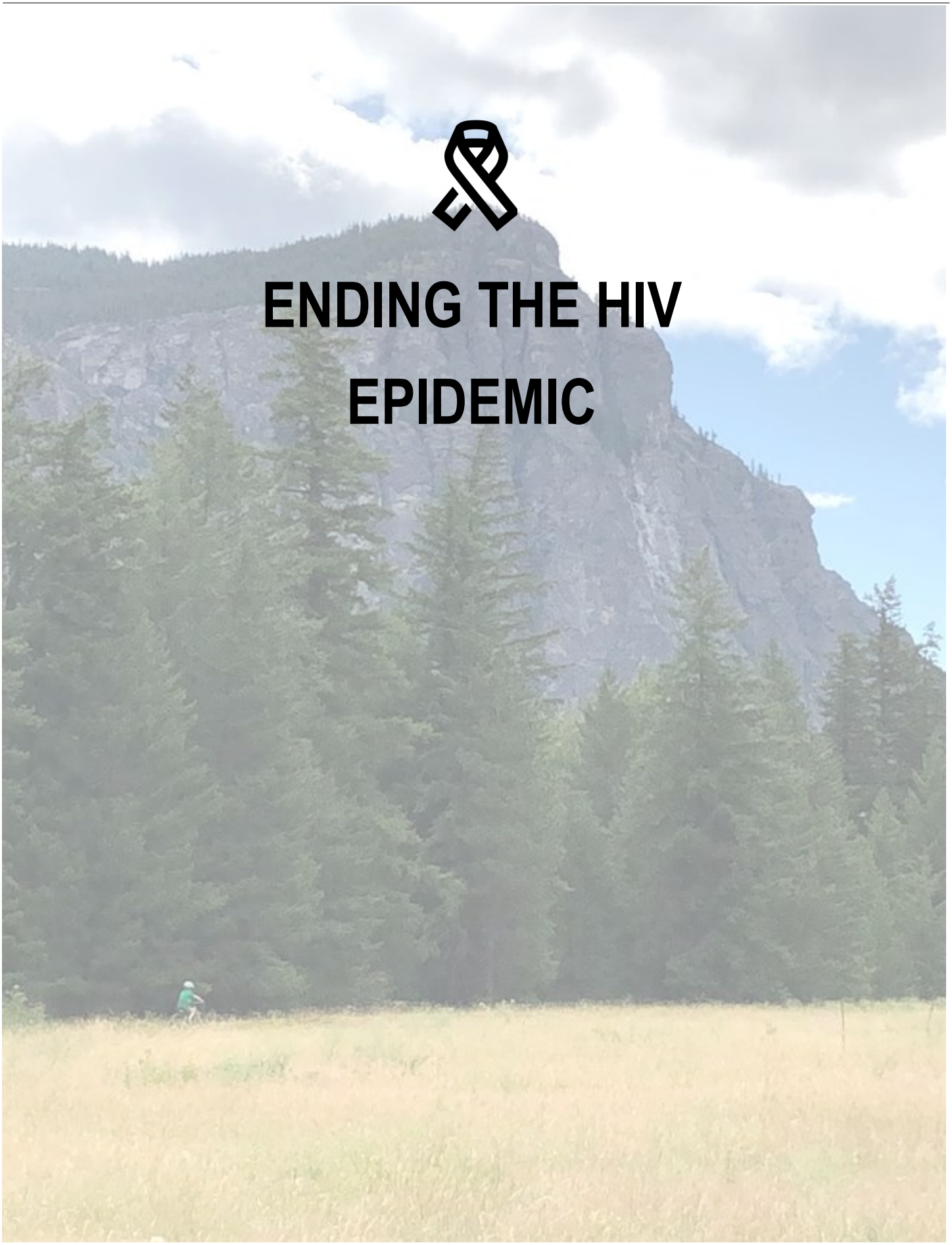
[A] Data presented here are a potential undercount. Identification of people who describe themselves as transgender relies on review of information in medical records and/or self-disclosure during partner services interviews. Gender identity has been collected on the HIV/AIDS case report in Washington since late 2004.

[B] For cases who identified as transgender, 93% of HIV cases diagnosed 2015-2020 and 92% of people presumed to be living in King County at the end of 2020 were assigned male at birth.

TABLE 5-6. CASES OF HIV INFECTION AMONG MEN WHO HAVE SEX WITH MEN (MSM), KING COUNTY, WA, 2019-2020

	New HIV Diagnoses (2019-2020)				MSM HIV Cases Presumed Living in King County at the End of 2020	
	MSM HIV Cases		All HIV Cases			
	No.	%	No.	%	No.	%
Total	246	100%	337	100%	5,281	100%
Race and Hispanic Origin						
American Indian / Alaska Native	1	0%	3	1%	22	0%
Asian	17	7%	26	8%	225	4%
Black	29	12%	63	19%	585	11%
Latina/o/x and Hispanic	51	21%	59	18%	854	16%
Native Hawaiian / Pacific Islander	3	1%	5	1%	20	0%
White	130	53%	164	49%	3,216	61%
Other/Unknown	15	6%	17	5%	359	7%
Injection Drug Use						
Yes	29	12%	48	14%	639	12%
No	217	88%	239	71%	4,642	88%
Unknown	0	0%	50	15%	0	0%
Age at HIV Diagnosis					**Age at end of 2020**	
< 13	0	0%	0	0%	0	0%
13 - 24	42	17%	52	15%	71	1%
25 - 34	103	42%	126	37%	780	15%
35 - 44	52	21%	75	22%	1,075	20%
45 - 54	31	13%	51	15%	1,371	26%
55+	18	7%	33	10%	1,984	38%
Foreign-born Status						
U.S.-born	174	71%	218	65%	4,292	81%
Foreign-born	55	22%	88	26%	750	14%
Unknown	17	7%	31	9%	239	5%

All HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2021. MSM include MSM who also inject drugs (PWID). Due to small numbers (n=0 for new diagnoses and N=6 for people living in King County at the end of 2020), transgender men who have sex with men are not included in this table.



ENDING THE HIV EPIDEMIC

King County HIV Prevalence, Incidence, Mortality, Key Populations & Community Profile

Introduction

DESCRIPTION OF KING COUNTY: King County currently has a population of about 2.3 million living within 2,307 square miles between the eastern shore of Puget Sound and the Cascade Mountains. The county is the 12th largest in the U.S. by both population and land mass. King County's county seat is Seattle, and other cities include Bellevue, Renton, and Kent. The median household income in King County is about $100,000. In 2020, a one-night count estimated nearly 12,000 King County residents were unhoused. The median monthly cost to rent an apartment or house is about $1,700 and the median house price is about $750,000. King County is home to Muckleshoot, Snoqualmie, and Duwamish American Indian tribes. Currently, fewer than 1% of King County residents are single-race non-Latinx American Indian/ Alaska Native (AI/AN); however, including AI/AN who are also Latinx and/or multiracial increases this estimate five-fold or more. Latinx residents make up 10% of the population. Excluding Latinx people, 58% of the county population is White, 19% is Asian, 7% is Black, 1% is Pacific Islander, and 5% is multiracial. About 25% of King County residents are foreign-born, including 31% of Black and 39% of Latinx, and 68% of Asian residents. The proportions of the population assigned male and female at birth are nearly the same, with 2,400 (0.1%) more males than females. In 2020, 15% of the King County population was under 13 years and 24% was 55 years and older.

HIV PREVALENCE: Approximately seven thousand people diagnosed with HIV reside in King County. This estimate has been stable for many years. As of December 31, 2020, 7,073 people living with HIV (PLWH) had a King County address. However, 341 (5% of 7,073) had not had any known HIV care for at least 18 months. Of the 341, we found 76 (22%) were likely no longer living in King County based on a search of publicly available records. In accordance with national HIV surveillance protocols,

KEY POINT: Approximately 7,000 people are living with HIV in King County.

Public Health – Seattle & King County (PHSKC) does not change the official residence of PLWH unless a health department in another jurisdiction confirms that a case has relocated. Thus, the current official federal count of PLWH in King County in 2020 is 7,073. (Note that Washington State and King County numbers of prevalent King County PLWH differ by one person due to differences in data cleaning, record access, and/or date of analysis.) However, in the remainder of this section and throughout the remainder of this report we use a local estimate of 6,997 persons, removing cases PHSKC believes have left the county based on local investigations. Surveillance reports in 2019 and 2020 used a similar adjustment.

HIV DIAGNOSIS INCIDENCE: The first HIV diagnoses among King County residents were in 1982. Licensed HIV tests were not available until 1985, so diagnoses between 1982-1984 were made either due to presentation with AIDS-defining illness or due to a diagnosis in a clinical trial. New diagnoses peaked in 2002-2003 with 348 diagnoses each year. Currently, the number of new HIV diagnoses per year are fewer than half of the peak, with 157 new diagnoses in 2020. For four of the past five years, fewer than 200 residents were diagnosed with HIV annually. Using Centers for Disease Control and Prevention (CDC) criteria, there were 200 new HIV diagnoses in King County in 2020. However, 43 of these cases (22% of 200) were diagnosed prior to 2020 or reported that their initial diagnosis was in another state or country. Thus, for local epidemiology and throughout this report we estimate that there were 157 new HIV diagnoses in 2020. PHSKC has used a similar approach to define local incidence estimates for about four years. (Again, note that Washington State and King County numbers of new HIV diagnoses in King County differ by 12 people due to differences in data cleaning, record access, and/or date of analysis.)

KEY POINT: In 2020, 157 people were newly diagnosed with HIV in King County.

KEY POINTS:

- After an unexpected increase in HIV diagnoses in 2018 associated with an outbreak of HIV among PWID and persons living unhoused in north Seattle, the number of new HIV diagnoses among King County residents declined in 2019 and 2020, resuming a downward trend observed since 2014.
- HIV diagnoses in Latinx King County residents and among non-MSM PWID declined sharply in 2020. The extent to which these abrupt declines reflect a true change in incidence versus a drop in HIV testing in these populations occurring in the context of the COVID-19 pandemic is uncertain.

New HIV Diagnoses

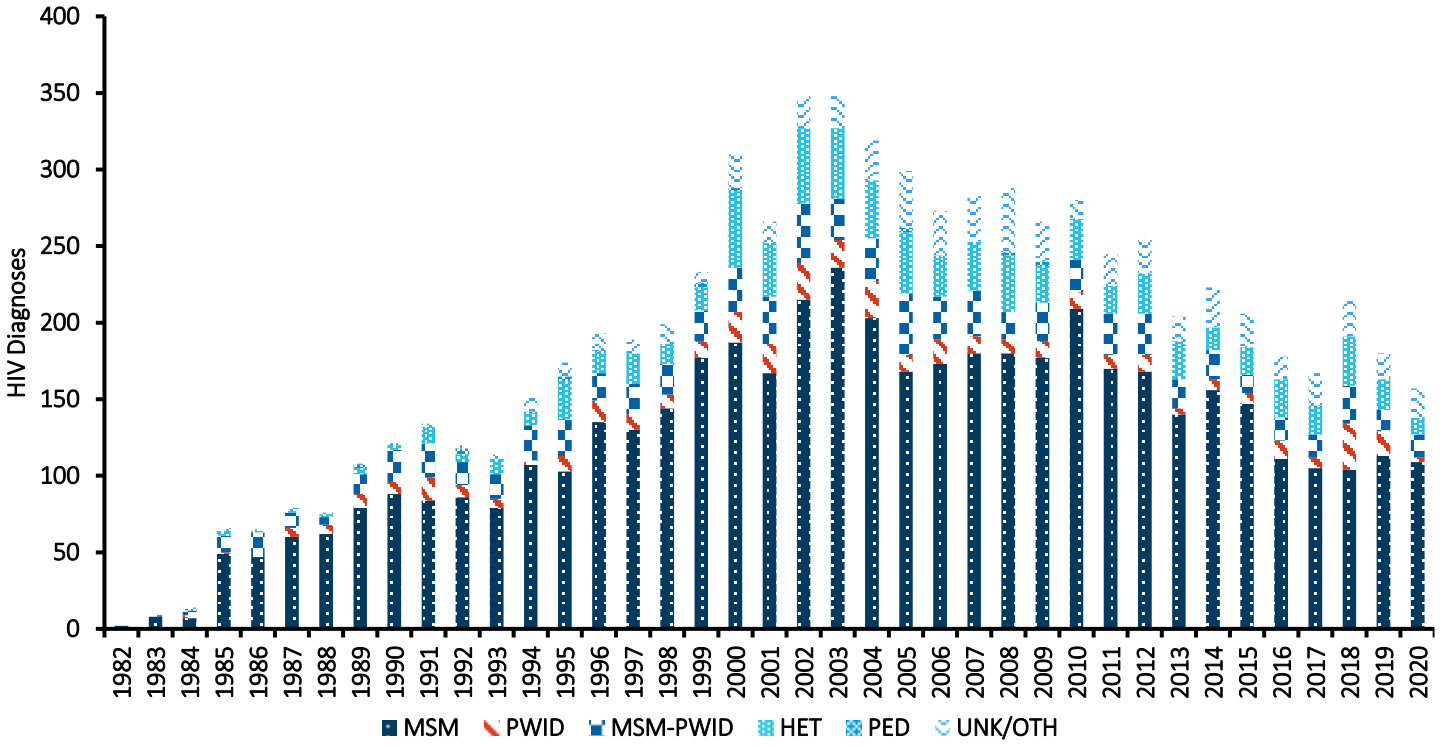
TRENDS BY TRANSMISSION CATEGORY: Table 6-1 and Figure 6-1 present the numbers of new HIV diagnoses by HIV risk category among King County residents from the start of the epidemic (1982) through 2020. Over the past 10 years there has been a 36% overall decline in new diagnoses. There was, however, an increase in HIV cases in 2018-2019 largely due to a 328% increase in cases among people who inject drugs (PWID) between 2017 and 2018. Correspondingly, the percent of HIV diagnoses who were non-PWID men who have sex with men (MSM) declined from 63% in 2017 to 48% in 2018 and then increased to a more typical 69% in 2020.

Calculating HIV diagnosis rates according to risk categories (Figure 6-2) introduces more uncertainty relative to rates for other characteristics where U.S. Census and American Community Surveys provide reliable estimates of the size of each population. Due in part to a lack of data on transgender status in the U.S. Census data (i.e., data needed to calculate population rates), transmission categories here are defined, when applicable, using sex assigned at birth. We calculated diagnosis rates per 1,000 MSM, PWID, and MSM-PWID using population estimates from a variety of sources. These include BRFSS (Behavioral Risk Factor Surveillance System) data to calculate the size of the MSM population (i.e., three-year average of the percent of men reporting they are gay or bisexual). The size of the PWID population was estimated by a group of local researchers in 2014, and we continue to adjust that estimate to account for population growth. The population at risk for heterosexually-acquired HIV are adults age 15 years and over minus MSM and PWID. Because the diagnosis rate for heterosexual contact is far less than that of PWID, MSM, and MSM-PWID, we present that rate as diagnoses per 100,000.

TRENDS IN HIV DIAGNOSES BY RACE AND ETHNICITY: HIV incidence and prevalence are characterized by profound racial and ethnic disparities, with the highest rates of infection observed among Black and African American people (Figure 6-3). These disparities reflect both immigration of King County residents from sub-Saharan Africa and other regions of the world with a high prevalence of HIV and the influence of social determinants of health, such as poverty. In general, both HIV diagnosis rates and numbers of diagnoses among ethnic/racial minority groups are declining, and disparities in HIV diagnosis rates relative to the rate in

KEY POINT: Rates of new HIV diagnoses are declining in all populations defined by race/ethnicity, and both absolute and relative disparities in new diagnoses are declining. Despite this progress, the risk of HIV remains nearly three times higher among Black than among White King County residents. Other than Asian residents, all people of color face disproportionately higher diagnosis rates relative to White residents.

FIGURE 6-1. HIV DIAGNOSES BY YEAR AND HIV TRANSMISSION CATEGORY, KING COUNTY, WA, 1982-2020

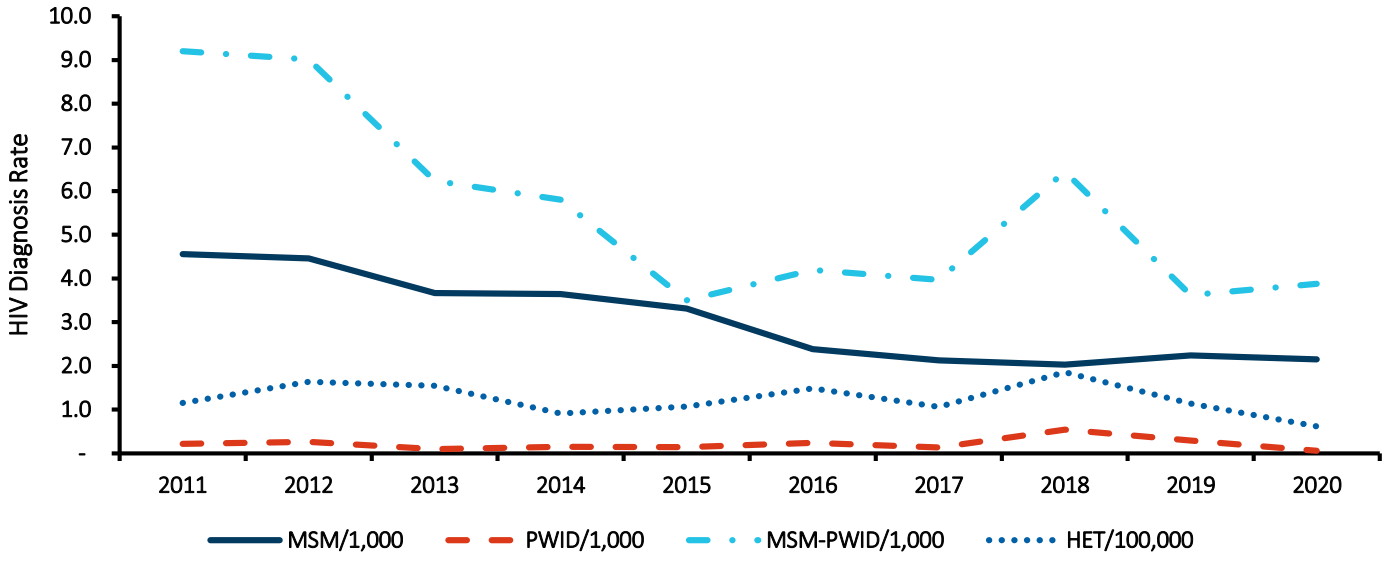


MSM = Men who have sex with men; **PWID** = People who inject drugs; **HET** = Heterosexual contact (opposite sex partner with or at high risk of HIV), including presumed heterosexual transmission (women who have sex with men and deny being PWID); **PED** = pediatric transmission, neonatally; **UNK/OTH** = other risk, such as blood products or transfusions or no reported risk

TABLE 6-1: HIV DIAGNOSES BY YEAR AND HIV TRANSMISSION CATEGORY, KING COUNTY, WA, PRE-1985-2020

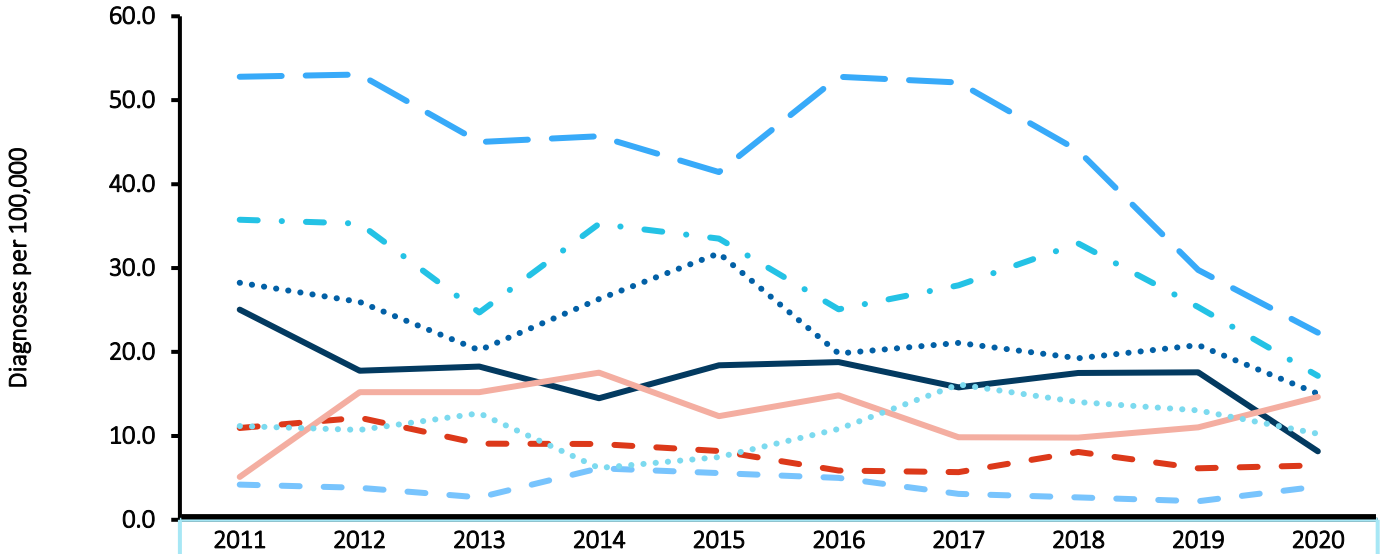
	MSM	PWID	MSM/ PWID	HET	PED	UNK/ OTH	Total		MSM	PWID	MSM/ PWID	HET	PED	UNK/ OTH	Total
<1985	17	2	4	0	1	1	25	2003	236	18	27	46	0	21	348
1985	49	1	11	3	0	2	66	2004	203	24	28	38	0	26	319
1986	47	0	16	1	0	1	65	2005	168	11	40	40	3	37	299
1987	60	6	10	1	0	2	79	2006	173	16	28	26	1	29	273
1988	62	6	5	2	0	1	76	2007	180	11	30	32	0	31	284
1989	79	9	13	4	2	1	108	2008	180	9	18	37	2	42	288
1990	88	8	21	3	1	0	121	2009	177	11	25	24	3	26	266
1991	84	15	22	11	0	2	134	2010	209	11	21	27	0	12	280
1992	86	8	15	5	4	2	120	2011	170	9	27	18	0	21	245
1993	79	6	16	10	0	3	114	2012	168	11	27	26	0	24	256
1994	107	3	23	8	1	9	151	2013	140	4	19	25	0	16	204
1995	103	10	24	25	3	9	174	2014	156	7	19	15	0	26	223
1996	135	14	18	14	1	11	193	2015	147	7	12	18	0	22	206
1997	130	10	20	20	0	9	189	2016	111	12	15	25	0	15	178
1998	144	9	20	13	0	13	199	2017	105	7	15	18	1	21	167
1999	177	11	20	15	3	7	233	2018	104	30	25	32	0	24	215
2000	187	20	29	50	2	22	310	2019	113	16	14	20	0	17	180
2001	167	19	31	35	0	14	266	2020	109	3	15	11	0	19	157
2002	215	24	39	49	0	21	348								

FIGURE 6-2. HIV DIAGNOSIS RATE BY YEAR AND HIV TRANSMISSION CATEGORY, KING COUNTY, WA, 2011-2020



Note: Heterosexual line uses a different scale (diagnoses/100,000) than other populations (diagnoses/1,000).
MSM = Men who have sex with men; **PWID** = People who inject drugs; **HET** = Heterosexual contact (opposite sex partner with or at high risk of HIV), including presumed heterosexual transmission (women who have sex with men and deny being PWID)

FIGURE 6-3. HIV DIAGNOSIS RATE BY YEAR AND RACE/ETHNICITY, KING COUNTY, WA 2011-2020



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Latinx	25.0	17.7	18.3	14.5	18.4	18.8	15.8	17.5	17.6	8.2
White	10.9	12.1	9.1	9.0	8.2	5.9	5.7	8.1	6.1	6.5
Black	35.7	35.3	24.7	35.2	33.5	25.1	27.9	32.9	25.4	17.2
USBB	28.2	25.9	20.2	26.3	31.8	19.8	21.1	19.3	20.8	15.0
FBB*	52.8	53.1	45.0	45.7	41.4	52.8	52.1	44.0	29.8	22.3
AI/AN*	5.1	15.2	15.2	17.5	12.3	14.8	9.8	9.8	11.0	14.6
Asian	4.2	3.8	2.7	6.1	5.5	5.0	3.1	2.7	2.2	4.0
PI*	11.2	10.7	12.7	6.2	7.5	10.8	16.1	14.0	13.0	10.2

* Designates 3 year averages; **FBB** = Foreign-born Black; **USBB** = U.S.-born Black; **AI/AN=**American Indian/Alaska Native; **PI** = Pacific Islander/Native Hawaiian

non-Latinx Whites are declining (Table 6-2). The decrease in HIV diagnoses among Latinx people in 2020 – a 52% decrease relative to 2019 – is striking. The reasons for this abrupt decline are uncertain but include the possibility that rates of HIV testing declined disproportionately among Latinx persons during the COVID-19 pandemic.

Trends in HIV diagnosis rates by sex assigned at birth and nativity: As shown in Figure 6-4, the HIV diagnosis rate among males declined between 2011-2020, while the overall rate among females remained fairly stable from 2011-2017. The diagnosis rate in females increased in 2018 and then dropped 46% between 2019 and 2020, with a 67% decline in new diagnoses among U.S.-born females. In Figure 6-5, these rates are stratified by nativity. Overall, the percent of new diagnoses who are foreign-born has remained fairly steady, ranging between 22 and 32% over the decade. HIV diagnosis rates are similar for U.S.-born and foreign-born males, but overall and female rates are higher for foreign-born residents.

KEY POINT: Rates of new HIV diagnoses have declined for males, but have remained steady for females.

HIV by Geography

Data about PLWH in King County cities that had a population size above 50,000 or more than 100 PLWH in 2020 are included in Table 6-3. In general, HIV is more prevalent in areas that are more urban, such as Seattle, and in areas with higher poverty levels, especially south King County. For example, U.S. Census data for 2015-2019 indicated that 11% of Seattle residents lived in poverty relative to 13-17% of residents in Kent, Burien, Tukwila, and SeaTac.

KEY POINT: HIV is more prevalent in areas of King County that are more urban and/or have higher poverty levels.

Mortality

In general, there is often a one year or longer lag between the end of a year and when mortality data are complete. Therefore, this report includes mortality rates among PLWH between through 2019. As shown in Figure 6-6, over the past decade, the average age of PLWH in King County has increased. We applied age standardization to adjust for that population-based shift. We also adjusted for a lag in the reporting of deaths in 2019, assuming the reporting of deaths was nearly 100% through 2018 and 98% for 2019.

As shown in Figure 6-7, age- and lag-adjusted mortality declined among PLWH in King County between 2010 and 2016, increased in 2017 and especially in 2018, and then dropped again in 2019. The reasons for the increase in 2018 are uncertain but coincided with an outbreak of HIV among PWID and persons living homeless. Except for the 2017-2018 increase, lag and age adjusted mortality has been consistently declining. Likewise, the percentage of deaths caused by HIV has dropped from almost 50% to 32%. These trends highlight the success of HIV treatment.

KEY POINT: Mortality rates among people living with HIV in King County have declined since 2010.

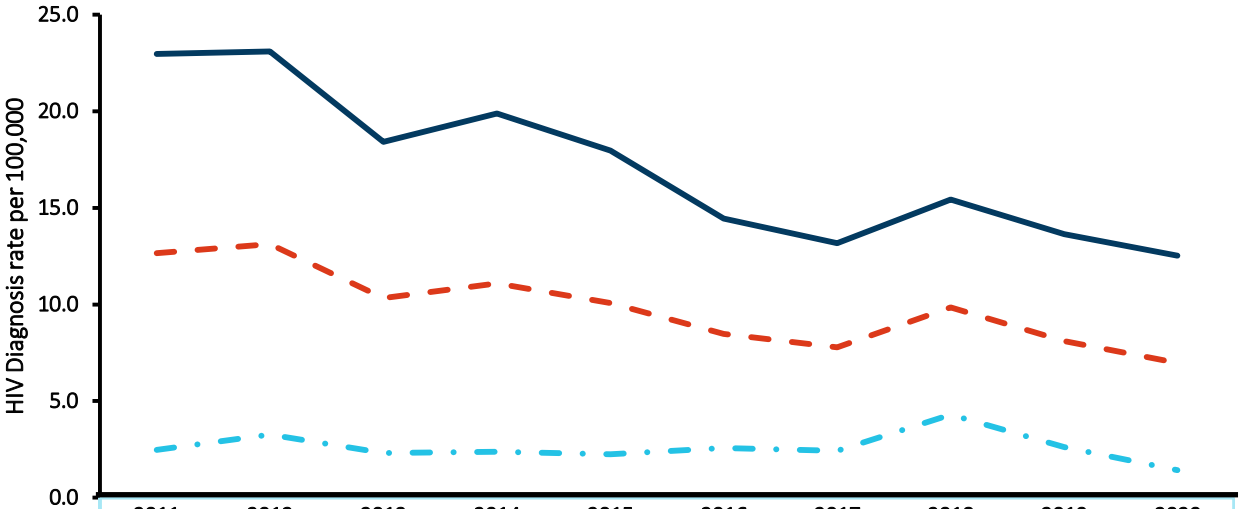
Key Populations

HIV diagnoses among MSM by race/ethnicity: Because MSM are the group with the largest proportion of HIV cases, we compared diagnosis rates over the past decade

Table 6-2: Number of HIV Diagnoses by Year and Race/Ethnicity, King County, WA, 2011-2020

	Asian	American Indian AK Nat.	Black, foreign-born	Black, U.S.-born	Latina/o/x and Hispanic	Pacific Islander	Multi-racial	White	Total
2011	12	0	17	25	44	2	8	137	245
2012	11	0	19	23	32	0	19	152	256
2013	8	2	12	18	34	3	13	114	204
2014	19	4	20	24	28	2	12	114	223
2015	18	0	13	30	37	1	3	104	206
2016	17	3	14	19	39	0	10	76	178
2017	11	2	17	21	34	3	5	74	167
2018	10	1	26	20	39	3	10	106	215
2019	9	1	15	22	40	3	10	80	180
2020	17	2	10	16	19	2	7	84	157

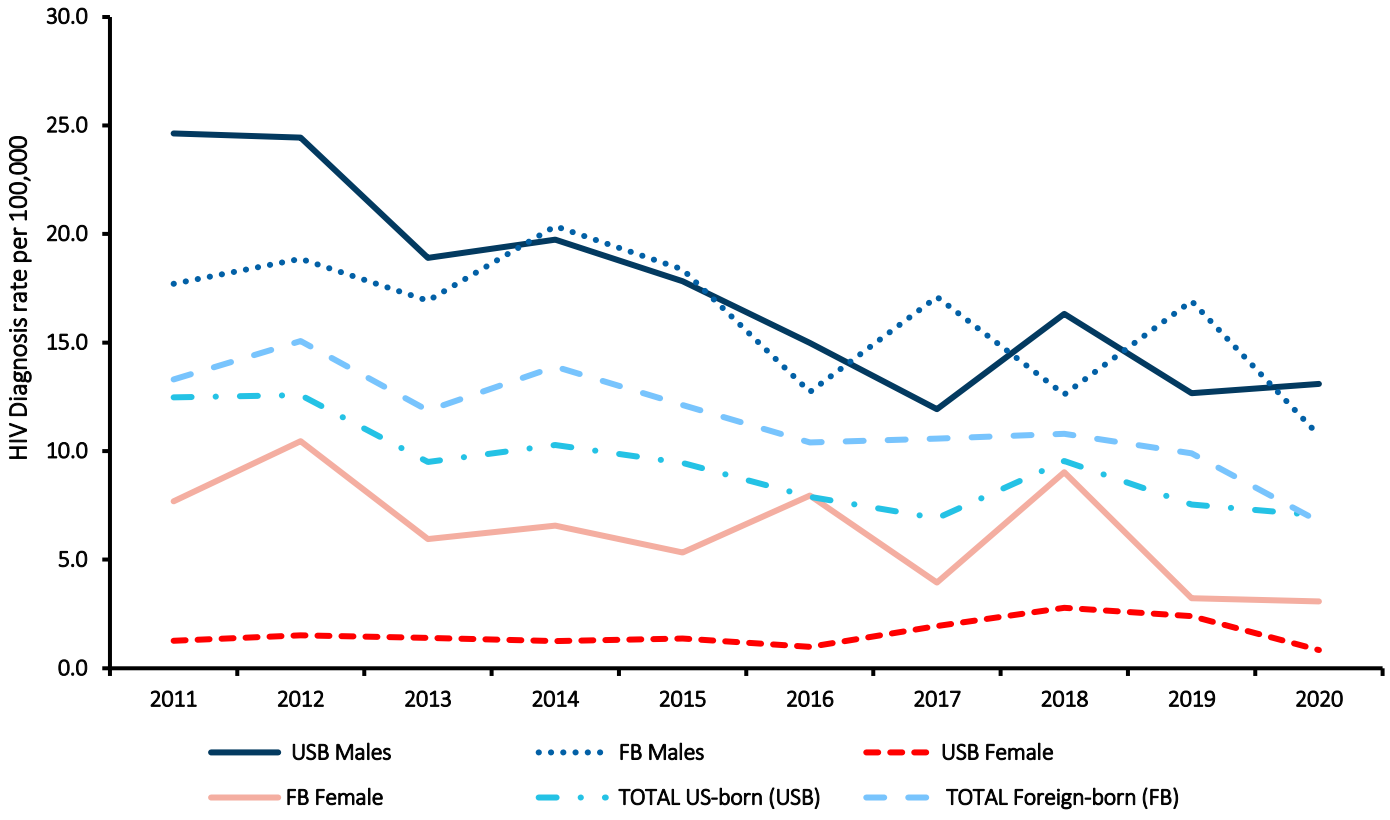
FIGURE 6-4: HIV DIAGNOSIS RATES BY YEAR AND SEX ASSIGNED AT BIRTH, KING COUNTY, WA, 2011-2020



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Males*	23.0	23.1	18.4	19.9	18.0	14.4	13.2	15.4	13.6	12.5
TOTAL	12.7	13.1	10.3	11.1	10.1	8.5	7.8	9.8	8.1	7.0
Females*	2.5	3.3	2.3	2.4	2.2	2.6	2.4	4.3	2.6	1.4

* According to sex assigned at birth.

FIGURE 6-5: HIV DIAGNOSIS RATES BY YEAR, SEX ASSIGNED AT BIRTH, AND NATIVITY, KING COUNTY, WA, 2011-2020



among MSM by race/ethnicity. The rates, calculated as diagnoses per 1,000 MSM per year, are based on U.S. Census estimates of the number of men living in King County and BRFSS estimates of the proportion of the adult male population which is MSM, which varied from 5.7 - 6.7% between 2013 and 2020. We assume that the percentage of men who are MSM does not vary by race/ethnicity. As seen in Figure 6-8, Black, Latinx, multiracial, and Pacific Islander MSM have disproportionately high rates of HIV diagnoses relative to White, American Indian/Alaska Native and Asian MSM. (Note that the rate given for AI/AN excludes AI/AN who are also Latinx or multiracial; if included, the estimated diagnosis rate per 1,000 is 3.8). Figure 6-9 presents the prevalence of HIV among each racial/ethnic group of MSM, showing disparities similar to those observed in diagnosis rates. For AI/AN, including multiracial and Latinx AI/AN MSM, the prevalence of HIV is 14.7%.

KEY POINT: MSM continue to comprise the majority of new HIV diagnoses, and Latinx, Black, Pacific Islander, and multiracial MSM had the highest HIV diagnosis rates in 2020.

HIV diagnosis rates by race among PLWH with heterosexual HIV transmission risk: Among people whose HIV risk was heterosexual contact (either known or presumed), both foreign-born and U.S.-born Black individuals had higher HIV diagnosis rates than White or Latinx people (Figure 6-10). Over the past decade, HIV diagnosis rates for heterosexual contact declined for foreign-born Black (50%) and Latinx people (70%) but were relatively flat for White and U.S.-born Black individuals.

KEY POINTS:

- Among heterosexuals, HIV diagnosis rates are highest among foreign-born Black individuals, although this rate has declined since 2011.
- Although there were only 2 new HIV diagnoses among U.S.-born Black heterosexuals in 2020, and 12 new diagnoses between 2018 and 2020, the rate of HIV diagnosis among U.S.-born Black heterosexuals is 6 times that observed in White heterosexuals .

Drug use, MSM status, and Disparities in HIV prevalence among PWID: Among PWID, HIV prevalence varies markedly by MSM status and methamphetamine use (Figure 6-11). Based on data from routine HIV surveillance, including the 2018 National HIV Behavioral Surveillance (NHBS) PWID survey, we estimate that MSM -PWID who primarily inject methamphetamine have an HIV prevalence of approximately 40-60%. In the 2018 NHBS-PWID survey, MSM who primarily inject methamphetamine were approximately 15 times as likely

Table 6-3. Key metrics of HIV diagnosis incidence (2016-2020) and prevalence (2020) by King County Cities

City	New diagnoses in the past 5 years	New HIV diagnoses 2020	PLWH in 2020	Number out of care or not suppressed	% Viremic	% Out of care	City population 2020	HIV Diagnosis rate per 100K in 2020
Seattle	521	90	4,516	777	5%	12%	724,305	12.5
Bellevue	22	4	159	25	4%	11%	144,403	2.8
Kent	64	14	346	79	7%	16%	131,118	10.7
Renton	41	6	293	65	6%	16%	101,484	5.9
Federal Way	40	4	283	56	5%	15%	96,526	4.2
Kirkland	25	8	101	21	5%	16%	89,438	9.0
Auburn	28	6	196	24	4%	14%	80,134	7.5
Redmond	12	1	81	15	5%	14%	65,558	1.5
Sammamish	4	2	23	7	9%	22%	64,674	3.1
Burien	32	4	168	24	4%	10%	51,477	7.8
SeaTac	24	2	128	25	7%	12%	29,019	6.9
Tukwila	18	5	131	22	8%	8%	20,196	24.9
Shoreline	14	4	111	18	4%	13%	56,267	7.1
Other towns or unincorporated	52	7	461	95	4%	16%	540,903	1.3
Total	**897**	**157**	**6,997**	**1,264**	**367**	**898**	**2,195,502**	**7.2**

FIGURE 6-6. AGE (YEARS) OF PEOPLE LIVING WITH HIV, KING COUNTY, WA, 2010-2019

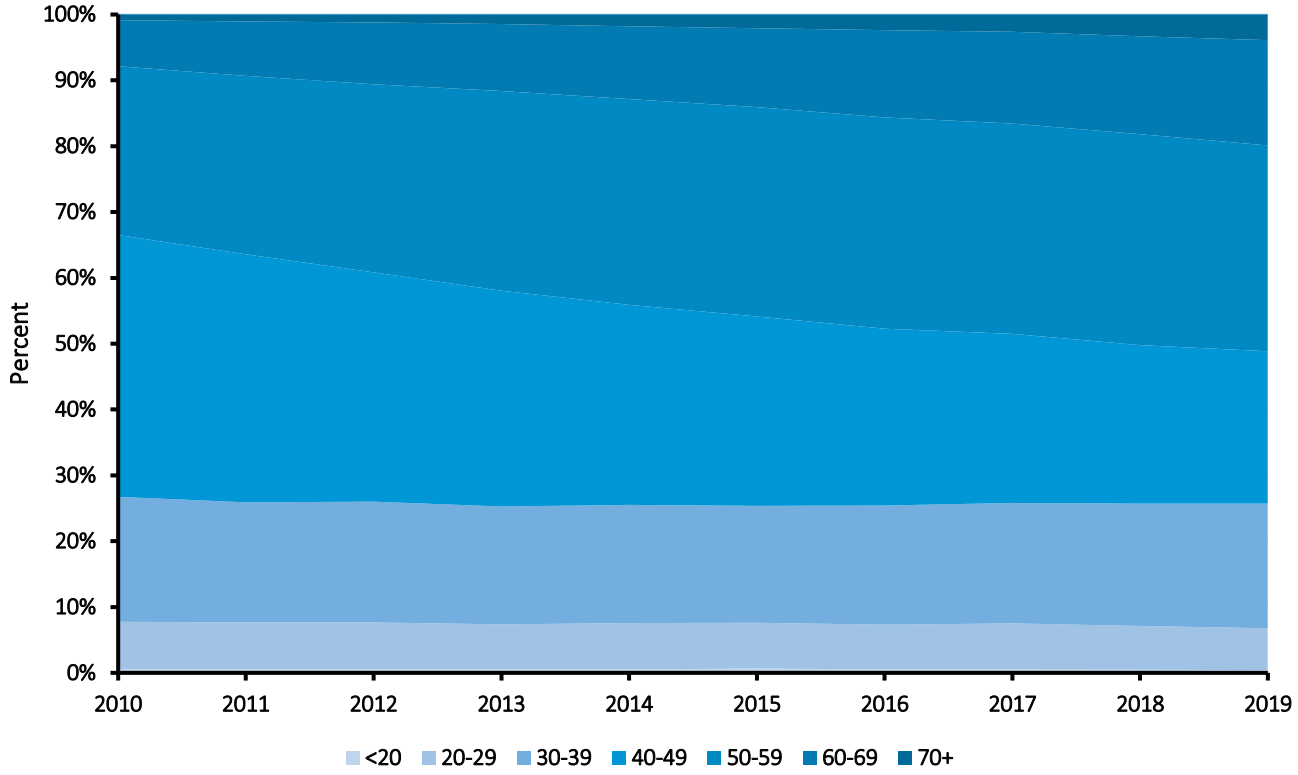
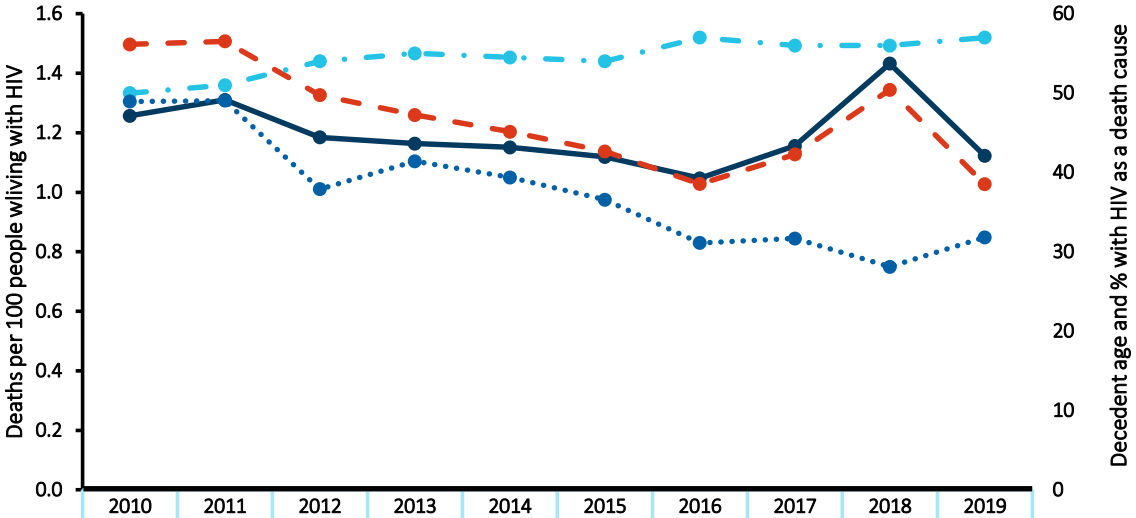
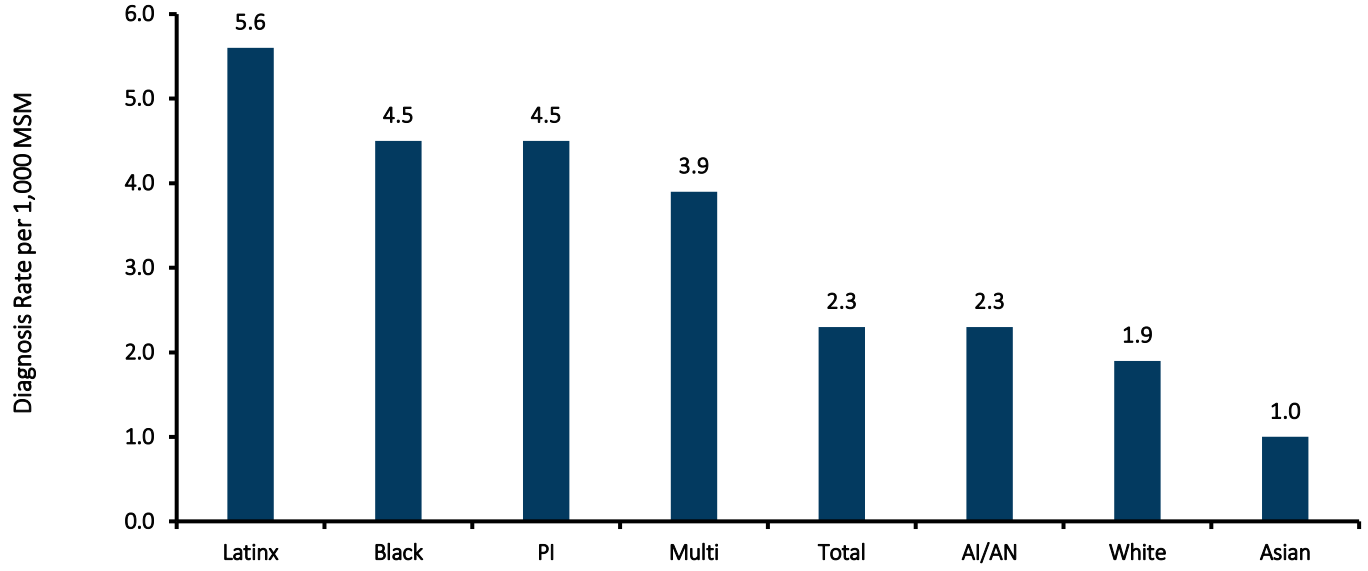


FIGURE 6-7: MORTALITY RATES AMONG INDIVIDUALS DIAGNOSED WITH HIV: (1) UNADJUSTED (CRUDE) AND (2) ADJUSTED FOR CHANGES IN AGE DISTRIBUTION AND LAGS IN DEATH REPORTING; ALSO (3) MEDIAN AGE AT DEATH AND (4) PERCENT WITH HIV LISTED AS A CONTRIBUTING CAUSE



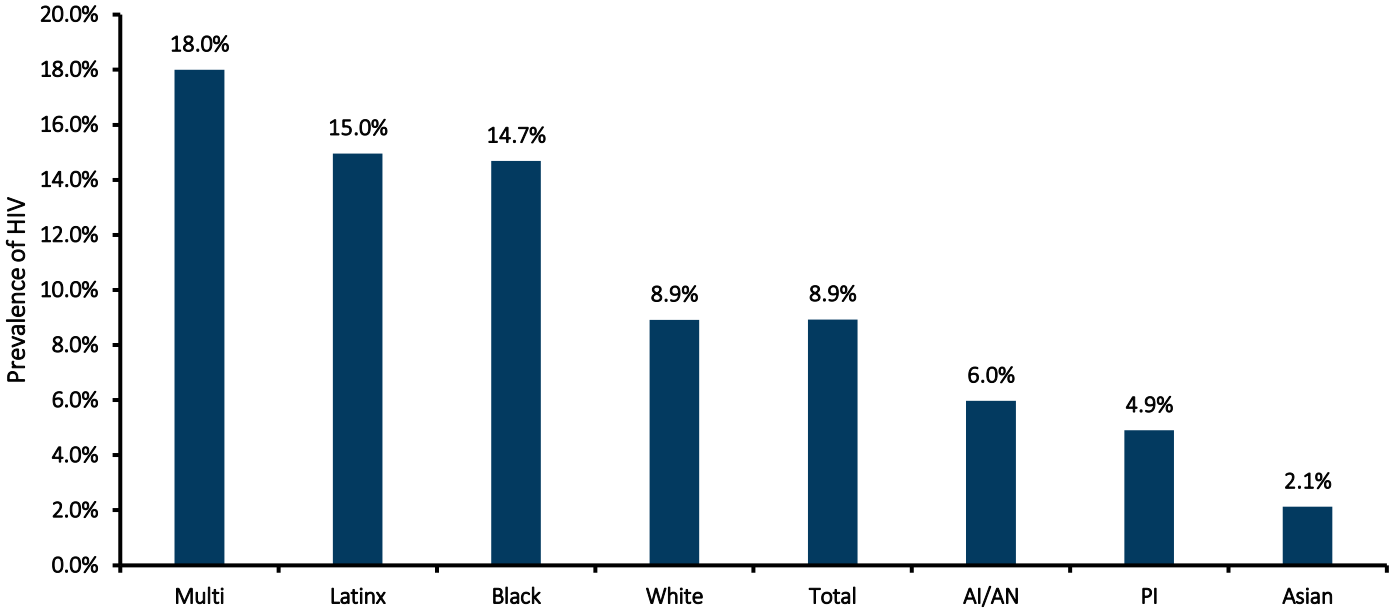
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Crude mortality rate	1.3	1.3	1.2	1.2	1.2	1.1	1.0	1.2	1.4	1.1
Lag & age-adjusted mortality rate	1.5	1.5	1.3	1.3	1.2	1.1	1.0	1.1	1.3	1.0
Median age at death (Y2)	50.0	51.0	54.0	55.0	54.5	54.0	57.0	56.0	56.0	57.0
% With HIV as a death cause (Y2)	48.9	49.0	37.9	41.4	39.4	36.6	31.1	31.7	28.1	31.8

FIGURE 6-8: HIV DIAGNOSIS RATES* AMONG MEN WHO HAVE SEX WITH MEN (MSM) BY RACE/ETHNICITY, KING COUNTY, WA, 2011-2020



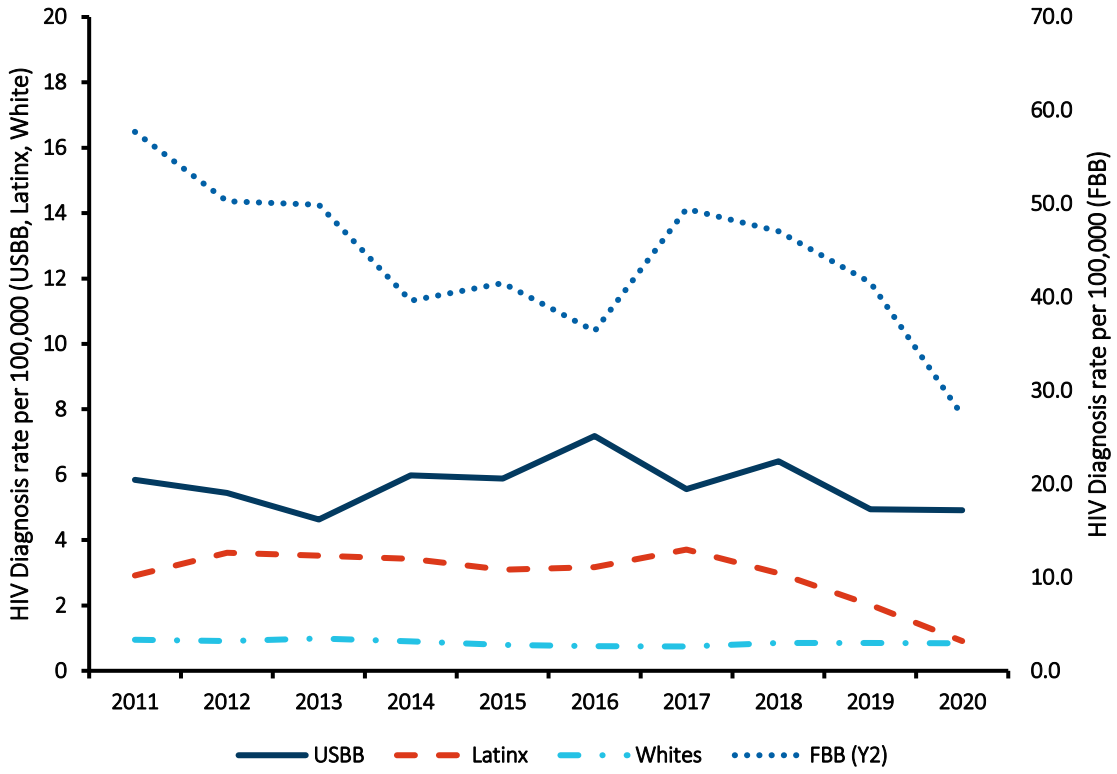
* 10 year average rate; PI = Pacific Islander; AI/AN=American Indian/Alaska Native

FIGURE 6-9: HIV PREVALENCE AMONG MEN WHO HAVE SEX WITH MEN BY RACE/ETHNICITY, KING COUNTY, WA, 2020



PI = Pacific Islander; AI/AN = American Indian / Alaska Native

FIGURE 6-10: HIV DIAGNOSIS RATE[A] AMONG HETEROSEXUALS[B] BY RACE/ETHNICITY AND NATIVITY, KING COUNTY, WA, 2011-2020

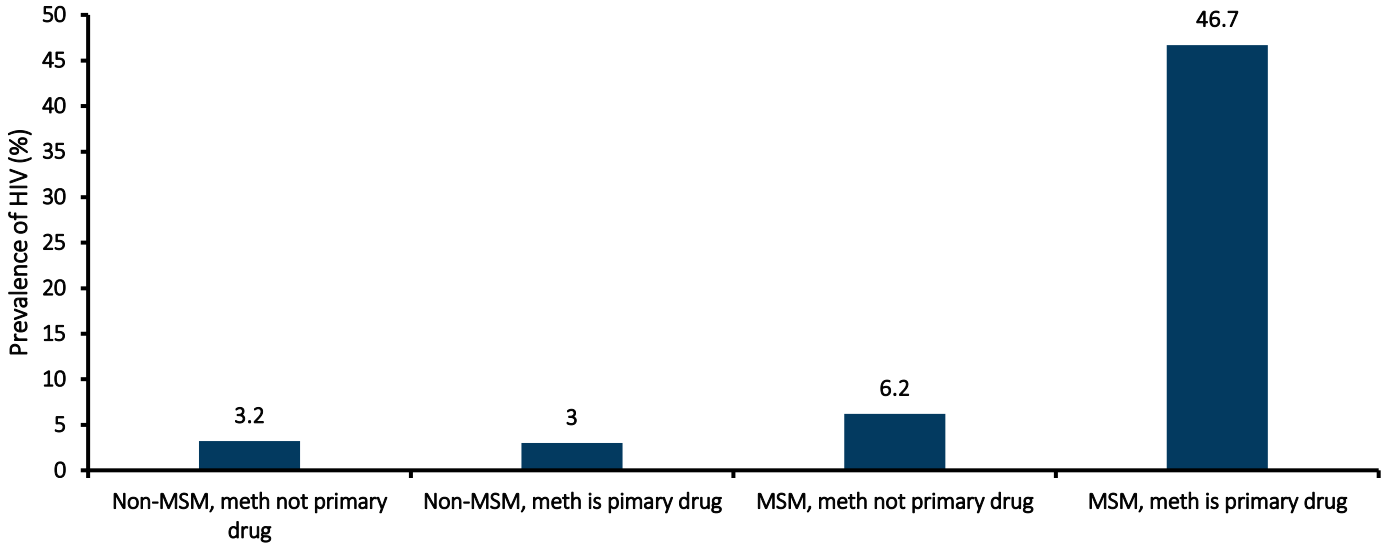


FBB = Foreign-born Black individuals; USBB = U.S.-born Black individuals

[A] Rates are presented as 3-year rolling averages.

[B] Heterosexuals are defined as individuals who are not MSM (men who have sex with men) or PWID (people who inject drugs). Heterosexuals thus also include individuals with unknown HIV risk.

FIGURE 6-11 PREVALENCE OF HIV AMONG PWID, SEATTLE AREA NATIONAL HIV BEHAVIORAL SURVEILLANCE, 2018



to have HIV relative to non-MSM PWID, and seven times as likely to have HIV relative to MSM-PWID who primarily inject drugs other than methamphetamine.

KEY POINT: MSM who inject methamphetamine have among the highest prevalence of HIV (approximately 40-60%).

HOMELESSNESS AND UNSTABLE HOUSING AMONG PLWH: Homelessness and housing instability threaten the ability of PLWH to engage in consistent, meaningful HIV care, which is needed to achieve viral suppression. To estimate the burden of homelessness and housing instability among PLWH in King County, we used several data sources. These include (1) addresses reported with laboratory results in HIV surveillance data, (2) self-reported housing information from partner services interviews of newly diagnosed persons, and (3) data on housing status from Ryan White clients.

The percent of newly diagnosed cases reporting homelessness and unstable housing increased over the past decade (Figure 6-12). This is consistent with an overall increase in people living unhoused in the county, and for 2018 and 2019, a shift in the epidemic towards more socially marginalized individuals, including PWID and people living unhoused.

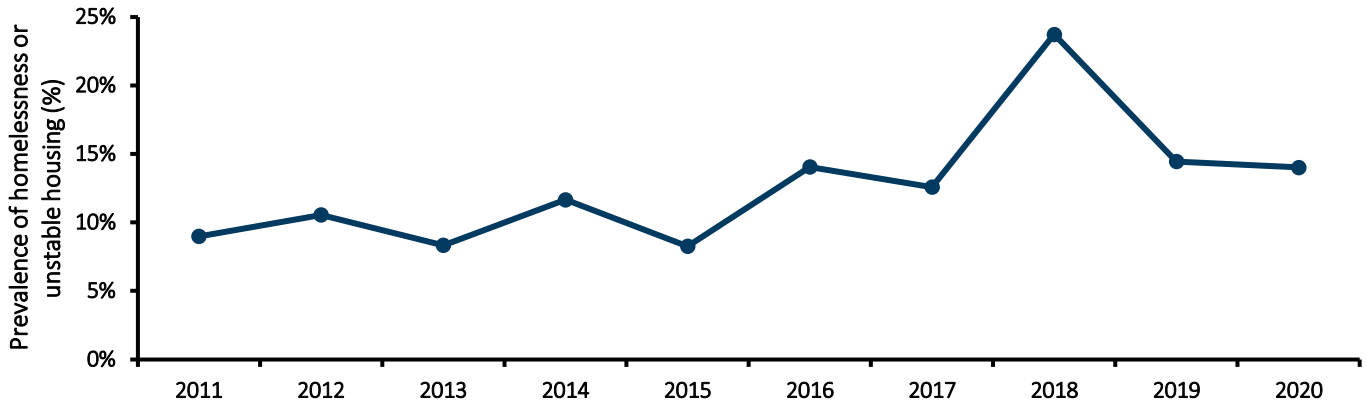
KEY POINT: Approximately 14% of people newly diagnosed with HIV in 2020 and 12% of all people living with HIV in King County were homeless or unstably housed. PLWH who were living homeless had lower levels of viral suppression and were less engaged in HIV care than PLWH who were stably housed.

To assess homelessness among all PLWH, PHSKC compared address data on lab reports with a list of homeless service centers, food banks, day centers, transitional housing facilities, shelters, medical facilities, and other addresses associated with housing instability. Of the 6,997 PLWH in King County as of June 30, 2021, 434 (6%) had evidence of being unhoused or unstably housed in the HIV surveillance system. Among the 3,351 PLWH who received Ryan White services in 2020, roughly half of all PLWH in King County, 356 (11%) reported being unhoused and 95 (3%) reported staying with friends or family or other unstable housing situations. Using data from both addresses reported with laboratory data and Ryan White analyses, we estimate at least 810 (12%) PLWH are unhoused or unstably housed.

Eighty-five percent of people believed to be unhoused were engaged in care (i.e., had received medical services), compared to 88% of those assumed to be stably housed; care engagement is estimated to be 3% higher among stably housed people (95% confidence interval: <1% - 6%). Viral suppression was more strongly associated with housing stability; 72% of people believed to be unhoused were virally suppressed compared to 88% of those assumed stably housed. Viremia (viral load >200) was found in 28% of PLWH experiencing housing instability relative to 11% of PLWH presumed to have more stable housing; viremia was 18% more common among people experiencing homelessness (95% CI: 14%, 21%).

Contributed by Susan Buskin, Mike Barry, Amy Bennett, Richard Lechtenberg, and Matthew Golden

FIGURE 6-12: PREVALENCE OF HOMELESSNESS OR UNSTABLE HOUSING AMONG PEOPLE NEWLY DIAGNOSED WITH HIV, KING COUNTY, WA, 2011-2020



Overview of the Ending the HIV Epidemic (EHE) Initiative in King County

Background

In February 2019, the U.S. federal government announced a new initiative – Ending the HIV Epidemic: A Plan for America (EHE) – to decrease new HIV infections in the U.S. by 75% by 2025, and by 90% by 2030.[1] The initiative seeks to capitalize on scientific advances in HIV diagnosis, treatment, and prevention to accelerate national progress in controlling the 40 year-old HIV epidemic. The first phase of EHE includes $670 million in new funding for 2022 and focuses on the 57 geographic areas with the largest number of HIV cases. Of note, the U.S. government spends approximately $20 billion on HIV prevention and care annually, so EHE represents a 3.6% increase in federal funding related to HIV. King County, WA, but not WA State as a whole, are funded through the first phase of EHE. In this article, we describe the current status of the EHE initiative in King County.

EHE Strategies and Local Funding

EHE focuses on four strategies: 1) Diagnose, 2) Treat, 3) Prevent, and 4) Respond (Table 7-1), and the federal government requires that jurisdictions receiving EHE funds concentrate on activities aligned with those strategies. (The 2020 Epidemiology Report is organized to report progress on each of these strategies.) In 2019, Public Health – Seattle & King County (PHSKC) received federal funding to work with community collaborators to develop an EHE plan. Funding for EHE programmatic activities began in 2020. PHSKC currently has two 5-year grants (2020-2025), one from the Centers for Disease Control and Prevention (CDC) that provides $2.1 million annually, and another from the Health Resources Services Administration (HRSA) for $.8 to 1.4 million annually. Healthcare for the Homeless (a PHSKC program) and Country Doctor (a community health center) each received additional $250,000 annual grants to increase the use of PrEP, in mid-2021 HealthPoint received $382,000 to increase PrEP services. In 2022 additional community health centers in King County will become eligible for EHE funding.

Table 7-1: EHE Strategies

Strategy	
Diagnose	Ensure that people with HIV are diagnosed as soon as possible following infection
Treat	Treat people with HIV right away after they are diagnosed, and ensure that all people with HIV are effectively treated, achieving sustained viral suppression
Prevent	Prevent new HIV infections using proven interventions, including pre-exposure prophylaxis (PrEP) and syringe service programs (SSP)
Respond	Respond quickly to potential HIV outbreaks to get needed prevention and treatment services to people who need them

EHE Planning

Between 2019 and 2020, PHSKC convened a diverse group of stakeholders to develop an EHE plan including representatives from government, community, and healthcare and social service organizations. Most participants in the planning process continue to serve as members of the EHE Advisory Committee which meets quarterly to review progress in implementing the EHE Plan activities, review evaluation data, revise the plan, and help identify mechanisms for sustaining the EHE activities after the initiative ends.

Major Factors Influencing the EHE Plan

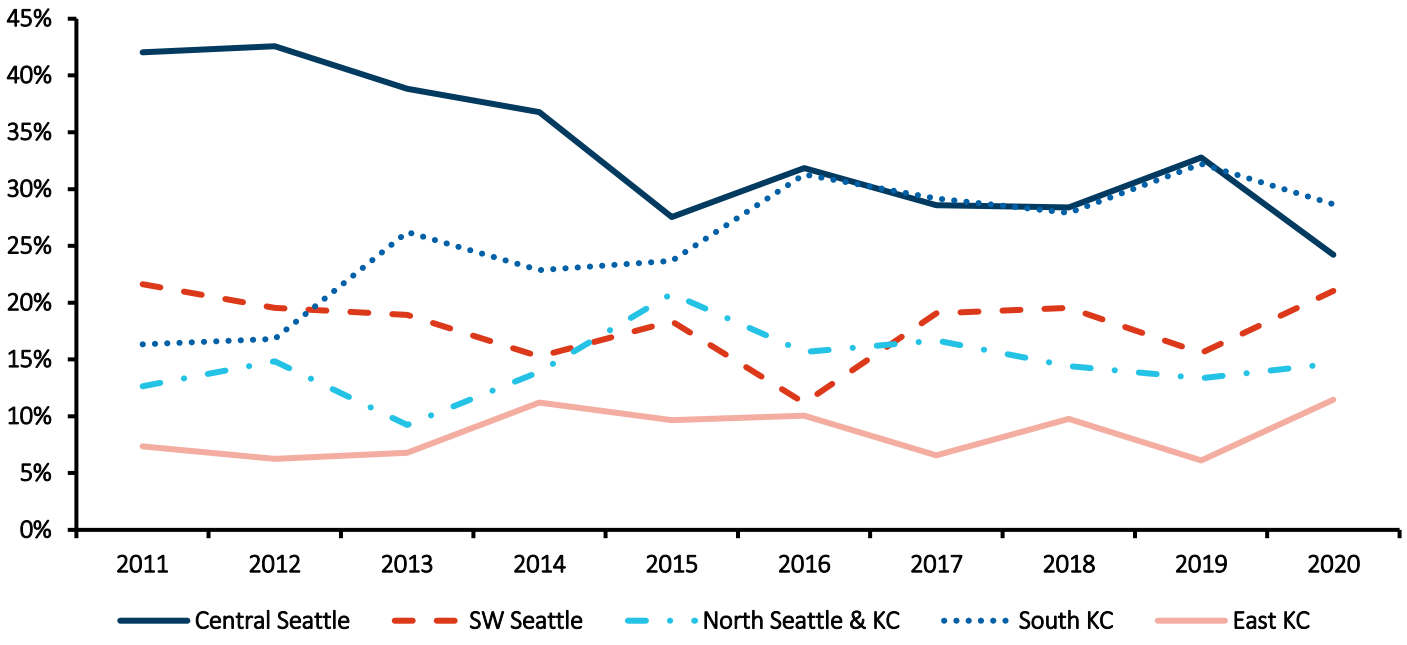
In developing the EHE plan, PHSKC and its collaborators sought to identify where our current system of prevention and care falls short. King County has been very successful in the fight against HIV. As detailed elsewhere in this report, an estimated 94% of HIV-positive people in King County know their HIV status, 86% of people living with diagnosed HIV are virally suppressed, and 44% of HIV-negative men who have sex with men (MSM) at high risk for HIV are on pre-exposure prophylaxis (PrEP). We have the largest syringe exchange program in the U.S., and we have begun to develop a system of cluster detection and response that shows promise as a means to relink patients to care and possibly curtail transmission in a new and epidemiologically focused way. Most importantly, rates of new HIV diagnoses have declined dramatically. Between 2011 and 2020 the rate of new diagnoses dropped by 45%.

But we still have an HIV epidemic, and our record toward achieving the 5-year goals we set for ourselves in 2015 has been mixed. We exceeded our most important goal: decreasing new infections by 25% over 5 years. We didn't reach our goal of decreasing HIV/AIDS associated mortality by 33% or increasing viral suppression among people living with HIV (PLWH) to >90%, and we didn't reach many of our goals related to HIV testing. (Mortality declined 17% and viral suppression among PLWH in 2020 was 86%.) Also, despite significant progress, we have not eliminated racial and ethnic disparities in HIV incidence, nor have we erased disparities in HIV viral suppression. More discouraging still, the estimated percentage of PLWH who are unhoused has gone up even as our community invests 21% of local Ryan White Part A funds to support housing for PLWH.

Our EHE plan seeks to fundamentally change our approach to HIV prevention and care and has been guided by four primary principles that reflect the current epidemiology of HIV in our area and deficiencies in our past efforts to control the epidemic.

1) HIV care and prevention services need to be more geographically dispersed. HIV prevention and care services are too narrowly concentrated in the Seattle city center, with inadequate prevention and treatment capacity in north Seattle and south King County. The HIV

Figure 7-1. Trends in Residence among People Diagnosed with HIV in King County 2010 - 2020



clinical and prevention infrastructure in King County developed in response to an epidemic that predominantly affected MSM, many of whom lived on Capitol Hill in central Seattle. As recently as 2011, over 40% of all new HIV diagnoses occurred among persons living in central Seattle (Figure 7-1). However, where people with HIV and at risk for HIV live has shifted. In 2020, the largest proportion of new HIV diagnoses occurred among persons living in south King County (29%), and only 24% of new diagnoses occurred in residents of central Seattle. Meanwhile, the 2018 north Seattle outbreak highlighted the paucity of prevention and care services in that area. Our area needs to create new clinical and prevention infrastructure to meet the needs of a more dispersed population of people diagnosed with HIV and those at increased risk for HIV.

2) HIV care and prevention services need to better address the needs of the most disadvantaged persons with HIV, particularly persons who are unhoused and/or who use drugs. As HIV transmission in King County has declined, the epidemic has become increasingly concentrated among persons who are unhoused and who use substances. In 2018-19 our area experienced an outbreak of HIV among unhoused people in north Seattle, many of whom used methamphetamine. We now confront an explosive epidemic of syphilis concentrated in a similarly marginalized population, evidence of our community's enduring vulnerability to outbreaks of infectious disease fostered by social determinants of health related to poverty and drug use.[2] Among King County residents living with HIV in 2020, we estimate that 12% (approximately 810 people) are unhoused or unstably housed. Of the 6,997 PLWH in King County, approximately 517 were neither in care nor virally suppressed; 17% of these people are unhoused, 19% use injection drugs, and 27% are either unhoused or use injection drugs. King County's inter-related epidemics of homelessness and substance use coupled with the area's success in preventing and treating HIV in more advantaged populations necessitates a shift in the public health and clinical approach to HIV: our community needs to focus more on the most disadvantaged populations.

3) Prevention and treatment efforts need to focus on eliminating racial/ethnic disparities in HIV care and prevention. The HIV epidemic in King County disproportionately affects racial and ethnic minorities. The rate of new HIV diagnosis among Black, Latinx, Pacific Islander, and multiracial MSM is over twice that observed in White MSM, while the rate of HIV diagnoses among U.S.-born Black heterosexuals is six times that observed among White heterosexuals. Among people with diagnosed HIV infection, Black MSM are approximately twice as likely as White MSM to be virally unsuppressed. Efforts to end the HIV epidemic cannot be successful if they do not address these profound and persistent disparities.

4) HIV testing and prevention needs to be better integrated into the wider healthcare system. Success in preventing and treating HIV using biomedical interventions (e.g., testing, PrEP, antiretroviral treatment) depends on the existence and success of the HIV clinical infrastructure. King County has a robust specialized clinical infrastructure related to HIV and other sexually transmitted infections that plays a central role in HIV prevention; this includes the PHSKC Sexual Health Clinic, the Gay City Wellness Center, Madison Clinic, Max Clinic, SHE Clinic, and numerous private medical practices that serve large numbers of MSM. EHE will support the creation of at least two additional low-barrier clinics in 2022-23. However, this specialized system of care has limited capacity and, at present, is highly concentrated in central Seattle. A successful system cannot rely on specialized clinical infrastructure alone. Success will require that the entire medical system implement recommended HIV testing and provide PrEP according to local and national guidelines. This reality was an important impetus for the Bree Collaborative LGBTQ Health Care Report and Recommendations (http://www.breecollaborative.org/wp-content/uploads/LGBTQ-health-care-recommendations-Final-20-06.pdf), and is a critical factor shaping the King County EHE plan.

Current Status of King County EHE Activities

PHSKC is now into year two of implementing the EHE Plan, much of which was initially delayed due to the COVID-19 pandemic. The current status of implementation of some core EHE activities is presented in Table 7-2.

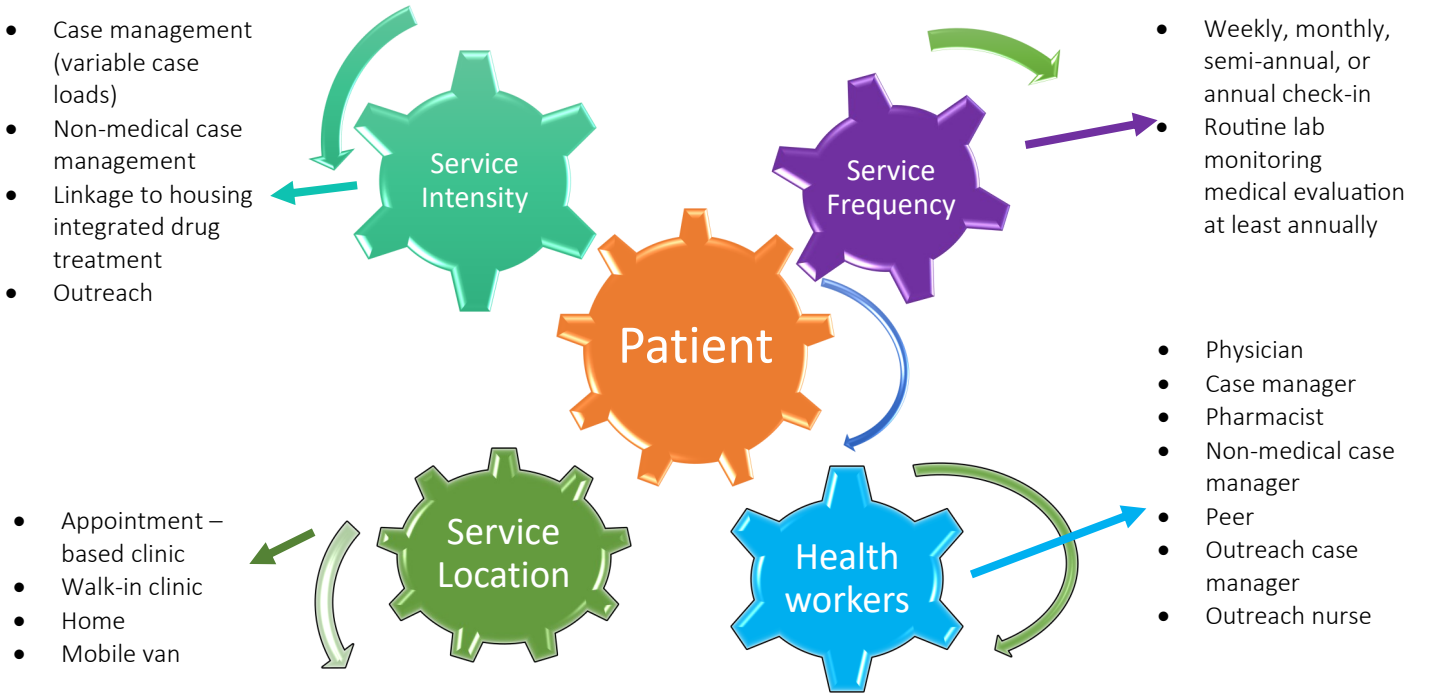
The full King County EHE plan is available at: https://kingcounty.gov/depts/health/communicable-diseases/hiv-std/patients/~/media/depts/health/communicable-diseases/documents/hivstd/plan-to-support-ending-hiv-epidemic-in-king-county.ashx

Here we describe selected components of King County's approach to EHE.

TABLE 7-2: CORE ELEMENTS OF THE KING COUNTY EHE PLAN AND PROGRESS TO DATE

Strategy	Objective	EHE Activities
Diagnose	Increase routine testing in clinical settings	Healthcare organization (HCO) collaborative and emergency department collaborative Testing through new low-barrier sites
	Increase HIV testing in non-clinical settings (e.g., jails and SSP)	Expanded testing ongoing in King County Jail New HIV testing effort in South King County Correctional Entity (SCORE). Expanded testing at SSP
	Increase partner notification services	New staff hired to expand capacity
	Conduct public awareness and mobilization campaigns focusing on Black, Latinx, and Native American populations	Launched a 12-week digital media social marketing campaign to raise awareness of the 4 central EHE strategies Contracting with POCAAN, Entre Hermanos and Gay City to develop promotional campaigns focusing on PrEP awareness and uptake
Treat	Expand low-barrier care to reduce structural barriers to care with collocated adherence, mental health, substance use, and psychosocial support services – focus on north Seattle and south King County	Expanded services initiated in Max Clinic and Mod Clinic on the HMC campus Aurora Clinic opening in north Seattle late 2021 New low-barrier clinic(s) planned in south King County – anticipated in early 2022
	Enhance linkage to care for persons with newly diagnosed HIV infection	Expanded PHSKC staffing for engaging with persons with early indication of falling out of care
	Expand real-time data to care to re-engage persons who are not virally suppressed – focus on emergency rooms, inpatient hospitals, jails, pharmacies	Identification of out of care persons using a health information exchange (i.e., Collective Medical) Outreach to persons who do not refill their HIV medication at Madison Clinic
	Enhanced retention in care efforts	New outreach case-manager working with unhoused PLWH Expanded cross-systems collaboration engaging partners in housing, mental health, and substance use systems to improve access and service delivery to people at risk for or living with HIV
Prevent	Expand PrEP access – focus on north and south King County and healthcare system-level interventions	HCO collaborative Aurora clinic in north Seattle New low-barrier clinic(s) planned in south King County Expanded PrEP services in the PHSKC Sexual Health Clinic PrEP promotional campaigns
	Develop new PrEP navigation and retention models	Pilot program of home-based PrEP Convening CBO partners in south King County to explore funding new models of HIV prevention, including PrEP navigation, for populations at risk for HIV
	Expand condom access – focus north and south King County	Condom distribution project – 290,000 condoms distributed in south King County. Planned expansion 2021
	Expand SSP – focus on north Seattle and south King County	North Seattle Outreach Referral and Exchange (NORE) expansion (257% ↑ 2019 to 2020) SCORE expansion Expanded morning hours at downtown exchange
	Expand availability and accessibility of medications for opiate use disorder	Increased availability of MOUD through low-barrier clinics in north Seattle & south King County
	Improve delivery of comprehensive health services to LGBTQ persons by medical providers	Health care collaborative including project funding for participants
Respond	Identify and investigate HIV outbreaks using molecular laboratory and other data	New cluster detection and response (CDR) system implemented
	Provide outreach to persons identified through outbreak investigations – focus on virally unsuppressed persons	
	Community engagement	CDR focus groups and one on one interviews completed. Educational video developed

FIGURE 7-2 KEY FACTORS IN DIFFERENTIATED APPROACHES TO CARE (ADAPTED FROM WHO)



Differentiated models of care – As indicated above, the current healthcare system does not adequately meet the needs of the most disadvantaged persons living with HIV and at risk for HIV. To address this, King County has developed a system of differentiated care which will expand under the auspices of EHE. The central idea behind differentiated care is that healthcare can be improved by altering its organization to increase efficiency and tailor services to meet the needs of specific populations.[3] Differentiated care models vary in service intensity, frequency, staffing and location (**Figure 7-2**). Over the last several years, the Max Clinic, the Mod Clinic, and the SHE Clinic in Seattle have developed new, low-barrier models of care designed to serve patients for whom traditional models of healthcare have proven ineffective. These clinics provide walk-in clinical care integrated with support services and the provision of incentives to promote successful engagement with care. This approach has proven highly effective, but the low-barrier system of care has not had the capacity to meet the needs of all persons who might benefit from low-barrier care. In particular, the current system is highly concentrated in central Seattle and does not adequately serve HIV-negative persons at elevated risk for HIV. Under the auspices of EHE, in 2021 King County expanded the capacity of Max Clinic, which is located on the Harborview Medical Center (HMC) campus, and funded the Aurora Clinic, a new low-barrier clinic located in north Seattle and operated as a collaboration between HMC and Aurora Commons, a community-based organization. PHSKC is working with collaborators in south King County to establish at least one new low-barrier clinic in that area, and we anticipate that such a clinic will begin to provide services in early 2022.

Promotion of healthcare system change through healthcare organization and emergency department collaboratives – Success ending the HIV epidemic will require widespread changes throughout the healthcare system to promote recommended HIV testing and the increased use of PrEP. Ideally, these changes should be part of a broader effort to improve the medical care delivery systems serving diverse populations, particularly LGBTQ+ persons. With that objective in mind and guided by Bree Collaborative recommendations, in 2020 PHSKC convened a healthcare organization (HCO) collaborative to define and implement healthcare system changes that increase HIV testing, PrEP use, and culturally affirming and responsive HIV care services. Core activities the collaborative seeks to promote include changes in electronic health records that allow patients to voluntarily identify their gender, sexual orientation, and behavior; staff training; changes in the physical environment of healthcare settings (e.g., signage);

TABLE 7-3 COLLABORATIVE MEMBERS

A. Health Care Collaborative Organizations (HCOs)	B. Emergency Department (ED) Collaborative
CHI Franciscan	CHI Franciscan St. Anne Hospital
Country Doctor Community Clinics	Evergreen Hospital
Franciscan Infectious Disease Associates	Kaiser Permanente Urgent Care
HealthPoint	Multicare - Auburn
International Community Health Services	Overlake Hospital
Kaiser Permanente Washington	Swedish Ballard
Sea Mar Community Health Center	Swedish Cherry Hill
Swedish Medical Center	Swedish First Hill
UW Northwest Hospital	Swedish Issaquah
UW Harborview Medical Center	Swedish Redmond
VA Puget Sound Health Care System	UW - Harborview Medical Center
Virginia Mason Franciscan Health	UW - Northwest Hospital
	UW - UW Medical Center Montlake
	UW - Valley Medical Center
	Virginia Mason Franciscan Health

implementation of new, low-barrier access to PrEP; and promotion of HIV/STI testing according to local and national guidelines. That collaborative currently includes the HCOs listed in Table 7-3.A.

A second collaborative comprised of emergency departments throughout King County recently launched to promote increased HIV testing and other activities in King County emergency departments (ED). The ED Collaborative members are listed in Table 7-3.B.

Expanded outreach – Increasing engagement with testing, PrEP, and HIV care – particularly for the most vulnerable populations – will require a more robust system of outreach and care linkage. With that objective in mind, PHSKC has begun to implement an intensified system of linkage and relinkage to care that utilizes a data information exchange and collaborations with diverse partners to identify HIV-positive persons who are out of care and promote their relinkage. This effort includes emergency rooms, hospitals, jails, and pharmacies, and integrates the work of PHSKC outreach staff with the work of low-barrier clinics to improve HIV treatment and link people with HIV to social and medical services, including treatment for substance use disorders.

EHE OUTCOMES

Above we present preliminary goals for EHE outcomes (Table 7-4). These include both nationally and locally defined goals.

Contributed by Matthew Golden

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2. https://kingcounty.gov/depts/health/communicable-diseases/hiv-std/patients/epidemiology/~/media/depts/health/communicable-diseases/documents/hivstd/syphilis-trends-2016-2021.ashx
3. World Health Organization. Global Guidance. Available at: https://differentiatedservicedelivery.org/Guidance/Global-guidance. Accessed 12/16/21

TABLE 7-4: PROPOSED KING COUNTY EHE 2025 GOALS

	2025 Goal
Diagnose	
New diagnoses	↓ 50% (vs. 2019)
Knowledge of HIV status	>95% of HIV-positive persons know their status
Late diagnosis	≤10% late diagnosis
Disparities	Elimination of racial/ethnic disparities in new HIV diagnoses*
Treat	
Linked to care in 1 month[9]	≥95%
Viral suppression	≥95%
Viral suppression within 4 months of HIV diagnosis	≥95%
Homelessness among PLWH	<5%
Disparities	Elimination of disparities in viral suppression based on racial/ethnicity or HIV risk factor Elimination of racial/ethnic disparities in homelessness among PLWH
Prevent	
PrEP use, MSM at high risk for HIV	70%
Syringe coverage	365/PWID
Disparities	Elimination of racial/ethnic disparities in PrEP use Elimination of racial/ethnic disparities in PrEP use among persons at high risk for HIV

* Excludes HIV diagnoses in persons defined as having been acquired outside of the U.S.

Ending the HIV Epidemic Pillar 1: Diagnose

SUMMARY

An estimated 94% of people living with HIV in King County have been diagnosed with HIV.

Half (52%) of men who have sex with men in King County newly diagnosed with HIV reported a negative test in the prior year, and 64% reported a negative test in the prior 2 years.

Despite the COVID-19 pandemic, Public Health – Seattle & King County provided 10,424 HIV tests in 2020, and 31% of all newly identified cases in King County were diagnosed through publicly funded HIV testing.

Nearly one-quarter (22%) of people with newly diagnosed HIV infection were concurrently diagnosed with AIDS, suggesting that they likely had longstanding infections. This was particularly common among HIV-positive heterosexuals born outside of the U.S.

Background

HIV testing is a cornerstone of HIV prevention and plays a critical role in advancing both of Public Health – Seattle & King County's (PHSKC) primary objectives related to HIV: preventing HIV transmission and averting the morbidity and mortality associated with HIV infection. The goal of HIV testing is to ensure that people who acquire HIV are diagnosed as soon as possible following infection. Early and frequent HIV testing among people at risk for HIV prevents HIV-related morbidity and mortality by identifying those living with HIV, the first step in their accessing life-saving medical care. It also prevents HIV transmission as most people who learn they are HIV-positive change their behavior and initiate antiretroviral therapy to prevent transmission to partners.[1-6] PHSKC and the Washington State Department of Health (WA DOH) promote widespread HIV testing as part of routine medical care and directly fund testing for people at higher risk for HIV. WA State HIV Testing Guidelines are shown in Table 8-1. Men who have sex with men (MSM) can also determine their recommended HIV testing frequency using a calculator at http://www.findyourfrequency.com/.

PHSKC monitors the success of HIV diagnosis and case-finding at the population level. Key metrics for monitoring case-finding seek to evaluate the time of testing relative to the likely time of infection. Key indicators of the success of HIV testing efforts include: the percentage of people living

Key HIV Case-Finding Goals	2014	2020	2020 Goal
Know HIV status	92%	94%	≥95%
Late HIV diagnosis[A]	24%	22%	≤20%
	73%	81%	≥75% tested in prior 2 years
Recent HIV testing, MSM with newly diagnosed HIV[B]	White MSM: 71% Black MSM: 55% Latinx MSM: 86%	White MSM: 59% Black MSM: 92% Latinx MSM: 83%	Eliminate disparities by race/ethnicities (i.e., no difference)

[A] AIDS diagnosis within one year of HIV diagnosis. Estimate from 2019 to allow 12 months follow-up for all diagnoses.
[B] HIV test within two years of a new HIV diagnosis.

with HIV (PLWH) who know their HIV status (or the inverse, the undiagnosed fraction of infections); the proportion of people diagnosed with HIV who have never previously HIV tested; the HIV inter-test interval (time from last HIV-negative test to HIV diagnosis); the proportion of people with newly diagnosed HIV who are concurrently diagnosed with HIV and AIDS (or who develop AIDS within six months or one year); and the measures of CD4+ lymphocyte counts at time of HIV diagnosis. AIDS is a clinical and laboratory diagnosis related to advanced immunosuppression typically observed in people with long-standing HIV infection.

Data Sources

The data presented in this report draw from several ongoing, robust King County data sources:

HIV Core Surveillance: Data are collected as part of investigations of people with newly diagnosed HIV or AIDS. These investigations are informed and augmented by HIV-related test results reported to PHSKC by laboratories, including HIV screening and diagnostic tests and CD4 counts.

HIV Partner Services: Health department staff routinely attempt to contact all people with newly diagnosed HIV infection to offer them assistance notifying their sex and needle-sharing partners and to help link them to medical care. This activity is called partner services. Partner services investigations also allow PHSKC staff to collect information about people with newly diagnosed HIV infection, including their reason for HIV testing and their testing history.

National HIV Behavioral Surveillance (NHBS): NHBS is a national, Centers for Disease Control and Prevention (CDC) funded surveillance project that includes King County, WA. Survey participants include diverse samples of people at increased risk for HIV and rotate each year between MSM, people who inject drugs (PWID), and high-risk heterosexually-active people. Recent surveys have also included transgender women and women who exchange sex for money or drugs.

PHSKC medical and laboratory records: Data from HIV testing conducted at jails and at clinics operated by PHSKC are extracted from the PHSKC medical record system, and HIV testing data from teen health centers and the juvenile detention center are provided by the

TABLE 8-1: PHSKC & WA DOH HIV SCREENING GUIDELINES

ALL WA STATE RESIDENTS

- Test at least once between the ages of 18 and 64
- Test concurrent with any diagnosis of gonorrhea or syphilis
- During pregnancy test in the first trimester and test again (including syphilis testing) in the 3rd trimester in the setting of methamphetamine use, opioid use, exchange sex, or housing instability/homelessness

MEN WHO HAVE SEX WITH MEN (MSM) AND TRANSGENDER PEOPLE WHO HAVE SEX WITH MEN

Indications for testing every 3 months (any of below risks in the prior year):

- Diagnosis of a bacterial sexually transmitted infection (STI) (e.g. early syphilis, gonorrhea, chlamydia)
- Use of methamphetamine or poppers (amyl nitrate)
- >10 sex partners (anal or oral)
- Condomless anal intercourse with an HIV+ partner or partner of unknown status
- Ongoing use of HIV pre-exposure prophylaxis (PrEP)
- MSM and transgender people who have sex with men without the above risks should HIV test annually[A]

PEOPLE WHO INJECT DRUGS (PWID)

- Annual HIV testing all PWID
- Every 3 months in PWID who exchange sex for money or drugs or who are pregnant

Note: People should also be tested for syphilis and for gonorrhea and chlamydia at all exposed anatomical sites.

[A] People who have not had sex in the prior year or who are in long-term mutually monogamous relationships do not require annual HIV/STI testing.

PHSKC public health laboratory.

Evaluation Web: Data from HIV testing funded by the WA DOH and conducted at agencies within King County are captured in WA DOH's Evaluation Web data system and shared with PHSKC.

Data

Undiagnosed Fraction Estimation

PHSKC uses a tool developed by University of Washington (UW) researchers that uses HIV testing history to estimate the proportion of all people who have HIV who are unaware of their status (i.e., undiagnosed fraction).[8] The estimated undiagnosed fraction among HIV-positive people in King County remained largely stable at approximately 6% (5.7% - 6.5%) between 2015 and 2020 and declined from 4.6% to 3.9% among MSM.

HIV Testing in Populations at Elevated Risk for HIV

Figure 8-1 presents HIV testing summaries from the five most recent NHBS surveys, including MSM, PWID, heterosexually-active people at high-risk for HIV, transgender women, and women who exchange sex (WES). Of the five populations, MSM and transgender women were the most likely to have had a recent HIV test, and MSM were least likely to have never tested for HIV.

HIV Testing History in People with Newly Diagnosed HIV

The HIV inter-test interval (ITI) is the time between a person's last HIV-negative test and first HIV-positive test. A lower ITI among people with newly diagnosed HIV suggests a shorter period during which undiagnosed infected people are off antiretroviral therapy and potentially unknowingly exposing others to HIV. PHSKC's goal is to promote widespread and frequent testing in populations at elevated risk for HIV, thereby shortening the ITI and ensuring that all people diagnosed with HIV have tested HIV-negative in the 24 months prior to their diagnosis.

Because new HIV diagnoses are most prevalent among MSM, monitoring focuses on that group. Since 2011, 89% of MSM diagnosed with HIV have had a known testing history (i.e., either reported the date of their last negative test or stated that their initial diagnostic test was their first HIV test). The median ITI remained relatively stable between 6 and 11 months for MSM diagnosed with HIV between 2011 and 2020 (Figure 8-2). Throughout this period, 8% (range: 5% to 12%) of MSM with a known testing history reported never testing negative for HIV prior to their initial HIV diagnosis (Figure 8-3). In 2020, 8% of MSM diagnosed with HIV had never HIV tested and 72% had tested HIV-negative within the past 24 months. Of note, looking at two years of data, similar proportions of Black, Latinx, and White MSM had tested in the prior two years (73%, 73%, and 66%, respectively; Table 8-2).

HIV Testing History and AIDS at Time of HIV Diagnosis

Testing histories in MSM are substantially different from those observed in other populations (Table 8-2). Among

Figure 8-1. HIV Testing History (Time Since Last HIV Test) Among Transgender women (TRANS), Heterosexually-Active people at High-Risk for HIV (HET), People Who Inject Drugs (PWID), Men Who Have Sex With Men (MSM), and Women Who Exchange Sex for Drugs or Money (WES), Seattle Area National HIV Behavioral Surveillance System, 2016-2020

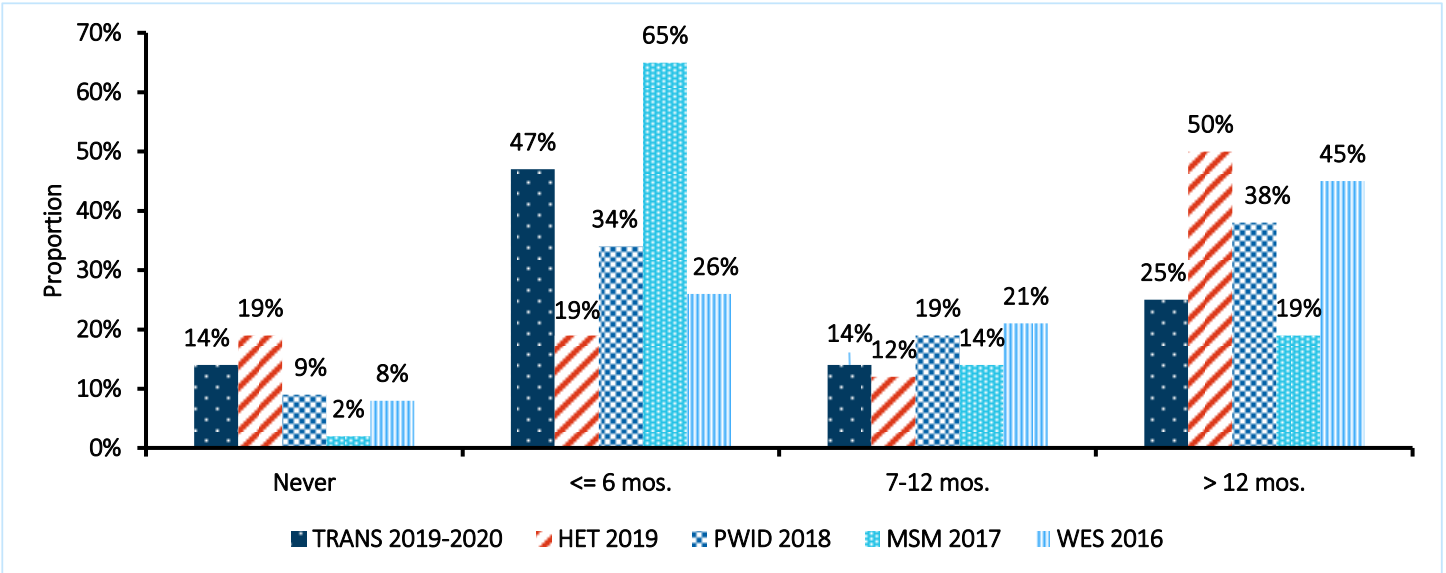


Table 8-2. Key HIV Testing Metrics among Individuals Newly Diagnosed with HIV, King County, WA, 2019-2020

	Never Previously HIV Tested [A]	Median Intertest Interval (ITI) (IQR) [A]	Percent HIV Tested in the Prior Year [A]	Percent Tested in the Prior 2 Years [A]	Median CD4 Count at Diagnosis (IQR)[B]	AIDS within 12 Months of HIV Diagnosis
All (N=337)	15%	11 (5, 26)	44%	62%	374 (204, 587)	24%
Men who have sex with men (MSM) (N=246)	9%	10 (4, 22)	54%	69%	391.5 (234, 607)	20%
Black MSM (N=45)[C]	12%	8 (4, 13)	62%	73%	492 (341, 733)	9%
Latinx MSM (N=51)[C]	6%	11.5 (4, 20)	50%	73%	297 (177, 435)	33%
White MSM (N=179)[C]	11%	11 (4, 23.5)	55%	66%	403 (230, 628)	19%
Other MSM (N=22)[C]	5%	10 (6, 21)	40%	50%	335 (235, 581)	23%
Transgender people (N=27)[D]	11%	6.5 (4, 15)	58%	74%	377 (241, 550)	22%
People who inject drugs (PWID), non-MSM (N=19)	21%	23 (6, 30)	29%	50%	477 (263, 646)	21%
Presumed heterosexual contact (N=67) [E]	39%	27 (18, 77)	8%	25%	276 (106, 467)	40%
U.S.-born presumed heterosexual contact (N=36) [E]	29%	26 (18, 59)	10%	33%	367.5 (252.5, 661.5)	22%
Foreign-born presumed heterosexual contact (N=31) [E]	53%	44 (24, 140)	7%	13%	153 (89, 276)	61%

[A] Among those with a known HIV test history.
[B] CD4 at diagnosis are limited to those within a 6-month window.
[C] Race and Latinx ethnicity categories are not mutually exclusive
[D] Due to small numbers in 2019-2020, the time interval was expanded to 2011–2020 for transgender people; most of the 27 transgender people diagnosed in the 10-year period were transgender women (24 of 27, 89%).
[E] Presumed heterosexual contact includes all people recently diagnosed with HIV without known MSM or PWID HIV risks.

19 non-MSM PWID diagnosed in 2019-20, 79% had ever HIV tested, though only 50% had tested in the prior two years. Despite this, relatively few (21%) were diagnosed with AIDS within 12 months of HIV diagnosis and the median CD4 count at time of diagnosis was high relative to other groups, suggesting that most PWID diagnosed with HIV in 2019-20 did not have long-standing, undiagnosed infections. The recent pattern among 36 U.S.-born people who were neither MSM nor PWID diagnosed with HIV in 2019-2020 – a population presumed to mostly have acquired HIV through heterosexual sex – is somewhat similar to non-MSM PWID; 29% had never previously HIV tested and only 33% had HIV tested in the past two years. Also, like non-MSM PWID, relatively few (22%) U.S.-born non-MSM, non-PWID developed AIDS within 12 months of HIV. In contrast, among 31 foreign-born non-MSM non-PWID, 61% were diagnosed with AIDS within 12 months of HIV diagnosis. Among the 19 foreign-born people diagnosed with AIDS within one year of HIV diagnosis, 14 have a known immigration date. Their median time since immigration to the U.S. was 3 years; 36% has been in the U.S. for two years or less prior to being diagnosed with HIV. This suggests that a small but important population of foreign-born people become ill with HIV after being in the U.S. for several years. The failure to test these people and assure their diagnosis earlier in the course of their infection, before they became ill, is a failure in the public health and clinical system highlighting the need to integrate HIV testing into routine clinical care, particularly among immigrants from countries with high levels of endemic HIV infection.

Developing AIDS within a short period of HIV diagnosis is used as a proxy for a late HIV diagnosis. As shown in Figure 8-4, the percentage of individuals with newly

FIGURE 8-2: MEDIAN AND INTER-QUARTILE RANGE (IQR) OF INTERTEST INTERVALS (MONTHS BETWEEN LAST NEGATIVE AND FIRST POSITIVE TEST) OF NEWLY HIV DIAGNOSED MSM, KING COUNTY, WA, 2011-2020

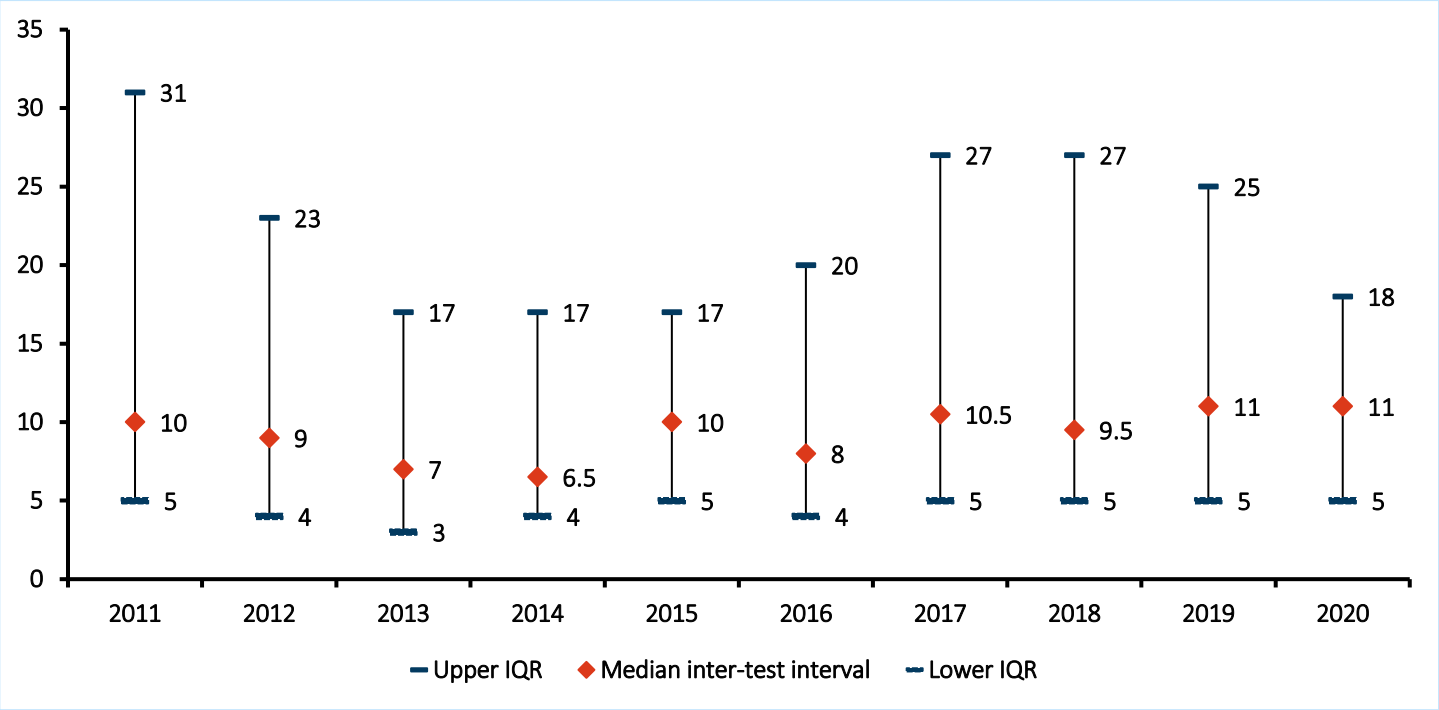


FIGURE 8-3: HIV TESTING HISTORY AMONG MEN WHO HAVE SEX WITH MEN WITH NEWLY DIAGNOSED HIV, KING COUNTY, WA, 2011-2020

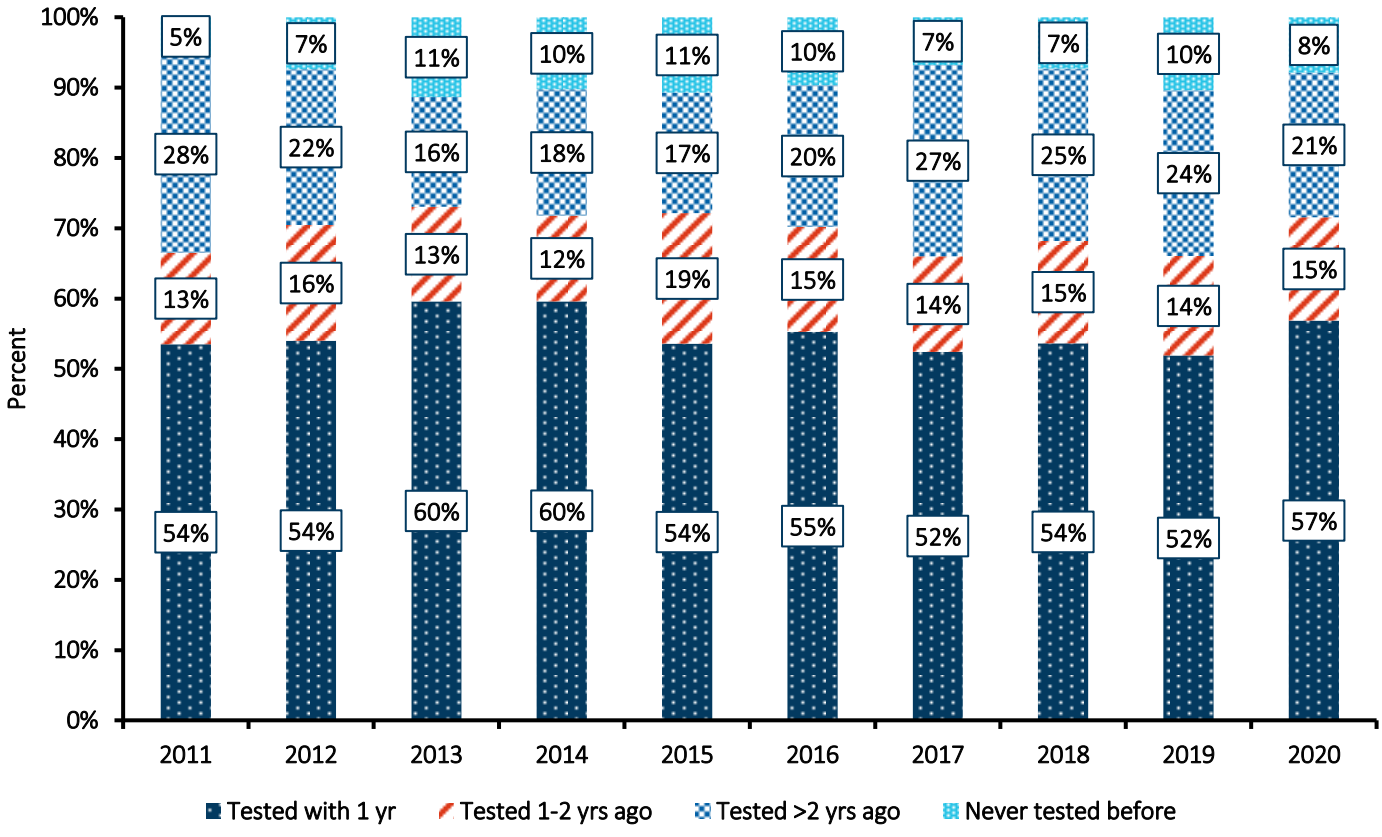
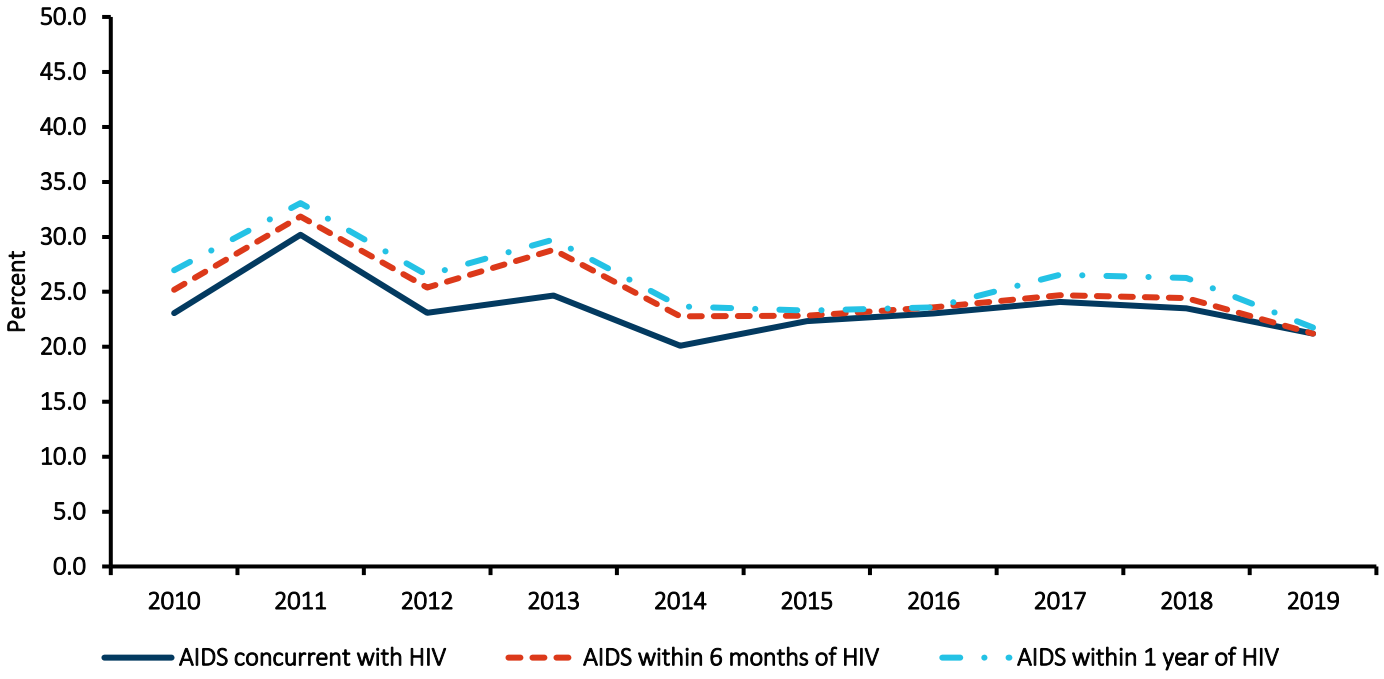


FIGURE 8-4: LATE HIV DIAGNOSES DEFINED BY AN AIDS DIAGNOSIS CONCURRENT, WITHIN SIX MONTHS, OR WITHIN ONE YEAR OF HIV DIAGNOSIS, KING COUNTY, WA, 2011-2020



diagnosed HIV who were diagnosed with AIDS concurrent with, within six months of, or within one year of first testing HIV-positive declined between 2011 and 2014 and has been relatively stable since 2014. In 2019 (the most recent year with a full year of follow-up available), 22% of all people diagnosed with HIV - including 22% of MSM, 19% of PWID, and 24% of PLWH with heterosexual transmission risk - were diagnosed with AIDS within one year of HIV diagnosis. However, not all people who develop AIDS in the year following diagnosis are true late diagnoses. Some people progress to AIDS as part of a seroconversion syndrome or within one or two years of HIV infection. Over the past 5 years, there were 206 people with concurrent HIV and AIDS diagnoses. Of these, 145 (70%) had a known HIV testing history (either a last negative HIV date or indication the HIV diagnosis was their first HIV test), and of these 47 (32%) had a negative HIV test in the two years prior to their HIV diagnosis. This indicates that close to one-third of people who were concurrently diagnosed with HIV and AIDS were likely not true late HIV diagnoses but had AIDS diagnosed due to transient immunosuppression with HIV seroconversion or due to rapid decline in their CD4 count following infection.

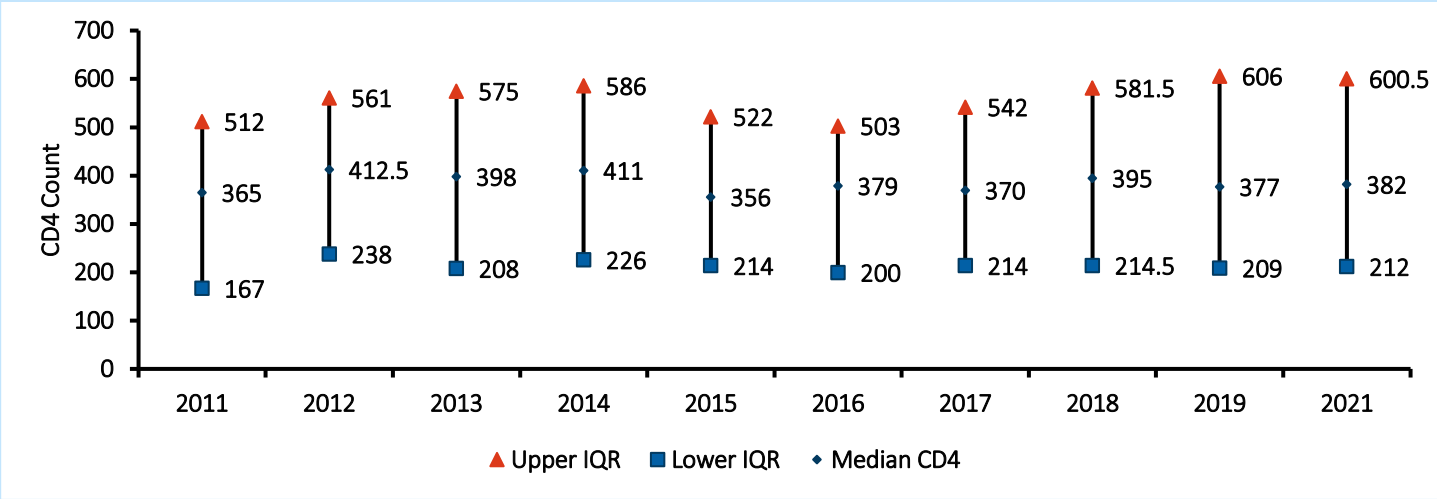
CD4 COUNT AT HIV DIAGNOSIS

CD4 data demonstrate the converse of late HIV diagnosis, with roughly three-quarters of individuals being diagnosed with HIV before experiencing severe immunosuppression (CD4+ T lymphocyte <200/microL). The median CD4 count at the time of HIV diagnosis has been roughly stable since 2011, between 356 and 412 among individuals with a CD4 count measured within 6 months of their HIV diagnosis (Figure 8-5).

PLACE OF HIV DIAGNOSIS AND REASON FOR HIV TESTING

Figure 8-6 presents information on the facilities where people were initially diagnosed with HIV in 2020 (n=157). A wide spectrum of clinical sites diagnosed HIV in 2020. The largest single source of HIV diagnoses were outpatient clinics. A total of 44 different outpatient clinics diagnosed 43% of all cases in 2020. (This category excludes health department clinics, community clinics, and specialty HIV or MSM medical practices). Only two of these 44 clinics diagnosed more than four cases and most (75%) diagnosed only one case. The PHSKC Sexual Health Clinic (formerly the STD Clinic), including outreach testing by clinic staff, was the largest single diagnosing site for HIV, diagnosing 13% (n=20) of all cases in 2020. The second largest diagnosing facility was Gay City, which diagnosed 6% of all cases in King County in 2020 (n=9). Gay City is included with the 11% of diagnoses occurring at MSM and HIV specialty sites, a category that also includes medical practices that primarily serve MSM.

FIGURE 8-5: MEDIAN AND INTER-QUARTILE RANGE (IQR) OF FIRST CD4 COUNTS AMONG PEOPLE NEWLY DIAGNOSED WITH HIV, KING COUNTY, WA, 2010-2020



Overall, 31% of new diagnoses were diagnosed at facilities that received public health funding for HIV testing in 2020. Inpatient diagnoses and diagnoses made in emergency department/urgent care facilities made up 11% and 4% of the diagnoses, respectively, in King County in 2020.

Table 8-3 presents data on why patients were tested when they were diagnosed with HIV. Ideally, people with HIV would be diagnosed because of a regular pattern of testing they initiate themselves, as part of routine medical care, because of symptoms of acute HIV (very early infection), or through partner notification. People diagnosed because of symptoms of more advanced HIV/AIDS represent a failure of the public health and medical systems to diagnose people with HIV before they become ill. Among 101 people diagnosed with HIV in 2020 for whom PHSKC had data on reason for testing, most were tested because of testing they initiated themselves (27%), because of symptoms of a sexually transmitted infection (STI) or through partner notification for HIV or STIs (29%), due to symptoms of acute HIV (1%), or because of testing recommended by a medical provider (13%). (Partner notification includes both people notified by their partners and people notified by public health staff as a result of partner notification interventions.)

FIGURE 8-6: HIV DIAGNOSIS FACILITIES, KING COUNTY, WA, 2011-2020

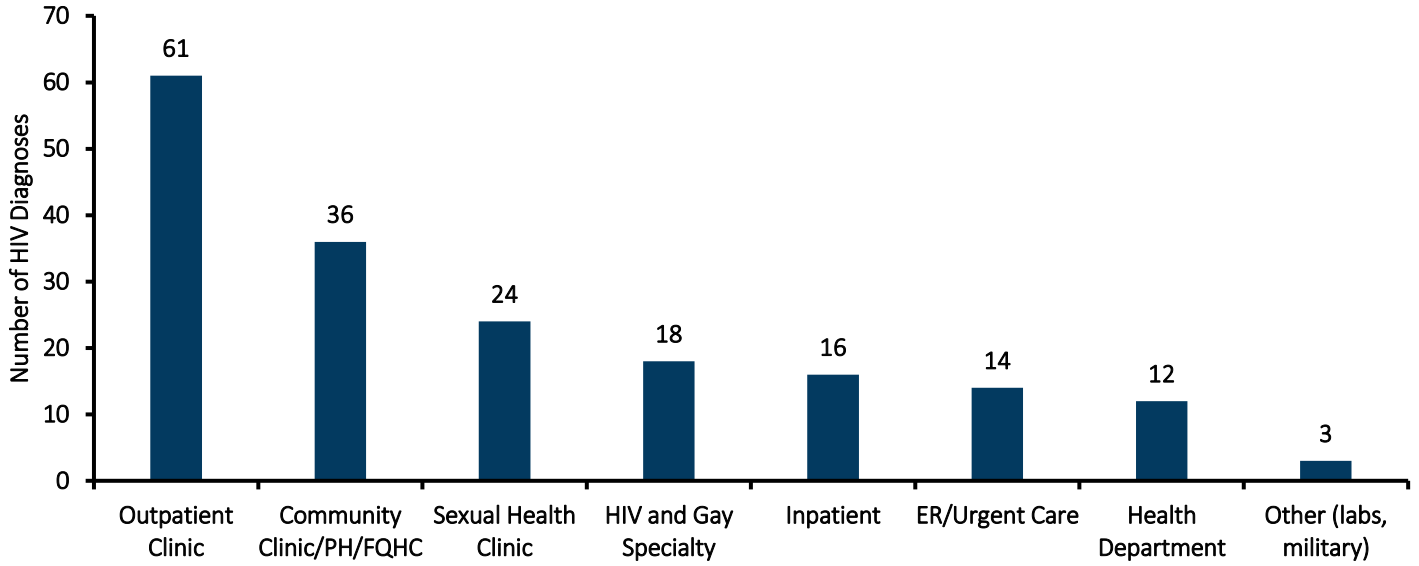


TABLE 8-3: REASON FOR HIV TESTING AMONG PEOPLE DIAGNOSED WITH HIV, KING COUNTY PARTNER SERVICES DATA, 2020

	N	%
Patient initiated regular or risk-based testing, including plasma and blood donations	27	27%
Symptoms of HIV/AIDS	24	24%
Symptoms of sexually transmitted infection (STI) or STI partner notification [A]	19	19%
Medical provider-initiated testing [B]	13	13%
HIV partner notification [A]	10	10%
PrEP screening or prenatal testing	7	7%
Symptoms of acute HIV infection	1	1%
TOTAL	101	100%

[A] Partner notification includes both partners notified by Public Health – Seattle & King County staff and people who tested after a partner notified them that they had tested positive for HIV or an STI.
[B] Routine testing or testing occurring in the absence of symptoms attributable to HIV

Twenty-four percent were diagnosed after presenting with symptoms related to HIV or AIDS, excluding symptoms of acute HIV. This is somewhat higher than 2019 when 15% were diagnosed for this reason. Additionally, the proportion that initiated testing themselves is somewhat lower than it was in 2019 (35%). These two changes may reflect decreased HIV testing as part of routine care related to the COVID-19 pandemic, but with continued testing of persons who developed illnesses related to HIV.

Public Health Interventions that Support this Pillar

The WA DOH and PHSKC fund HIV testing, primarily for people at higher risk for HIV infection, at the PHSKC Sexual Health Clinic and other public health clinics, through several community-based organizations and in the King County Jail. **Figure 8-7** shows trends in the number of HIV tests performed using public health funds between 2012 and 2020, overall and for MSM. The COVID-19 pandemic limited testing in 2020. However, through 2019, the total number of tests performed increased by 49%, while the number of tests performed among MSM increased by at least 30%. (Because the risk information among HIV testers has been less complete in recent years, the true increase in tests done among MSM may be higher.) This change reflects a concerted effort to focus HIV testing resources on the populations at greatest risk for HIV infection. This group has traditionally been MSM, though the increase in HIV among PWID in 2018-19 prompted PHSKC to expand efforts to test that population, particularly those who are living homeless or exchanging sex. Please refer to the article in the 2019 HIV/AIDS Epidemiology Report on the 2018-2019 outbreak among PWID for data on increases in HIV testing in that population.

Between 2012 and 2019, the percentage of MSM testing HIV-positive at publicly funded testing sites declined from 1.4% to 0.5% (**Figure 8-8**), a 66% reduction, while non-MSM test positivity remained more stable at 0.2% or less. Although the latter did not change in 2020, test positivity among MSM increased to 0.7%, likely reflecting less frequent asymptomatic testing among MSM during the COVID-19 pandemic, particularly among those at lower risk for HIV.

HIV testing locations are posted on the PHSKC web site (http://www.kingcounty.gov/depts/health/communicable-diseases/hiv-std/patients/testing.aspx). The largest PHSKC HIV testing site in King County is the Sexual Health Clinic at Harborview, which is a walk-in clinic open 7:30-6:00 five days a week (except Tuesday when it opens at 9:30). The Sexual Health Clinic provides care on sliding fee scale and no one is turned away due to an inability to pay. Testing is also available at community-based organizations, some of which is funded by WA DOH, either directly (WA DOH pays the agency to perform testing) or indirectly (the agency receives free test kits from WA DOH).

Successes and Challenges

HIV testing in King County has been extremely successful, reflecting the combined efforts of medical providers, community-based organizations, communities affected by HIV, WA DOH, and PHSKC. As of 2020, an estimated 94% of people living with HIV have been diagnosed. Among MSM diagnosed with HIV in 2020, nearly three in four (72%) had tested HIV-negative in the prior 2 years and only 8% reported never having tested for HIV

FIGURE 8-7: PUBLICLY FUNDED HIV TESTS OVERALL AND AMONG MEN WHO HAVE SEX WITH MEN (MSM), KING COUNTY, WA, 2012-2020

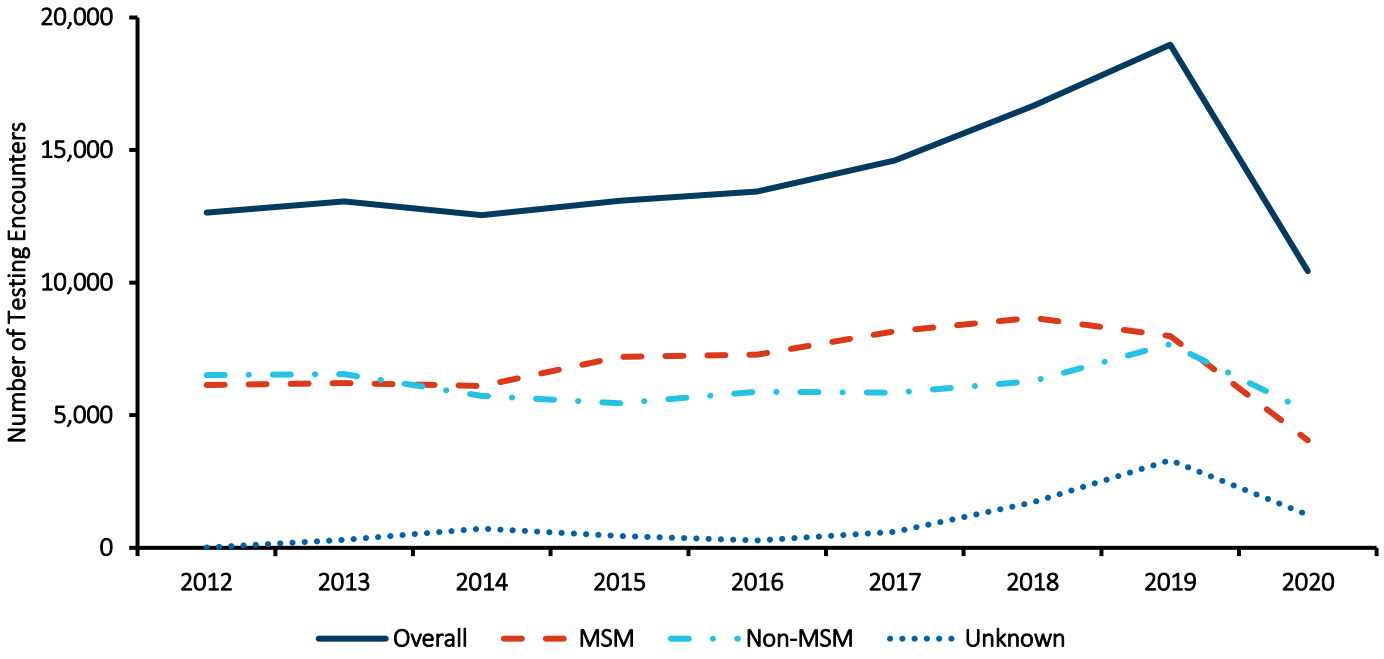
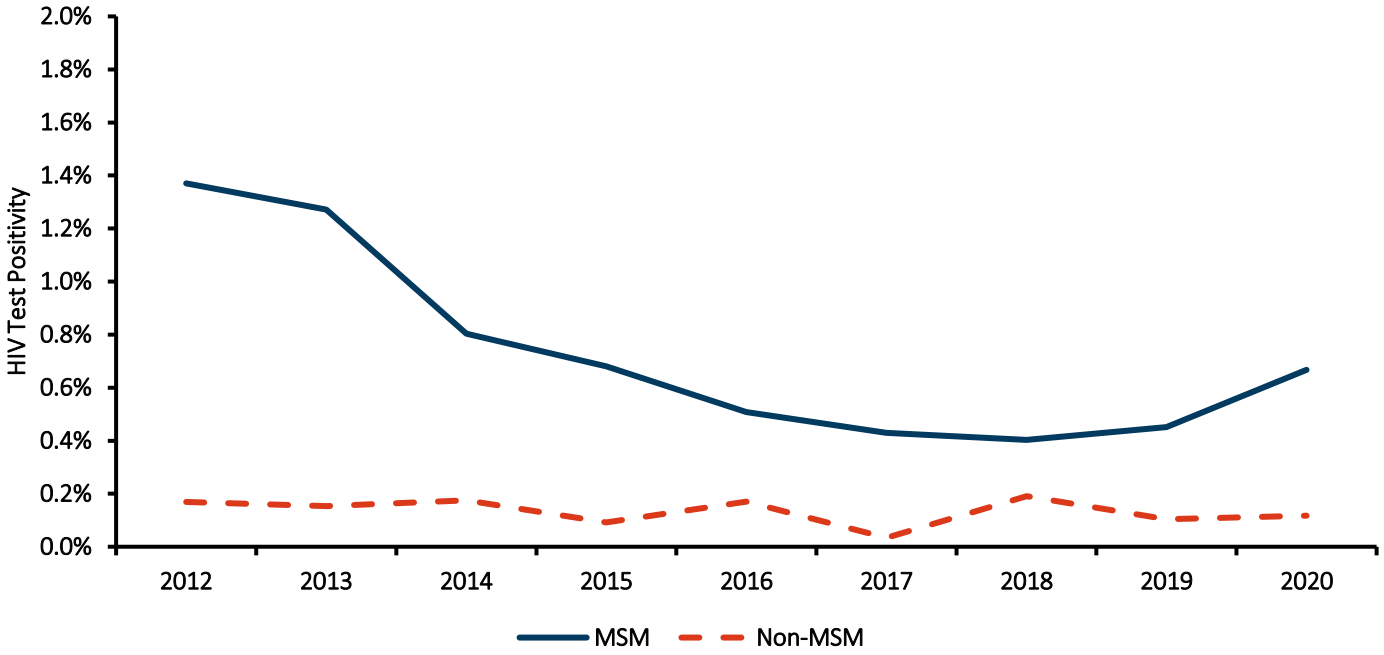


FIGURE 8-8. HIV POSITIVITY RATE FOR MEN WHO HAVE SEX WITH MEN (MSM) AND NON-MSM AT PUBLICLY FUNDED TESTING SITES, KING COUNTY, WA, 2012-2020



previously. Despite these successes, 24% of people diagnosed with HIV in 2019 and 2020 had an AIDS diagnosis within a year of their HIV diagnosis, with the greatest risk of late diagnosis seen among foreign-born individuals who are neither MSM nor PWID. These data highlight the need for expanded testing in these populations. The COVID-19 pandemic is a new challenge to HIV testing efforts. The pandemic decreased HIV testing in 2020. The extent to which that decrease may have increased the number of persons who acquired HIV without knowing it is uncertain. The dramatic and disproportionate decline in new diagnoses among Latinx residents and PWID suggests that these populations may have experienced a disproportionate drop in testing. New efforts to test Latinx persons and PWID are needed to ensure that COVID-19 does not undermine HIV prevention efforts in these important populations.

Contributed by Christina Thibault and Richard Lechtenberg

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Ending the HIV Epidemic Pillar 2: Treat

SUMMARY

An estimated 86% of people with diagnosed HIV in King County were virally suppressed in 2020.

Disparities in viral suppression persist, with lower levels of suppression among U.S.-born Black people living with HIV (PLWH), people who inject drugs and/or use methamphetamine, and people who acquired HIV through heterosexual sex.

In the three years prior to 2020, 15-20% of people who appeared to be out of HIV care or virally unsuppressed were later found to have moved out of King County.

In 2017-2019, approximately 800-900 people living with diagnosed HIV were virally unsuppressed at the end of each calendar year and ~450 were persistently virally suppressed in the subsequent year.

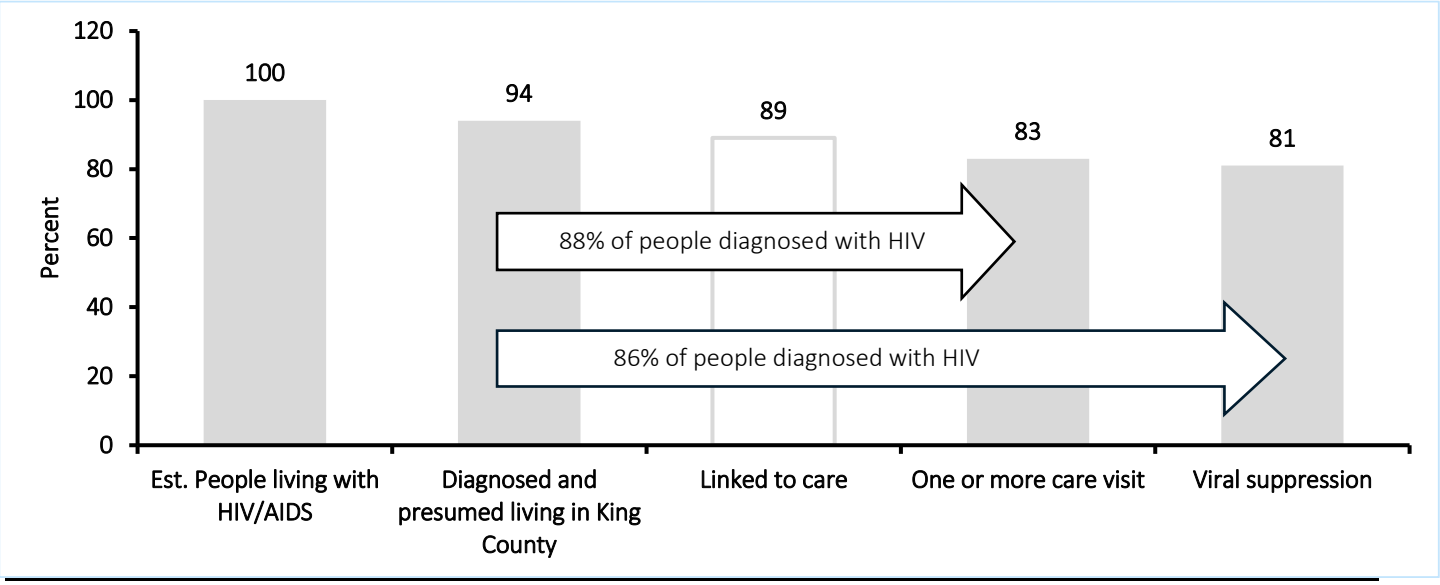
Background

The goal for Pillar 2 (Treat) of the Ending the HIV Epidemic (EHE) initiative is to reduce HIV incidence by 75% by 2025 and by 90% by 2030. A key to achieving this goal is ensuring that all people living with HIV (PLWH) in King County have access to medical care and achieve viral suppression (or an undetectable viral load) as soon as possible after diagnosis and remain consistently virally suppressed over time, which benefits an individual's health and prevents HIV transmission. King County set the following goals for the HIV care continuum by 2020: 1) 90% of newly diagnosed PLWH should link to HIV care within 1 month of diagnosis; 2) 95% of people diagnosed with HIV should receive

Key HIV Goals	2014	2020	2020 Goal
Linked to care in 1 month	88%	89%	≥90%
Received HIV Medical Care in the Calendar Year	89%	88%	≥95%
Viral Suppression within 4 months of HIV Diagnosis	51%	65%	≥75%
Viral suppression	79%	86%	≥90%

Please refer to the Technical Notes on the Dashboard at the front of this report for more information on how each indicator was defined.

FIGURE 9-1. HIV CARE CONTINUUM, KING COUNTY, WA, 2020



	ESTIMATED PEOPLE LIVING WITH HIV/ AIDS [A]	DIAGNOSED AND PRESUMED LIVING IN KING COUNTY [B]	LINKED TO CARE IN 2020 [C]	ONE OR MORE CARE VISIT [D]	VIRAL SUPPRESSION [E]
NUMBER OF PEOPLE	7,445	6,997	140/157	6,149	6,032

A. Percent undiagnosed was calculated as 6% for King County[2], based on a publicly available R back calculation package (https://github.com/hivbackcalc/package1.0/wiki). Our estimate based on this program is 5.7%, which we round to 6%. Estimated people living with HIV/AIDS is calculated by dividing "diagnosed and presumed living in King County" residents by .94.

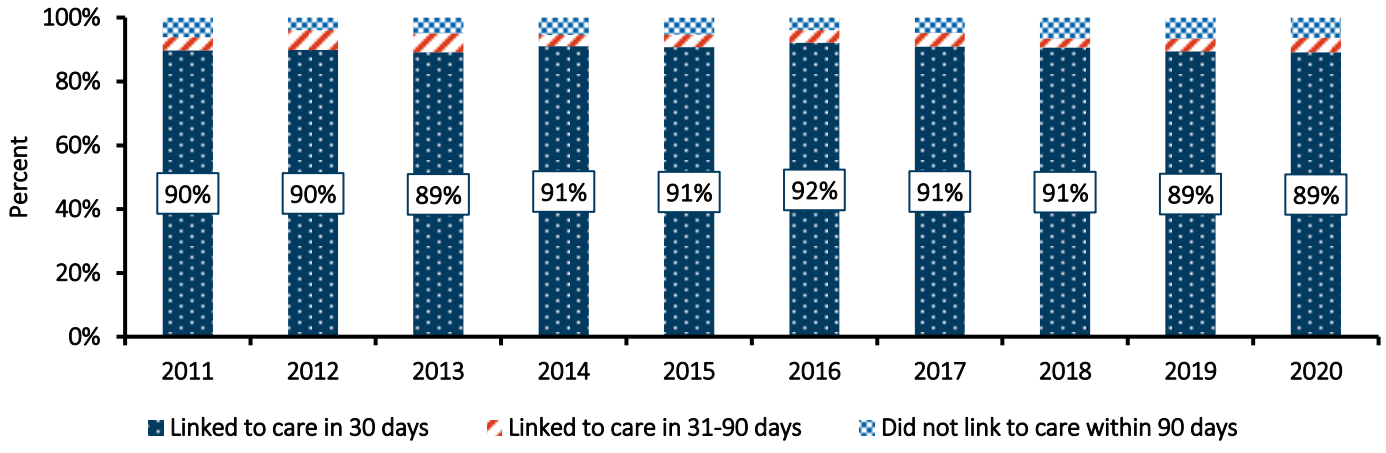
B. Diagnosed cases are those presumed living in King County at the end of 2020. Individuals with no contact for ten or more years were presumed to have relocated or died and are excluded. Others with unconfirmed relocations (e.g., identified by online Internet database searches, but not confirmed by the new jurisdiction or another secondary source) and no laboratory results reported in 18 months were also excluded (N=76, resulting in 6,997).

C. Linked to care in 2020 is not a subset of earlier data (hence different color in the graph) and is based on the percent diagnosed in 2020 with a CD4 or viral load test within one month of diagnosis. The percent linked in the figure, 89%, is the percent of diagnosed cases in 2020 who linked within one month of diagnosis: (140/157). Three-month linkage to care occurred for 94% of people diagnosed with HIV (147/157).

D. One or more care visit was based on one or more reported laboratory result (CD4, viral load, genotype).

E. Viral suppression is defined as the most recent viral load test result in 2020 <200 copies/mL. For individuals diagnosed in the last quarter of 2020, a viral suppression in the first quarter of 2021 was added to those suppressed in 2020 and provided a suppression status for 22 people included in the 6,032. Due to the COVID-19 pandemic, for people with no viral load reported in 2020 we added 299 people who were suppressed at their most recent viral load test in 2019 and also at the time of a first viral load in 2021. These 299 PLWH are also included in the 6,032 PLWH.

FIGURE 9-2: TRENDS IN LINKAGE TO CARE WITHIN 30 DAYS OR 90 DAYS FOLLOWING AN HIV DIAGNOSIS, KING COUNTY, WA, 2011-2020



medical care; 3) 90% of people diagnosed with HIV should be virally suppressed; and 4) elimination of racial and ethnic disparities in each of continuum (**Figure 9-1**) in King County with a focus on three key steps in HIV treatment: linkage to care, ongoing engagement in care, and viral suppression.

Linkage to Care

After an HIV diagnosis, public health outreach staff work to ensure that each newly diagnosed person successfully links to HIV-related medical care as soon as possible. Generally, these staff continue outreach attempts until an initial HIV medical care visit has been completed and monitor cases until they achieve viral suppression. In 2020, 89% of newly diagnosed individuals linked to care within one month of diagnosis and 94% did so within three months. The timing of linkage to care did not change between 2011 and 2020 (**Figure 9-2**), with approximately 90% of cases consistently linking to care within 30 days of diagnosis.

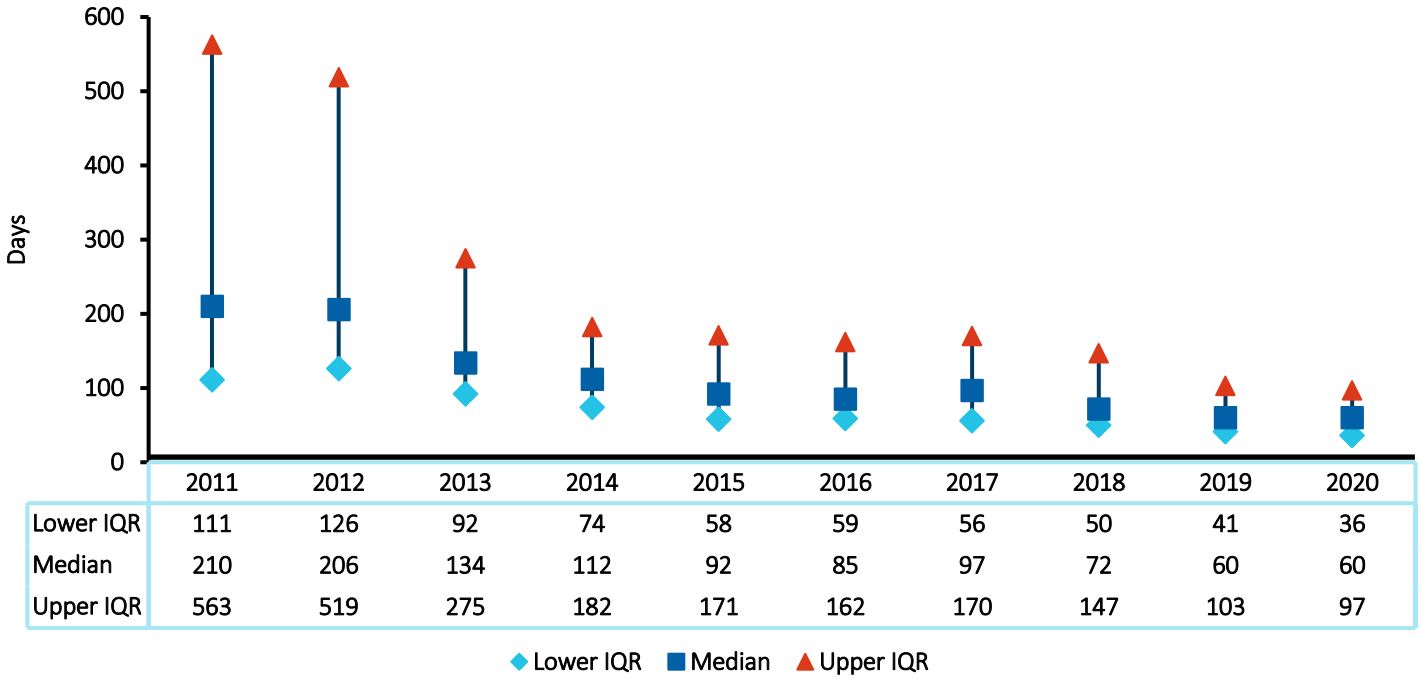
Viral Suppression After a New HIV Diagnosis

A key step in successful linkage to HIV treatment is the initiation of antiretroviral medication. In King County, all PLWH should be offered medications as soon as possible after diagnosis, usually at the time of their first visit with a medical provider. At the population level, the rapidity with which newly diagnosed PLWH achieve viral suppression after diagnosis reflects the combined functioning of public health and clinical infrastructure in King County as well as the efficacy of modern HIV treatment regimens. In 2020, the median time to documented viral suppression after an HIV diagnosis was 60 days (interquartile range [IQR]: 36 to 97 days, see **Figure 9-3**). This was not substantially different from 2019, although this indicator had improved since 2017 (median 97 days in 2016 [IQR: 56-170 days]). Because median times exclude those who have not yet had a suppressed viral load, the percent of people achieving viral suppression is shown month by month up to six months after diagnosis in **Figure 9-4**. In 2020, 102 of 157 (65%) newly diagnosed PLWH had a suppressed VL reported within 4 months after diagnosis. This percentage was lower than the 2020 goal of >75% suppressed within 4 months and has improved from 51% virally suppressed in four months in 2017 and 60% in 2018.

Receipt of and Retention in Care

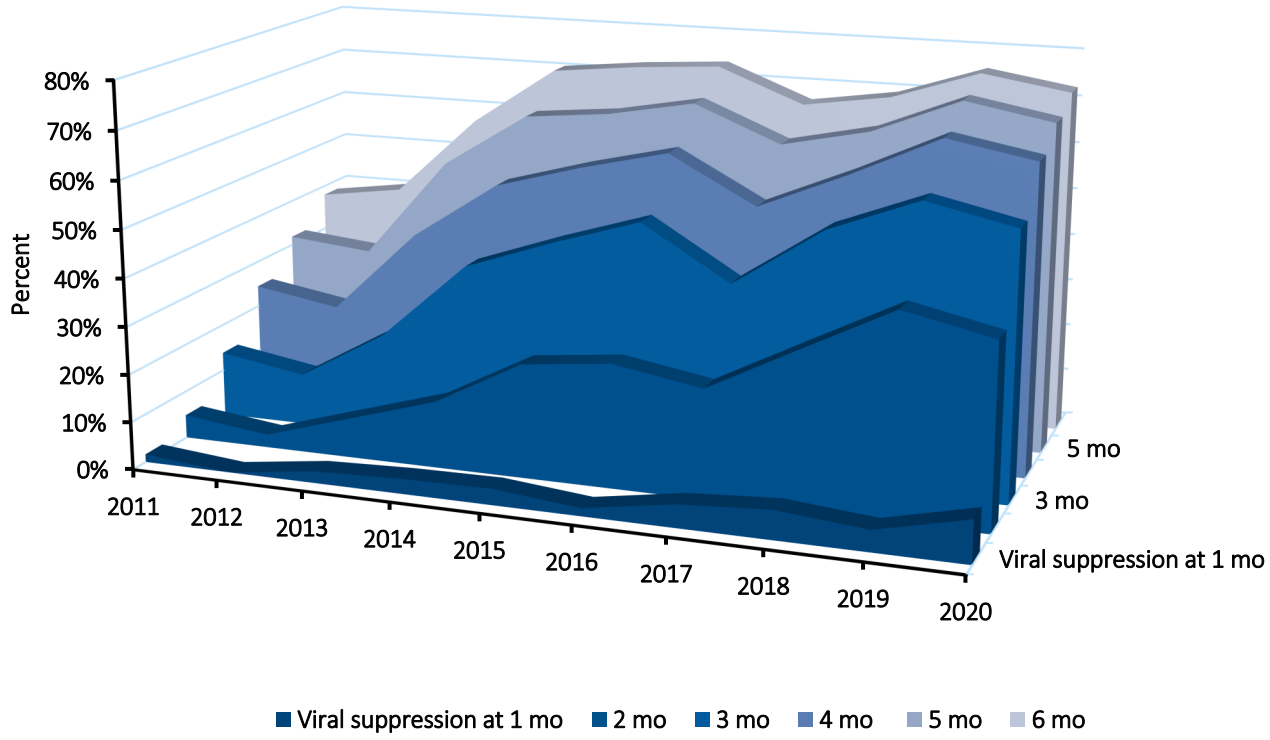
In 2020, 88% of King County people diagnosed with HIV received HIV medical care during the year (**Figure 9-1**).

Figure 9-3: Median Time to viral suppression in days (and interquartile range, IQR) following an HIV diagnosis, King County, WA, 2011-2020



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Lower IQR	111	126	92	74	58	59	56	50	41	36
Median	210	206	134	112	92	85	97	72	60	60
Upper IQR	563	519	275	182	171	162	170	147	103	97

FIGURE 9-4: CUMULATIVE TIME TO VIRAL SUPPRESSION IN MONTHS FOLLOWING AN HIV DIAGNOSIS, KING COUNTY, WA, 2011-2020



This was defined by having at least one HIV-associated laboratory test result (CD4 count or viral load) reported to the health department in 2020. (See **Definitions** page for more detail about laboratory reporting.) Another measure used by CDC to gauge ongoing engagement in HIV care (i.e., retention in care) is having had at least two visits at least three months apart in the calendar year. According to this definition, 47% of people diagnosed with HIV were retained in care in 2020. Because 40% of persons with a suppressed viral load had only one laboratory test in 2020 and would be defined as virally suppressed and also defined as being out of care, PHSKC does not use this CDC definition.

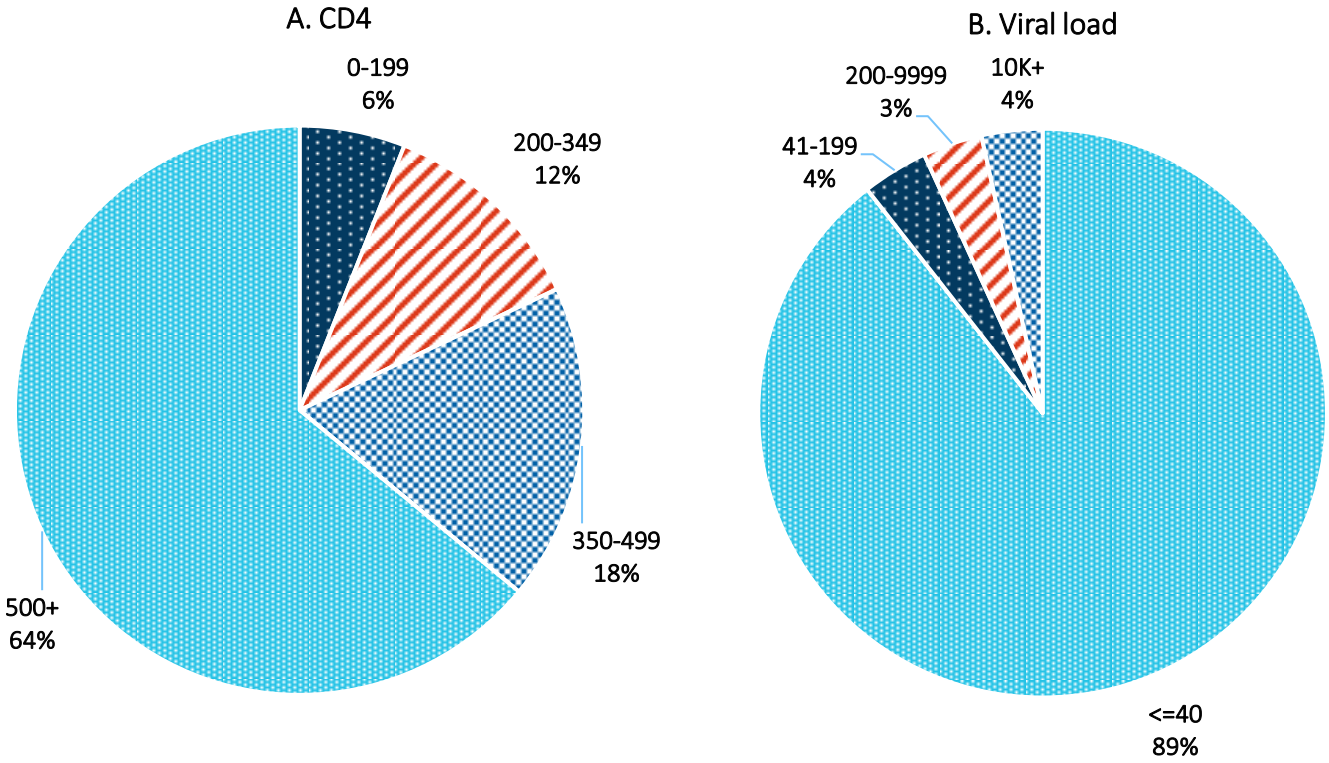
CD4 Counts

HIV-related lab tests reported to the health department are predominantly CD4+ T-lymphocyte absolute cell counts in cells/mm^3 (CD4) and plasma viral load (VL) tests. People without HIV typically have CD4 counts of 800-1,200. HIV-positive persons with CD4 counts under 200 are defined as having AIDS or severe immunodeficiency. We evaluated CD4 and VL values for PLWH in King County at the end of 2020 using the most recent test reported. Because COVID-19 led to decreased laboratory testing in 2020, our analysis included test results from flanking years if no tests were available in 2020, including tests from 2019 and the first half of 2021. With these additions, CD4 test results were available for 85% of PLWH in 2020 or an adjacent year. Based on available lab data, 64% of PLWH in 2020 or a flanking period had a CD4 count ≥500 cells/mm^3, 83% had CD4 counts ≥350 cells/mm^3, and only 6% had a CD4 count under 200 cells/mm^3 (**Figure 9-5A**).

Viral Suppression

In 2020, 82% of PLWH in King County had an undetectable or suppressed (<200 copies/mL) viral load at their last viral load test during 2020. However, when we consider the reduction in viral load testing in 2020 due to the COVID-19 pandemic and define those who had no viral load reported in 2020 and had suppressed viral loads in 2019 and the first half of 2021 as being suppressed in 2020, 86% of PLWH had a suppressed viral load (**Figure 9-5B**). Throughout this report, we use 86% as our estimate of the proportion of PLWH who were virally suppressed during 2020. (See the "Viral Load Suppression Estimate Explained" section for a more detailed explanation.)

FIGURE 9-5. MOST RECENT CD4 COUNT (A) AND HIV VIRAL LOADS (B) FOR 6,997 PEOPLE LIVING WITH HIV IN KING COUNTY, WA, 2020[A]



[A]Due to less HIV viral load and CD4 monitoring in 2020, for those with no reported labs reported in 2020, values were sought from 2019 and in the first half of 2021.

Viral Load Suppression Estimate Explained: The U.S. Department of Health and Human Services guidelines recommend that most PLWH on antiretroviral therapy (ART) have viral load monitoring every 3-6 months. Due to the COVID-19 pandemic, in 2020, PLWH were less likely to have laboratory monitoring. Even prior to the COVID-19 pandemic, some PLWH who had been stably virally suppressed did not have a viral load checked every year.

Both plasma viral load and CD4 tests are reportable to the health department, as are HIV diagnostic tests and drug resistance testing genotypic sequences. PHSKC received 16% fewer HIV laboratory test results in 2020 (50,252) than in 2019 (59,791) despite little change in the number of PLWH in the county.

Due to COVID-19-related reductions in viral load monitoring, our key metric of viral suppression for 2020 was expanded to include viral load measurements in 2019 and the first half of 2021 if no viral load measurement was reported in 2020. To measure the validity of this approach, we reviewed the medical records of a random sample of 24 individuals living with HIV who were virally suppressed in 2019 and the first half of 2021, but had no viral load measurement in 2020. We presumed that people who met these criteria were likely to have had uninterrupted ART use, and thus viral suppression in 2020. In support of this hypothesis, we found evidence of continued ART prescriptions between 2019 and 2021 for 88% of the 24.

An upper limit of the proportion of PLWH with viral suppression in King County in 2020 is 91%, including people with a suppressed viral load either before *or* after 2020. A lower limit is 82%, which reflects only PLWH who had an undetectable viral load *during* 2020. Thus, the true proportion of people diagnosed with HIV living in King County who were virally suppressed in 2020 was between 82-91%. Given the high level of validity found in our evaluation of medical records of PLWH who did not have a viral load in 2020 but were virally suppressed in 2019 *and* the first half of 2021, we use this method for our final estimate of viral suppression throughout this report: 86%.

TABLE 9-1: HIV CARE METRICS, INCLUDING LATE DIAGNOSES, LINKAGE TO CARE, BEING IN MEDICAL CARE, AND VIRAL SUPPRESSION FOR SELECTED GROUPS LIVING WITH DIAGNOSED HIV (PLWDH), KING COUNTY, WA, 2020 [A]

		Percent of people with new HIV diagnoses in King			Percent of people with diagnosed	
	People Diagnosed with HIV[B] (N)	New diagnoses in 2020[A]	Late HIV diagnoses (AIDS within one year of HIV)	Linked[C] to care within one month of diagnosis	Had one or more care visit in 2020	Had suppressed recent viral load (in 2020) (<200 copies)
Total	6,997	157	26%	89%	88%	86%
Gender						
Men (sex assigned at birth)	6,077	141	21%	89%	88%	84%
Women (sex assigned at birth)	920	16	69%	88%	85%	87%
Transgender[A,D]	70	12[A]	25%[A]	83%[A]	90%	81%
Race, Ethnicity and Nativity						
American Indian/AK Native[A]	39	9[A]	11%[A]	67%[A]	87%	72%
Asian	323	17	53%	94%	90%	90%
Black	1,451	26	42%	92%	86%	82%
Foreign-born	*650*	*10*	*90%*	*90%*	*87%*	*86%*
U.S.-born[E]	*801*	16	*12%*	*94%*	*86%*	*79%*
Latinx (all races)	1,053	19	26%	95%	88%	87%
Foreign-born	*500*	*10*	*30%*	*90%*	*88%*	*88%*
U.S.-born[E]	*503*	*9*	*22%*	*100%*	*88%*	*85%*
Pacific Islander[A]	27	11[A]	36%[A]	82%[A]	78%	81%
White	3,651	84	18%	87%	88%	88%
HIV Risk Factors						
Men who have sex with men (MSM)	4,641	109	17%	92%	89%	89%
People who inject drugs (PWID)	285	68[A]	16%[A]	76%[A]	86%	73%
MSM-PWID	649	15	20%	73%	86%	79%
Heterosexual	769	11	100%	100%	87%	86%
Foreign-born	*460*	56[A]	*54%*[A]	*92%*[A]	*88%*	*87%*
U.S.-born[E]	*309*	50[A]	*20%*[A]	*86%*[A]	*84%*	*84%*
Other Factors						
Foreign-born	1,683	38	58%	95%	88%	88%
Meth use (collected since 2009)	407	15	7%	87%	87%	74%
Race/Ethnicity Among MSM (including PWID-MSM)						
Asian MSM	226	11	36%	91%	92%	93%
Black MSM	586	14	7%	93%	87%	81%
Latinx MSM	862	19	26%	95%	88%	88%
Foreign-born	*415*	*10*	*30%*	*90%*	*88%*	*89%*
U.S.-born[E]	*447*	*9*	*22%*	*100%*	*89%*	*87%*
White MSM	3,207	70	16%	89%	89%	89%
Age in 2020						
<30 years	460	55	18%	85%	85%	77%
30-39 years	1,330	47	17%	91%	86%	81%
40+ years	5,207	55	42%	91%	89%	88%

[A] Due to small numbers (i.e., fewer than 9 in 2020), newly diagnosed Native Am./AK Native people, Pacific Islander people, PWID, heterosexuals by nativity, and transgender people were based on 5 years of diagnoses from 2016 to 2020.

[B] Excludes individuals with unconfirmed relocations as of the time of analysis (e.g., identified by online Internet database searches, but not confirmed by the new jurisdiction or another secondary source) and no laboratory results reported in 18 months (N=76, resulting in 6,997 PLWH).

[C] "Linked" is based on percent of cases diagnosed in 2020 linking to care based on CD4 or viral load tests within 30 days of diagnosis.

[D] For prevalent cases of people living with diagnosed HIV, the transgender category includes transgender women (91%) and transgender men (9%); for 5-year incident diagnoses, the breakdown was 92% transgender women and 8% transgender men.

[E] U.S.-born includes unknown country of birth.

TABLE 9-2: NUMBER AND CHARACTERISTICS OF PEOPLE LIVING WITH DIAGNOSED HIV WHO ARE NOT VIRALLY SUPPRESSED, KING COUNTY, WA, 2020

Group	Living with diagnosed HIV in King County N	Unsuppressed due to no viral load reported in 2020 N (row%)	Unsuppressed due to viral load in 2020 ≥200 N (row%)	Total number without a suppressed viral load in 2020 N (row %)	
Total[A]	**7,073**	**973 (14%)**	**367 (5%)**	**1,340 (19%)**	
Excluding people with unverified relocations (N=76)	**6,997**	**897 (13%)**	**367 (5%)**	**1,264 (18%)**	**Total unsuppressed**
Redefines 299 as suppressed if they had no viral load in 2020 but were suppressed in 2019 and 2021	6,997	598 (9%)	367 (5%)	**965 (14%)[B]**	
	Of 6,997 N (Col %)	**Persons Without a Suppressed VL N (Row %)[B]**			**Of 965 Col %**
Men who have sex with men (MSM)	5,232 (75%)	416 (8%)	235 (4%)	651 (12%)	67 %
American Indian/Alaska Native MSM	*22 (<1%)*	*3 (14%)*	*3 (14%)*	*6 (27%)*	*1%*
Asian/Pacific Islander MSM	*241 (3%)*	*10 (4%)*	*7 (3%)*	*17 (7%)*	*2%*
Black MSM	*579 (8%)*	*63 (11%)*	*49 (8%)*	*112 (19%)*	*12%*
Latinx MSM	*841 (12%)*	*64 (8%)*	*39 (5%)*	*103 (12%)*	*11%*
White MSM	*3,193 (46%)*	*245 (8%)*	*113 (4%)*	*358 (11%)*	*37%*
Multiracial MSM	*356 (5%)*	*31 (9%)*	*24 (7%)*	*55 (15%)*	*6%*
People who inject drugs (PWID, excluding MSM)	285 (4%)	34 (12%)	43(15%)	77 (27%)	8%
MSM-PWID (subset of MSM)	636 (9%)	74 (12%)	60 (9%)	90 (14%)	9%
Foreign-born Black people (FBB excluding MSM & PWID)	596 (9%)	48 (8%)	31 (5%)	79 (13%)	8%
Heterosexual risk (excluding FBB)	454 (6%)	43 (9%)	28 (6%)	71(16%)	7%
Others (excluding FBB, PWID, MSM, and heterosexuals)	432 (6%)	58 (13%)	30 (7%)	88 (20%)	9%
Seattle (excluding north Seattle)	3,788 (54%)	302 (8%)	213 (6%)	515 (14%)	53%
South King County	1,777 (25%)	181 (10%)	101 (6%)	282 (16%)	29%
East King County	474 (7%)	46 (10%)	19 (4%)	65 (14%)	7%
North King County & north Seattle	958 (14%)	69 (7%)	37 (4%)	106 (11%)	11%

[A] PLWH presumed living in King County at the end of 2020 (N=7,073)

[B] Or if no viral load was reported in 2020, then using the last viral load reported from 2019 and the first viral load reported in the first half of 2021.

Abbreviations: MSM, men who have sex with men; PWID, people who use injection drugs; FBB, foreign-born Black individuals.

Factors Associated with Being Viremic or Not in HIV Care

Table 9-1 summarizes viral suppression and care among PLWH in King County, stratified by sex assigned at birth, gender, race/ethnicity, HIV transmission risk category, and nativity status. Viral suppression was above 80% in most subpopulations presented in the table but was below this threshold in the following subpopulations: U.S.-born Black people (76%), Pacific Islanders (74%), PWID (75% in MSM-PWID; 69% in non-MSM PWID), U.S.-born people who acquired HIV through heterosexual sex (79%), Black MSM (78%), people who use methamphetamine (71%), and people <40 years of age (77%). These disparities merit concerted efforts to ensure that all PLWH receive the medical care they need. At the same time, it is worth noting that the level of viral suppression in King County, including in all of the subgroups mentioned above, are much higher than the estimated level of viral suppression for the U.S. as a whole (57% in 2019).[1]

Out of care and unsuppressed PLWH

Table 9-2 presents information on the characteristics of PLWH in King County who were not known to be virally suppressed. As discussed above, of the 6,997 PLWH presumed to be living in King County, we estimated that 14% were not virally suppressed in 2020. Two-thirds (67%) of PLWH without viral suppression were MSM, although only 12% of MSM were unsuppressed. By comparison, 8% of all unsuppressed persons were non-MSM PWID, among whom 27% were unsuppressed (over twice the proportion of MSM who were not virally suppressed).

Factors Associated with Being Viremic or Not in HIV Care

We used a multivariate model to investigate the factors associated with (1) being viremic (HIV VL ≥200copies/mL) or (2) not being in HIV care in 2020. Because the factors associated with both outcomes were so similar, we present results looking at both outcomes together. Not being in care was defined by having no viral load, CD4, or other lab test (e.g., genotype assay) reported in 2020 among people diagnosed with HIV in 2019 or earlier. A total of 6,791 people were eligible and assumed to be living in King County on December 31, 2020: 206 individuals were excluded due to HIV diagnosis dates in 2020, and 76 were excluded due to no labs reported in 18 months and evidence of relocation. As above, due to a decrease in HIV-related lab testing due to the COVID-19 pandemic in 2020, for those missing a VL in 2020, we classified PLWH as suppressed or in care if they had a suppressed VL in 2019 and also in the first half of 2021. Most (5,942; 87% of 6,791) either were in care in 2020 or had a suppressed viral load in 2020 – or a flanking period. Of the 849 PLWH without a suppressed viral load or not in care, 337 (40%) PLWH were viremic, and 512 people (60%) had no labs reported in 2020.

Multivariate model explained: A multivariate model allows one to identify factors (predictors) that are associated with an outcome after accounting for ("adjusting") the impact of the other factors in the model. The results are expressed as relative risks (RR) with 95% confidence intervals (CI). A RR estimates the risk of having the outcome relative to a reference group. RR's less than 1.0 suggest that people with the factor are at lower risk of the outcome. RR's greater than 1.0 suggest that people with the factor are at higher risk of the outcome. A RR equal to 1.0 suggests there is neither a higher nor a lower risk of the outcome between people with and without the factor. In the model shown in Table 9-2, some of the categories (e.g., age) have a reference category that all other groups in that category are compared to. If there is no reference category, then a group is compared to all others not in that group.

As seen in Table 9-3, after adjusting for all other factors, MSM with HIV were less likely than others to be viremic or not in care, while PWID, U.S.-born Black people, and younger people with HIV were at elevated risk for being viremic or out of care. These findings highlight the disparities that characterize the local HIV epidemic.

Outcomes among People who Were Not Virally Suppressed in 2019

In each surveillance report, we report HIV care continuum outcomes among PLWH in King County based on data accumulated through the end of the calendar year of focus. However, in subsequent years, PHSKC has gained additional information about the status of people who appeared to be out of care (and presumed virally unsuppressed) during the surveillance year. Many people who appear to be out of care at the end of the calendar year are later found to have moved out of the area. For that reason, we provide a revised estimate of the prior year's care continuum in each surveillance report to update the community and aid our interpretation of the current year's data.

In 2019, an estimated 642 people were presumed to be

TABLE 9-3: FACTORS ASSOCIATED WITH (1) NOT BEING IN CARE IN 2020 OR (2) BEING VIREMIC (VIRAL LOAD ≥200 COPIES PER ML), AMONG PEOPLE DIAGNOSED WITH HIV THROUGH 2019; KING COUNTY, WA, DATA REPORTED AS OF 6/30/2021[A]

Factor	Percent Out of Care or Not Virally Suppressed N=849 Row %	Crude Relative Risk (95% CI)	Adjusted Relative Risk [A] (95% CI)
Total (N=6,791)	13%	NA	NA
HIV EXPOSURE CATEGORY			
People who inject drugs (N=917)	21%	**1.9 (1.6-2.2)**	**2.5 (1.9-3.1)**
Men who have sex with men (N=5,144)	11%	**0.7 (0.6-0.8)**	**0.6 (0.4-0.8)**
RACE/ETHNICITY/NATIVITY			
Foreign-born Latinx (N=531)	11%	0.9 (0.7-1.2)	0.8 (0.5-1.3)
U.S.-born Latinx (N=491)	14%	1.1 (0.0–1.4)	1.3 (0.9-1.8)
Foreign-born Black (N=618)	12%	1.0 (0.8-1.2)	0.9 (0.6-1.4)
U.S.-born Black (N=1,051)	19%	**1.6 (1.4-1.9)**	**1.9 (1.5-2.4)**
SEX ASSIGNED AT BIRTH			
Female (N=886)	15%	**1.3 (1.1-1.5)**	0.8 (0.6-1.2)
Male (N=5,905)	12%	1.0 (Reference cat.)	1.0 (Reference cat.)
AGE IN 2020			
Less than 30 years (N=398)	18%	**2.4 (1.8-3.2)**	**3.0 (1.7-5.3)**
30 – 39 years (N= 1,266)	17%	**2.3 (1.8-2.8)**	**3.3 (2.1–5.0)**
40 – 49 years (N=1,518)	14%	**1.8 (1.5-2.3)**	**2.1 (1.4-3.2)**
50 – 59 years (N=2,132)	11%	**1.5 (1.2-1.8)**	**2.0 (1.3-2.9)**
Age 60+ years (N=1,477)	8%	1.0 (Reference cat.)	1.0 (Reference cat.)
HIV DIAGNOSIS YEAR			
< 2000 (N=1,852)	8%	1.0 (Reference cat.)	1.0 (Reference cat.)
2000-2004 (N=1,208)	13%	**1.6 (1.3-2.0)**	1.2 (0.8–1.7)
2005-2009 (N=1,253)	14%	**1.8 (1.5-2.2)**	**1.5 (1.1–2.2)**
2010-2014 (N=1,274)	14%	**1.8 (1.5-2.2)**	0.9 (0.6–1.4)
2015-2019 (N=1,204)	16%	**1.9 (1.6-2.4)**	1.1 (0.7–1.7)
TRANSGENDER (N=66)	18%	1.1 (0.9-1.4)	1.5 (0.7-3.4)

Analysis of PLWH in King County diagnosed through 2019 and assumed living in King County in 2020 and is comprised of 5,942 people in care and virally suppressed and 849 people who were not engaged with care or who were viremic (6,791 total).

[A] Adjusted for all the other variables in the table.

Bold type designates statistically significant — increased or decreased risk of being out of care or not virally suppressed.

virally unsuppressed based on having no laboratory result reported to PHSKC during 2019, and 366 were defined as virally unsuppressed based on a confirmed report of an unsuppressed viral load. Figure 9-6 shows the status of those individuals as of mid-2021. Because 207 (20%) people were ultimately found to have moved away, they likely were not living in King County at the end of 2019. Of the revised estimate of 843 people out of care or virally unsuppressed in King County at the end of 2019 (which excludes relocations and deaths in 2019), 32 (4%) died in 2020 or 2021. Of the remaining 811 people, 367 (45%) were virally suppressed at the end of 2020 and 444 (55%) were not. Based on past investigations, many of the individuals who had no labs reported in either 2019 or 2020 (N=289) have likely moved away, but PHSKC has been unable to confirm relocation. In summary, of the 1,052 out of care/virally unsuppressed people at the end of 2019 reported in the 2020 surveillance report, 20% were confirmed to have moved away, 42% remained out of care/virally

FIGURE 9-6. CURRENT STATUS OF HIV CASES IDENTIFIED AS VIRALLY UNSUPPRESSED AT THE END OF 2019, KING COUNTY, WA

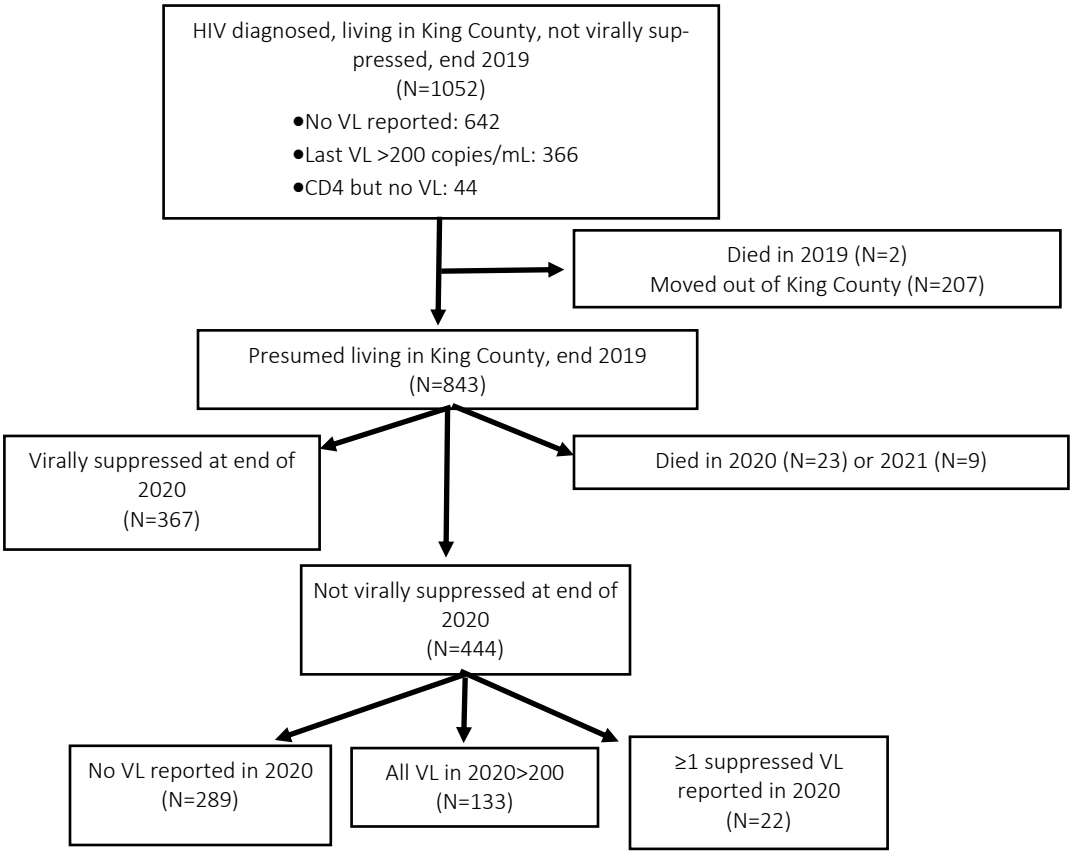


TABLE 9-4. INITIAL AND REVISED ESTIMATES OF THE PERCENTAGE OF PEOPLE DIAGNOSED WITH HIV WHO WERE OUT OF CARE (OOC) AND VIRALLY UNSUPPRESSED, AND OUTCOMES IN THE SUBSEQUENT YEAR, KING COUNTY, WA, 2017-2019

Year	Initial estimate OOC/virally unsuppressed (% of all PWdH)	Found to have moved away (% of OOC/virally unsuppressed)	Revised estimate of OOC/virally unsuppressed (% of all PWdH)*	Status at the end of subsequent year		
				Deceased	Virally suppressed (% of revised estimate)	Not virally suppressed
2017	1,046 (15%)	142 (14%)	909 (14%)	33 (4%)	427 (47%)	449 (49%)
2018	1,122 (16%)	241 (21%)	879 (13%)	20 (2%)	397 (45%)	462 (53%)
2019	1,052 (15%)	207 (20%)	843 (12%)	32 (4%)	367 (45%)	444 (55%)

Total number of people diagnosed with HIV adjusted to exclude people found to have moved away or died in the given year or earlier (these deaths are small in number and not shown, 0-3 each year)

unsuppressed in 2019 (65% out of care and 35% not suppressed), 35% were virally suppressed at the end of 2020, and 3% died in 2020 to mid-2021. As show in **Table 9-4,** these patterns have been stable over the last few years prior to the onset of the COVID-19 pandemic.

Contributed by Julie Dombrowski, Richard Lechtenberg, and Susan Buskin

References

1. U.S. Department of Health and Human Services. HIV Care Continuum. Available at: https://www.hiv.gov/federal-response/policies-issues/hiv-aids-care-continuum. Accessed August 31, 2021.

Ending the HIV Epidemic Pillar 3: Prevent

SUMMARY

Approximately one in four local men who have sex with men (MSM) are currently on pre-exposure prophylaxis (PrEP) for HIV.

Two in five MSM at high risk of HIV are currently using PrEP.

In 2020, the Public Health – Seattle & King County (PHSKC) syringe services program (SSP) sites distributed over 5 million syringes, with over 8.8 million syringes distributed by all local SSPs.

In 2020, the state and local health departments distributed over 380,000 condoms in King County.

Introduction

The United States' Ending the HIV Epidemic (EHE) initiative's prevention pillar focuses on two highly effective, evidence-based HIV prevention approaches: pre-exposure prophylaxis (PrEP) and syringe services programs (SSP). The first approach, PrEP, consists of taking a medication (e.g., emtricitabine/tenofovir disoproxil fumarate) to prevent HIV acquisition, and the EHE initiative aims to increase the use of PrEP among populations at elevated risk for HIV. In King County, efforts to expand PrEP use have focused on men who have sex with men (MSM), transgender individuals who have sex with men, and people who inject drugs (PWID) with additional indications for PrEP (e.g., women who exchange sex). The second approach, SSPs, seeks to provide harm reduction services to reduce the risk of infectious diseases and other outcomes, including overdose, among people who use drugs. Services offered at SSPs typically include syringe access, naloxone (overdose reversal medication) distribution and training, treatment for substance use disorders, HIV and hepatitis C testing and linkage to care, and wound care. The goal of EHE is to

KEY HIV GOALS	2014	2020	2020 GOAL
PrEP use, high risk MSM	9%	44%	50%
Syringe coverage	258/PWID	333/PWID	≥ 365/PWID

increase access to, and the quality of, SSPs among people who use drugs. A third HIV prevention approach – condom use – is not included in EHE but remains an important component of prevention efforts for both HIV and other sexually transmitted infections (STIs). In this article, we highlight progress that King County has made toward increasing access to, and use of, each of these interventions to reduce the risk of HIV.

Pre-Exposure Prophylaxis (PrEP)

Background

People who are at risk for HIV can take a daily pill to reduce their risk of acquiring HIV. This prevention strategy, PrEP, usually involves taking two medications used to treat HIV, tenofovir and emtricitabine, which are sold as a single pill. Multiple clinical trials have shown that PrEP is safe and effective at reducing the risk of acquiring HIV through sexual behavior or injection drug use. When people take PrEP consistently, their risk of HIV is decreased by at least 90%. People who take PrEP should have HIV/STI testing every three months. In 2021, several generic forms of the most commonly used PrEP medication, emtricitabine/tenofovir disoproxil fumarate (FTC/TDF), became widely available, decreasing the cost of this medication by more than 90%.

In 2015, Public Health – Seattle & King County (PHSKC) and the Washington State Department of Health (WA DOH) issued PrEP Implementation Guidelines. The current guidelines recommend that medical providers discuss PrEP with all MSM and transgender patients who have sex with men and explicitly recommend PrEP initiation to patients in the following groups:

- MSM or transgender people who have sex with men if the patient has any of the following risks:
    - Diagnosis of rectal gonorrhea or early syphilis in the past 12 months
    - Methamphetamine or popper use in the past 12 months
    - History of providing sex for money or drugs in the past 12 months
- People in ongoing sexual partnerships with an HIV-positive person who is not on antiretroviral therapy (ART), or is on ART but is not virologically suppressed, or who is within 6 months of initiating ART

The guidelines further recommend that HIV-negative MSM and transgender people who have sex with men who are sexually active outside of a long-term (1 year), mutually monogamous relationship with a partner of the same HIV status should consider initiating PrEP and discuss it with their medical providers. In 2018, in response to an outbreak of HIV among heterosexuals who inject drugs who were living homeless in north Seattle, PHSKC expanded local guidelines to recommend that medical providers offer PrEP to women who exchange sex, particularly those who inject drugs or who are living homeless. PHSKC and the WA State DOH recommend that providers use emtricitabine/tenofovir disoproxil fumarate for PrEP in most patients with normal kidney function and avoid using tenofovir alafenamide/ emtricitabine, which is more expensive and not known to be effective in cisgender women. This recommendation is in accord with a recent cost-effectiveness analysis and expert opinion related to PrEP.[1]

In 2021, PHSKC will update its PrEP recommendation guidelines based on a new analysis of local data.[2] The new guidelines will recommend PrEP initiation to patients in the following groups:

- MSM or transgender people who have sex with men if the patient has any of the following risks:
    - Diagnosis of gonorrhea or early syphilis in the past 12 months (expanded to include any gonorrhea diagnosis)
    - Methamphetamine use in the past 12 months (popper use no longer included)
    - ≥10 sex partners in the past 12 months (new criteria)
    - History of providing sex for money or drugs in the past 12 months (no change)
- People in ongoing sexual partnerships with an HIV-positive person who is not on antiretroviral therapy (ART), or is on ART but is not virologically suppressed, or who is within 6 months of initiating ART (no change).

As in the prior iteration of the guidelines, PHSKC recommends that medical providers discuss PrEP with HIV-negative MSM and transgender people who have sex with men and PWID, particularly women who exchange sex and who inject drugs or who are living homeless.

Monitoring PrEP Use

PHSKC uses multiple methods to monitor PrEP use among MSM and transgender people who have sex with men in King County. Three surveys monitor current PrEP use in these key populations:

· Pride Survey - Local data from the King County Pride surveys, conducted during June Pride events, provide insight into PrEP use and sexual behavior (including condom use) among MSM, transgender, and non-

binary individuals. Although the Pride surveys are typically administered in-person, the 2020 and 2021 surveys were administered anonymously online due to the COVID-19 pandemic. In 2021 1,328 King County residents were recruited virtually during Seattle Pride events (June 25-30) and identified as being transgender, non-binary, bisexual, queer, gay, and/or lesbian. A total of 790 (59%) participants identified as a cis or trans man and had sex with another man in the last year or identified as gay, bisexual, queer, or pansexual; 115 (15%) of these MSM reported being transgender. Overall, 441 (33%) participants identified as transgender and/or non-binary. All MSM estimates from the 2021 Pride Survey include transgender MSM in MSM estimates.

· National HIV Behavioral Surveillance (NHBS) - Data on PrEP use among populations at elevated risk for HIV come from the NHBS survey, which has recently surveyed cisgender MSM (2017), PWID (2018), and transgender women (2019-2020). To be eligible for the MSM survey, participants must have reported sex with another man in the past year, while being sexually active was not a requirement for the other populations. The 2020 NHBS-MSM cycle was postponed to 2021 due to the COVID-19 pandemic.

· Washington HIV/STI Prevention Project (WHSPP) - Two rounds of this web-based survey recruited MSM in Washington State have been completed. The data presented here are from the second round of the survey, which was conducted from November 2018 to January 2019, and the data are limited to sexually active MSM.

In 2018, PHSKC conducted an additional survey to understand PrEP use among Black MSM:

· PrEP Survey: Black Gay & Bi Men - This web-based survey recruited MSM in King, Pierce, Snohomish counties from August to December 2018. Survey respondents were included in the analysis if they were Black, did not have HIV, and reported having sex with men.

Additional data on PrEP use among MSM and transgender people at higher risk for HIV come from:

· Individuals with diagnosed STIs receiving public health **partner services** who were asked if they were currently using PrEP.

· Harborview **Sexual Health Clinic (SHC) MSM and transgender patients** who reported at least one sex partner in the last year were asked if they were currently taking PrEP.

Finally, to further estimate the extent of PrEP use among local MSM, PHSKC conducted a:

· STI Provider Survey - This 2018 survey included Washington State medical providers who reported one or more case of syphilis or three or more cases of gonorrhea to the health department in 2017. The data presented here are limited to sexually active MSM.

When possible, PrEP outcomes are presented separately for MSM who do and do not meet criteria for being at "high risk" for HIV. For consistency across surveys, we used criteria defined through a local analysis of risk factors associated with HIV seroconversion among MSM patients at the PHSKC SHC. This same analysis was the basis for PHSKC and the WA DOH's PrEP Implementation Guidelines. HIV-negative MSM who report any of the following in the past year are defined as being at "high risk" for HIV: any bacterial STI diagnosis, methamphetamine or popper use, 10 or more male sex partners, or any condomless anal sex with a man who was HIV-positive or did not know his HIV status. MSM with "negligible risk" for HIV were defined as MSM with zero sex partners or one HIV-negative mutually monogamous partner in the past year. MSM with "lower risk" of HIV included all other MSM.

PrEP Awareness

The annual Pride survey has collected data on PrEP awareness among MSM since 2009. **Figure 10-1** illustrates how awareness of PrEP grew rapidly from 2013 to 2015 and is now nearly universal among MSM at both higher and lower risk of HIV. Although not shown in **Figure 10-1**, data from the 2017 NHBS-MSM survey are similar with 92% of low-risk and 97% of high-risk MSM reporting being aware of PrEP. Of respondents to the 2018 PrEP survey among Black MSM, 84% reported they had heard of PrEP before the survey which aligns with the 80-85% awareness of PrEP found among all Pride survey respondents that same year.

PrEP Use

PrEP Use among MSM. Since the first licensure of antiretroviral therapy for PrEP in 2012, PrEP use has rapidly expanded among King County MSM (**Figure 10-1**). In 2020, approximately 27% (range: 18-35 %) of all MSM in King County were on PrEP, including approximately 44% (range 39-49%) of MSM at higher risk for HIV (**Figure 10-2**). These percentages were calculated based on the average of the Pride Survey, NHBS-MSM survey, WHSPP survey, and STD partner services data, which are the data

FIGURE 10-1. PREP AWARENESS AND USE AMONG MSM IN KING COUNTY, SEATTLE AREA PRIDE SURVEY, 2013-2021

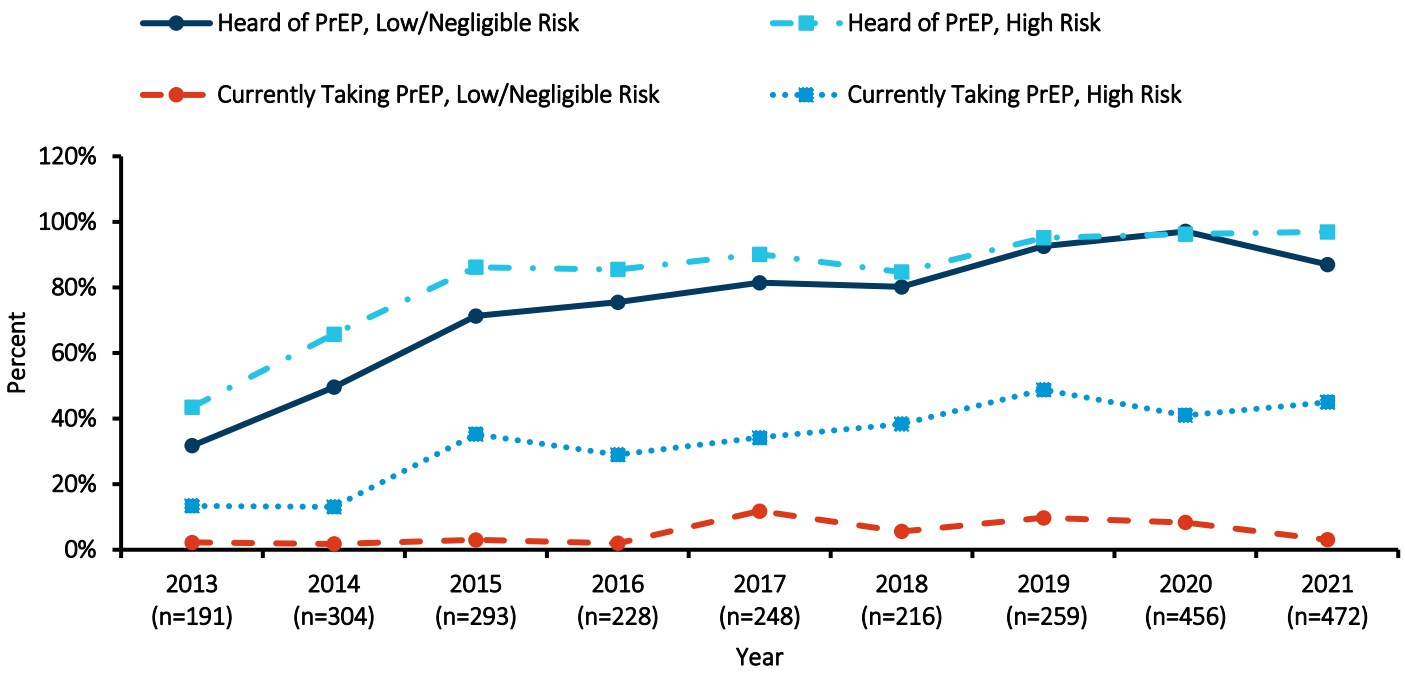
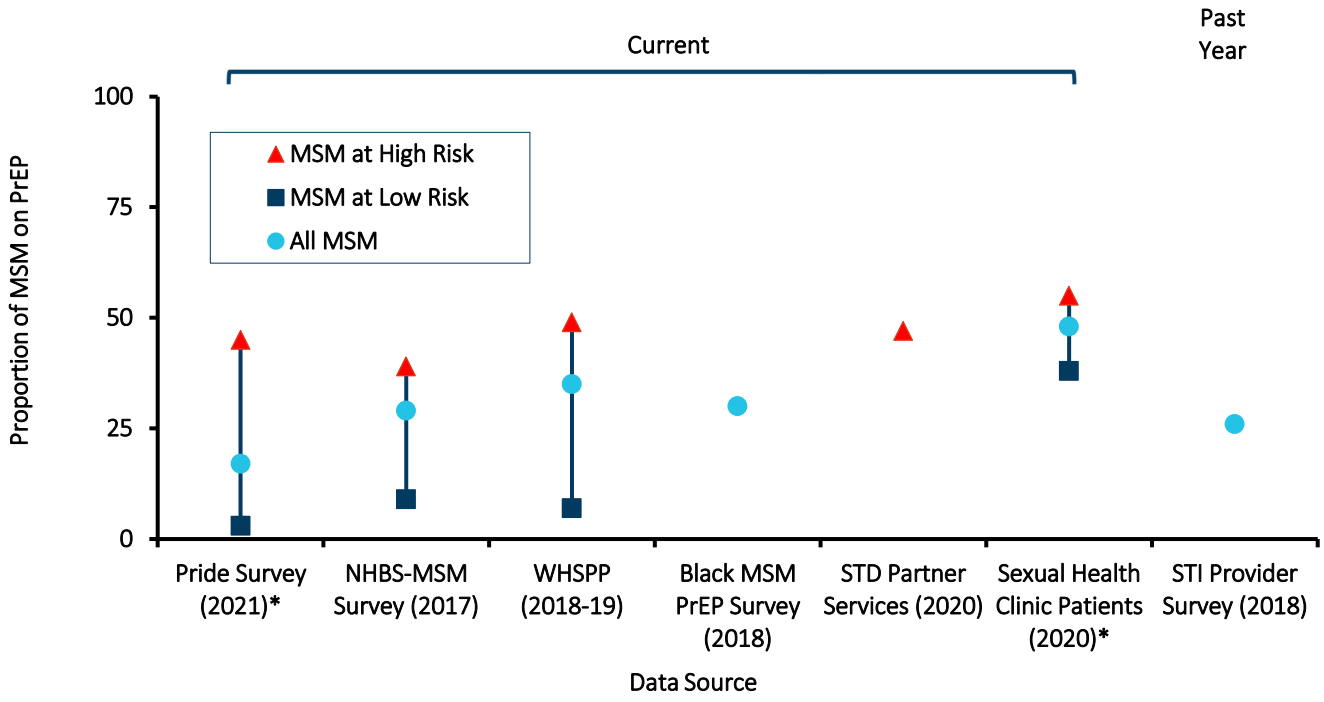


FIGURE 10-2. PREP USE AMONG SEATTLE MSM BY RISK CRITERIA, 2017-2021



*MSM at negligible risk for HIV not included in low risk category.

sources most representative of the entire population of MSM. (This estimate excludes the Black MSM survey since not all race/ethnicities were represented.) By contrast, in 2014, just 13% of MSM who met high risk criteria reported ever using PrEP in the Pride survey. As shown in Figure 10-2, 2017-2021 estimates of current PrEP use for MSM at higher and lower risk of HIV were similar across the three general surveys of MSM: NHBS, Pride, and WHSPP. In 2018, 30% of the respondents to the PrEP survey among Black MSM reported current PrEP use. Extrapolating data from the 2018 STI Provider Survey to the estimated population size of all HIV-negative MSM, we estimate that 26% of all MSM took PrEP in the past year.

Among MSM patients seen in the PHSKC SHC in 2020, 55% of MSM at higher risk, 37% of MSM at intermediate/ lower risk, and 35% of MSM with negligible HIV risk reported currently using PrEP. Overall, 48% of all MSM SHC patients were currently taking PrEP 2020.

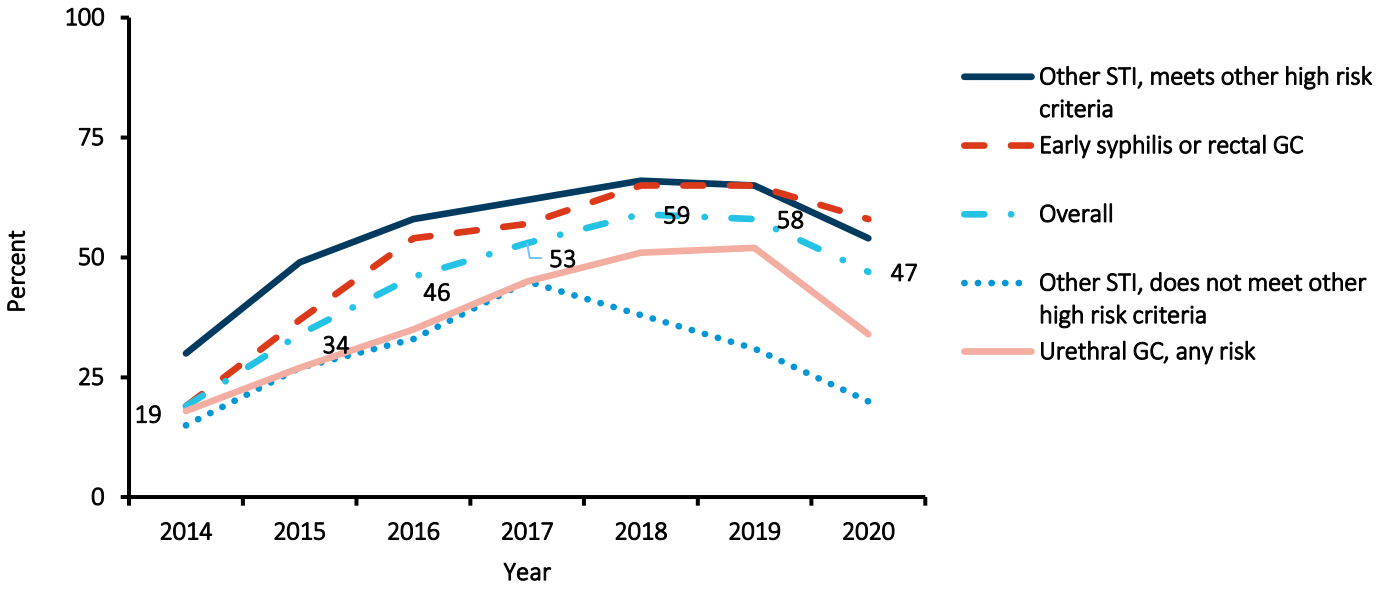
PrEP Use among MSM during the COVID-19 Pandemic - While this report focuses on PrEP use in 2020, we included data from the 2021 Pride survey, which was conducted remotely during the COVID-19 pandemic in summer 2021. Current PrEP use among MSM at higher risk for HIV in that survey was 45%, which is four percentage points higher than the estimate from the 2020 Pride Survey. However, both the 2020 and 2021 estimates of PrEP use among MSM at higher risk were lower than what was found in the 2019 Pride survey (49%). The observed pattern of PrEP usage from 2019 to 2021 may be due to MSM initially stopping using PrEP due to changes in sexual behavior (i.e., less risk) during the initial phases of the pandemic and then increasing again post-vaccination. The survey methodologies in 2020 and 2021 were also different than preceding years – online vs in-person – so that may have accounted for some of the observed difference.

PrEP Use among MSM Receiving STI Partner Services - Partner services (PS) are an integral part of public health efforts to control HIV and bacterial STIs. PS seek to ensure that people with bacterial STIs and HIV receive appropriate treatment and that their sex and needle sharing partners are notified, tested, and treated. PS staff at the PHSKC SHC attempt to provide PS to all individuals with HIV and selected patients with gonorrhea and early syphilis. PS also present an opportunity to monitor PrEP use among a population at high risk for HIV acquisition. PHSKC staff who provide PS for STIs routinely ask MSM patients if they are currently taking PrEP, and data collected through these STD PS interviews can be used to monitor PrEP use among MSM with bacterial STIs. While these data provide a useful estimate of trends in PrEP use in a high-risk population, in 2020 PHSKC had to scale back the provision of PS to persons with syphilis and gonorrhea in order to redeploy staff to assist with the COVID-19 response. In order to sustain efforts to link MSM to PrEP, staff prioritized cases occurring in HIV-negative MSM who were not known to be already on PrEP and decreased the number PS interviews occurring in MSM on PrEP. As a result, 2020 estimates of PrEP use may represent underestimates of true PrEP use among MSM with STIs.

By definition, all MSM who had been diagnosed with a bacterial STI and completed a PS interview met the criteria for being at higher risk for HIV; 47% of these MSM reported currently being on PrEP. This estimate is likely higher than the other estimates due to the overrepresentation of MSM on PrEP who receive quarterly STI screening and consequently have an increased likelihood of being diagnosed with asymptomatic STIs. The percent of HIV MSM patients who did not have HIV diagnosed with an STI between 2014-2020 who were using PrEP is shown in Figure 10-3. The percent of cases reporting already taking PrEP increased from 19% in 2014 to 58% in 2020 among MSM with early syphilis and rectal gonorrhea, a decline from a peak of 65%. Among MSM diagnosed with an STI other than early syphilis or rectal gonorrhea, PrEP use increased from 30% to 54% among MSM at high risk, and from 15% to 20% among MSM at lower risk. Because urethral gonorrhea is usually symptomatic, it provides an estimate of PrEP use that is less likely to be influenced by the frequent STI screening undertaken as part of PrEP related medical care. Among MSM with urethral gonorrhea, PrEP use increased from 18% in 2014 to 52% in 2019, and then declined to 34% in 2020.

PrEP Use among Transgender, Non-binary, and Genderqueer People Who Have Sex with Men - Data on PrEP use among transgender and non-binary/ genderqueer populations is available in four data sources. Among 2021 Pride Survey participants who identified as transgender or non-binary/genderqueer and reported male or transgender women sex partners and lived in King County (n=321), 12% reported currently being on PrEP and 25% reported ever using PrEP. At the PHSKC SHC, 42% of all clinic patients who were

FIGURE 10-3. CURRENT PREP USAGE AMONG MSM DIAGNOSED WITH A BACTERIAL SEXUALLY TRANSMITTED INFECTION (STI) IN KING COUNTY COMPLETING A PARTNER SERVICES INTERVIEW, 2014-2020



Other STI includes MSM diagnosed with chlamydia, late syphilis, or pharyngeal gonorrhea. Other high risk criteria is defined as methamphetamine or popper use, 10 or more male sex partners, or any condomless anal sex with a man who was HIV-positive or did not know his HIV status.

transgender, non-binary, or genderqueer and reported sex with men were currently taking PrEP in 2020. Among transgender and non-binary/genderqueer clinic patients who met the HIV/STD Program criteria for being at higher risk for HIV (n=61), 54% were currently on PrEP. Data from the 2019-2020 NHBS survey of transgender women found that 19% of HIV-negative participants had used PrEP in the past year, including 21% of participants who met the criteria for being at higher risk for HIV. In 2020, 36 cases of gonorrhea or syphilis were diagnosed and reported among HIV-negative transgender, non-binary, and genderqueer people who have sex with men, of which 26 were interviewed for partner services. Of interviewed cases, 62% (n=16) reported currently being on PrEP, including 57% of transgender women, 50% of transgender men, and 70% of non-binary/genderqueer people.

People Who Inject Drugs (PWID) and Women who Exchange Sex for Money or Drugs - PrEP awareness and use remain very low among local populations of PWID and women who exchange sex, including women who both exchange sex and inject drugs. Data from the 2018 NHBS survey of PWID (N=466) showed that only 25% of HIV-negative PWID were aware of PrEP and 1% (n=5) had used PrEP in the past year. In the 2016 NHBS survey of women who exchange sex, 16% had heard of PrEP, and 1% had used PrEP in the last year. Among the subset of women who exchange sex from the 2018 NHBS survey of PWID, 29% had heard of PrEP and 3% had used PrEP in the last year.

PUBLIC HEALTH ACTIVITIES TO PROMOTE ACCESS TO AND USE OF PREP

PHSKC and the WA DOH engage in a wide spectrum of activities to increase PrEP use among people at higher risk for HIV, including direct provision of PrEP, outreach efforts and PrEP navigation designed to increase the use of PrEP, dissemination of information, and financial assistance to make PrEP more accessible.

1) PrEP Program in the PHSKC Sexual Health Clinic

The PHSKC SHC at Harborview Medical Center started prescribing and managing patients on PrEP in October 2014. Clinicians and other staff at the clinic routinely discuss PrEP with all MSM and transgender patients who have sex with men and recommend that patients initiate PrEP if they meet criteria defined in the 2015 PrEP Implementation Guidelines. The clinic provides ongoing PrEP care to patients meeting these criteria and refers other patients interested in initiating PrEP to community medical providers. Due to local disparities in HIV risk and concern that PrEP might not be equally accessible to all populations, starting in 2017 the SHC began to offer PrEP

to all Black and Latinx MSM and transgender patients, including those who do not meet the criteria above. As of 2020, all cisgender MSM and transgender patients who have sex with men in the SHC are offered PrEP through the clinic. From October 2014 to December 2020, 1,592 patients had completed an initial intake for PrEP in the SHC. As of December 31, 2020, 528 of these patients were currently receiving PrEP through the SHC, the majority of whom were MSM (94%).

In 2020, 207 patients completed an initial intake for PrEP in the SHC, of whom 89% (n=184) were MSM. Compared to the 122 MSM diagnosed with HIV in King County in 2020, MSM evaluated for PrEP in the SHC in 2020 were as likely to be Latinx (22% of PrEP patients vs 15% of MSM diagnosed with HIV in King County; P=0.11) and to be Black, non-Latinx (10% of PrEP patients vs 11% of MSM diagnosed with HIV in King County; P=0.73). Additionally, they were as likely to be aged 15-24 (20% of PrEP patients vs 20% of MSM diagnosed with HIV in King County; P=0.55).

2) Promoting PrEP via STI Partner Services (PS)

PS present an opportunity to provide population-based HIV prevention, including PrEP referrals, to people at high risk for HIV and other STIs. Since October 2014, PS staff have assessed whether MSM and transgender people who do not have HIV are currently on PrEP as part of STI PS interviews. If patients are not on PrEP, PS staff offer to help them arrange to initiate PrEP at the PHSKC SHC or with community medical providers.

3) PrEP Referrals for MSM

In 2020, medical providers reported 1,029 cases of syphilis or gonorrhea among MSM who did not have HIV in King County, 343 of whom received PS. Of these people, 300 (87%) were eligible to receive PrEP at the SHC; 141 (47%) of these 300 people were already using PrEP at the time of their PS interview. Among 159 MSM not currently on PrEP and eligible to receive it from the SHC, 102 (64%) were offered a referral, of whom 65 (64%) accepted. Among the 43 PS recipients who were not eligible to receive ongoing PrEP care at the SHC, 18 (42%) were already using PrEP. Public health outreach staff offered 14 PS recipients assistance linking to PrEP, of whom 11 (79%) accepted referrals to community providers.

4) Community-Based PrEP Programs

The WA DOH supports several community-based programs to promote PrEP use and make PrEP more accessible in King County. The primary intervention is PrEP navigation, which connects current and prospective PrEP clients with PrEP navigators in their community. PrEP navigators counsel clients about PrEP, help clients obtain health insurance and funding for PrEP and associated medical services, and increase client persistence on PrEP through reminders and ongoing support.

Prevention-funded PrEP navigators currently operate at three agencies in King County: Entre Hermanos, Harborview Madison Clinic, and Lifelong. Two agencies also operate a weekly PrEP Clinic that provides integrated PrEP navigation and clinical services: Gay City & POCAAN. In 2020, Gay City supported 87 people in receiving PrEP services through their PrEP Clinic. POCAAN's PrEP Clinic did not start seeing clients until 2021. This data is most likely an underreporting in PrEP client engagement given WA DOH's transition to a new data collection system (Provide) in early 2020 that changed how PrEP navigation efforts were reported to the state. Additionally, PrEP navigation activities were paused at many sites due to COVID-19 restrictions for a large portion of 2020 resulting in lower PrEP client engagement than in previous years.

5) PrEP Resources on the PHSKC Web Site

PHSKC maintains a web page with PrEP information and resources, available here: www.kingcounty.gov/prep. The website includes facts about PrEP, a link to the "We are 1" quiz to help people decide if PrEP is right for them, information about paying for PrEP, and clinical guidelines for providers. The web page also includes a list of medical providers who are willing to prescribe and manage patients on PrEP, and a searchable map of these medical providers. The 2017 Choose Your Safer Sex Plan campaign included PrEP resources and can be found here: https://www.we-are-1.com/safersex.

6) Paying for PrEP

The WA DOH has operated a PrEP Drug Assistance Program (PrEP DAP) since 2014. Initially, the program paid for enrollees' costs for tenofovir/emtricitabine, regardless of their insurance status, but was subsequently shifted to a payer of last resort model. Under this model, PrEP DAP helped patients enroll in insurance and pharmaceutical drug assistance programs and covered the costs of PrEP for patients who had exhausted benefits provided through those programs.

Beginning November 1st, 2017, PrEP DAP expanded

services and began offering patients assistance with medical and lab costs by contracting with medical providers across the state and opening enrollment to uninsured people to access those services. PrEP DAP is still the payer of last resort, and some enrollees may be required to use another drug assistance program prior to using PrEP DAP. Expanding PrEP DAP to include medical and laboratory services reduces the barriers of medical cost to enrollees and supports engagement in care. The expansion allows an enrollee to see a contracted provider and have out of pocket costs for allowed services paid by PrEP DAP.

A total of 4,410 people enrolled in Prep DAP between January 1, 2014 and July 31, 2021, of whom 3,482 (79%) were King County residents; 79% of these enrollees had medical insurance. Since expanding in November 2017, PrEP DAP has processed 36,154 medical and lab claims and has contracts with 542 medical providers and 289 laboratory locations across the state. In July 2021, 109 enrollees received any services paid for through PrEP DAP, including 78 people in King County. Statewide, this included 98 enrollees with and 11 without insurance who filled their tenofovir/emtricitabine prescription through PrEP DAP. The extent to which people who were previously enrolled in PrEP DAP remain on PrEP is unknown.

PrEP Discontinuation

Increases in PrEP awareness and PrEP use are signs of a successful intervention, however failure to retain people on PrEP who are still at risk for HIV remains a challenge. Understanding reasons for PrEP discontinuation is necessary to address low PrEP retention rates.

Of the 1,592 patients who enrolled in the SHC PrEP program from October 2014 to December 2020, 375 (24%) patients were retained on PrEP at the clinic from their initial start date until June 30, 2021, 194 (12%) patients did not fill their first prescription, 281 (18%) moved or transferred care, three (<1%) tested positive for HIV at their initial visit, and the remaining 739 (46%) patients discontinued PrEP at the SHC at least once between their initial start date until June 30, 2021. The reason for PrEP discontinuation was available for only 209 (29%) of the patients as the majority were lost to follow-up or the reason was unknown (526, 71%). Reasons for discontinuation among those with a documented reason included that the patient reported being in a monogamous relationship (42%), the patient reported they were no longer at risk for HIV (30%), side effects (15%), or another reason (13%). The WHSPP survey also assessed the reasons for discontinuing PrEP among respondents who had taken in PrEP in the past. Among the respondents, the most common reasons for discontinuation were perception of no longer being at high risk for getting HIV (43%), concern about long-term health effects of PrEP (27%), inability to continue paying for PrEP (20%), and doctor recommendation for discontinuing use (18%). Data collected from MSM newly diagnosed with HIV receiving HIV PS in King County, WA between 2014 and June 2019 included similar common discontinuation reasons: changing insurance (19%), side-effects (19%), moving (14%), homelessness (14%), perception of low risk (9%).

The median time from PrEP initiation to PrEP discontinuation was similar among SHC PrEP patients, WHSPP survey respondents, and MSM receiving HIV PS. The median time to first PrEP discontinuation for SHC patients was seven months (IQR: 3-16 months), for survey respondents the median time since most recently starting PrEP was seven months (IQR: 2.5-18 months), and for MSM receiving HIV PS the median duration of PrEP use was approximately seven months (IQR: 1.7-19 months). PrEP discontinuation differed by race/ethnicity among SHC PrEP patients. The median time to first PrEP discontinuation for Black patients was four months (IQR: 1-13 months) compared to seven months (IQR: 3-16 months) for Latinx patients, eight months (IQR: 3-16 months) for White patients, and eight months (IQR: 3-16 months) for Asian and Pacific Islander patients.

Successes

Washington State and King County have robust systems for promoting PrEP use and access, including a state-funded PrEP drug assistance program and the integration of PrEP into STI medical care and partner services. In 2020, approximately 27% of all MSM in King County were on PrEP, including an estimated 39 - 49% of MSM at high risk for HIV. Notably, 47% of MSM who received partner services for a bacterial STI – perhaps the population at highest risk for HIV – reported being on PrEP. Recent NHBS data also showed high levels of PrEP use among Latinx MSM, a population that has experienced high rates of HIV and STIs.

Challenges

King County has made substantial progress using PrEP to prevent HIV, but as of 2020, the county was slightly short of the 2020 goal of having 50% of MSM at higher risk for HIV on PrEP. In addition to continuing challenges in

providing sexual health services, including PrEP, during the COVID-19 pandemic, challenges remain in promoting appropriate PrEP retention and in defining which populations of PWID and women might benefit from PrEP and assuring high levels of use in those populations. Potential disruptions in PrEP use due to the COVID-19 pandemic are a concern, as seen in the decrease in PrEP initiations in the PHSKC SHC compared to previous years. Some data suggest that PrEP use is disparate, with lower levels of use among Black MSM, a population at particularly high risk for HIV infection. Black SHC PrEP patients have lower rates of PrEP retention with over half of those initiating PrEP at the clinic discontinuing use within 12 months. To address these ongoing challenges, PHSKC, the WA DOH, and local community-based organizations are expanding PrEP navigation, working with local medical providers and pharmacies to increase access to PrEP in diverse populations, and promoting PrEP adherence.

Syringe Service Programs (SSPs)

Background

SSPs are public health programs for PWID. An important component of PHSKC SSPs is the distribution of new, sterile syringes and other injection equipment, which reduces the spread of HIV and other blood-borne infections among PWID. SSPs also provide other harm reduction services to PWID, including helping interested drug users find drug treatment and health care. Other services provided at the PHSKC SSP include testing for HIV and hepatitis; vein care and medical care for skin and soft tissue infections; education and training on overdose prevention, including naloxone training and distribution; treatment readiness counseling; case management services and referral for medication for opioid use disorder; education about harms associated with drug use and how to minimize them; and safe disposal of needles, syringes, and other injection equipment. PHSKC's program began operating in 1989. Currently, PHSKC operates four exchange programs: fixed sites in downtown Seattle and Capitol Hill, a mobile program in south Seattle/south King County, and a mobile program in north Seattle. (The north Seattle mobile program was established in 2018 following an increase in the number of new HIV infections among PWID in this area.) There are three other major SSPs in King County including the People's Harm Reduction Alliance (PHRA), Hepatitis Education Project (HEP), and Project NEON.

In March 2020, in response to the COVID-19 pandemic, the PHSKC SSP changed its syringe distribution model to minimize COVID-19 transmission to SSP clients and staff. Previously, the SSP used a "one-for-one" model, which restricted the number of syringes distributed to the number of used syringes brought in by each client. Under the new "negotiated exchange" model, clients are encouraged to return all their used syringes, but the number of syringes they receive is based on a discussion with staff about their injection frequency and not limited to the number of syringes returned. This model is closer to a true "needs-based" model, which is what is recommended by CDC.

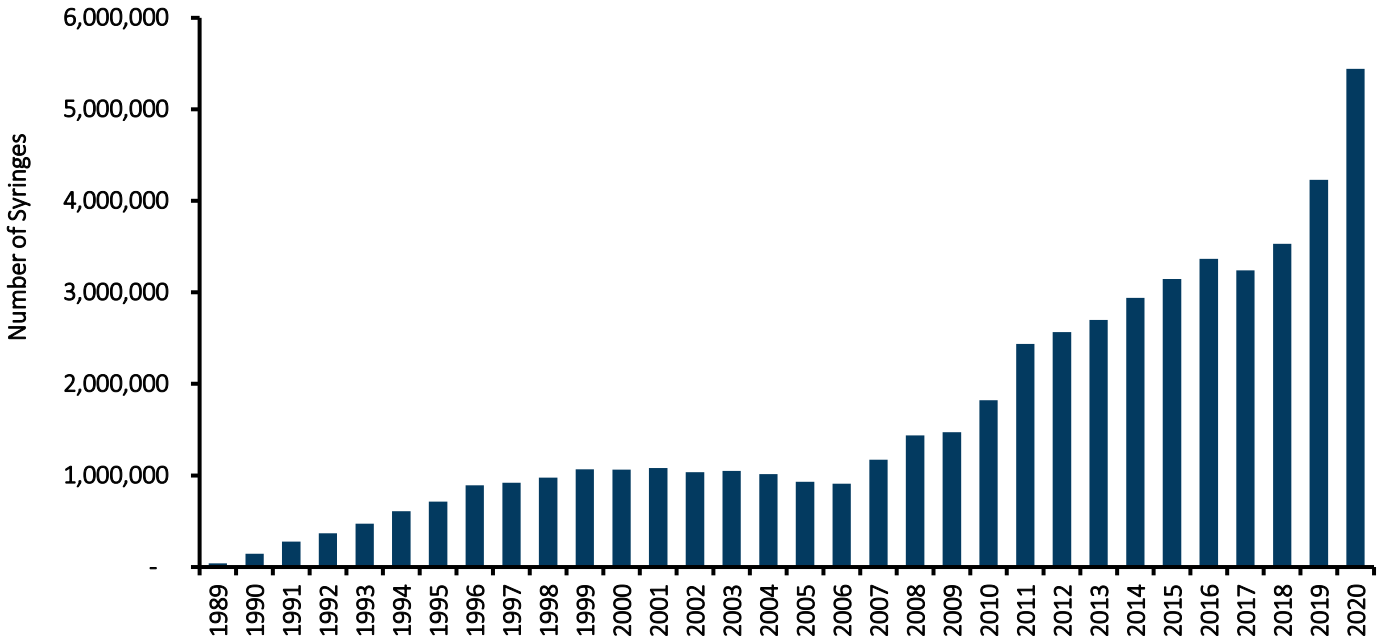
Number of Syringes Exchanged and Syringe Coverage

In 2020, the PHSKC SSP distributed 5,442,766 syringes at its four sites, a 29% increase from 2019 (Figure 10-4). These syringes were exchanged during 19,708 exchange encounters, which was an 18% decline from 2019. Across all four SSPs within Seattle and King County, SSPs distributed 8,831,881 syringes in 2020. This included 2,781,515 syringes at PHRA, 492,600 syringes at HEP, and 115,000 syringes at Project NEON.

The PHSKC south Seattle/south King County SSP – known as SCORE (South County Outreach Referral and Exchange) – operates three days a week using a mobile unit. Clients can call the SSP to arrange exchange services, including same-day appointments. In 2020, SCORE exchanged 1,808,736 syringes (a 13% increase from 2019) during 2,974 encounters (4% increase from 2019), largely due to secondary exchange (i.e., obtaining syringes for others). Because of the increase in HIV cases among PWID in 2018, PHSKC expanded its SSP to include the North Seattle Outreach Referral and Exchange (NORE). NORE is a mobile SSP that visits homeless encampments and other locations frequented by PWID to provide syringe services, including sterile injection equipment, HIV testing, and vaccinations. Following a pilot period, NORE began using a dedicated van in late 2019. In 2020, NORE and other outreach activities distributed 627,227 syringes (a 718% increase from 2019) during 2,709 encounters (a 257% increase from 2019). NORE also distributed 512 naloxone kits in 2020.

Syringe coverage is a measure used across jurisdictions to monitor if SSPs provide enough injection equipment to PWID. Coverage is defined as the number of sterile syringes provided per PWID per year. In its 2020 targets, the World Health Organization (WHO) recommends that SSPs provide 200 sterile syringes per PWID per year to

FIGURE 10-4. ANNUAL SYRINGE DISTRIBUTION, PUBLIC HEALTH – SEATTLE & KING COUNTY SYRINGE SERVICES PROGRAM SITES, 1989-2020



control HIV infection in the population. (The target for 2030 will increase to 300.[3]) Based on a CDC analysis of 2015 data from 20 urban areas, Seattle was the only city to have achieved the 2020 goal (209 syringes per PWID in 2015).[4] San Francisco had the second highest ratio (122 syringes per PWID), Chicago had the third (111 syringes per PWID), and all other cities distributed <35 syringes per PWID. Using 2020 estimates of distributed syringes among all SSPs in King County (over 8.8 million) and the PWID population size estimate for King County (26,500), syringe coverage in King County in 2020 was 333 syringes per PWID, which surpasses the 2020 WHO goal. The PHSKC HIV/STD Program has a goal to distribute 365 syringes per PWID by 2021.

Naloxone is an opioid-antagonist medication used to reverse the effects of an opioid overdose. PHSKC SSP sites have been offering naloxone kits and training to clients since February 29, 2012. In 2020, 2,756 naloxone kits were distributed at PHSKC SSP sites, which is a 47% decrease from the 5,231 kits distributed in 2019. As shown in Figure 10-5, this decline can almost entirely be attributed to the COVID-19 pandemic given the increasing trend in naloxone distribution prior to 2020. In 2020, 444 clients self-reported using a kit to reverse an opioid overdose. Data from the 2019 SSP survey of 401 clients found that 76% of clients reported having a naloxone kit in the past 3 months. The PHSKC HIV/STD Program has a goal for 85% of clients to report having a naloxone kit in 2021.

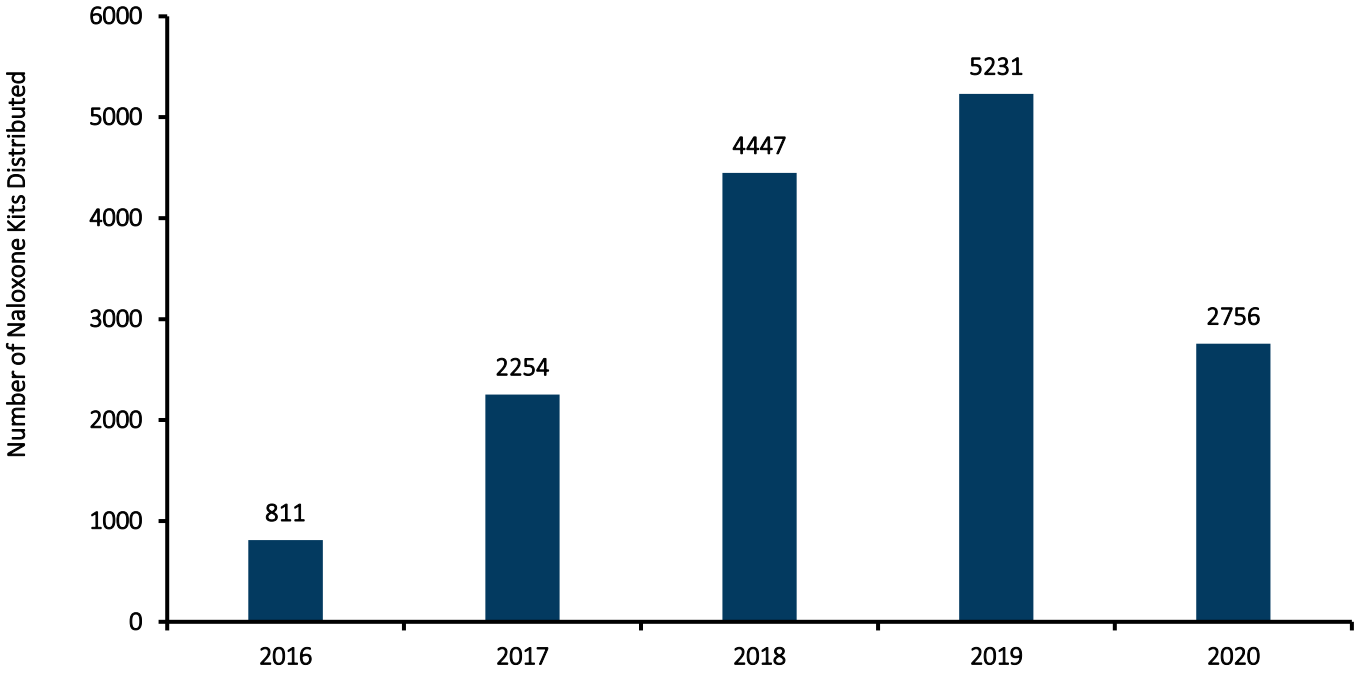
SOCIAL WORK SERVICES

Social workers at the Downtown and Capitol Hill SSP sites provide referrals to treatment for substance use disorder (medication for opioid use disorder, intensive outpatient, and detox), as well as primary and mental health care. They also help people sign up for health insurance, provide resource information, and talk with people who are in crisis and offer support and encouragement. In 2020 social workers provided services to 183 unique clients with a range of one to 15 contacts per client.

ON-SITE BUPRENORPHINE TREATMENT AND REFERRALS TO MEDICATION FOR OPIOID USE DISORDER

Bupe Pathways was launched in January 2017 and provides low-barrier access to buprenorphine, a type of medication for opioid use disorder.[5] Bupe Pathways is in the same building as the Downtown PHSKC SSP and is staffed by an interdisciplinary team, including a board-certified addictions medicine specialist (physician), a nurse practitioner, a nurse care manager, a social worker, and a community health worker. Interested

FIGURE 10-5. PUBLIC HEALTH – SEATTLE & KING COUNTY (PHSKC) NALOXONE DISTRIBUTION VOLUMES, 2016-2020



clients meet with program staff for their initial clinical assessment and to develop a buprenorphine induction and care plan tailored to the client. Buprenorphine prescriptions can be dispensed at the on-site pharmacy. Although patients have the option of transitioning their maintenance care to other community providers, many continue to see the Bupe Pathways providers for ongoing care due to the trusting relationships that develop with the staff. In the next year, Bupe Pathways will expand into a larger, dedicated space (within the same building) and add additional staff.

Through the end of 2020, 545 people had ever enrolled in Bupe Pathways. The program had 2,529 client visits during the year, with an average of 210 visits per month. In addition to Bupe Pathways, SSP social workers provided referrals to 95 clients for other medications for opioid use disorder, including methadone, buprenorphine from other clinicians, and naltrexone. (This estimate only reflects referral encounters that were recorded, the actual count is likely 100+.)

OTHER MEDICAL SERVICES, INCLUDING HIV AND HCV TESTING

The downtown SSP partners with the Pioneer Square Medical Clinic to provide additional medical services to clients. In 2020, 581 clients at the downtown SSP were seen for medical care, with most being seen for wound care services and follow-up. PHSKC non-SSP staff also provided HIV and hepatitis C virus (HCV) testing, including 34 HIV tests and 34 HCV tests. There were no positive HIV tests. Among the HCV tests, 15 were HCV antibody positive and 5 had a positive confirmatory test.

Data from other local surveys have shown that HIV prevalence among PWID who are not MSM is relatively low (1-4%). HIV prevalence among PWID-MSM is higher (12-19%), particularly among PWID-MSM who inject meth (40-60%). Data from a 2019 SSP survey found that 66% of PWID reported an HIV test in the past year, which was up from 57% in 2017. Local survey data have also shown that the prevalence of HCV antibodies remains very high (approximately 70%) among PWID in King County, and relatively few local PWID have benefitted from current, highly effective HCV treatments.[5]

SUBSTANCE USE PATTERNS

The PHSKC SSP conducts a biennial survey to monitor trends in substance use, injection risk behaviors, access to healthcare and prevention services, and substance use treatment utilization among clients. The 2019 survey noted high levels of polysubstance use among SSP clients, including heroin (85% ever used in the past 3 months), methamphetamine (79%), and goofball (combination of heroin and methamphetamine, 56%). Fifteen percent of PWID reported recent syringe sharing (down from 22% in 2017). On average, PWID report

visiting an SSP between 3-4 times per month.

Successes

In the wake of the COVID-19 pandemic, the PHSKC SSP was forced to quickly adapt to continue to provide essential harm reduction services to its clients. The shift in syringe distribution model (i.e., one-for-one to negotiated exchange) resulted in a significant increase in the number of syringes distributed despite a drop in the number of client encounters. Across King County, syringe coverage, which is the average number of syringes distributed to each PWID per year, was 333. To our knowledge, the King County is the only large jurisdiction in the country to have met the WHO's benchmark for syringe coverage (200+ syringes per PWID per year). Given the clear demand for expanded treatment services, the PHSKC SSP continues to collaborate with a low-barrier buprenorphine program located within the same building as its downtown site and provide referrals to other treatment programs throughout the county.

Challenges

Although the number of syringes distributed increased in 2020 and syringe coverage remained high, many other activities at the PHSKC SSP declined as a result of the COVID-19 pandemic. The number of encounters declined by 18%, which may in part be due to an increase in the number of syringes distributed per encounter but may also reflect a loss in the number of individuals receiving direct services. Importantly, the number of naloxone kits distributed by the PHSKC SSP declined by almost 50% from 2019. Unfortunately, the number of fatal opioid overdoses in King County increased in 2020, highlighting the urgent need to ensure the availability of naloxone to those at risk of experiencing or witnessing an opioid overdose. As noted above, PHSKC remains concerned about future HIV outbreaks, as well as ongoing HCV transmission among PWID. While increasing syringe coverage remains one of the best tools for decreasing HIV/HCV transmission risk, HIV and HCV testing are also important tools for identifying new cases and ensuring people receive treatment. Given the steep decline in HIV and HCV testing during the COVID-19 pandemic, increasing access to testing should be a priority activity in the next year.

Condom Use

Background

When used correctly and consistently, condoms are highly effective in preventing HIV, other sexually transmitted infections (STI, e.g., syphilis, gonorrhea, chlamydia, genital herpes, and human papillomavirus), and unwanted pregnancies.[6-9] Although many people do not use condoms every time they have sex, condom use remains very widespread. Condoms are a central component of PHSKC and WA DOH's HIV/STI prevention strategy.

Condom Use among MSM

MSM are the population most impacted by HIV in King County and Washington State. Local data from the King County Pride survey conducted in June 2021 provide insight into condom use among MSM. There were 424 (54% of the 790 total) MSM participants in the 2021 Pride Survey reporting having had at least one anal and/or vaginal/front hole sex partner. Among the 406 who provided answers to condom use questions, 51% reported at least some condom use. Respondents identified the context in which they used condoms including: 11% reported always using condoms, 26% used condoms with partners outside of their primary relationship, and 8% with partners whose HIV status they did not know. Overall, 49% reported never using condoms.

Impact of PrEP on Condom Use

In the 2021 Pride survey referenced above, 20% (n=79) of all MSM not known to be HIV-positive were currently using PrEP. Of these 54% reported they were more likely to have condomless sex since starting PrEP. Additionally, 46% reported having more sex partners since starting PrEP.

Condom Distribution

In 2020, state and local public health authorities distributed 382,414 condoms in King County. PHSKC distributed approximately 318,000 external (male) condoms in King County through direct distribution, community partners, special events, and public health clinics, including the PHSKC Sexual Health Clinic at Harborview Medical Center. WA DOH provided 64,414 condoms to HIV Community Services contractors in King County including Center for MultiCultural Health, Lifelong, Gay City, Seattle Counseling Service, and Entre Hermanos.

Condom Distribution Projects

To improve condom usage and reduce rates of HIV and STIs, the PHSKC HIV/STD Program has several condom access and distribution projects. One is a mobile-friendly and interactive map that allows residents to identify free

condom locations in King County and throughout Washington State. (See www.freecondomswa.com.) Users can tap on map icons to display the name of the location, its address, hours of operation, and whether a site is limited to people who are 21 or older. The map also features widgets that allow it to be embedded on other webpages. Once embedded, the widgets allow people to enter a zip code and find the nearest available free condom site without needing to first navigate to the map. The map is updated regularly to ensure that it remains accurate. In 2020, the condom map had 12,850 total page views (approximately 35 per day), a 270% increase from 2019. Google Analytics data showed that 93.5% used a personal computer and 6.8% of viewers used a mobile device to view the map.

Second, in 2019, PHSKC launched a Condom Distribution Project (CDP). This project aims to promote the availability, accessibility, and acceptability of free condoms to increase condom use and decrease HIV/STI transmission. The CDP prioritizes zip codes with high rates of bacterial STI and HIV, and areas where free condoms were not previously available. The project places Condom Cubes – custom acrylic open-top boxes that hold 500 free condoms of 20 different types – in a variety of public venues that are easily accessible, particularly for youth. In 2020, the project distributed 290,000 condoms throughout eight south King County zip codes and three Condom Cubes in the city of Seattle. This is a 93% increase in condom distribution from 2019 (150,000 condoms). The project will expand to nine more King County zip codes starting August 2021.

A third condom distribution project involves providing PHSKC Sexual Health Clinic patients with a condom and lube variety pack known as "The Tool Kit". The kits include: 17 varieties of condoms, 3 types of lube, information on the purpose of the kit, guidelines on how to use the kit, instructions on how to correctly use a condom, PrEP information, and resources on how to get more free condoms. The kit encourages people to find the condom that fits them the best and maximizes their pleasure with the goal of increasing condom use. From 2018 through 2020, the Sexual Health Clinic distributed 1,000 Tool Kits (17,000 condoms and 3,000 packets of lube).

Successes and Challenges

PHSKC and the WA DOH remain committed to condoms as part of a balanced, broad-based prevention program to control HIV and other STIs. Although some evidence suggests that condom use among MSM is declining – a trend that is likely due in part, but not completely, to PrEP - most sexually active MSM (51-53%) continue to use condoms at least some of the time. Meanwhile, based on previously reported data, condom use remains suboptimal among heterosexual youth, a population at high risk for bacterial STIs. In both populations, inadequate access to free condoms appears to be a barrier to condom use for some parts of the population. New public health initiatives promote condom use by expanding access to free condoms with methods that are acceptable to the populations affected by HIV/STI.

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Ending the HIV Epidemic Pillar 4: Respond

SUMMARY

Cluster detection and response (CDR) involves the use of laboratory and epidemiologic data to identify groups of people living with HIV (PLWH) whose HIV may be related and then focusing prevention efforts (e.g. HIV testing, PrEP, HIV treatment) on those persons, their sex partners, and their social contacts.

King County has a long history of cluster investigations, including among people who inject drugs and men who have sex with men.

Most recent and priority clusters are predominantly comprised of men who have sex with men.

As part of the national Ending the HIV Epidemic initiative, we implemented a formal CDR program to address the growth of priority HIV clusters in King County.

Initial experiences with CDR suggest that the intervention can be helpful in linking previously diagnosed out of care PLWH to effective medical care.

Introduction

Pillar 4 of the Ending the HIV Epidemic Initiative (EHE) promotes novel methods of identifying outbreaks and responding rapidly to them to get needed prevention and treatment to cluster members and their risk networks. It combines and promotes older and newer methodologies for the identification and response to clusters of HIV. Response is defined as focused interventions to reduce further transmissions where, and with whom, they appear to be occurring most rapidly. Public health efforts include the long-standing use of partner services, where disease investigators identify clusters and promote HIV testing among partners and treatment of HIV-positive cluster members. Newer interventions include promoting PrEP (pre-exposure prophylaxis) in addition to older prevention strategies (like condoms) among HIV-negative cluster and risk network members. Additional cluster identification methods include seeking time and space clusters (people newly diagnosed with HIV within a short timeframe and geographical area) and molecular clusters using parts of HIV viral genetic sequences from antiretroviral sensitivity tests. Use of multiple identification methods (partner services, time-space, molecular methods) and response methods (HIV testing, condoms, PrEP) permit more comprehensive cluster identification and response with an overarching goal of reduced HIV transmission and improved health of people living with HIV (PLWH).

The identification of clusters of people with similar strains of HIV and interventions focusing on clusters in King County previously focused on clusters of drug resistant HIV (both multi-class drug resistance and resistance to the components of PrEP) or on clusters among people who use injection drugs (PWID). In 2018, King County's cluster response focused on a cluster consisting largely of PWID living homeless in north Seattle. Public Health – Seattle & King County (PHSKC) is now implementing interventions among high priority clusters among diverse populations as they develop.

Methods

Methods for cluster identification include partner services/case investigation, medical provider reports, linkages of HIV viral genetic sequences, and time-space cluster analyses. Medical providers have been the source of cluster identification in other jurisdictions and providers may be the first to see an unusual pattern of HIV diagnoses. Time-space cluster analyses are conducted by the Washington State Department of Health (WA DOH) and can identify new patterns of HIV transmission, especially when occurring in non-urban areas or crossing jurisdictional boundaries. Molecular linkages can be identified by use of specialized software to compare the similarities of HIV viral genetic sequences from drug resistance tests submitted to the health department. Regardless of the method of identification, once a cluster is identified, PHSKC is charged with responding to clusters by ensuring that cluster members and their risk networks all receive medical and preventive services.

Partner Services Cluster Identification

When people are newly diagnosed with HIV or with other sexually transmitted infections, health department staff contact them to offer them assistance in ensuring their sex and needle-sharing partners get tested and to help them to link to medical care. This activity - called partner services - also allows PHSKC staff to collect information about people with newly diagnosed HIV infection and their partners (e.g., geography, HIV risk, substance use, reason for HIV testing), which in some instances allows the health department to identify clusters.

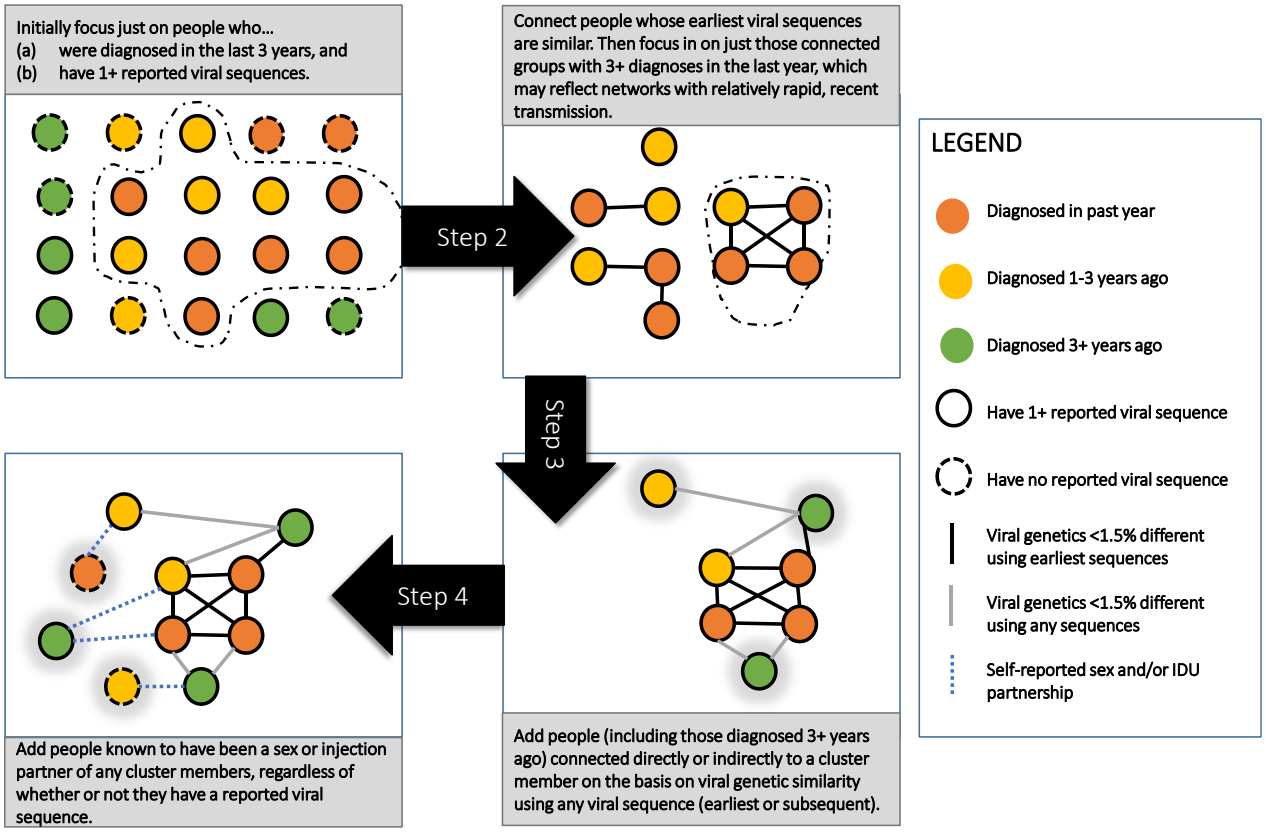
Genetic Cluster Identification

PHSKC also uses data reported by laboratories to identify outbreaks of HIV. Health care providers typically order drug resistance tests on patients with newly diagnosed HIV infection prior to initiating antiretroviral therapy (ARV) or if a patient's treatment is ineffective in suppressing their HIV. These tests define selected parts (comprising under a third) of the genetic sequence of the virus to look for mutations known to be associated with resistance to ARVs. This genotypic testing guides the choice of ARV and bolsters the chances of successfully achieving and maintaining viral suppression. Laboratories report the viral sequences obtained through genotypic testing to the health department. These data historically have been used to monitor the prevalence of resistance to ARV. The reported sequences are not the patient's genetic sequence but that of the virus. Over time, as the virus replicates within a person's body, changes (i.e., mutations) accumulate in the virus' genetic sequence. These changes allow the inference that infections with highly similar viral sequences are likely to be related to one another, that the cases are linked. These data cannot be used to determine if one person transmitted HIV to another person, or even if two people have any direct connection through sex or drug use. However, when PHSKC observes a cluster of new HIV diagnoses caused by related viruses, it suggests that the infections may be related, that HIV may be rapidly spreading in a defined sexual and/or injection drug-using network, and that an outbreak may be ongoing.

The tools we use to identify molecular clusters are CDC-sponsored Secure HIV TRACE (HIV TRAnsmission Cluster Engine created by University of California, San Diego and Temple University) and DIVE-IN, a University of Washington created tool. TRACE is used by HIV surveillance groups for cluster identification across the nation. TRACE can identify and visualize clusters. Unfortunately, TRACE was built to function best for the entire state, and its utility at the county level is limited.

The CDC periodically identifies molecular clusters which are of national priority and expects all HIV surveillance jurisdictions to also identify local clusters monthly. The CDC can identify inter-jurisdictional clusters which may not be visible to individual jurisdictions. National priority clusters are limited to those that are "recent and rapid". Recentness and rapidity are based on three to five linked new diagnoses in the past year. In this report we use the terms priority clusters and "recent and rapid" clusters interchangeably. For the level of HIV morbidity King County experiences, the CDC definition would employ a threshold of five new linked diagnoses in a year. PHSKC has elected to use a lower threshold of three members (i.e., casting a wider net) for King County to more rapidly become aware of new populations with HIV transmission

FIGURE 11-1: DEFINING CLUSTERS OF CONCERN AND TOTAL MEMBERS OF THESE CLUSTERS , KING COUNTY, WA



and quickly initiate interventions. In a similar vein, King County generally casts a broader net with the genetic cluster distance of 1.5% (relative to 0.5%) which may result in more distal and indirect linkages being included in King County clusters. (Genetic distance refers to how similar the genetic sequences are for two or more PLWH. A genetic difference of 0.5% or less indicates HIV strains that are 99.5% or more alike; the genetic difference of 1.5% indicates 98.5% similarity.) Two more additions are included in local cluster identification, relative to TRACE. The first is the addition of more recent genetic sequences – in addition to the initial, earliest sequence — which may add other cluster members who may be important to the transmission network. The second addition is to add sexual and injection drug equipment sharing partners. The partner data is from the partner services database. The steps of cluster identification are shown in **Figure 11-1** above.

Members of newly identified clusters as well as PLWH newly identified as members of a previously identified cluster are referred to any of PHSKC's data-to-care (D2C) programs for which they are eligible to ensure they are engaged in HIV care and virally suppressed. Due to the potential relative importance of cluster members with respect to recent transmission, the eligibility criteria for some of these D2C programs is loosened for cluster members, and D2C efforts for cluster members are prioritized above those for non-cluster members and assigned to a disease investigator dedicated to cluster response activities.

The core of Pillar 4 work, cluster detection and response (CDR) is an integral part of D2C work. CDR involves identifying members of recent and rapid clusters who live in King County and contacting them for an enhanced partner services interview and to provide them with treatment and prevention services. The goal of conducting these interviews is to interrupt HIV transmission by providing linkage to HIV care and prevention services to cluster members, their sex and injecting partners, and members of their risk or social network. Eligibility for CDR includes cluster members diagnosed in the past 12 months, those who are virally unsuppressed or otherwise lost to care, and those diagnosed in the past 24 months who never received an initial partner services interview and/or may benefit from linkage to HIV care and supportive services. CDR interviews are conducted by trained Disease Intervention Specialists.

The Clusters

Historical Clusters

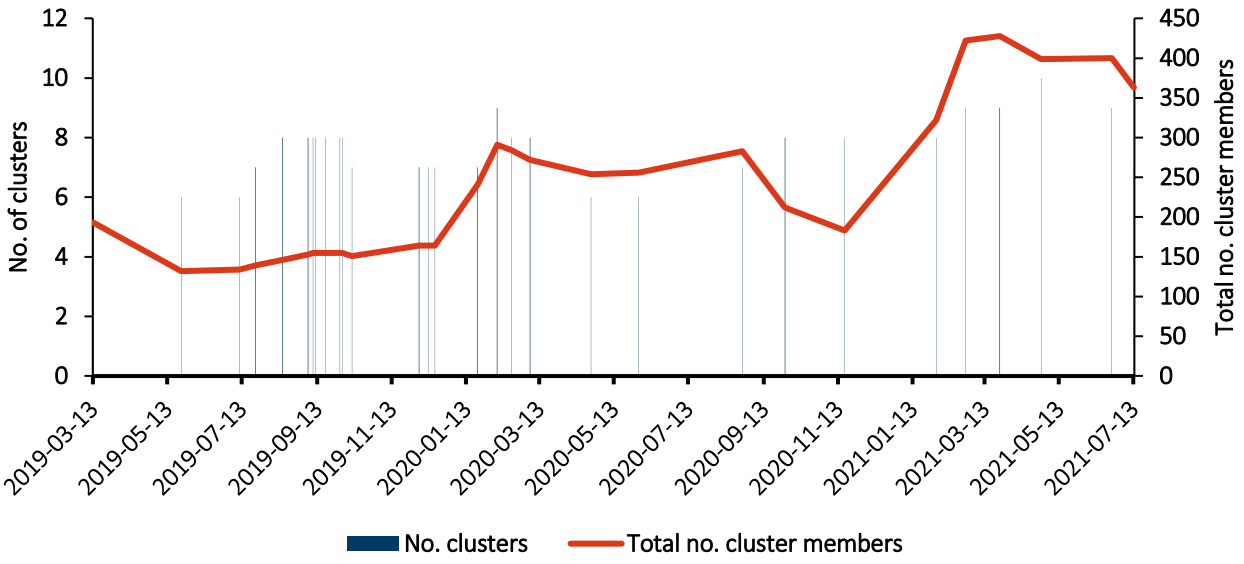
Cluster investigations have been ongoing in King County for 15 years, starting with a 2006-2007 investigation of multi-class drug resistant HIV among nine methamphetamine-using men who had sex with men (MSM). In 2008 we identified a large non-nucleoside reverse transcriptase inhibitor (NNRTI) resistant cluster characterized by the Y181C mutation. Between 2006 and 2021, a total of 117 King County residents, mostly MSM, were linked to this cluster. In 2018, a cluster of PWID primarily living homeless in north Seattle was identified; by 2019, through a combination of direct and indirect links, that cluster included 31 PLWH.

Current and recent priority clusters

Since 2019, PHSKC has identified priority clusters with DIVE-IN and overlayed these with Secure HIV Trace data to provide consistent cluster enumeration over a 28-month period. Twenty-four distinct clusters with at least one member residing in King County at diagnosis were identified over this period, with a mean of 7.7 clusters ongoing at each analysis (**Figure 11-2**; note that analyses have occurred at different frequencies at different times depending on the reporting of new HIV sequences which slowed significantly during the COVID-19 pandemic). The number of people included in the priority clusters at each analysis averaged 154 through the end of 2019, 253 in 2020, and 389 through July 2021. This increase reflects the incremental broadening of our criteria for including earlier-diagnosed PLWH in clusters. Although clusters with recent and rapid growth are identified using each person's first HIV sequence only, in 2020 we started linking earlier-diagnosed PLWH to clusters based on any subsequent HIV sequences that might have been reported for them. In 2021, we started additionally including earlier diagnosed PLWH even if only indirectly linked to the most recent diagnoses in the cluster. This broadening of our criteria was motivated by a desire to ensure that analyses include all cases that may be connected to a cluster and reflects our increasing capacity for cluster response.

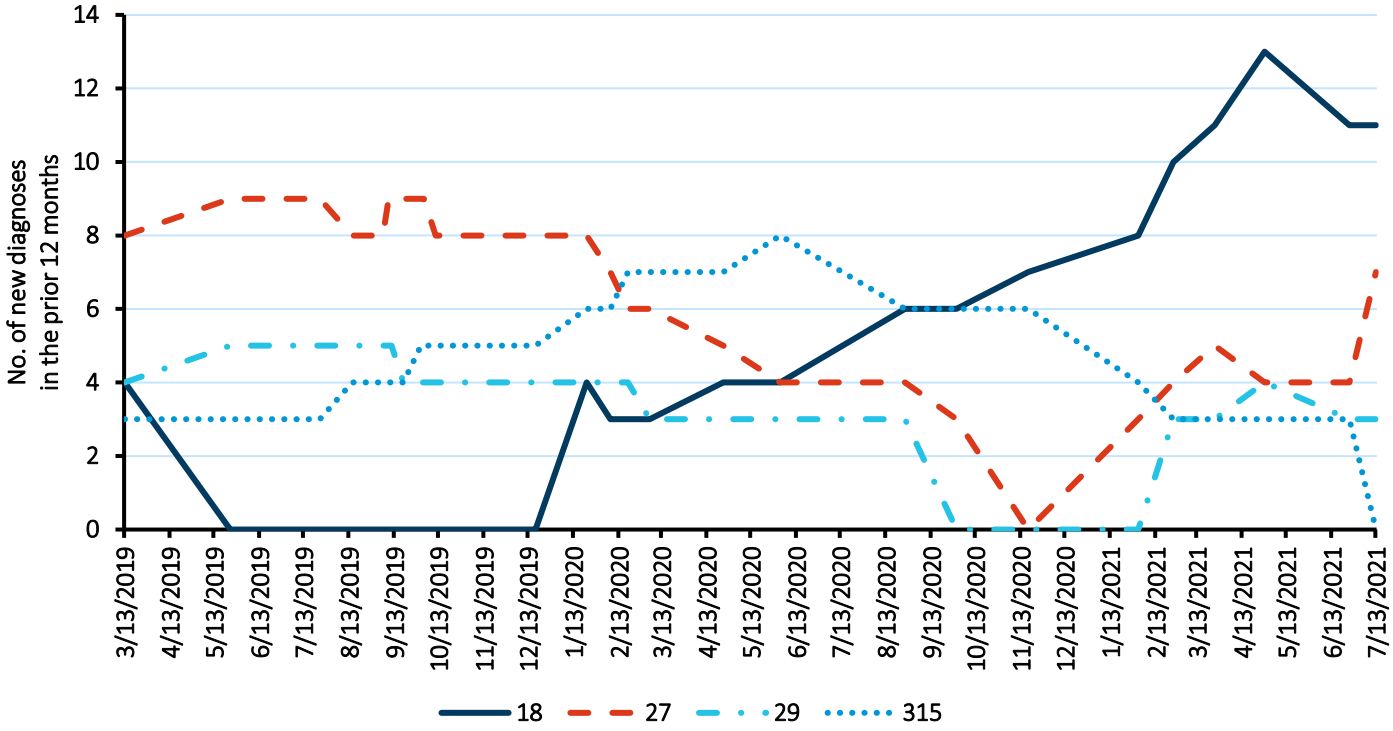
PHSKC defines clusters of concern to include all clusters that exhibit recent and rapid growth, as defined by the number of linked cases newly diagnosed in the most recent 12 months. **Figure 11-3** illustrates this metric for the seven priority clusters with the highest numbers of diagnoses over the past 24 months, which includes all clusters with five or more HIV diagnoses over that period. Four patterns are seen: (1) continuous inclusion as priority clusters (e.g., cluster number 315); (2) clusters which were a high priority at one point, but transmissions waned (e.g., 33, and—not pictured—132,

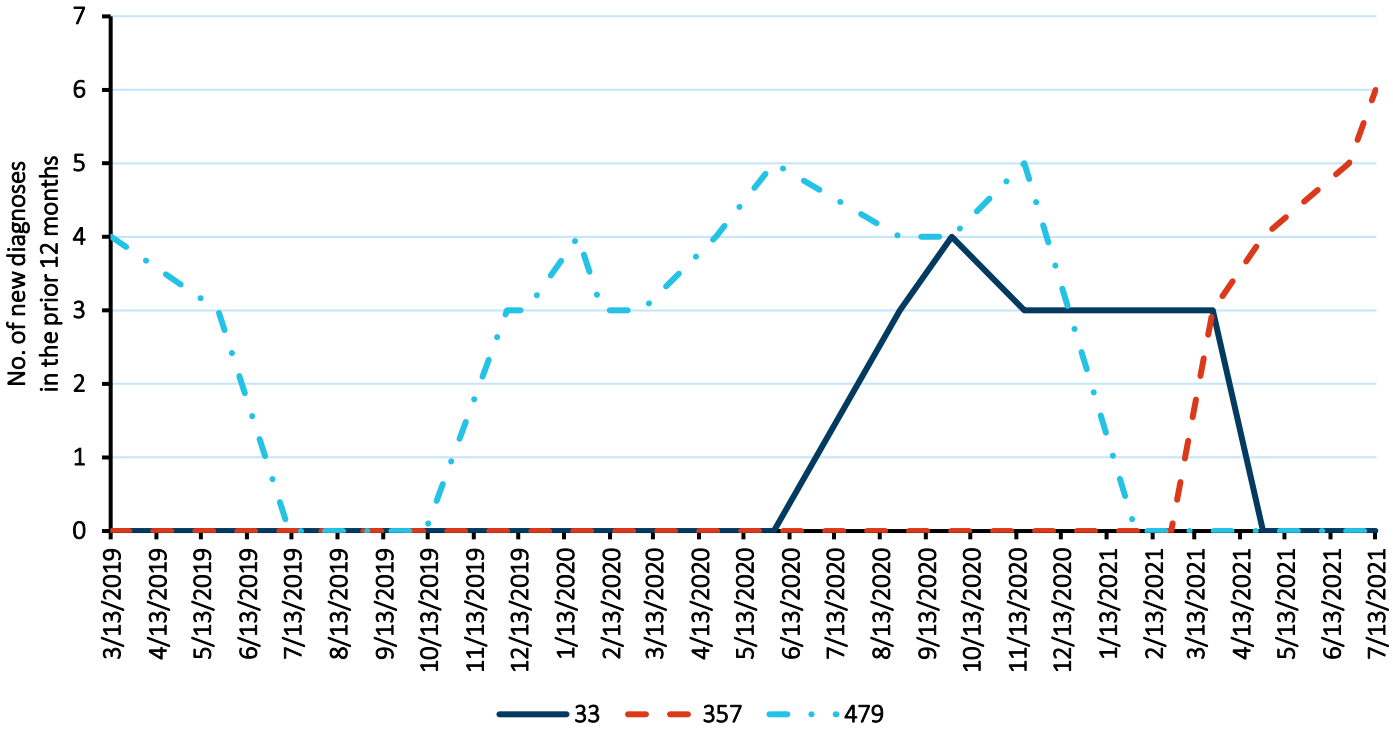
FIGURE 11-2: NUMBERS OF CLUSTERS OF HIV CASES AND MEMBERS OF THESE CLUSTERS, KING COUNTY, WA, MARCH 2019-JULY 2021



*In January 2020 cluster membership expanded to search all of each member's sequences not just an initial sequence, and in January 2021 cluster membership expanded to include earlier-diagnosed PLWH only *indirectly* linked to the most recent diagnoses.

FIGURE 11-3: CHANGES, GROWTH, AND SHRINKAGE OF SEVEN LARGER HIV CLUSTERS, KING COUNTY, WA, MARCH 2019-JULY 2021





the north Seattle Cluster); (3) newly emerging clusters (e.g., 357); and (4) on-again-off again status (e.g., 479).

Characteristics of current cluster members

As of July 2021, King County had seven clusters with three to 11 linked cluster members diagnosed with HIV in the past year. The total counts of members (diagnosed at any time, living or dead) range from four to 155. All seven clusters include members who are not currently King County residents. Risk categories for the seven clusters are illustrated in **Figure 11-4**.

Public Health Interventions that Support this Pillar

HIV cluster response includes the same interventions described in EHE Pillars 1-3 to diagnose, treat, and prevent HIV. For HIV-positive people, these interventions include rapid diagnosis, HIV care linkage, antiretroviral initiation, and efforts to promote retention in care to ensure sustained viral suppression. For risk networks, interventions include educational campaigns; promotion of frequent HIV screening, condom use, syringe services (for PWID), and PrEP.

The north Seattle cluster among PWID prompted the largest HIV cluster response and intervention King County has launched to date. The response included multiple partnerships within and outside of PHSKC, including the University of Washington's SHE Clinic, the People's Harm Reduction Alliance syringe services program, and HEP, a hepatitis-focused community organization. In 2018 and 2019, field workers conducted 2,394 HIV screening tests in over 80 locations specifically targeting homeless individuals, PWID, and cluster risk networks. This included 1,229 HIV screening tests conducted at the downtown Seattle jail at time of intake. We were also able to offer other services, including hepatitis screening, due to partnerships. We increased syringe services for north Seattle residents, adding a new mobile van to deliver these services. We promoted care linkages and offered enrollment to our low-barrier, incentivized HIV clinic to any cluster member with challenges linking to HIV care. The north Seattle outbreak also helped shape King County's EHE plan, which includes efforts to expand low-barrier care and a focus on people who are living unhoused.

Successes and Challenges

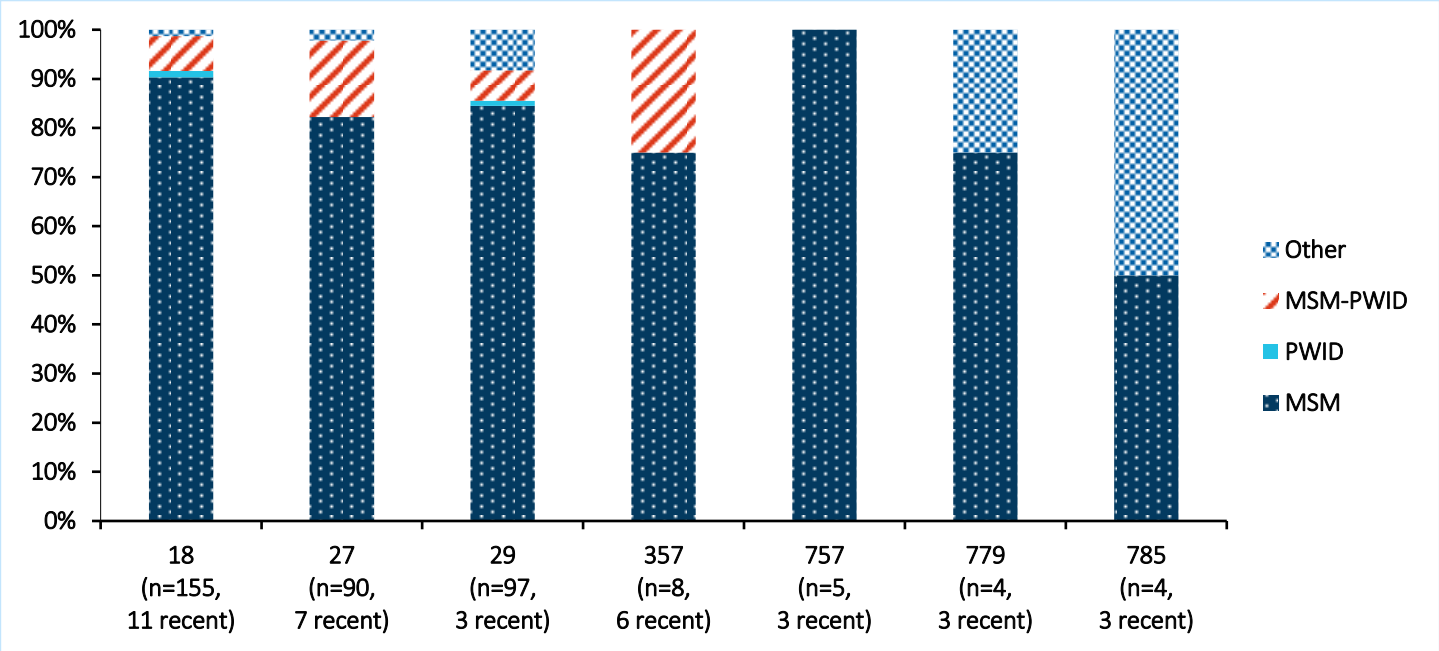
Challenges

Both locally and nationally, some community members and researchers have expressed concern about the use of molecular data for CDR. These concerns have typically centered on the potential use of molecular data to identify individuals who had transmitted HIV and then initiate criminal proceeding against them, concern that molecular data includes genetic information from people living with HIV (as opposed to viruses), and apprehensions about the content of partner services and related activities. To better understand these issues, PHSKC and its partners launched several community engagement activities.

Two projects funded through the Center for AIDS Research at the University of Washington have explored knowledge and attitudes about CDR among community members and providers in King County.[1] Over a two-year period, a joint UW-PHSKC team conducted interviews with 29 providers, people living with HIV, and other community members, and conducted focus groups with an additional 18 community members. Participants were asked about their familiarity with CDR. We found that very few community members were aware of this health department activity. We also asked participants about concerns that they have about this work. Some of the more significant concerns were centered around who will have access to the data, how it will be used, and if it would be shared with other agencies. Interestingly, the context in which people have had interactions with a local health department strongly colored their views on CDR work. Those who had had previous positive experiences with a local health department – often PHSKC – were more positive about CDR as a strategy to prevent HIV, while those who had previous negative experiences with a health department had more negative feelings about CDR.

Additionally, participants were supportive of using CDR as a way to deliver HIV care and prevention resources to places or groups that were most in need of such resources. A barrier identified by both provider and community members was the concern that CDR could potentially further stigmatize already marginalized groups; participants suggested that one way to address this barrier would be to directly address concerns about patients' safety and fear of disclosure of their HIV status during CDR work.

FIGURE 11-4: RELATIVE SIZES AND HIV RISKS OF SEVEN CURRENT HIV CLUSTERS WITH RECENT AND RAPID GROWTH, KING COUNTY, WA, JULY 2021



We also collected data about the most effective ways to talk about CDR with community members. We used this information to develop an educational video about CDR and a frequently asked questions fact sheet that will be posted to our EHE Pillar 4 webpage. We are currently evaluating the impact of the video on knowledge and attitudes about CDR among community members.

Currently, molecular cluster analyses are limited by the incomplete reporting of viral sequences, since PHSKC only receives sequences for roughly three quarters of King County residents newly diagnosed with HIV. Analyses are also hampered by delays in the reporting of these sequences. For example, in 2018-2020, baseline genotypic sequences for King County residents newly diagnosed with HIV were reported to PHSKC a median of 34 days after being collected. (And 95% are received within about 3 months.) We are working to address these issues so we can identify clusters as effectively and quickly as possible. Future analyses will evaluate the impact of CDR in identifying people with undiagnosed HIV infection and linking people to HIV treatment and PrEP.

SUCCESSES

In 2018 and 2019 we launched a major public health effort to test and refer PWID cluster members of a north Seattle cluster. This included widely testing homeless PWID risk network members and strongly promoting care linkages for HIV-positive members. The vastly lower numbers of HIV diagnoses among PWID in 2019 are perhaps partly due to these efforts.

Independent of CDR, in 2020, Washington State joined a number of others in updating its laws to better align them with the current science on HIV transmission. Although PHSKC does not share any of our data with any law enforcement agencies, and although the laws criminalizing HIV exposure that had previously been on the books had only infrequently been used, the existence of these laws raised concerns among some community members. In addition to protecting the rights of PLWH, the 2020 changes were thus a welcome development for local cluster detection and response efforts. The main changes to the law—now in the public health code rather than the criminal code—included:

- Substantially narrowing the definition of HIV-related behaviors endangering the public health to anal and vaginal sex in the absence of HIV status disclosure, ARV use, PrEP use, or condom use.
- Reclassifying HIV transmission from a Class A felony to a misdemeanor, which carries much lower penalties.

PHSKC's CDR work has been successful as a response to the emergence and continued growth of priority clusters of HIV cases. CDR outreach aims to both disrupt HIV transmission and provide linkage to HIV care for those

marginally engaged in or lost to care. At the time of publication, we had initiated CDR activities for 120 individuals , of whom 88 were eligible for CDR outreach, including interviews; and 45 (51%) were successfully contacted and completed at least part of the CDR interview. Twelve (27%) of those who completed interviews provided contact information for at least one sex or injection equipment partner, with a total of fifteen identifiable partners named. Of these, nine were confirmed to be previously HIV-positive and four were confirmed HIV-negative, one of whom was referred to the PHSKC PrEP Program, and the others were either on PrEP or had very low risk of HIV infection. Additionally, cluster members who were contacted were provided with several care and resource referrals as a data-to-care activity; eight were newly linked to care (six of whom achieved viral suppression as of this report) and 22 received referrals to resources including housing support, mental health, COVID-19 vaccination, food resources, and maternal health services.

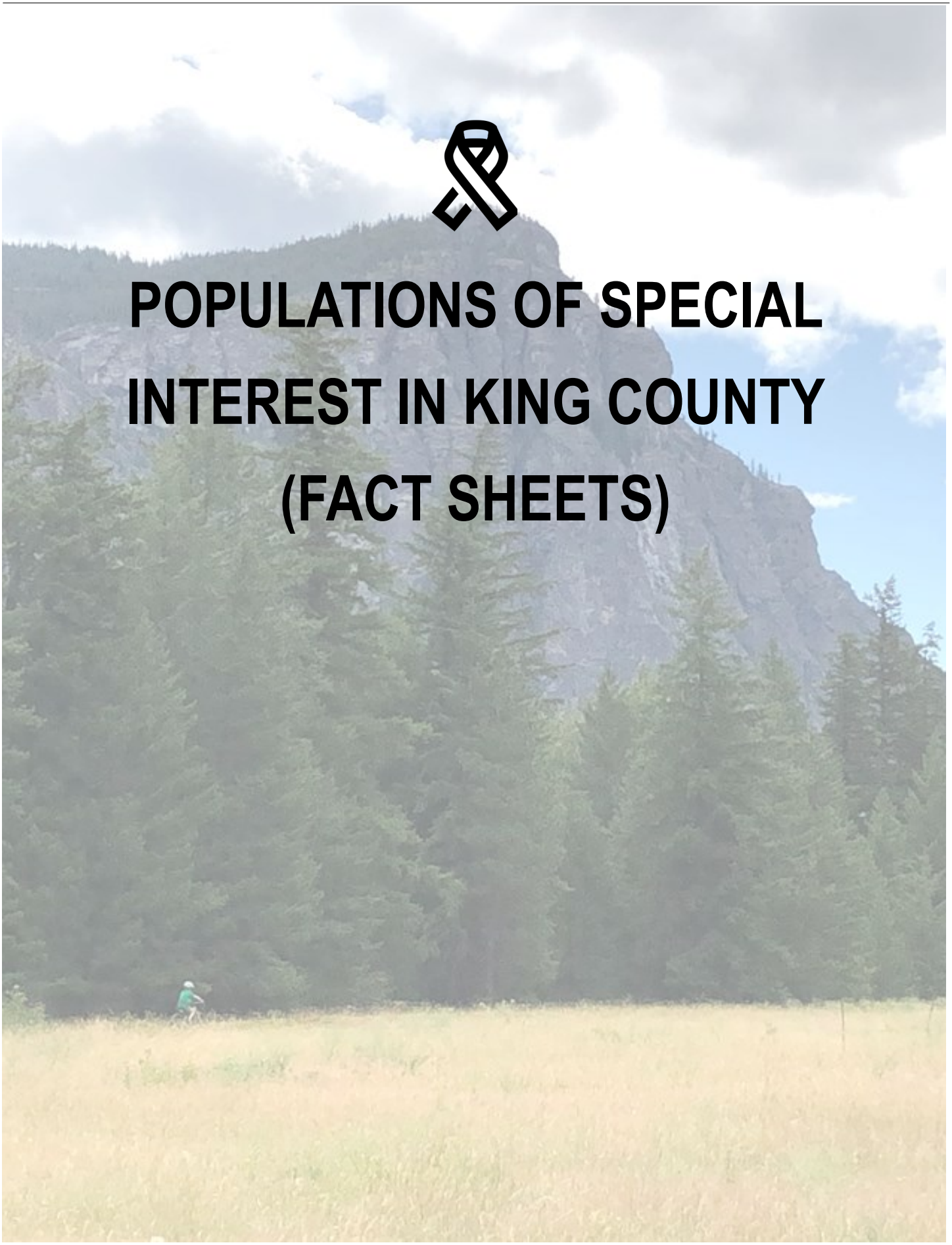
Individuals contacted for CDR interviews have largely expressed support for the program. A few months after piloting the CDR Interview program, we began asking participants to rate their level of agreement with two Likert scale items: (1) It is important for the health department to follow up with people who may be part of HIV clusters and (2) It is important to me to know that I may be part of a cluster. Among the participants asked, 100% agree or strongly agree with statement #1 and 83% with statement #2. No participants have disagreed with either statement to date, suggesting that CDR interviewees believe there is value in providing CDR-related follow up for HIV cluster members and ensuring that their partners are screened for HIV and referred to care or PrEP as appropriate.

The EHE initiative will permit PHSKC to develop additional services to help meet the needs of underserved populations in north and south King County. Through partnerships with multiple agencies, social service providers, and medical providers, we are optimistic that cluster identification and response will be among the tools that will provide an additional boost to reduce HIV incidence and increase HIV care retention.

Contributed by: Richard Lechtenberg, Mike Barry, Roxanne Kerani, and Susan Buskin

Reference

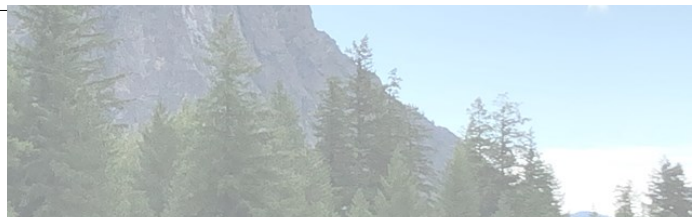
1. Shook AG. Community and Provider Perspectives on Molecular HIV Surveillance and Cluster Detection and Response for HIV Prevention, Journal of the Association of Nurses in AIDS Care: October 26, 2021 doi: 10.1097/JNC.0000000000000308



POPULATIONS OF SPECIAL INTEREST IN KING COUNTY (FACT SHEETS)

HIV/AIDS Fact Sheet

American Indian/Alaska Native Populations



Key Points

Approximately 261 American Indian/ Alaska Native people were living with diagnosed HIV infection in King County in 2020, and the prevalence of diagnosed HIV among AI/AN was higher than that of the overall population of King County (519 vs. 309 per 100,000).

Between 2011 and 2020, the HIV diagnosis rate among American Indian/Alaska Native people declined 53% relative to an 36% overall decline.

In 2020, 80% of American Indian/ Alaska Native people living with HIV were virally suppressed.

Background of HIV Epidemiology among American Indian/Alaska Native People

The Public Health – Seattle & King County (PHSKC) HIV/STD Program has recently adjusted how American Indian/Alaska Native (AI/AN) people are defined in this fact sheet. Previously, the majority of individuals who reported AI/AN race were classified as multiracial or Latinx, while the minority who were non-Latinx/single-race AI/AN were classified as AI/AN. For example, among all King County residents in 2020, there were about 50,244 AI/AN people, including 13,703 who (27%) reported AI/AN as a single race category. An additional 9,353 (19%) AI/AN were also Latinx. Most individuals (27,188 [54%]) who reported AI/AN race were classified as multiracial. Due to the large difference in the number of AI/AN individuals depending on how those with multiple races are classified, HIV surveillance data underestimate HIV cases among AI/AN people when AI/AN status is limited to a single race category. Using this more inclusive method, the number of AI/AN living with HIV is 7 times greater than what is seen using the standard method. In this report, we first present data for the different definitions of AI/AN to describe the key metrics regarding AI/AN people living with HIV (PLWH) (Table 12-1). Thereafter we present additional data for everyone who reports AI/AN as part of their racial identity. Of note, we have not elected to do this with other racial/ethnic groups, where most analyses focus on persons who report a single race. Our decision to use the more inclusive definition for AI/AN reflects the fact that the vast majority of AI/AN, including 85% of AI/AN PLWH, are multiracial or Latinx, something which is not true of other racial/ ethnic groups. We believe this broader definition of AI/AN provides a more accurate estimate of the impact of HIV on this important population.

Results

Table 12-1 illustrates key metrics regarding AI/AN people residing in King County in 2020. Single race AI/AN people have a lower prevalence of HIV diagnosis than multiracial AI/AN people, and the prevalence of HIV is more than twice as high among Latinx AI/AN people relative to single race AI/AN people. For comparison, the overall prevalence of HIV in King County is 309 per 100,000 population relative to 519 among AI/AN people; the overall diagnosis incidence is 7 per 100,000 relative to 10 in AI/AN people in 2020 (the rate shown in Table 12-1, at 12 diagnoses per 100,000 is more stable, covering a five year period). The remainder of this section uses the more inclusive AI/AN definition, referencing all 261 AI/AN PLWH in 2020, 80 AI/AN people diagnosed with HIV in the past decade, and 31 AI/AN people diagnosed with HIV in the past 5 years. Figure 12-1 shows rates of HIV diagnoses per 100,000 AI/AN people including rates presented as three-year rolling averages due to small numbers. Including all AI/AN people, the incidence of HIV diagnoses has declined 61% over the last decade, including 49% in the past 5 years and is now approaching the rate observed among King County residents overall (10 vs. 7 per 100,000).

TABLE 12-1: KEY HIV METRICS FOR AMERICAN INDIAN/ALASKA NATIVE PEOPLE, KING COUNTY, WA, 2020

Key Metrics	Single race AI/ AN (non-Latinx)	Latinx AI/AN	Multiracial AI/ AN (non-Latinx)	Total AI/AN
King County population 2020	13,703	9,353	27,188	50,244
HIV Prevalence in 2020				
Number living with HIV	39	70	152	261
Prevalence (%)	0.3	0.7	0.6	0.5
Percent of all prevalent cases	0.6%	6.6%	33.6%	3.7%
HIV Incidence (new diagnoses)				
5-year number of new diagnoses	9	9	13	31
Diagnoses per 100,000 per year	13	19	10	12
Viral suppression in 2020	72%	79%	83%	80%

AGE AND GENDER

The age distribution of AI/AN PLWH was similar to all PLWH, with 51% age 50 and higher, 33% age 35-49, and 16% under age 35 years. Of the 261 AI/AN PLWH in King County in 2020, 84% were men, and none were known to be transgender men. Of the 43 AI/AN women living with HIV in 2020, 7 were known to be transgender women. Of the 31 AI/AN diagnosed with HIV in the past five years, 74% were men, and none were known to be transgender men. Of the eight AI/AN women diagnosed with HIV in the past five years, none were known to be transgender women. Data on two-spirit identity are not routinely collected in HIV surveillance data.

HIV TRANSMISSION RISK CATEGORY

HIV risk categories are shown in Figure 12-2 for both AI/AN people living with HIV in 2020 (prevalent cases) and AI/AN people diagnosed with HIV from 2016 through 2020 (incident diagnoses). Most AI/AN PLWH are men who have sex with men (MSM, including transgender men). Among those with known transmission risk data (which differs from Figure 12-2 as the figure includes an unknown risk category) 79% of prevalent cases and 76% of incident diagnoses over 5 years were MSM including MSM who inject drugs. Of AI/AN MSM diagnosed with HIV in the past five years, 38% were people who injected drugs (PWID). Overall, 27% of AIAN PLWH injected drugs (including MSM-PWID) compared to only 13% of all King County PLWH.

VIRAL SUPPRESSION

The percent of AI/AN people with HIV viral suppression in 2020 (80%, Table 12-1) is lower than that for PLWH overall in King County (86%). AI/AN MSM who were not PWID were most likely to be virally suppressed (88%). AI/AN people with other risk factors had lower levels of viral suppression: 76% for PWID, 72% for heterosexuals, and 60% for MSM-PWID. Although based on small numbers, compared to all AI/AN people, viral suppression was lower among AI/AN people in their 20's (12 of 20, or 60%) and AI/AN people who had used meth around the time of diagnosis (17 of 27, 63%).

TIMING OF HIV DIAGNOSES AND CARE LINKAGE

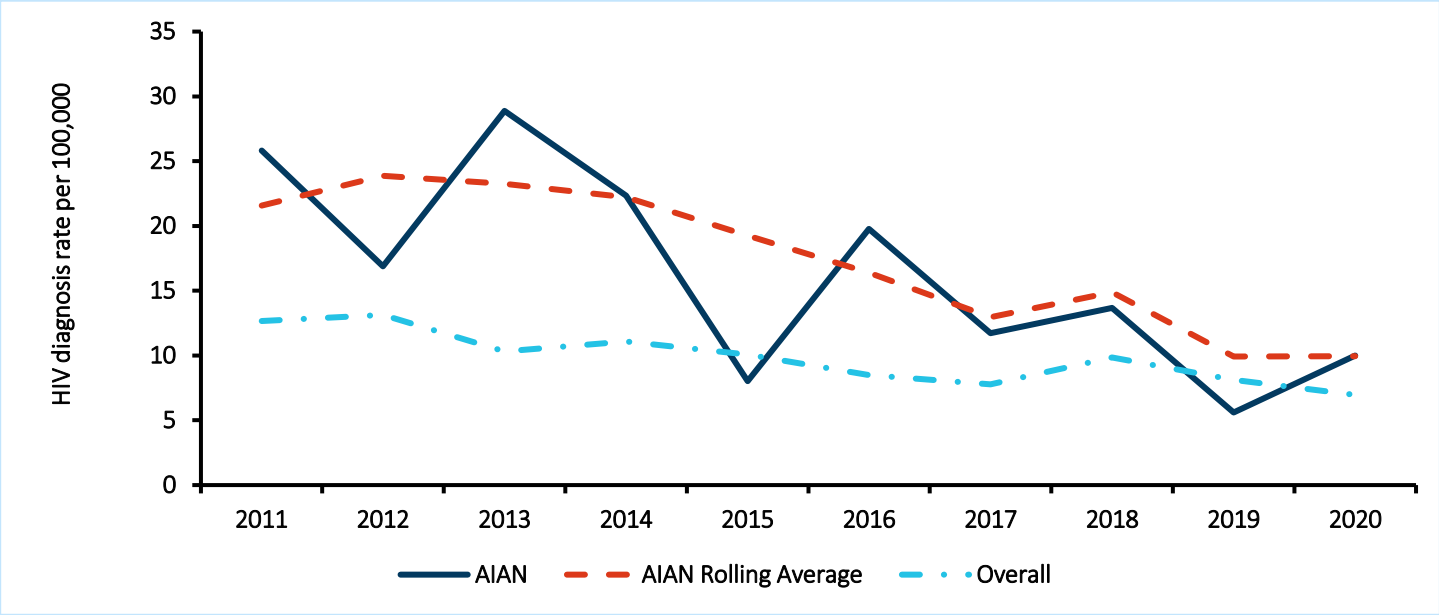
Of the 31 AI/AN people diagnosed with HIV in the past 5 years (2016-2020), 5 (16%) had an AIDS diagnosis within one year of HIV diagnosis, which is often used to classify people as having a late diagnosis of HIV. This is somewhat lower than the same estimate (22%) among all people newly diagnosed with HIV in King County. Most (87%) of the 31 AI/AN people diagnosed with HIV linked to care within 30 days of their HIV diagnosis, which is close to the overall King County estimate (89%).

HIV PREVENTION AND CARE INTERVENTIONS

With the Ending the HIV Epidemic initiative, PHSKC encourages all people – including AI/AN people – with any HIV risk to be screened for HIV. Individuals with higher HIV risks should be offered pre-exposure prophylaxis (PrEP). Although MSM AI/AN had good levels of viral suppression, AI/AN people who are not MSM may need additional assistance to achieve viral suppression. Culturally appropriate interventions may be needed for subsets of AI/AN PLWH – such as people who use drugs, women, and those who are younger – to sustain viral suppression.

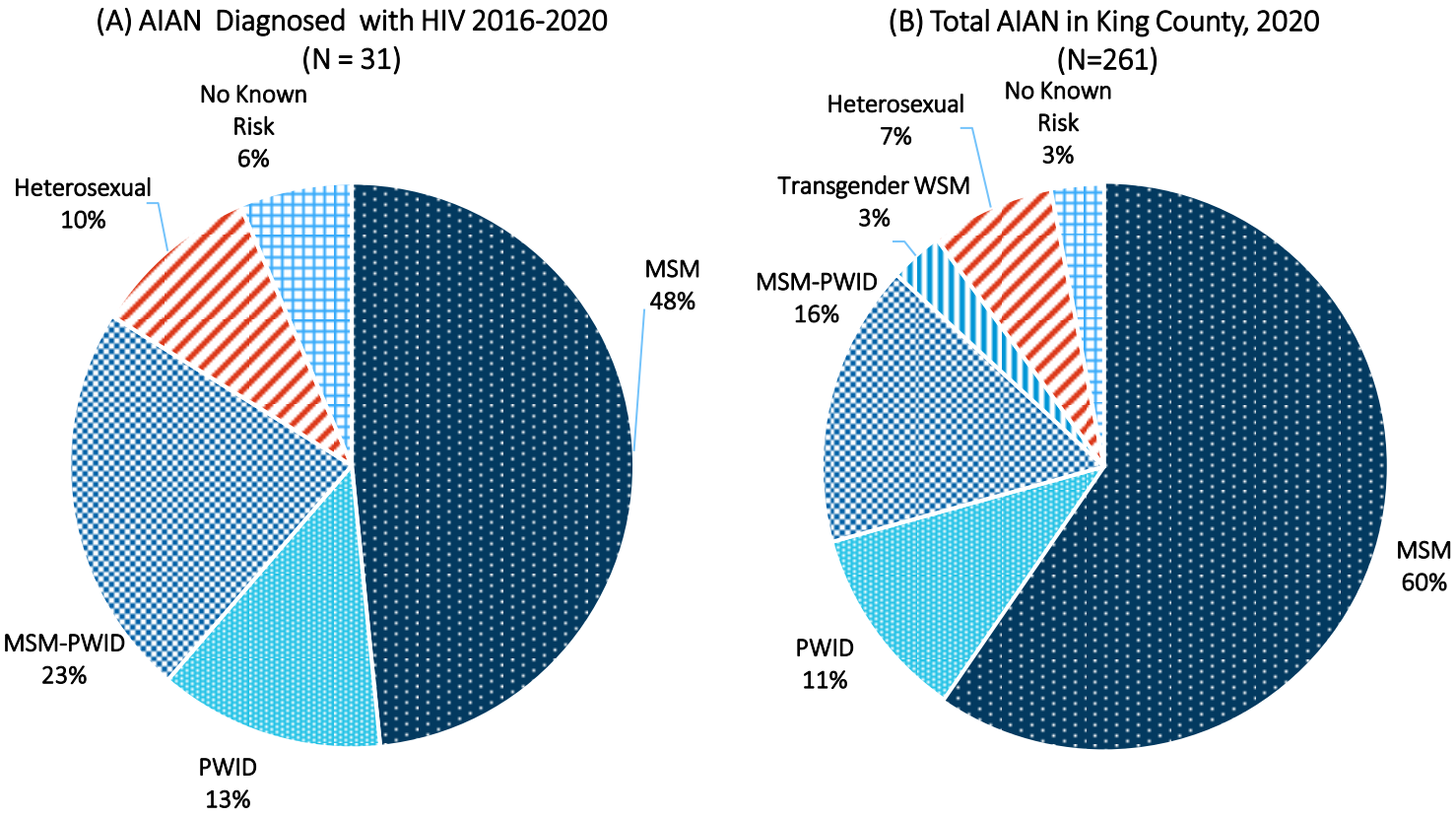
Contributed by Francis Slaughter and Susan Buskin

FIGURE 12-1 RATES OF HIV DIAGNOSES PER 100,000 OVERALL AND FOR AMERICAN INDIAN/ALASKA NATIVE (AI/AN) PEOPLE, KING COUNTY, WA, 2011-2020



Note: Rates are presented as three year rolling averages to minimize random changes.

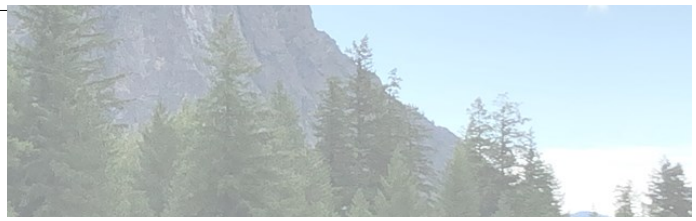
FIGURE 12-2 AMERICAN INDIAN/ALASKA NATIVE (AI/AN) PEOPLE IN KING COUNTY BY HIV RISK CATEGORIES (A) AI/AN DIAGNOSED IN 2016-2020 AND (B) TOTAL AI/AN LIVING WITH HIV IN 2020



MSM= Men who have sex with men; **WSM** = Women who have sex with men; **PWID** = People who inject drugs

HIV/AIDS Fact Sheet

Black and African-American Populations



Key Points

New HIV diagnosis rates are high among Black and African American people in King County relative to overall King County rates in 2020 (17 vs. 7 per 100,000).

In 2020, the HIV diagnosis rate for foreign-born Black people was about 50% higher than that for U.S.-born Black people (22 versus 15 per 100,000).

In 2020, 81% of foreign-born and 76% of U.S.-born Black people living with HIV were virally suppressed.

Overview of HIV Epidemiology among Black and African-American People

In 2020, there were 33 new diagnoses of HIV among all Black and African-American people living in King County including Latinx and Multiracial people, or 17 cases per 100,000 (Table 13-1). Among Black and African-American people living in King County who identified as monoracial there were 26 new diagnoses, or 21 cases per 100,000. The diagnosis incidence rate was about 50% higher among monoracial foreign-born compared to U.S.-born Black and African-American people in 2020 (22 vs. 15 per 100,000). This compares to an overall diagnosis incidence of 7 per 100,000 residents of all races/ethnicities in King County in 2020. For brevity, throughout the remainder of this fact sheet, we use Black to reflect both Black and African-American people.

Population Size

In 2020, U.S. Census and American Community Survey data estimate that there were 152,999 non-Latinx monoracial Black people living in King County, of which about 106,028 (69%) were U.S.-born (Table 13-1). For consistency in the remainder of this fact sheet, we excluded Black Latinx people and those reporting multiple races; adding these would increase new diagnoses in 2020 among Black people by 27% and increase the number of Black people living with HIV by 24%. Additional methods for this fact sheet include: (1) for Black people living with HIV (PLWH), individuals with no laboratory results for 18 months or longer with any evidence of a relocation were excluded; and (2) when monitoring viral suppression in 2020, if a PLWH was diagnosed in the last quarter of 2020, we included viral suppression achieved in the first quarter of 2021.

Birth Country and Trends

Of the 1,451 Black PLWH in King County in 2020, 45% (650) were foreign-born, 96% of whom were born in Africa. Foreign-born Black PLWH came from Ethiopia (37%), Kenya (22%), Eritrea (5%), Zambia (4%), and Somalia (3%). Few (4%) foreign-born Black people were born in other areas of the world, including 18 PLWH (3%) from the Caribbean.

Figure 13-1 shows changes in HIV diagnosis rates by nativity among Black King County residents between 2011 and 2020. The rate of HIV in this population has varied over time, including a decrease of 54% for all Black people and decreases of 54% and 50% for U.S.-born and foreign-born Black people, respectively, between 2011 and 2020. This compares to an overall reduction of 37% of the rate of new HIV diagnoses among all King County residents in the same period.

HIV Transmission Risk Category

Figure 13-2 shows the distribution of risk categories among U.S.-born and foreign-born Black people living in King County in 2020. Individuals with an unknown risk factor comprised 38% of foreign-born and 8% of U.S.-born Black

TABLE 13-1: KEY HIV METRICS FOR BLACK PEOPLE, KING COUNTY, WA, 2020

Key Metrics	U.S.-born [A]	Foreign-born	Total
Estimated Number of Black People in King County (2020)	106,028	46,971	152,999
HIV Prevalence in 2020			
Number of Black people living with HIV	801	650	1450
Prevalence (%)	0.8%	1.4%	0.9%
Percent of all prevalent HIV cases who are Black	15%	39%	21%
HIV Incidence (New Diagnoses) [B]			
2020 number new diagnoses	16	10	26
2020 incidence rate per 100,000	15	22	17
5-year trend (2016-2020)	50% decrease	54% decrease	54% decrease
Viral Suppression among HIV+ Black People [C, D]	80%	88%	84%

[A] U.S.-Born includes those of unknown nativity.
[B] Excludes those classified as multiracial or Latinx.
[C] New HIV diagnoses among individuals reporting a prior diagnosis in another country or state are excluded.
[D] Among all Black people with diagnosed HIV infection. Viral suppression defined as plasma HIV RNA < 200 copies/mL. Among those with ≥1 viral load reported in 2020, 90%, 94%, and 92% of U.S.-born, foreign-born, and all Black people, respectively, were suppressed.

people. The high proportion of foreign-born Black people with an unknown HIV risk is mostly due to limitations in the definition of the heterosexual risk category. To meet the definition of heterosexual risk, the positive serostatus or risk factors (such as injection drug use) of an opposite sex partner must be known. There is a presumptive heterosexual category, but this is limited to women who have: (1) been asked and deny injection drug use, and (2) have had sex with men. Often these questions have not been asked, and thus the presumptive heterosexual category cannot be used. Further there is no equivalent presumptive category for men, even if they come from a geographic area where heterosexual transmission is common. Of note, heterosexual risk is the predominant risk factor for foreign-born Black people (48%), and men who have sex with men (MSM) is the predominant risk group for U.S.-born Black people (67%, including 7% MSM who also have a history of injection drug use).

Locally and nationally, Black MSM are disproportionately affected by HIV. Among all MSM newly diagnosed with HIV in 2020, 11% were Black, Similarly, 11% of all MSM living with HIV are Black, while we estimate that 6% of the adult male population in King County is Black. Black MSM comprise 40% of Black PLWH (579 of 1,450) in King County in 2020 and 46% (176 of 381) of new diagnoses among Black people between 2011 and 2020. Of the 579 Black MSM living with HIV in King County in 2020, 57 (10%) also were PWID. Of the 176 Black MSM diagnosed with HIV in King County between 2011 and 2020, 15 MSM (9%) were MSM who also had a history of injection drug use (PWID).

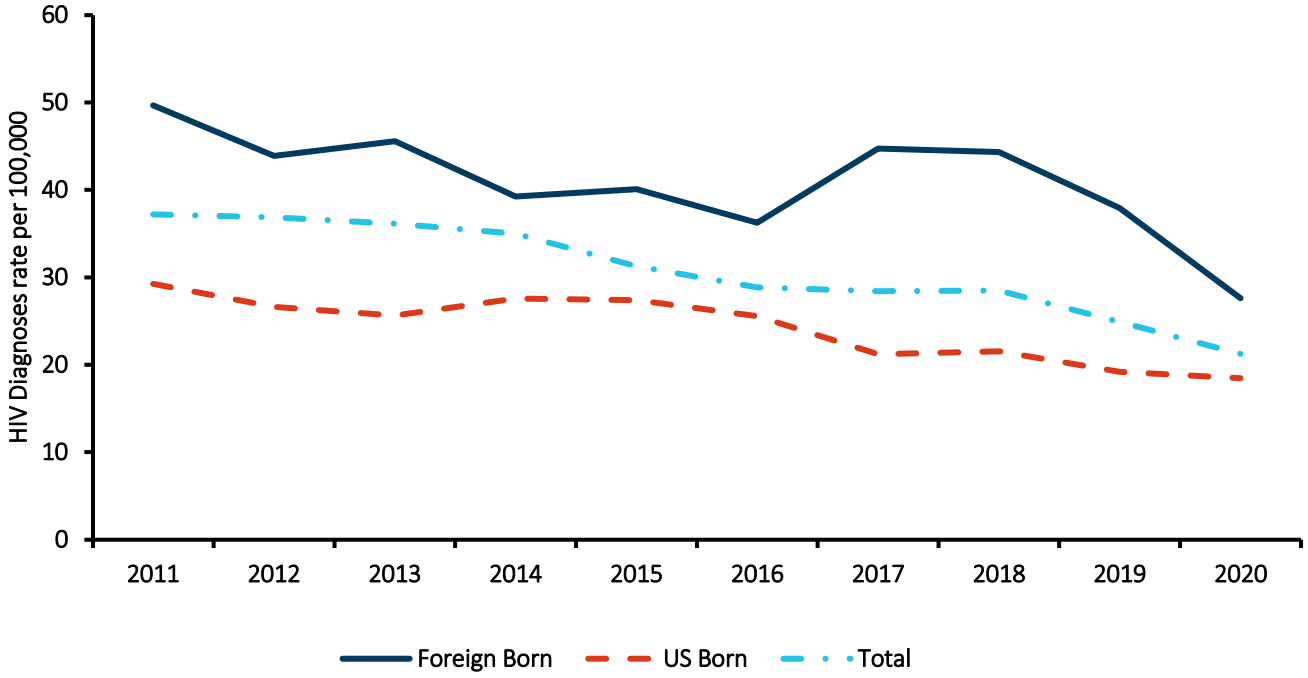
AGE AND GENDER

Among Black people diagnosed with HIV between 2016-2020, those who were U.S.-born were younger than those who were foreign-born at the time of HIV diagnosis, with 46% and 20%, respectively, under age 30 when they first tested HIV-positive. Among all prevalent cases of HIV among Black individuals, 36% were assigned female sex at birth, including 16% of U.S.-born and 60% of foreign-born Black people.

HIV VIRAL SUPPRESSION

Viral suppression levels for Black PLWH increased from 65% in 2011 to 81% in 2019, and stayed at a similar percentage, 82%, in 2020. (Figure 13-3). U.S.-born Black people consistently had lower levels of viral suppression relative to their foreign-born counterparts. The average viral suppression difference from 2011 to 2020 between U.S.-born and foreign-born Black people was 12% and declined from 16% in 2011 (59% vs.74%) to 8% in 2020 (80% vs. 88% for U.S.-born and foreign-born PLWH, respectively). This compares to 88% of non-Latinx White people with viral suppression in 2020.

FIGURE 13-1: RATES OF HIV DIAGNOSES AMONG BLACK PEOPLE IN KING COUNTY BY NATIVITY PER 100,000, 2011-2020



TIMING OF HIV DIAGNOSES

Among 179 Black King County residents diagnosed with HIV in the past five years (2016-2020), 69% had documented information about prior HIV testing. Of these, 48 (39%) had a last negative HIV test documented within the prior year. This interval, from a last negative to a first positive test, is a measure of how well HIV testing is reaching the population at risk for HIV. Among Black people diagnosed with HIV in 2016–2020, 20% of foreign -born and 50% of U.S.-born Black people had tested negative in the prior year. Among 75 Black MSM diagnosed with HIV 2016-20, 39 (52%) had tested HIV negative in the prior year.

Late HIV diagnosis is sometimes defined as an AIDS diagnosis within one year of an HIV diagnosis. By this definition, 37% of Black people diagnosed with HIV between 2016 and 2020 were diagnosed late, including 64% of foreign-born and 36% of U.S.-born Black people. However, many of the foreign-born individuals may have had unreported earlier HIV diagnoses and were misclassified as late diagnoses. Others were unlikely to have acquired HIV locally and may be misclassified when we include them among people diagnosed with HIV as a King County resident, as residence at diagnosis is generally assumed a proxy of residence at time of infection. Among U.S.-born Black people diagnosed between 2016 and 2020, 23% of 66 MSM and 28% of 32 non-MSM had an AIDS diagnosis within one year of their HIV diagnoses.

HIV PREVENTION AND CARE INTERVENTIONS

Pre-Exposure Prophylaxis (PrEP) Use: In light of the racial/ethnic disparities in HIV diagnosis incidence and prevalence highlighted above, the Public Health—Seattle & King County (PHSKC) Sexual Health Clinic offers prescriptions of PrEP to interested Black MSM and others with HIV risks, including people who inject drugs (PWID), with the goal of improving health equity.[1] PrEP has been shown to be highly effective at preventing HIV, reducing the risk of infection among MSM by >95% when taken as directed.[2]

The annual Seattle Pride Survey was conducted as an internet survey in 2021, due to the continuing COVID-19 pandemic. Among surveyed King County residents who were MSM and HIV negative, Black respondents were more likely than White respondents to have ever taken PrEP—50% versus 27%, respectively—although the number of Black respondents surveyed was small.

Other Interventions: The PHSKC Sexual Health Clinic and other PHSKC clinics (Auburn, Eastgate, Federal Way, and Kent) provide HIV testing to substantial numbers of Black

FIGURE 13-2. HIV RISK CATEGORIES AMONG BLACK PEOPLE LIVING WITH HIV IN KING COUNTY BY NATIVITY, 2020

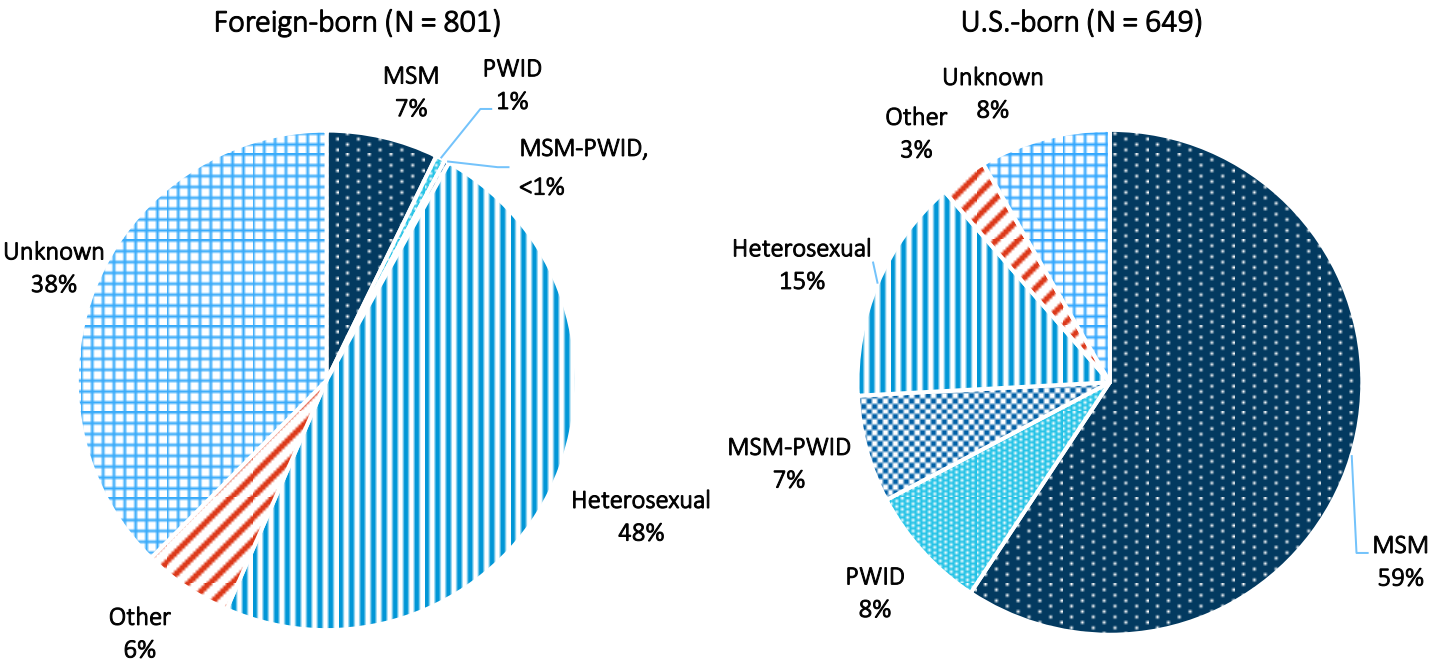
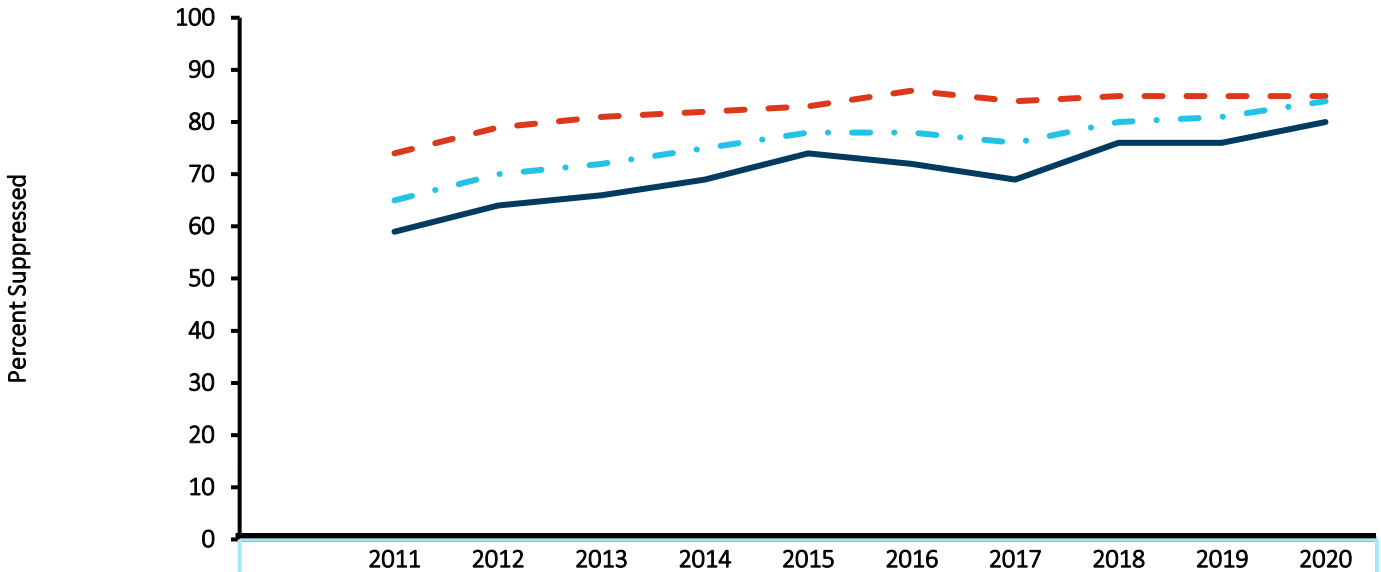


FIGURE 13-3: VIRAL SUPPRESSION AMONG BLACK PEOPLE LIVING WITH HIV IN KING COUNTY BY NATIVITY, 2011-2020



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Foreign Born	59	64	66	69	74	72	69	76	76	80
U.S. Born	74	79	81	82	83	86	84	85	85	85
Overall	65	70	72	75	78	78	76	80	81	84

patients. People of Color Against AIDS Network (POCAAN) and Center for MultiCultural Health (CMCH) provide services specifically aimed at preventing and otherwise mitigating the impact of HIV on communities of color in Seattle and greater King County.[3,4] POCAAN operates several programs for those living with HIV as well as those at risk for infection, including medical case management, support in transitioning into stable housing, and reentry assistance upon release from prison or jail.[3] In 2021, POCAAN unveiled MOCHA PrEP Clinic, a stand-alone PrEP clinic serving the Black, Indigenous and People of Color (BIPOC) communities throughout King County. CMCH provides free, same-day HIV testing and counseling and puts on events to build community among queer Black men, however, events were postponed due to the COVID-19 pandemic.

Contributed by Francis Slaughter

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2. Grant RM et al. Preexposure chemoprophylaxis for HIV prevention in men who have sex with men. New Engl Jour Med 363(27): 2587-2599, 2010.
3. POCAAN. Available at http://pocaan.org/POCAAN/. Accessed 10/12/2021.
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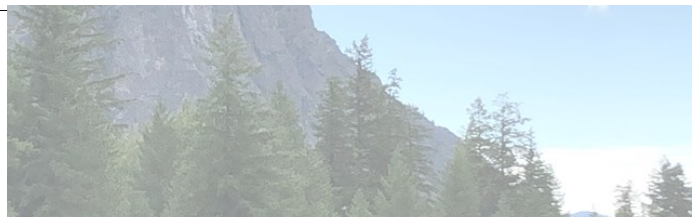
HIV/AIDS Fact Sheet

Latinx Populations
(Hispanic, Latino, and Latina)



Key Points

In 2020, HIV diagnosis rates were slightly higher among Latinx people relative to overall King County rates. (8 vs 7 per 100,000).

From 2011 to 2020 HIV diagnosis rates decreased 69% among U.S.-born Latinx people and decreased 67% among foreign-born Latinx people.

In 2020, 87% of Latinx people living with HIV were virally suppressed.

Overview of HIV Epidemiology among Latinx People

The use of Latinx is used to be a more gender inclusive term for those of Latin American ancestry; for brevity, we will use the term Latinx throughout this fact sheet (vs. Hispanic/Latinx and/or Latino/a) to identify these individuals. In 2020, there were 233,923 Latinx individuals living in King County, of whom about 60% were U.S.-born (Table 14-1). At the end of 2020, there were 1,053 Latinx people living with diagnosed HIV infection (PLWH) for a prevalence of 0.45% among the total Latinx population. The prevalence of HIV was 1.7 times higher in foreign-born vs. U.S.-born Latinx people (0.61% vs 0.35%). As of 2020, there were 550 foreign-born Latinx people living with HIV residing in King County with 89% born in central or South America, including 59% in Mexico, 6% in El Salvador and 5% in Brazil (Figure 14-1).

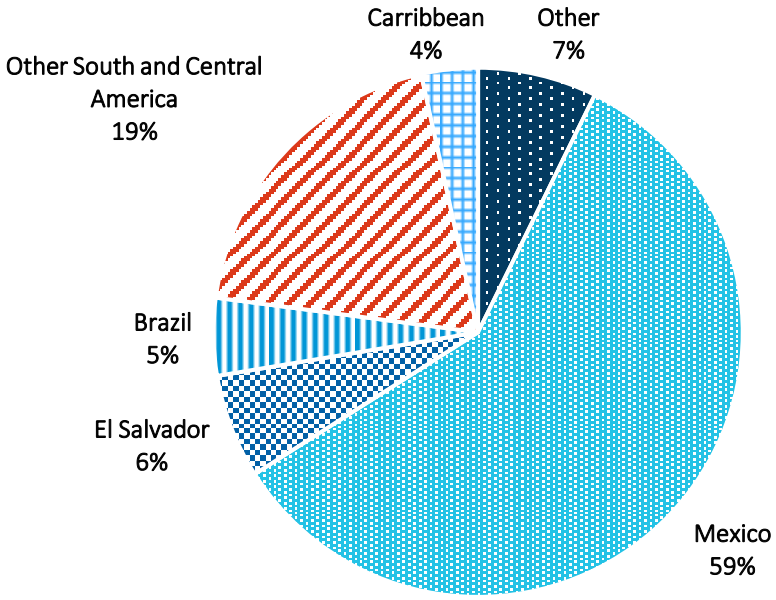
In 2020, there were 19 new diagnoses of HIV among Latinx people in King County (8 per 100,000). New diagnosis incidence for foreign-born Latinx people was 1.8 times that of U.S.-born Latinx people (11 vs. 6 per 100,000). Latinx diagnoses rates were slightly higher than the overall diagnosis rate for King County residents of all races/ethnicities in 2020 (8 versus 7 per 100,000). The rate of new HIV diagnoses among Latinx people decreased 67% between 2011 and 2020, with the largest decline observed among U.S.-born Latinx people (69%) and a 66% decrease among foreign-born Latinx people (Figure 14-2). For comparison, the overall new HIV diagnosis rate in King County

Table 14-1: Key HIV Metrics for Latinx people, King County, WA, 2020

Key Metrics	U.S.-born [A]	Foreign-born	Total
Estimated Number of Latinx People in King County (2020)[B]	143,863	90,060	233,923
HIV Prevalence in 2020			
Number of Latinx People Living with HIV (PLWH)	503	550	1,053
Prevalence (%)	0.35%	0.61%	0.45%
Percent of all Prevalent Cases who are Latinx (among all U.S.-born, foreign-born and total PLWH)	9%	33%	15%
HIV Incidence (New Diagnoses)[C] in 2020			
Number of New Diagnoses	9	10	19
Incidence Rate per 100,000 [D]	6.3	11.2	8.2
10-year Trend (2011-2020)	69% decrease	66% decrease	67% decrease
Viral suppression among HIV+ Latinx People [E]	85%	88%	87%

[A] U.S.-Born includes those of unknown nativity.
[B] Population estimates derived from the U.S. Census Bureau and American Community Survey.
[C] New HIV diagnoses among individuals reporting a prior diagnosis in another country or an unverified diagnosis from another state are excluded.
[D] The numbers shown for 2020 in Figure 2 differ from the ones here because they are 3-year rolling averages.
[E] Among all Latinx people with diagnosed HIV infection including those who did not have a reported viral load. Viral suppression defined as plasma HIV RNA < 200 copies/mL. Among those with reported ≥1 viral load reported in 2020, 92% of U.S.-born, 96% of foreign-born, and 94% of all Latinx people were suppressed.

FIGURE 14-1: COUNTRY OR REGION OF BIRTH AMONG FOREIGN-BORN LATINX PEOPLE LIVING WITH HIV, KING COUNTY, WA, 2020



decreased by 36% over this same period. Of note, there was a steep decline in new diagnoses between 2019 and 2020; it is not clear if this steep drop was due to a decline in transmission or a decline in HIV testing due to the COVID-19 pandemic.

AGE AND GENDER

For Latinx people diagnosed between 2016 and 2020, U.S.-born Latinx people were younger than foreign-born Latinx people at the time of diagnosis with 30% of new cases aged 29 years and younger among U.S.-born compared to 20% of foreign-born Latinx people. Overall, 9% of Latinx people living with HIV in King County were assigned female sex at birth, of those assigned female sex at birth, 34% were U.S.-born and 66% were foreign-born.

HIV TRANSMISSION RISK CATEGORY

Figure 14-3 shows the distribution of HIV transmission risk categories among U.S.-born and foreign-born Latinx people living in King County in 2020. Individuals with an unknown risk factor comprised 9% of foreign-born and 2% of U.S.-born Latinx people and are excluded from the figure. Men who have sex with men (MSM) comprise the majority of new HIV infections among both U.S.-born and foreign-born Latinx people. Heterosexual risk is three times as common among foreign-born Latinx people (15%) as among those born in the U.S. (5%). The combined risk factor of being MSM who inject drugs (MSM-PWID) was more than twice as common among U.S.-born compared to foreign-born PLWH (11% vs. 5%).

Locally and nationally, Latinx MSM are disproportionately affected by HIV. Among all MSM newly diagnosed with HIV in 2020, 15% were Latinx. Similarly, 16% of all MSM living with HIV are Latinx, while 10% of the adult male population in King County is Latinx. Latinx MSM comprise 80% of Latinx PLWH (841 of 1,053) living in King County in 2020 and 79% (275 of 347) of new diagnoses among Latinx people between 2011 and 2020. Of the 841 Latinx MSM living with HIV in King County in 2020, 75 (9%) also were PWID. Of the 275 Latinx MSM diagnosed with HIV in King County between 2011 and 2020, 17 (6%) were MSM-PWID.

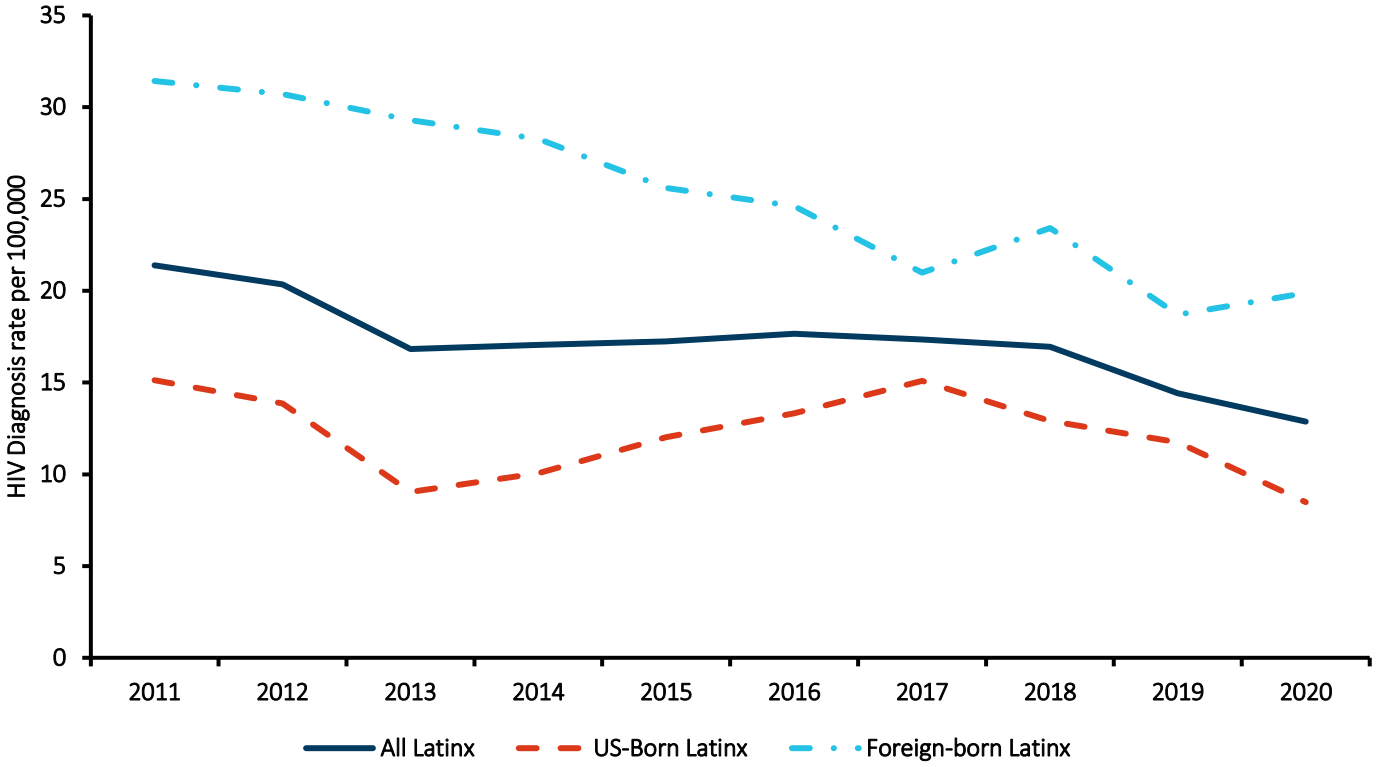
HIV VIRAL SUPPRESSION

Among Latinx people diagnosed with HIV, the proportion with documented viral suppression increased modestly over the past five years, from 81% in 2016 to 87% in 2020. This includes viral suppression among Latinx PLWH in 2020 for 88% of foreign-born Latinx PWDH and 85% of U.S.-born Latinx PWDH.

TIMING OF HIV DIAGNOSES

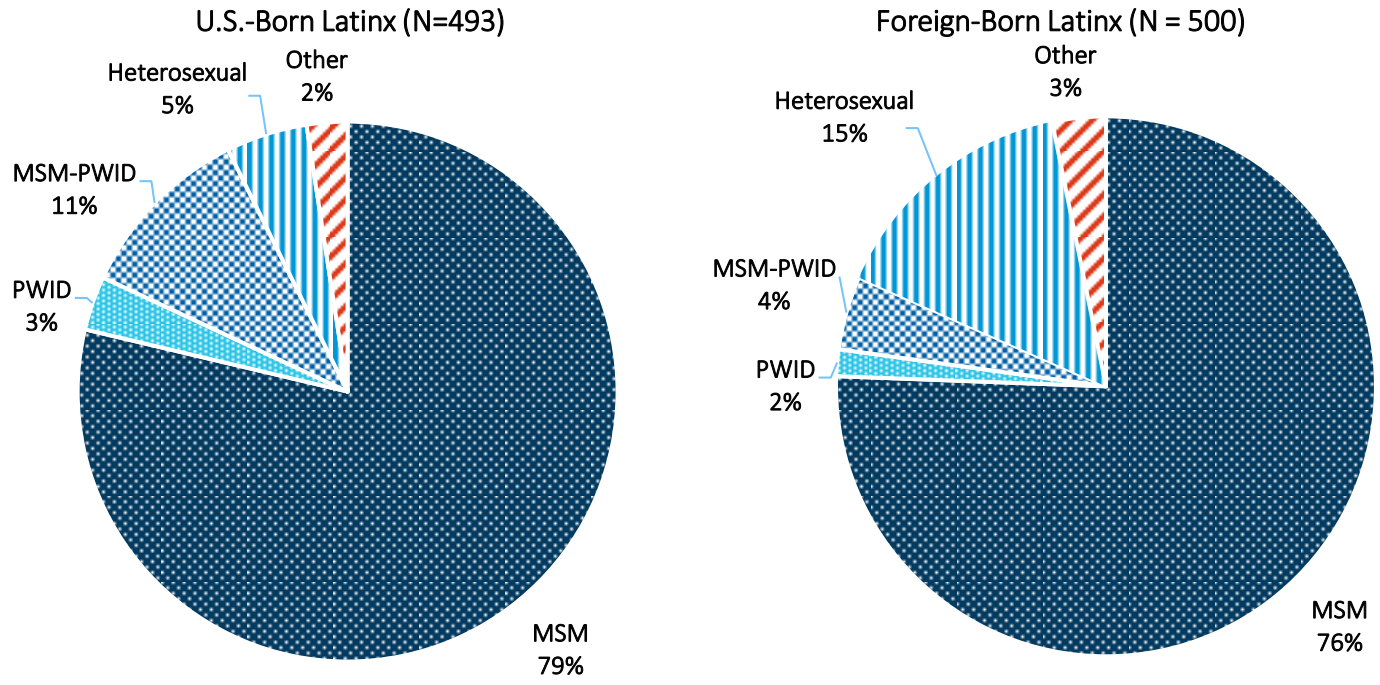
Among the 171 Latinx King County residents diagnosed with HIV in the past five years (2016-2020), 145 (85%) had a known HIV testing history. Of the 145, 70 (48%) had a negative HIV test within a one year inter-test

FIGURE 14-2: HIV DIAGNOSIS RATES AMONG LATINX PEOPLE BY NATIVITY, KING COUNTY, WA, 2011-2020



Rates are per 100,000 and shown as 3-year rolling averages to reduce random fluctuations year-to-year.

FIGURE 14-3. HIV RISK CATEGORIES AMONG LATINX PEOPLE LIVING WITH HIV BY NATIVITY[A], KING COUNTY, WA, 2020



[A]U.S.-Born includes unknown nativity; MSM = Men who have sex with men; PWID = People who inject drugs

interval. This interval, from a last negative to a first positive test provides information on the extent to which HIV testing is reaching the population in need of testing, as well as data on the potential time from HIV Infection to HIV diagnosis. U.S.-born Latinx people were nearly twice as likely as foreign-born Latinx people to have a negative HIV test within a year of diagnosis (61% vs. 36%). The 48% of Latinx people who had a negative HIV screening test within a year of diagnosis is similar to 51% among non-Latinx White PLWH and 47% among all people diagnosed with HIV 2016-2020.

Late HIV diagnosis is sometimes defined as an AIDS diagnosis within one year of an HIV diagnosis. By this definition, 26% of 171 Latinx people diagnosed with HIV between 2016 and 2020 were diagnosed late, including 38% of foreign-born Latinx and 14% of U.S.-born Latinx people. This compares to 17% of White PLWH and 25% of all PLWH diagnosed in the same time period.

HIV Prevention and Care Interventions

Pre-Exposure Prophylaxis (PrEP) Use: In light of the racial/ethnic disparities in HIV diagnosis incidence and prevalence highlighted above, the Public Health—Seattle & King County (PHSKC) Sexual Health Clinic offers prescription of PrEP to interested Latinx MSM and PWID—among other groups—with the goal of improving health equity.[1] PrEP has been shown to be highly effective at preventing HIV, cutting the chances of infection among MSM by >95% when taken as directed.[2]

The annual Seattle Pride Survey was conducted as an internet survey in 2021, due to the continuing COVID-19 pandemic. Among surveyed King County residents who were MSM and considered at high-risk for HIV acquisition, Latinx respondents were more likely than White respondents to have ever taken PrEP—36% and 27%, respectively—although the number of Latinx people surveyed was small.

In a November 2018 - January 2019 Internet survey of men who reported ever having had sex with a man, about 40% of HIV-negative cisgender Latinx MSM living in King County reported ever having used PrEP. Although this estimate is somewhat lower than from the 2018-2019 Pride surveys, the Internet survey likely included more people at relatively lower risk for HIV acquisition (Personal communication D Rao, August 2019).

Other Interventions: HIV testing is available at the PHSKC Sexual Health Clinic and other Public Health clinics (Auburn, Eastgate, Federal Way, Downtown, and Kent) and at/through the following county-operated sites/ programs (in order of volume since 1/1/2020): Navos, street medicine, mobile van primary care, and teen health centers. Entre Hermanos offers free HIV testing by bilingual staff, including a cash incentive for Latinx MSM, and distributes home test kits. They also conduct culturally tailored workshops, forums, and other outreach.[3] Gay City also provides Spanish language HIV testing and healthcare navigation services. Additionally, People of Color Against AIDS Network (POCAAN) provides services specifically aimed at preventing and otherwise mitigating the impact of HIV on communities of color in Seattle and greater King County. POCAAN operates a number of programs for those living with HIV as well as those at risk for infection, including medical case management, support in transitioning into stable housing, and reentry assistance upon release from prison or jail.[4] A list of HIV/STD testing facilities, including hours of operation, are available on the PHSKC web site (www.kingcounty.gov/stdtesting).

Contributed by Francis Slaughter

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1. Public Health Sexual Health Clinic at Harborview. Available at http://www.kingcounty.gov/depts/health/communicable-diseases/hiv-std/patients/clinic.aspx. Accessed 10/12/2021.
2. Grant RM et al. Preexposure chemoprophylaxis for HIV prevention in men who have sex with men. New Engl Jour Med 363(27): 2587-2599, 2010.
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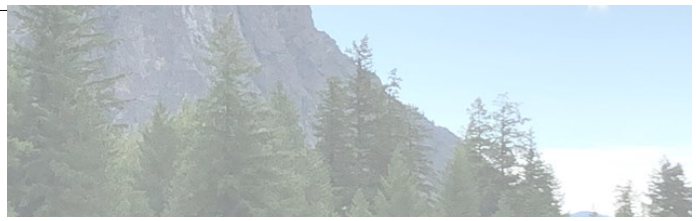
HIV/AIDS Fact Sheet

Men Who Have Sex with Men (MSM)



Key Points

In 2020, MSM comprised 78% of all new HIV diagnoses in King County.

Since 2016, the rate of new diagnoses among MSM has declined 54%.

HIV among MSM in King County is characterized by racial and ethnic disparities. In 2020 Latinx and Black MSM accounted for 10% and 7% of the estimated King County MSM population but accounted for 15% and 11% of all new diagnoses among MSM, respectively.

Between 2019 and 2020, the number of new HIV diagnoses occurring in Latinx MSM declined abruptly in a way not observed among MSM of other racial or ethnic groups. This suggests that the COVID-19 pandemic may have resulted in a decrease in HIV testing among Latinx MSM that was greater than any decreases among non-Latinx MSM.

An estimated 88% of MSM with diagnosed HIV infection in King County were virally suppressed in 2020.

Approximately 44% of MSM at elevated risk for HIV in King County are currently using PrEP.

Overview of HIV Epidemiology among MSM

In King County, men who have sex with men (MSM) have been, and continue to be, the most heavily impacted risk group in the HIV epidemic.[1] There were 122 new HIV diagnoses among MSM in 2020. This corresponds to an estimated rate of new diagnosis among MSM of 223 per 100,000 MSM, which is a 54% decrease in the rate of new diagnoses since 2011 (**Table 15-1, Figure 15-1**). In 2020, MSM, including the 12% of MSM who also injected drugs (**Figure 15-2**), accounted for 78% of all new HIV diagnoses in King County and 88% of all diagnoses where an exposure category was identified.

Approximately one in 11 MSM (9%) in King County is living with HIV, although this varies by race (**Figure 15-3**). An estimated 88% of MSM living with HIV are virally suppressed. (Among MSM with a viral load reported to Public Health – Seattle & King County [PHSKC] in 2020, 95% were virally suppressed.) In 2020, 59% of new HIV diagnoses among MSM occurred in individuals who were between 20 and 34 years old, although only 26% of the overall male population in King County is aged 20 to 34 years. Over half (57%) of all new HIV diagnoses among MSM occurred among White MSM, while 61% of the overall adult male population in King County is White. Latinx MSM and Black MSM accounted for 15% and 11% of all new 2020 MSM HIV diagnoses, respectively, although Latinx and Black men comprise only 10% and 7% of the adult King County male population. Of note, the incidence of newly diagnosed HIV among Black MSM declined steadily from 2017 to 2020 (20%), while the incidence of new cases among Latinx MSM declined sharply from 2019 to 2020 (46%) (**Figure 15-1**). The extent to which declines in HIV diagnoses in 2020, particularly the abrupt decline observed in Latinx MSM, reflects a true decline in infections versus a decline in HIV testing that disproportionately affected Latinx MSM, is uncertain.

Population Size

We used King County data from Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System Survey (BRFSS) to estimate the percentage of all men who are MSM. The estimate from BRFSS is based on sexual orientation, and thus only approximates MSM behavior. For 2011 through 2020, we used two-year averages of BRFSS data to estimate the proportion of King County men aged 15 years or older who were MSM. These percentages ranged from 5.7% in 2011 to 6.4% in 2020. For all years, we assume that the percentage of men who are MSM is consistent across age and race/ethnicity. **Figure 15-3** compares the prevalence of diagnosed HIV by race/ethnicity of MSM in 2020. Relative to the general male population in King County, the age distribution of MSM diagnosed with HIV is more heavily skewed in the 25 to 39 year range (**Figure 15-4**).

[1] In this section, MSM includes cisgender men and transgender men who have sex with other men and does not include transgender women who have sex with men.

TABLE 15-1: KEY HIV METRICS FOR MEN WHO HAVE SEX WITH MEN, KING COUNTY, WA, 2020

KEY METRICS	TOTAL MSM	WHITE MSM	BLACK MSM	LATINX MSM
HIV PREVALENCE IN 2020				
Number of MSM Prevalent Cases	5,231	3,193	579	841
Estimated Prevalence (%)	8.7%	8.8%	14.3%	14.4%
Percent of all PLWH who are MSM among Each Group (All PLWH, White PLWH, Black PLWH, and Latinx PLWH)[A]	75%	87%	40%	80%
HIV INCIDENCE (NEW DIAGNOSIS) IN 2020				
Number of New Diagnoses	122	70	14	18
Diagnosis Incidence Rate per 100K MSM	223	212	405	359
10-year Trend (% Change 2011-2020)	54% decrease	52% increase	56% decrease	69% decrease
ESTIMATED NUMBER OF MSM[B] IN KING COUNTY (2020)	59,848	36,270	4,038	5,850
VIRAL SUPPRESSION AMONG HIV+ MSM[C]	88%	89%	81%	88%

[A] PLWH = People living with HIV. For Black and White people, only mono-racial individuals are included.
[B] MSM population are estimated as 6.4% of males age 15+ years in 2020. This table includes estimates on MSM who do and do not report injection drug use.
[C] Among all MSM with diagnosed HIV-infection. Viral suppression defined as plasma HIV RNA < 200 copies/mL. Among those with ≥1 viral load reported in 2020, 95% of MSM were virally suppressed.

FIGURE 15-1. RATE OF NEW HIV DIAGNOSIS AMONG MSM OVERALL AND BY SELECTED RACE/ETHNICITY, KING COUNTY, 2011-2020

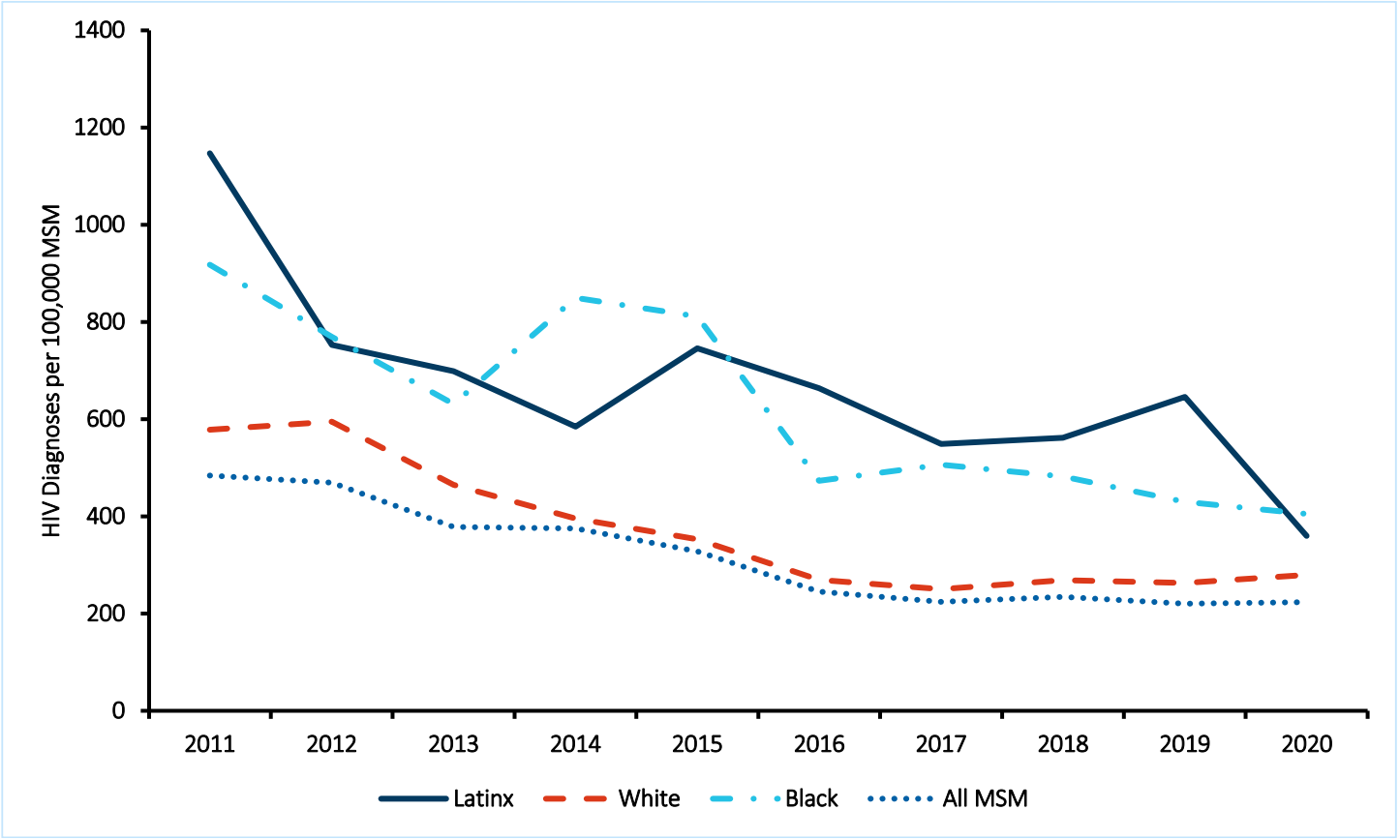
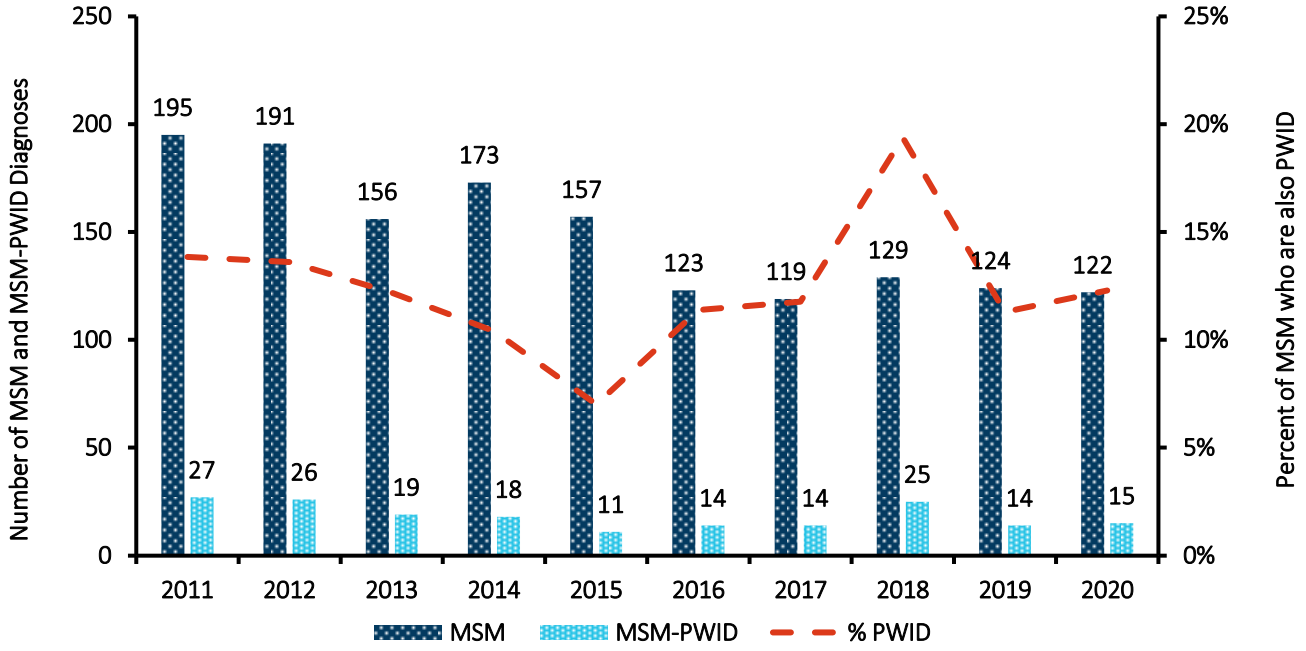


FIGURE 15-2 NUMBER OF NEW HIV DIAGNOSIS AMONG ALL MEN WHO HAVE SEX WITH MEN (MSM), MSM WHO INJECT DRUGS (MSM-PWID) AND CORRESPONDING PERCENTAGE OF MSM HIV DIAGNOSES WHO ARE MSM-PWID, KING COUNTY, WA, 2011-2020



HIV PREVENTION INTERVENTIONS

HIV testing: PHSKC and WA DOH fund HIV testing, primarily for people at higher risk of HIV infection. From 2012 to 2019, the number of HIV tests performed among MSM increased by 30%. However, as a consequence of the COVID-19 pandemic, there was an almost 50% reduction between 2019 and 2020 (from 7,985 to 4,046 tests) in publicly-funded HIV tests performed for MSM in King County (**Figure 8-7**). Public health investigators obtained HIV testing histories for 80% of MSM diagnosed with HIV in King County in 2020; among men from whom a history was obtained, 3% had never HIV tested prior to their HIV diagnoses. Among the remaining men, the median time since last HIV negative test was 11 months and 72% had tested negative in the two years prior to their HIV diagnosis (**Figures 8-2 and 8-3**). The largest single source of new HIV diagnoses in King County is the PHSKC Sexual Health Clinic (SHC) at Harborview Medical Center, which provides walk-in services five days per week. The SHC provides care on a sliding fee scale. The second most common site of HIV diagnoses is the Gay City Wellness Center which also provides Spanish language HIV testing and healthcare navigation services. Both clinics provide pre-exposure prophylaxis (PrEP) services.

PrEP: Based on several different sources of data, PHSKC estimates that in 2020 approximately 27% (range: 18-35%) of all MSM in King County were on PrEP, including approximately 44% (range 39-49%) of MSM at higher risk for HIV. (Higher risk MSM were defined as those who reported at least one male sex partner in the past year *and* one or more of the following risks in the past year: ≥10 sex partners; methamphetamine or popper use; condomless sex with a partner who had HIV or did not know their HIV status; or a bacterial STI diagnosis [chlamydia, gonorrhea, or syphilis].) The impact of COVID-19 on PrEP use among MSM remains somewhat uncertain. However, among HIV negative MSM receiving STI partner services, the percentage who were on PrEP declined from 57% in 2019 to 47% in 2020.

The annual 2021 Pride survey found that approximately 27% of all HIV negative MSM and 60% of higher risk MSM in King County had ever taken PrEP. Seventeen percent of all MSM and 45% of higher risk MSM were currently using PrEP in the summer of 2021. Data from the 2018-2019 Washington HIV Prevention Project found that 37% of cisgender MSM in King County are on PrEP. Data from 2020 from the King County Sexual Health Clinic for PrEP use among all MSM who do not have HIV indicate 48% are on PrEP; 55% of higher risk MSM used PrEP in 2020. (See Prevention article for details.) PHSKC promotes PrEP for MSM in several ways, including providing PrEP referrals via STD partner services, providing PrEP at the PHSKC Sexual Health Clinic, and maintaining a publicly available list of PrEP providers and a map of PrEP provider locations. The Washington State Department of

FIGURE 15-3. PREVALENCE OF HIV DIAGNOSIS AMONG MSM BY RACE/ETHNICITY, KING COUNTY, WA, 2020

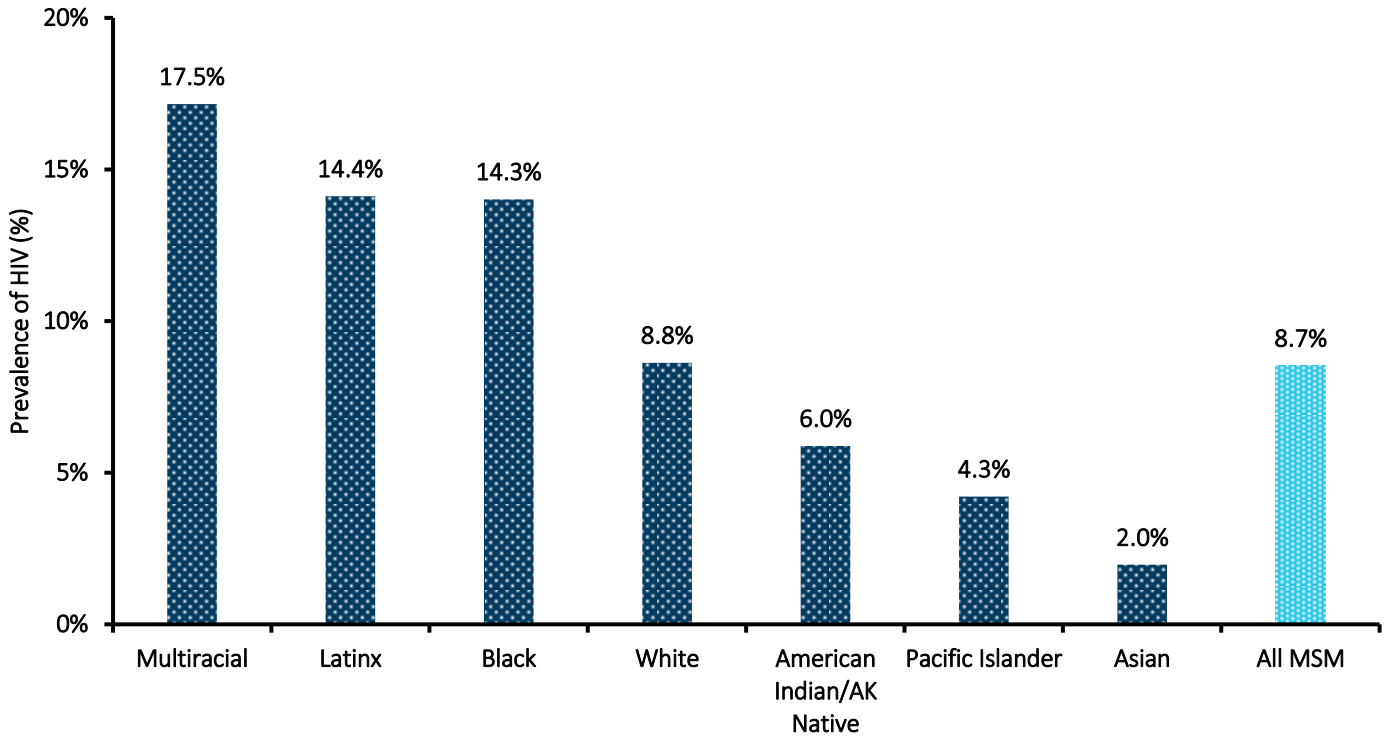
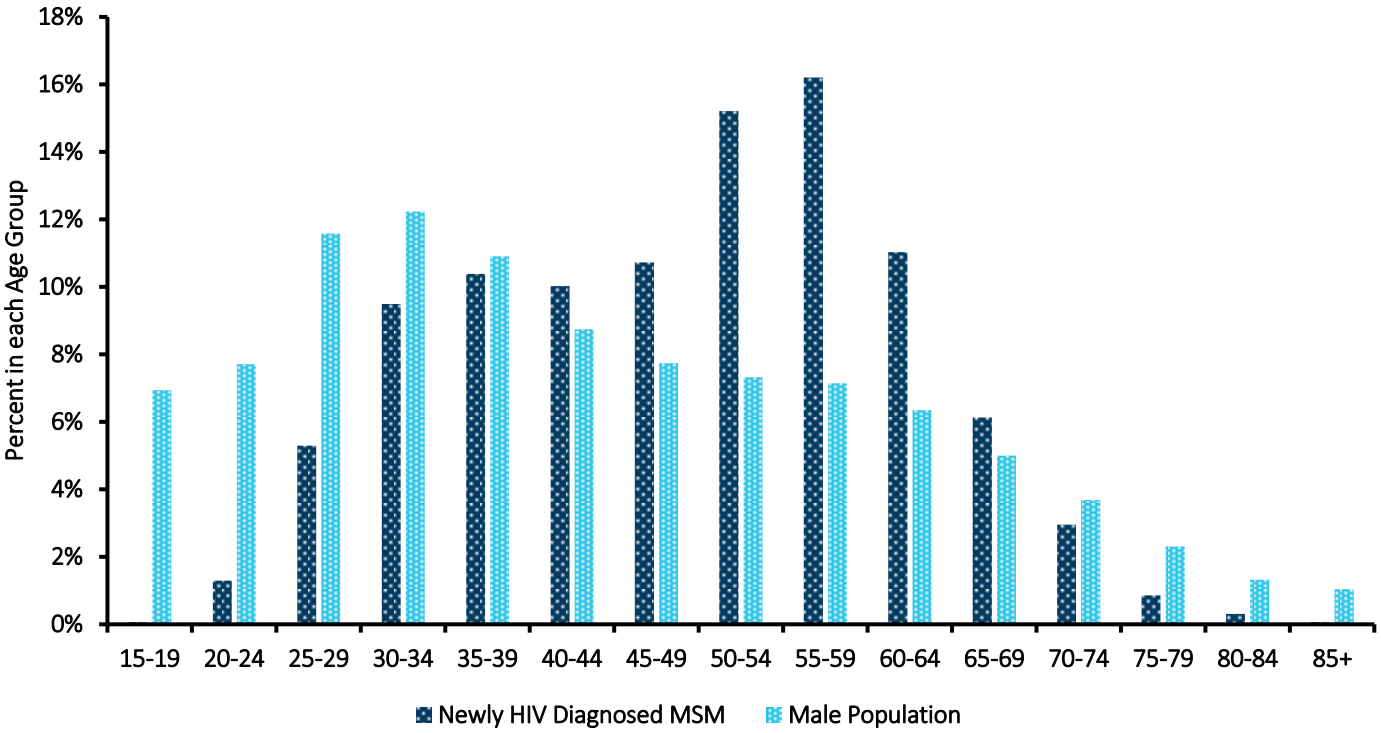


FIGURE 15-4. AGE DISTRIBUTION OF MSM NEWLY DIAGNOSED WITH HIV VERSUS THE GENERAL MALE POPULATION, KING COUNTY, WA, 2020

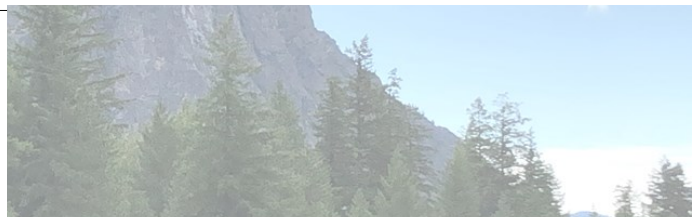


Health funds PrEP navigation services to provide guidance and support to individuals in need of access and to fully engage in HIV prevention and other supportive services, including supporting access to PrEP, post-exposure prophylaxis (PEP), health insurance enrollment/utilization, HIV/STD testing, and condoms. In 2020, 159 MSM diagnosed with a syphilis or gonorrhea (who did not report already being on PrEP) accepted a referral to PrEP by the PHSKC partner services program. The PHSKC Sexual Health clinic initiated 184 MSM patients on PrEP in 2020 and had 495 MSM patients actively on PrEP as of December 2020.

Contributed by Francis Slaughter and Mike Barry

HIV/AIDS Fact Sheet

People Who Inject Drugs (PWID)



Key Points

The number of new diagnoses among men who have sex with men (MSM) PWID remained stable from 2019 to 2020 (14 to 15 cases), but decreased abruptly among non-MSM PWID (16 to 3 cases). This was the smallest number of non-MSM PWID cases diagnosed in King County since 1994. The extent to which this represents a true decrease in infections versus a drop in HIV testing among PWID in the context of the COVID-19 epidemic is uncertain.

HIV prevalence is high (approximately 40-60%) among MSM PWID who inject methamphetamine.

About three-quarters (77%) of HIV-positive PWID were virally suppressed in 2020 compared to 86% of all people with HIV.

In 2020, Public Health – Seattle & King County (PHSKC) syringe services programs (SSP) distributed over 5.4 million syringes.

OVERVIEW OF HIV EPIDEMIOLOGY AND DRUG USE BEHAVIORS AMONG PWID

In 2018, there was an HIV outbreak and an overall increase in HIV diagnoses among people who inject drugs (PWID), including men who have sex with men who inject drugs (MSM-PWID). (PWID-MSM are typically classified as a separate category since HIV in this population is a acquired through some combination of sex and injection drug use.) In 2020, the number of new cases of HIV among PWID dropped substantially, thought his decline was only observed in non-MSM PWID. It is not clear if this drop in infections was due to a decrease in HIV transmission among PWID or a decrease in HIV testing related to the COVID-19 pandemic. Specifically, in 2020, there were 3 new HIV diagnoses among non-MSM PWID and 15 new HIV diagnoses among PWID-MSM (18 total PWID HIV cases). In comparison, in 2018 there were 55 total HIV diagnoses among PWID, including 30 among PWID who were not MSM and 25 among PWID-MSM. Between 2018 and 2020, the percentage of all new diagnoses occurring in non-MSM PWID decreased from 14% to 2%, while the percentage occurring among MSM-PWID decreased from 12% to 10%.

Based on data from routine HIV surveillance, including the 2018 National HIV Behavioral Surveillance PWID survey, we estimate that the HIV prevalence among non-MSM PWID and MSM-PWID is approximately 1-4% and 12-19%, respectively (Table 16-1). The subset of PWID-MSM who inject methamphetamine have historically had the highest HIV prevalence (approximately 40-60%). The prevalence of hepatitis C antibodies among all PWID is high at approximately 70-75%.

The 2019 survey of Public Health – Seattle & King County (PHSKC) syringe services program (SSP) clients found that the average age of PWID was 38 years and 35% were women (cis or trans); 13% were American Indian or Alaska Native, 5% were Asian, 6% were Black or African-American, 8% were Latinx, and 2% were Native Hawaiian or Pacific Islander. The majority were homeless (47%) or unstably housed (28%), estimates that were similar to the 2017 survey. In 2019, nearly one-half (52%) of SSP clients reported that their primary drug was heroin, a large decline from 2017 (65%). The proportion of PWID reporting that goofballs (i.e., the combination of heroin and methamphetamine) were their primary drug increased from 10% in 2017 to 20% in 2019 (see Figure 16-1). Fifteen percent of PWID reported sharing a syringe in the past 3 months, which was a significant decline since 2017 (22%).

Population Size

In 2014, the PHSKC HIV/STD Program estimated that there were approximately 23,000 people in King County who had injected drugs in the past year based on the 2012 King County population. Using similar methods updated to reflect population growth, we estimate that in 2020 there were

TABLE 16-1: KEY HIV METRICS FOR PEOPLE WHO INJECT DRUGS (PWID), KING COUNTY, WA, 2020

Key Metrics		PWID (non-MSM)	PWID-MSM
Estimated Number of PWID in King County (2019)		~21,500	~5,000
HIV Prevalence in 2019			
	Number of PWID Living with HIV	285	649
	Prevalence (%)	1-4%	12-19%
Percent of all HIV cases who are PWID or MSM-PWID among those with known risks		4%	9%
HIV Incidence (New Diagnoses)			
	2019 Number of New Diagnoses	3	15
	Diagnosis Rate	14 per 100,000	345 per 100,000
	10-year Trend (2011-2020)[A]	Overall decrease from 2011-2020, with large increase in 2018, sharp decrease continuing into 2020.	Overall decrease from 2011-2020, with large increase in 2018, sharp decrease continuing into 2020.
Viral Suppression among HIV+ PWID [B]		73%	79%

Abbreviations: PWID, people who inject drugs; MSM, men who have sex with men.
[A] 5-year trend based on case counts instead of rates due to uncertainty regarding population sizes.
[B] Among all PWID with diagnosed HIV-infection. Viral suppression defined as plasma HIV RNA < 200 copies/mL. Among those with ≥1 viral load reported in 2020, 83% of PWID (non-MSM) and 89% of PWID-MSM were virally suppressed.

26,500 PWID and that 5,000 of these PWID are MSM and 21,500 are non-MSM.

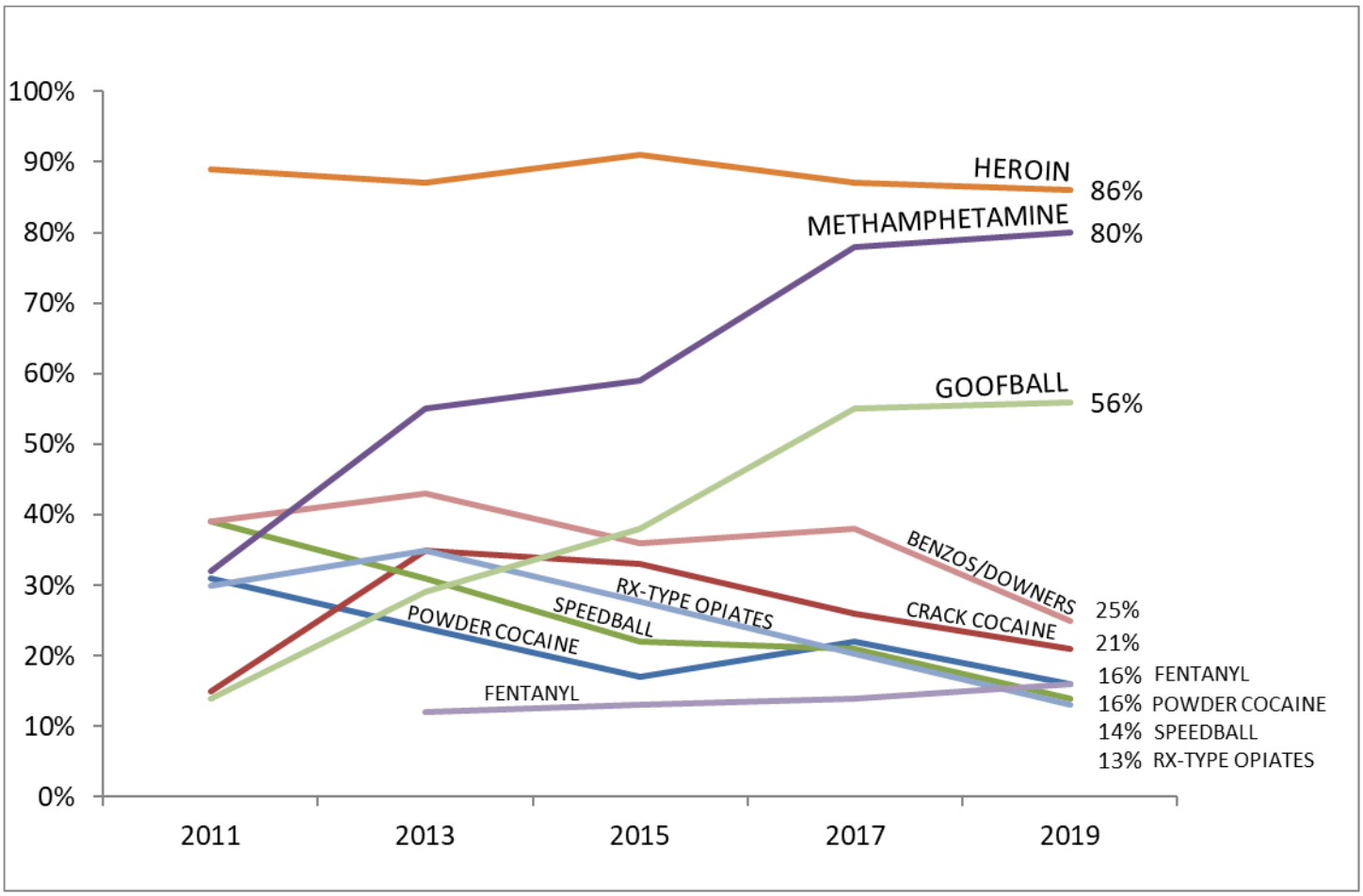
HIV PREVENTION AND CARE INTERVENTIONS

Syringe Services Program (SSP): SSPs are effective interventions for decreasing the risk of HIV transmission among PWID. The PHSKC SSP, the second-longest running exchange program in the United States, exchanged over 5.4 million syringes in 2020, with an additional 2.7 million syringes distributed by other local SSPs. The PHSKC SSP includes two fixed locations (downtown and Capitol Hill) and two mobile services (north Seattle and south King County). The SSP provides services in addition to needle exchange, including naloxone distribution and education, linkage to treatment for substance use disorders, wound care, reproductive health care, social work services, and assistance with obtaining health insurance. In 2020, 2,756 naloxone kits were distributed, reversing 444 self-reported overdoses. Please see the Ending the HIV Epidemic Pillar 3 (Prevention) article for more information on these services.

HIV Testing and Viral Suppression: HIV testing among PWID in the Seattle area declined between 2004-2015: in 2004, 64% of PWID reported having an HIV test in the past year compared with 47% in 2015.[1] Newer data from PWID surveys are encouraging and show a potential rebound in the proportion of PWID with an HIV test in the past year. Local 2018 National HIV Behavioral Surveillance survey data on PWID found that 52% of PWID had tested in the past year. Additional data from the PHSKC SSP showed an increase in HIV testing in the prior year between 2017 and 2019, from 56% to 66%. The boost in 2019 is likely a result of increased HIV testing outreach conducted as a result of the outbreak among PWID in north Seattle in 2018. Fortunately, most HIV-positive PWID link to care and achieve viral suppression. In 2020, an estimated 77% of PWID were virally suppressed. Non-MSM PWID newly diagnosed with HIV take significantly longer to reach virally suppression -- a median of 8.8 months for non-MSM PWID vs. 2.5 months for all other people diagnosed with HIV in the past five years -- highlighting the need to improve efforts to ensure early linkage to care.

PrEP: PrEP knowledge and use remain low among PWID. In recent surveys of PWID, PrEP awareness ranges from 27 to 51%, and only 1-2% of PWID report recent or current PrEP use. In 2015, PHSKC and WA DOH issued

FIGURE 16-1. TRENDS IN REPORTED DRUG USE AMONG PUBLIC HEALTH – SEATTLE & KING COUNTY SYRINGE SERVICES PROGRAM (SSP) CLIENTS, 2011-2019



implementation guidelines for HIV pre-exposure prophylaxis (PrEP).[2] With respect to PWID, these guidelines state that health care providers should *recommend* PrEP initiation to patients who are MSM or transgender people who have sex with men and who have used methamphetamine in the past year (including injection), and people who have condomless sex with HIV -positive partners who are not virally suppressed. In response to the increase in HIV cases among PWID in 2018, the guidelines changed to also *recommend* PrEP to PWID who report exchange sex. The guidelines recommend that health care providers discuss initiating PrEP with other PWID.

Medication for Opioid Use Disorder (MOUD): Two opioid agonist therapies, methadone and buprenorphine, have been shown to decrease HIV risk behaviors among PWID. PHSKC SSP staff provided MOUD referrals to 229 SSP clients in 2019 and 76 in 2020 (vastly reduced due to COVID-19). There is currently no waitlist of methadone treatment. In 2017, King County launched the Bupe Pathways program,[3] which aims to provide very low barrier buprenorphine treatment co-located with the PHSKC SSP and pharmacy. In a recently published evaluation, retention in the program was associated with reduction in opioid use. Given high levels of demand, the program expanded in late 2018 and is now located in a separate space above the SSP. During 2020, Bupe Pathways had 2,529 client visits with an average of 210 visits per month.

Differentiated Care Options for PWID with HIV: In partnership with Harborview Medical Center, PHSKC provides a system of differentiated care options that provide tailored HIV care and prevention services to meet the needs of people for whom traditional models of healthcare have proven ineffective, including some PWID. Currently, the Max Clinic, Mod Clinic, and the SHE Clinic provide low-barrier care for patients living with HIV. First, the Max Clinic is a walk-in HIV care clinic located within the PHSKC Sexual Health Clinic at Harborview Medical Center. Patients are referred to the

Max Clinic by HIV medical providers, social workers, and public health programs if they have had difficulty maintaining care engagement and viral suppression in conventional HIV care. The majority of patients are homeless or unstably housed and have a substance use or mental health disorder. As of June 2021, 283 patients had ever enrolled in the Max Clinic and approximately 221 were currently enrolled. Among people ever enrolled, an estimated 42% reported injecting drugs in the past year. Approximately 95% of Max patients have achieved viral suppression at least once, and at the end of 2020, 61% of patients were virally suppressed at their most recent lab. Next, the Mod Clinic is an HIV care clinic located within the Ryan White-funded Madison (HIV) Clinic at Harborview Medical Center. The Mod clinic is a drop-in primary care clinic geared toward patients who have difficulty adhering to scheduled clinic visits. PLWH are eligible for Mod clinic if they have a history of three or more no-shows, have been out of care for a prolonged period of time despite multiple outreach attempts, or if they have a preference for drop in care due to life circumstances. The Mod Clinic currently has 213 patients; 40% reported injecting drugs in the year prior to enrollment in the clinic and 79% were virally suppressed on their most recent viral load test. Finally, the SHE clinic is a health clinic that partners with Aurora Commons, a community-based organization, to provide HIV care and other health services to local women, many of whom are living homeless, engaged in exchange sex, and have substance use disorders. The SHE clinic currently has 155 patients, the majority of whom have a substance use disorder. Five patients are living with HIV and three were virally suppressed on their most recent viral load test. In 2021, PHSKC will open the Aurora Clinic, a new low-barrier clinic located in north Seattle, and plans to open at least one additional new low-barrier clinic in south King County by 2022.

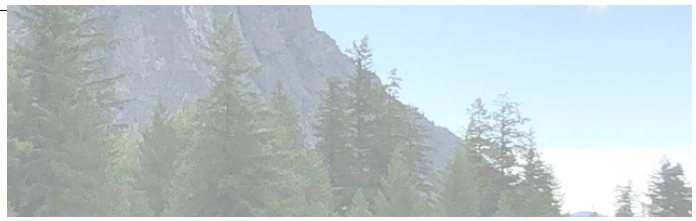
Contributed by Mike Barry, Francis Slaughter, Joe Tinsley, and Sara Glick

References

1. Burt RD and Glick SN. A decline in HIV testing among people who inject drugs in the Seattle area, 2004-2015. *JAIDS* 2017;75 Suppl 3:S346-S351.
2. Public Health – Seattle & King County and Washington State Department of Health. Pre-exposure prophylaxis (PrEP) Implementation Guidelines 2015. www.kingcounty.gov/hiv/prep-guide.
3. Hood JE et al. Engaging an unstably housed population with low-barrier buprenorphine treatment at a syringe services program: Lessons learned from Seattle, Washington. *Subst Abus* 2019; Aug 12:1-9. doi: 10.1080/08897077.2019.1635557. [Epub ahead of print].

HIV/AIDS Fact Sheet

Transgender and Non-binary Populations



Key Points

In 2020, three transgender women and no transgender men were diagnosed with HIV. Between 2016 and 2020 there were 11 HIV diagnoses among transgender women and one in a transgender man.

The 2021 Pride Survey found that the majority of transgender and non-binary people at increased risk for HIV accessed STI (sexually transmitted infection) and HIV testing services; 25% were on PrEP.

Background and Methods

In this fact sheet we focus on HIV outcomes and prevention efforts among populations who are transgender and/or non-binary. Public Health – Seattle & King County (PHSKC) monitors health issues, including HIV, among transgender and non-binary people in King County through several surveys and data sources, including HIV surveillance data, intake forms completed by transgender and non-binary patients at the PHSKC Sexual Health Clinic, and an annual Pride Survey. The different datasets used in this fact sheet measured and labeled genders in distinct ways. Though we acknowledge that the words for people's genders can have distinct meanings and are not interchangeable, for the purposes of this fact sheet, we will collectively refer to the group of people who reported being transgender, non-binary, genderqueer, gender non-conforming and/or another identity as transgender and non-binary (TGNB). HIV surveillance data has not historically recorded non-binary identities, and transgender status may be under-ascertained. The 2020 and 2021 Pride Surveys were administered as online surveys due to COVID-19-related cancellations of in-person events, including Trans Pride and the Pride Parade. For this survey, Washington residents were recruited through social media and listservs, and were eligible if they reported one of the following sexual orientations (asexual, bisexual, gay, lesbian, pansexual, queer) and/or one of the following genders (gender non-conforming, genderqueer, non-binary, transgender, two-spirit). Participants were included in analyses in this fact sheet if they selected being gender non-conforming, genderqueer, non-binary, transgender, two-spirit, and/or selected a gender different from their sex assigned at birth.

Overview of HIV Epidemiology

In 2020, three transgender women were diagnosed with HIV, and no transgender men were diagnosed with HIV. Over the five-year period of 2016-2020, 11 transgender women were diagnosed with HIV. At the end of 2020, there were 70 transgender people living with HIV (PLWH) in King County, representing 1% of all PLWH in King County. Among these 70 cases, 91% were transgender women, 8% were Asian, 14% were Black, 30% were Hispanic/ Latinx, 4% were Pacific Islander, 31% were White, and 11% reported multiracial identities. The proportion of transgender PLWH in King County with a suppressed viral load was lower, but not significantly different statistically, (81%) compared to all PLWH in King County (86%). Because the U.S. Census does not provide a population size estimate for the number of King County residents who are TGNB, and reliable alternative estimates are not available, we were did not calculate HIV incidence (diagnosis) rates or an estimate of the prevalence of HIV among all TGNB people. The 2019-2020 National HIV Behavioral Surveillance (NHBS) survey of transgender women – largely focused on transgender women of color – found an HIV prevalence of 21% among survey participants.

Demographic and Health Characteristics

Table 17-1 presents demographic and health characteristics among King County TGNB participants in the 2021 Pride Survey (n=441). Data are presented for transgender women (n=40), transgender men (n=65), and participants who reported their gender as non-binary, genderqueer, gender non-conforming, two-spirit or other non-binary gender (referred to as non-binary [NB] henceforth) (n=375). For the non-binary participants, we stratify data by sex assigned at birth as male or female; to maintain confidentiality we suppressed data for three individuals who did not know their sex assigned at birth. There was one participant in the 2021 Pride Survey living in King County who reported being assigned intersex at birth. Participants appear in multiple columns if they selected more than one gender, but only appear once in the final column. A majority of TGNB participants were White, over 30 years old, and had some college or a four-year degree. Over 95% of all participants had health insurance. Transgender women were more likely than other groups to report housing instability in the past year (8% compared to 2%-5%). Sexual orientation differed between groups, with the majority of all TGNB participants (56%) identifying as queer. None of the trangender men or transgender women reported being HIV positive, though 3 (4%) of non-binary persons assigned male gender at birth were HIV positive. Reported drug use was low at ≤2%, though the use of poppers (amyl nitrates) was higher at 5% overall, with 16% of assigned male at birth (AMAB) NB participants reporting use. A majority of TGNB participants (95%) reported having anal or vaginal/front hole sex in the past year. The gender of sex partners varied across groups, with cisgender men being the most common overall (47%). Four percent of TGNB participants reported exchanging sex for money, drugs, or other goods in the past year.

Utilization of HIV and STD Services, Including PrEP

Table 17-2 summarizes utilization of HIV testing, pre-exposure prophylaxis (PrEP), and STI services among TGNB participants in the 2021 Pride Survey who lived in King County, reported having had anal or vaginal/front hole sex in the past year, and whose HIV status was negative or unknown. Data are presented in three groups by gender: transgender women, transgender men, and a combined group of NB people. People who selected more than one gender appear in multiple columns. A fourth group includes any TGNB participant who met the criteria for being at higher risk for HIV, which was based on a study of MSM clients of the PHSKC Sexual Health Clinic and defined as those who reported at least one sex partner who was a man (cis or trans) in the past year *and* reported one or more of the following in the past year: ≥10 sex partners; methamphetamine or popper use; condomless sex with a partner who had HIV or did not know their status; or a bacterial STI diagnosis (chlamydia, gonorrhea, or syphilis). (We acknowledge that these criteria have not been validated among TGNB people and are a proxy for increased risk.) PrEP is recommended for transgender people who have sex with men and meet additional criteria including any of the following in the past year: diagnosis of rectal gonorrhea or early syphilis, methamphetamine or poppers use, or exchanging sex for money or drugs.[1] Furthermore, PrEP is recommended for individuals who have an HIV-positive partner who is not virally suppressed or within six months of starting antiretroviral therapy. These criteria are not consistently available across all data sources, so PHSKC also uses criteria for being at "higher risk" for HIV outlined above.

Of the 441 2021 Pride Survey TGNB participants living in King County, 269 (61%) of the of them reported having anal or vaginal/front hole sex in the last year. Of those participants, 204 (76%) reported a negative or unknown HIV status and were included in Table 17-2 analyses. All participants (100%) reported having previously tested for HIV and ≥90% had heard of PrEP. Estimates of HIV testing were highest among TGNB participants at increased risk for HIV, 71% of whom reported at least two HIV tests in the past two years, compared to 34-48% among gender groups irrespective of HIV risk. Estimates for STI testing were similar across gender groups and risk groups at 88-93%. Twenty-five percent of TGNB persons at higher risk for HIV were using PrEP compared to 1% of TGNB people at lower risk.

Table 17-3 provides data on PrEP use among TGNB populations from four PHSKC data sources. PrEP use was similar between TGNB people who have sex with men between Sexual Health Clinic patients and HIV-negative people diagnosed with a bacterial STI – about 50%. (Estimates from the Sexual Health Clinic and STI partner services are limited to TGNB who have cisgender male partners only.) Current PrEP use (25%) was lower among TGNB respondents in the 2021 Pride Survey who had partners who were men (cisgender or transgender) and met criteria for being at higher risk for HIV. This lower estimate was to be expected since the survey was focused on the general TGNB population and not a subset of people seeking or receiving STI-related services. Finally, in 2019-2020 local data from the

National HIV Behavioral Surveillance (NHBS) survey, which focused specifically on transgender women and included some AMAB NB participants, found that 19% of participants who had oral, vaginal/front hole, or anal sex in the past year and 22% of participants at "higher risk" (defined the same as Pride except participants were not restricted to at least one sex partner who was a man in the past year as this data was not available) for HIV reported PrEP use in the past year.

As shown in Table 17-2, among TGNB respondents who had not taken PrEP, the most common reason for not taking PrEP was the perception of being at low risk. Other concerns include not knowing enough about PrEP, concerns about side effects, and concerns about interactions with hormones. Of note, 32% of TGNB at increased risk of HIV reported that they were not taking PrEP because they saw themselves as being at lower risk for HIV.

Sexual Health Clinic Utilization

Table 17-4 includes data from PHSKC Sexual Health Clinic intake forms for visits completed by TGNB patients between July 2020 through June 2021. The data presented may include multiple visits made by the same patient. The percentages in the table are based on patient self-report, except the STI diagnosis data, which was based on testing completed at the visit. The table breaks down people who are non-binary or genderqueer (NB) according to whether they were assigned male at birth (AMAB) or assigned female at birth (AFAB). During this period, TGNB patients comprised 3% of all Sexual Health Clinic visits. A majority of patients reported ever testing for HIV, with AMAB NB people, transgender men, and AFAB NB reporting the highest percentages (83%, 83%, 85%, respectively). While any drug use varied across groups, ≤5% reported injection drug use. Transactional sex also varied across groups (4%-21%). AMAB NB and AFAB NB people were the only groups among TGNB patients to report unstable housing (5% and 7%, respectively). Similar to the 2021 Pride survey data, AMAB NB was the only group reporting having HIV (4%).

Conclusion

In King County, the risk of HIV among TGNB people appears to be heterogeneous and largely restricted to AMAB non-binary persons, although other local surveys have reported a higher HIV prevalence among transgender women. Additional data are needed. We acknowledge that our surveillance systems may undercount HIV cases among transgender populations due to miscoding and missing gender identity data, and there are scant data available for non-binary people. Moreover, small sample sizes of transgender women of color in our local surveys limit our ability to make firmer conclusions about the HIV prevalence in this population. As we continue to develop better data systems, PHSKC recommends frequent HIV testing and the continued use of PrEP among TGNB populations at elevated risk for HIV.

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Reference

1. www.kingcounty.gov/hiv/prep-guide

TABLE 17-1: 2021 PRIDE SURVEY TRANSGENDER & NONBINARY RESPONDENTS' DEMOGRAPHIC CHARACTERISTICS, KING COUNTY, WA

	Transgender Women[A]		Transgender Men[A]		Non-binary, Gender-queer, Gender-nonconforming, Two-Spirit, or other non-binary gender *by sex assigned at birth* N=375[C]				Total Transgender & Nonbinary participants[B]	
					Female		*Male*			
	N	Col %	N	Col %	N	Col %	N	Col %	Total	Col %
Total N	40	100%	65	100%	291	100%	81	100%	441	100%
Row %:	9%		15%		66%		18%		100%	
Identify with at least one other gender identity[D]	12	30%	28	43%	n/a	n/a	n/a	n/a	n/a	n/a
<30 years old	11	29%	34	52%	132	48%	10	12%	192	46%
Race & Ethnicity[E]										
American Indian / Alaska Native	1	3%	1	2%	14	5%	5	6%	22	5%
Asian	3	8%	6	10%	45	17%	9	11%	56	14%
Black	3	8%	3	5%	8	3%	3	4%	16	4%
Hispanic/Latinx	4	10%	6	10%	28	11%	18	23%	52	13%
Pacific Islander/ Native Hawai'ian	2	5%	0	0%	6	2%	8	10%	15	4%
White	33	85%	54	89%	235	90%	60	76%	351	86%
Education										
Up to high school	4	12%	12	19%	47	16%	11	14%	67	15%
Some college or 4-year degree	26	65%	35	55%	153	53%	53	65%	247	57%
> 4-year college degree	9	22%	17	27%	87	30%	17	21%	123	28%
Income										
< $15,000	11	28%	17	27%	72	26%	16	21%	108	26%
$15,000-$50,000	12	31%	26	41%	112	41%	30	38%	166	39%
> $50,000	16	41%	20	32%	91	33%	32	41%	148	35%
Currently has health insurance	38	95%	63	97%	270	93%	76	94%	413	94%
Housing instability, past year	3	8%	1%	2%	15	5%	3	4%	22	5%
Sex assigned at birth										
Female	3	8%	62	95%	n/a	n/a	n/a	n/a	327	74%
Male	37	92%	1	2%	n/a	n/a	n/a	n/a	109	15%
Intersex[F]	0	0%	0	0%	n/a	n/a	n/a	n/a	1	<1%
Don't know	0	0%	2	3%	n/a	n/a	n/a	n/a	4	1%
Sexual Identity										
Bisexual	13	32%	25	38%	96	30%	21	26%	129	29%
Gay	2	5%	16	25%	24	8%	37	46%	77	17%
Lesbian	19	48%	0	0%	63	22%	6	7%	82	19%
Pansexual	5	12%	7	11%	65	22%	18	22%	90	20%
Queer	17	42%	46	71%	165	57%	42	58%	248	56%
Straight	3	8%	0	0%	1	<1%	3	4%	6	1%
HIV-positive	0	0%	0	0%	0	0	3	4%	3	1%
Drug use, past year										
Injection drug use	0	0%	1	2%	0	0	0	0%	1	<1%
Methamphetamine	2	5%	0	0%	2	1%	3	4%	5	1%
Poppers	2	5%	3	5%	8	3%	13	16%	23	5%
Cocaine or crack	1	2%	0	0%	7	2%	2	2%	9	2%
Prescription painkillers (recreational)	1	3%	3	5%	5	2%	0	0%	8	2%

TABLE 17-1: 2021 PRIDE SURVEY TRANSGENDER & NONBINARY RESPONDENTS' DEMOGRAPHIC CHARACTERISTICS, KING COUNTY, WA (CONT.)

	Transgender Women[A]		Transgender Men[A]		Non-binary, Gender-queer, Gender-nonconforming, Two-Spirit, or other non-binary gender *by sex assigned at birth* N=375[C]				Total Transgender & Nonbinary participants[B]	
					Female		*Male*			
	N	Col %	N	Col %	N	Col %	N	Col %	Total	Col %
Sex partners										
Cisgender men	10	45%	15	41%	72	41%	38	69%	125	47%
Transgender men	2	10%	10	27%	19	11%	3	5%	30	11%
Cisgender women	9	45%	16	43%	76	42%	13	24%	104	39%
Transgender women	10	50%	4	11%	22	12%	3	5%	35	13%
Non-binary, assigned female at birth	5	25%	10	27%	48	27%	7	13%	64	24%
Non-binary, assigned male at birth	4	20%	8	22%	36	20%	14	25%	57	21%
Report of any transactional sex, past 12 months	2	8%	2	5%	7	4%	2	3%	11	4%
HIV PrEP use										
Ever taken	6	28%	5	13%	7	4%	15	35%	35	14%
Currently taking	3	14%	0	0%	2	1%	12	20%	15	6%

[A] Participants were categorized as transgender women if they selected "transgender woman/trans woman" for their gender, or if a participant selected "woman" for their gender and indicated they were transgender or if they if they selected "woman" and indicated they were assigned male at birth. Participants were categorized as transgender men if they selected "Transgender man" for their gender, or if a participant selected "man" for their gender and indicated they were transgender, or if a participant selected "man" for their gender and indicated they were assigned female at birth. Participants were categorized as non-binary if they selected non-binary, genderqueer, gender non-conforming, two-spirit, or other non-binary gender.

[B] Participants may appear in multiple columns if they selected more than one gender identity. Each participant appears only once in the final column.

[C] Total participants assigned male at birth or female at birth sums to 372; three nonbinary individuals selected "don't know" for sex-at-birth. We do not present data on these three individuals due to confidentiality concerns.

[D] Some participants who identified or were classified as "transgender women" or "transgender men" identified as other non-binary gender identities and are enumerated in this row.

[E] Participants could report multiple racial/ethnic identities; total percentages will sum greater than 100%.

[F] Among all transgender & nonbinary (e.g. non-cisgender) participants, one reports being assigned intersex at birth and four report not knowing their sex assigned at birth. When possible, these people were included in the appropriate group(s).

Note: due to high frequency of missingness, percentages presented are among those for whom data are available.

n/a= not applicable

TABLE 17-2: UTILIZATION OF HIV AND STD SERVICES AMONG TRANSGENDER & NON-BINARY (TGNB) PRIDE SURVEY RESPONDENTS WHO REPORTED A NEGATIVE OR UNKNOWN HIV STATUS AND REPORTED ANAL OR VAGINAL/FRONT HOLE SEX IN THE PAST YEAR, KING COUNTY, WA, 2021

	TGNB Participants who had anal or vaginal/front hole sex in the past year and do not have HIV[A]			
	Transgender Women[B] (n=18)	Transgender Men[B] (n=31)	Non-Binary/ Genderqueer/ Gender non-conforming[B] (n=175)	TGNB Participants at Higher Risk for HIV[C] (n=31)
Sexually transmitted infection testing, past year	88%	93%	89%	90%
Tested for HIV, ever	100%	100%	100%	100%
≥2 HIV Tests, prior 2 years	47%	48%	34%	71%
Heard of PrEP	94%	100%	93%	90%
Currently on PrEP	12%	0	8%	25%
Barriers to PrEP, if never taken PrEP				
Perceive self as low risk	61%	58%	63%	32%
Cost concerns	0	6%	5%	10%
Don't know where to get it	6%	10%	6%	0
Don't know enough about it	6%	13%	11%	3%
Concerns about side-effects	17%	6%	6%	0
Taking a daily medication would be challenging	0	10%	2%	3%
Requires too many doctors' appointments	6%	13%	6%	10%
Concern that PrEP may interact with hormones	6%	13%	4%	3%

[A]Participants can appear in multiple columns if they selected more than one gender. For example, transgender participants who selected "woman" and "non-binary" appear in both columns.

[B]Participants were categorized as transgender women if they selected "transgender woman/trans woman" for their gender, or if a participant selected "woman" for their gender and indicated they were transgender or if they if they selected "woman" and indicated they were assigned male at birth. Participants were categorized as transgender men if they selected "transgender man" for their gender, or if a participant selected "man" for their gender and indicated they were transgender, or if a participant selected "man" for their gender and indicated they were assigned female at birth. Participants were categorized as non-binary, genderqueer, gender non-conforming, two-spirit, or other non-binary gender if they selected that option for their gender.

[C]Higher risk for HIV" was defined as not being HIV-positive, having sex with a male partner (cis or trans) in the past year, and ≥1 of the following in the past year: >10 sex partners; methamphetamine or popper use; condomless anal sex with a partner who had HIV or did not know their status; or a bacterial sexually transmitted infection diagnosis (chlamydia, gonorrhea, or syphilis).

Note: due to high frequency of missingness, percentages presented are among those for whom data are available.

TABLE 17-3. PREP USE AMONG TRANSGENDER & NON-BINARY (TGNB) PEOPLE WHO REPORTED A NEGATIVE OR UNKNOWN HIV STATUS, KING COUNTY, WA, 2019-2021

Data Source	Population	PrEP Use
PHSKC Partner Services, 2019-2020	TGNB cases who reported sex with cis-gender men (N=31)	50% currently on PrEP
	-Transgender women	-38% currently on PrEP
	-Transgender men	-100% currently on PrEP
	-Non-binary/genderqueer people	-50% currently on PrEP
PHSKC Sexual Health Clinic, 2020	TGNB patients who reported sex with cis-gender men (N=70)	50% currently on PrEP
2021 Pride Survey	TGNB respondents who reported anal or vaginal/front hole sex in the past year	
	-Transgender women (N=18)	-12% currently on PrEP
	-Transgender men (n=31)	-None currently on PrEP
	-NB/GQ/GNC people (n=175)	-8% currently on PrEP
	TGNB respondents who reported sex with men (cisgender or transgender) and met criteria for being at higher risk of HIV (N=31)	25% currently on PrEP
NHBS Survey of Transgender Women and Assigned Male at Birth (AMAB) non-binary people, 2019-2020	Transgender women and AMAB non-binary people who reported oral, anal or vaginal/ front hole sex in the past year (N=85)	19% used PrEP in the past year
	Transgender women and AMAB non-binary people who met criteria for being at higher risk of HIV (N=51)	22% used PrEP in the past year

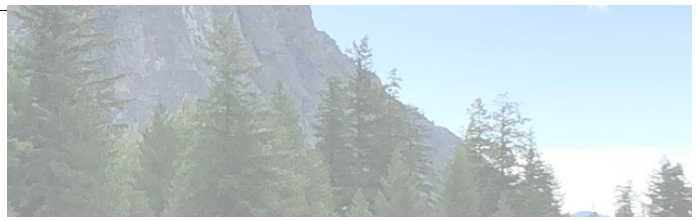
TABLE 17-4: HARBORVIEW SEXUAL HEALTH CLINIC VISITS BY TRANSGENDER, NON-BINARY, AND GENDERQUEER PATIENTS, JULY 2020-JUNE 2021 [A,B]

	ASSIGNED MALE AT BIRTH		ASSIGNED FEMALE AT BIRTH	
	TRANS WOMEN	NON-BINARY/ GENDERQUEER	TRANS MEN	NON-BINARY/ GENDERQUEER
	(N=62)	(N=126)	(N=24)	(N=27)
HIV Diagnosed (ever)	0%	4%	0%	0%
Tested for HIV (ever)	73%	83%	83%	85%
Unstable Housing (past year)	0%	5%	0%	7%
Transactional Sex (past year)	21%	6%	4%	15%
Injection Drug Use (past year)	5%	4%	4%	0%
Any Drug Use[C] (past year)	18%	22%	17%	30%
STI Diagnosis[D] (at visit)	21%	17%	4%	4%

[A] Data presented are for visits and may contain multiple visits by the same individual.
[B] Data are based on self-report except sexually transmitted infection diagnosis data which was assessed using testing at time of visit.
[C] Includes methamphetamine, cocaine, crack, heroin, or other opiate.
[D] STI, sexually transmitted infection; Includes diagnoses of chlamydia, gonorrhea, or syphilis.

HIV/AIDS Fact Sheet

Women



Key Points

Of 157 new HIV diagnoses in 2020, 16 (10%) were among cisgender women, and 3 (1%) among transgender women. Nine (56%) of the 16 cases of HIV diagnosed among cisgender women in 2020 were in women born outside of the U.S. The incidence of HIV diagnoses among cisgender women in King County is 1.4 per 100,000.

Among the 6,997[1] people living with HIV (PLWH) in King County in 2020, there were 914 cisgender women (13%) and 64 transgender women (1%).

HIV disproportionately affects American Indian/Alaska Native, Black, and Latinx women. About 26% of female King County residents are foreign-born, while over half (56%) of women living with HIV in King County are foreign-born, including 40% of women living with HIV who are foreign-born Black women. Among U.S.-born Black women, the incidence of HIV diagnosis 2016-2020 was 5.9 per 100,000 relative to 1.5 for White women.

Overview of HIV Epidemiology among Women

This fact sheet focuses on HIV incidence and clinical outcomes among women, including both cisgender and transgender women. Historically, HIV surveillance data were based on sex assigned at birth. Although PHSKC has attempted to correct this source of inaccuracy, there may still be instances where surveillance data do not accurately reflect cases' gender. For example, throughout this report, we use the term "cisgender women" based on the data available to PHSKC, but we acknowledge that this group may inadvertently include people with another gender identity (e.g., transgender men, non-binary people assigned female sex at birth) if accurate gender data are not available.

At the end of 2020, 978 (14%) of the 6,997 people living with HIV (PLWH) in King County were women, including 914 cisgender women and 64 transgender women. In 2020, there were 19 new diagnoses of HIV among women living in King County; of these, 16 were cisgender women and 3 were transwomen. The HIV diagnosis rate for women (using people assigned female sex at birth as the denominator) was 1.4 cases per 100,000 in 2020 (Table 18-1, Figure 18-1). This compares to an overall HIV diagnosis incidence of 7.0 per 100,000 residents, 12.5 per 100,000 among men, and 223 per 100,000 among MSM in King County in 2020. The diagnosis rate among people presumed to be cisgender women decreased 13% from 2011 to 2020, though within this period there was an increase in diagnoses between 2016 to 2018 associated with an outbreak of HIV among persons living unhoused and PWID in north Seattle. New diagnoses declined from 2018 through 2020 coinciding with the resolution of that north Seattle outbreak (Figure 18-2). The number of new HIV diagnoses from 2019 to 2020 among cisgender women fell by 45%.

Population Size and Characteristics

In 2020, U.S. Census and American Community Survey data estimate that there were 1,129,225 women (people assigned female sex at birth) living in King County, of which 289,646 (25.6%) were foreign-born (Tables 18-1 and 18-2). Among the 978 women living with diagnosed HIV in King County in 2020, more than half (55%) were foreign-born, including 48% of the 155 women diagnosed 2016 – 2020. Relative to the overall King County population of women, those living with HIV were far more likely to be foreign-born and Black. Among women living with HIV in King County in 2020, 54% were Black, and among Black women, 74% were foreign-born. Among foreign-born women with HIV, 72% were Black. Additionally, among transwomen living with HIV, 12% were Black.

[1] Of note, 6,997 people living with HIV excludes 76 probable relocations based on a "data to care" project; this compares to the 7,073 cases reported elsewhere in the report.

TABLE 18-1: KEY HIV METRICS FOR WOMEN, KING COUNTY, WA, 2020

Key Metrics	Total Cisgender Women	Foreign-born Cisgender Women	U.S.-born Cisgender Women	Transgender Women
Est. No. Women [A] in King County (2020)	1,129,225	289,646	839,579	Unknown
HIV Prevalence in 2020				
Number of women[B] living with HIV	913	513	400	62
Prevalence (%)	0.08%	0.18%	0.05%	Unknown
Percent of all HIV cases who are women among all people living with HIV in 2020. (Percent cis-gender women among all presumed cisgender PLWH—stratified by foreign-born and U.S.-born and percent transgender women among all transgender PLWH)	13%	31%	8%	90%
HIV Incidence (New Diagnoses) [C]				
2020 number of new diagnoses	16	9	7	3
2020 diagnosis incidence rate per 100,000	1.4	3.1	0.8	Unknown
Trends (2011-2020 or 2012-2020) [D]	42% decrease	37% decrease	90% decrease	42% decrease
Viral Suppression among HIV+ Women [E]	84%	86%	81%	82%

[A] King County population data for cisgender women are according to sex assigned at birth and do not exclude transgender men or include transgender women. Therefore, these population sizes are estimates, and the population size for transgender women is not available. In this fact sheet, unless otherwise specified, women exclude transgender men. Please see the Transgender and Non-Binary Populations fact sheet for additional details regarding transgender men, transgender women, and non-binary populations.

[B] HIV surveillance data include available data on sex assigned at birth and transgender status. It is possible that the cisgender women categories inadvertently include people with other gender identities (e.g., transgender men, non-binary people) if accurate gender data are not available. When their gender status is known, transgender men are not included in this fact sheet.

[C] Diagnoses among individuals reporting a prior diagnosis more than a year earlier or while residing in another country or state are excluded.

[D] Trends for women (aggregate, U.S.-born and foreign-born) are based on a percent change in the rates for women per 100,000 from 20161to 2020. For transgender women, due to small numbers (none to three per year) the trend was based on the change in case counts summed for 2012-2014 versus 2018-2020).

[E] Among all women with diagnosed HIV. Viral suppression defined as plasma HIV RNA < 200 copies/mL.

FIGURE 18-1: RATES OF HIV DIAGNOSES AMONG PRESUMPTIVELY CISGENDER WOMEN BY NATIVITY IN KING COUNTY, WA, 2011-2020

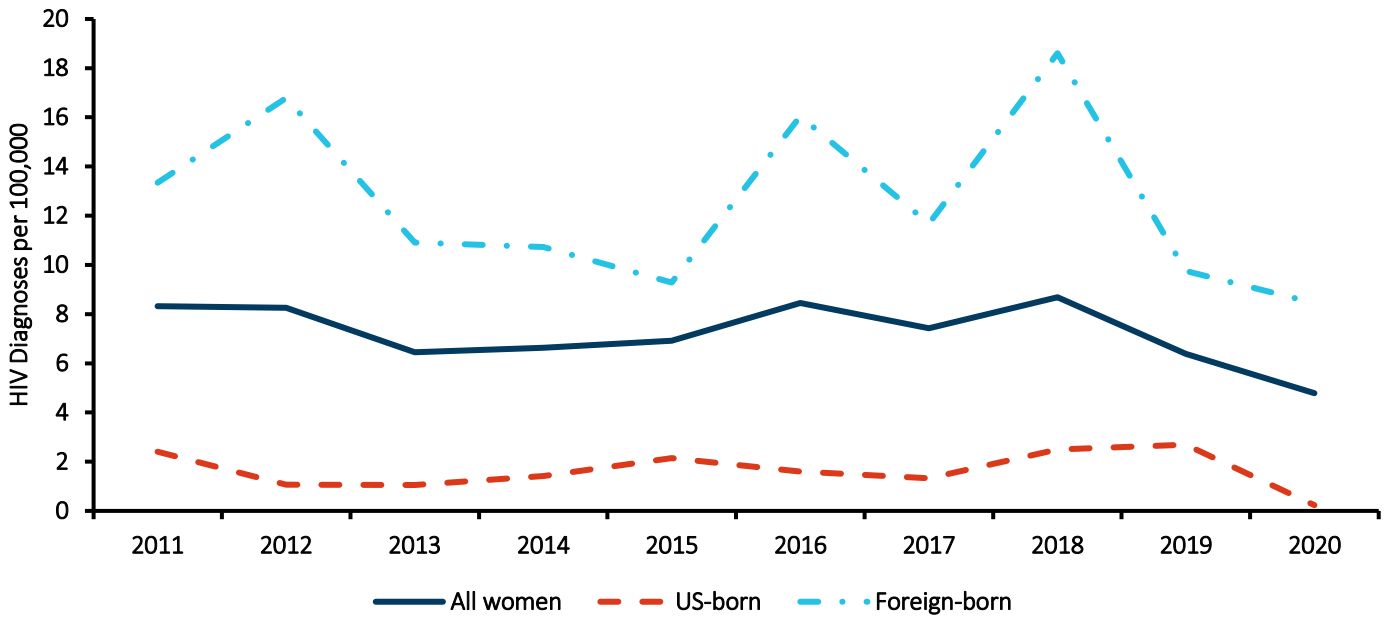


TABLE 18-2: CHARACTERISTICS OF WOMEN RECENTLY DIAGNOSED WITH HIV 2016-2020, LIVING WITH HIV IN 2020, AND HIV PREVALENCE PER 100,000 WOMEN IN KING COUNTY, 2020

Characteristic		HIV diagnoses in the past 5 years (2016-2020) No. (Col %)	Women living with HIV in 2020 No. (Col %)	Prevalence of diagnosed HIV in 2020 (per 100,000)	Women King County residents, 2020 No. (Col %)	Average diagnosis incidence rate (for five years) per 100,000
Total	**All women[A]**	**155 (100%)**	**978 (100%)**	**Undefined**	**Unknown**	**Unknown**
	Cisgender Women	144 (93%)	914 (93%)	80.9	1,129,225 (100%)	2.6
	Transgender Women	11 (7%)	64 (7%)	Undefined	Unknown	Unknown
Nativity	Foreign-born	74 (48%)	536 (55%)	185.1	289,646 (26%)	5.1
	U.S.-born (includes unknown nativity)	81 (52%)	442 (45%)	52.6	839,579 (74%)	1.9
Race/Ethnicity[B]	Asian	10 (6%)	44 (4%)	19.5	225,825 (20%)	0.9
	Black	64 (41%)	526 (54%)	714.9	73,575 (7%)	17.5
	Foreign-born Black	*49 (32%)*	*388 (40%)*	*1,717.8*	*22,587 (2%)*	*44.1*
	U.S.-born Black	*15 (10%)*	*138 (14%)*	*270.7*	*50,988 (5%)*	*5.9*
	Hispanic/Latina/x	19 (12%)	113 (12%)	103.2	109,524 (10%)	3.5
	Foreign-born Hispanic/Latina/x	*10 (6%)*	*76 (8%)*	*180.2*	*42,167 (4%)*	*4.8*
	U.S.-born Hispanic/ Latina/x	*9 (6%)*	*37 (4%)*	*54.9*	*67,357 (6%)*	*2.7*
	Native American	5 (3%)	14 (1%)	204.8	6,835 (1%)	14.7
	Pacific Islander	2 (1%)	5 (1%)	50.8	9,840 (1%)	4.1
	White	50 (32%)	225 (23%)	34.7	648,914 (57%)	1.5
	Multiracial	5 (3%)	51 (5%)	93.2	54,713 (5%)	1.8
HIV risk category	People who inject drugs	34 (22%)	126 (13%)	Undefined	Unknown	Unknown
	Cisgender women who have sex with men[C]	85 (55%)	575 (59%)	Undefined	Unknown	Unknown
	Transgender women who have sex with men[D]	8 (5%)	48 (52%)	Undefined	Unknown	Unknown
	Other including pediatric	2 (1%)	53 (5%)	Undefined	Unknown	Unknown
	Unknown	26 (17%)	176 (18%)	Undefined	Unknown	Unknown
Age [E]	< 20	4 (3%)	17 (12%)	6.8	251,573 (22%)	0.3
	20-29	35 (23%)	61 (6%)	34.1	178,895 (16%)	3.9
	30-39	42 (27%)	191 (20%)	95.6	199,832 (18%)	4.2
	40-49	29 (19%)	276 (28%)	186.6	147,918 (13%)	3.9
	50-59	31 (20%)	264 (27%)	199.1	132,582 (12%)	4.7
	60+	14 (9%)	169 (17%)	76.9	218,426 (19%)	1.3

[A] HIV surveillance data include available data on sex assigned at birth and transgender status. It is possible that the cisgender women categories inadvertently include people with other gender identities (e.g., transgender men, non-binary people) if accurate gender data are not available. When their gender is known, transgender men are not included in this fact sheet.

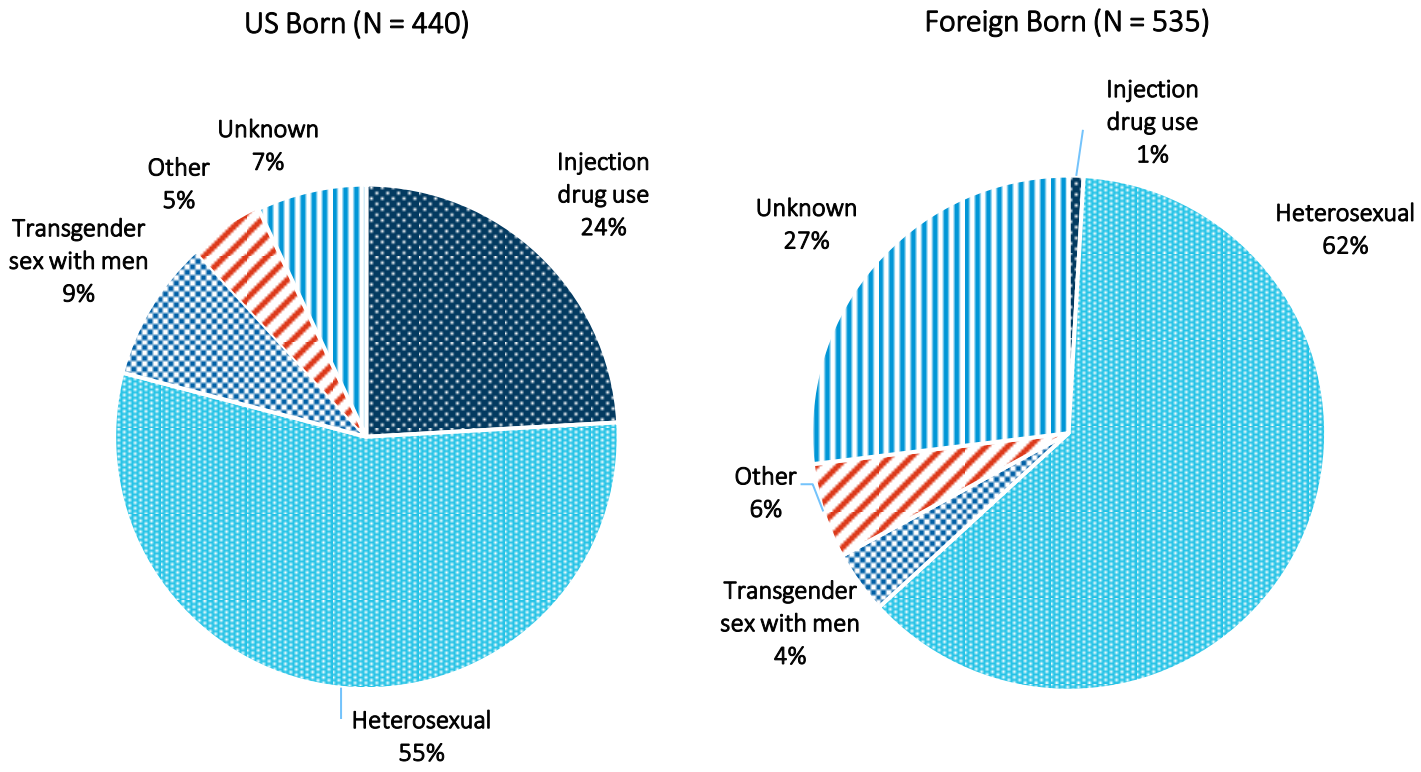
[B] Hispanic/Latina/x PLWH are excluded from all other categories.

[C] Includes cisgender women who have had sex with men and denied injection drug use (presumed heterosexual); excludes cisgender women who inject drugs.

[D] Transgender women who have sex with men exclude those who inject drugs.

[E] Age is at time of diagnosis for women diagnosed with HIV 2016-2020 and current age for women living with HIV.

FIGURE 18-2. HIV TRANSMISSION RISK CATEGORIES AMONG WOMEN LIVING WITH HIV BY NATIVITY, KING COUNTY, WA 2020



HIV RISK CATEGORY

Figure 18-2 shows the distribution of HIV risk categories among U.S.-born and foreign-born women living in King County in 2020. Individuals with an unknown risk factor comprised 27% of foreign-born women and 7% of U.S.-born women. Heterosexual risk is the predominant risk factor for both foreign-born (62%) and U.S.-born women (55%). Injection drug use was frequently reported by U.S. -born women (24%) and rarely by foreign-born women (2%).

HIV VIRAL SUPPRESSION

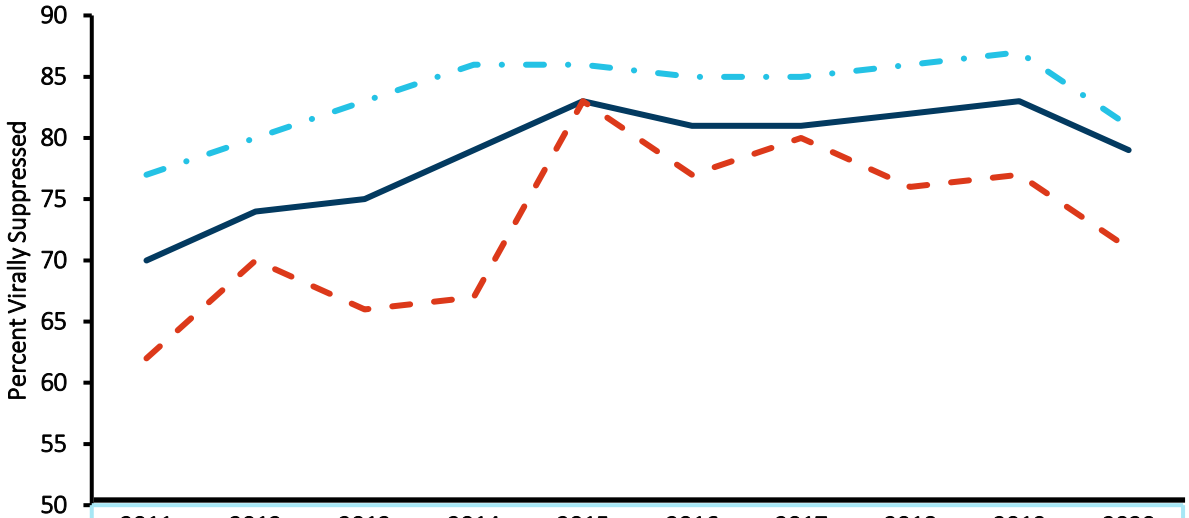
Prior to the COVID-19 pandemic in 2020, the proportion of women with HIV with documented viral suppression (viral load <200 copies/mL) was increasing overall and among foreign-born women but remained relatively flat among women who injected drugs (Figure 18-3). Overall and among PWID and foreign-born women, the percent virally suppressed decreased in 2020.

HIV DIAGNOSES

Among 155 female King County residents diagnosed with HIV in the past five years (2016 to 2020), 29 (26%) reported a last negative HIV test within the prior year. (This excludes the 29% of women missing data on testing history.) U.S.-born women were far more likely to have a negative HIV test within a year of diagnosis (32%) relative to foreign-born women (16%). The interval from a last negative to a first positive HIV test provides information on the extent to which HIV testing is reaching the population in need of testing, as well as data on the potential time from HIV Infection to HIV diagnosis. Over one-third (44%) of foreign-born women never had a negative HIV test prior to their HIV diagnosis, relative to 13% of U.S.-born women.

Late HIV diagnosis is sometimes defined as an AIDS diagnosis within one year of an HIV diagnosis. By this definition, 32% of women diagnosed with HIV between 2016 and 2020 were diagnosed late, including 49% of foreign-born women and 17% of U.S.-born women. (This estimate for foreign-born women excludes those who were diagnosed with HIV prior to entering the U.S. We exclude them since their experiences in their countries of origin or in intermediate countries may reflect situations where HIV testing resources were less available or HIV stigma reduced access to testing.) Of the 74 foreign-born women diagnosed with HIV between 2016 and 2020, date of U.S .arrival was available for 54 (73%) women. The time between arrival in the U.S. and HIV diagnosis

FIGURE 18-3: VIRAL SUPPRESSION AMONG WOMEN LIVING WITH HIV, KING COUNTY, WA, 2011-2020



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
All Women	70	74	75	79	83	81	81	82	83	79
PWID	62	70	66	67	83	77	80	76	77	71
Foreign-born	77	80	83	86	86	85	85	86	87	81

PWID = women who inject drugs

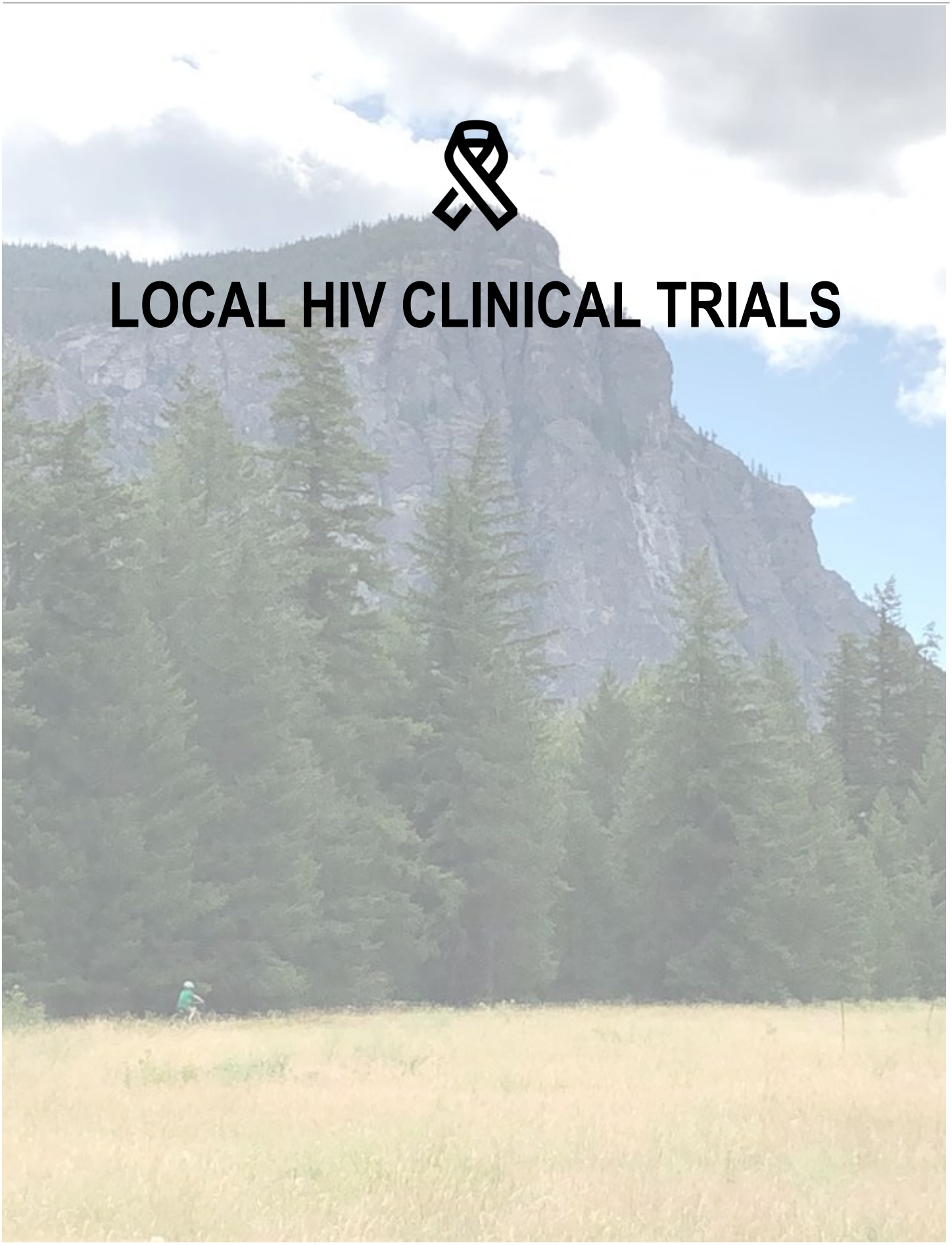
ranged from 8 days to 42 years, with a median of 3.2 years (interquartile range 1.1 years to 6.9 years).

Five-year average diagnosis incidence per 100,000 women were calculated when population sizes were available (Table 18-2). The largest risks of HIV were seen among foreign-born Black women (44 diagnoses per 100,000), Black women overall (17.5 per 100,000), and American Indian/Alaskan Native women (14.7 per 100,000).

PRE-EXPOSURE PROPHYLAXIS (PREP) USE

Public Health – Seattle and King County's PrEP guidelines recommend that anyone who is in a sexual relationship with a person who is living with HIV discuss PrEP with their medical provider, and that people initiate PrEP if they are in an ongoing sexual relationship with a partner who is HIV positive and not taking antiretroviral therapy (ART), has recently started ART, or is unsuppressed. This is especially important for women trying to conceive. (Please see PrEP article elsewhere in this report or PrEP guidelines at http://www.kingcounty.gov/depts/health/communicable-diseases/hiv-std/patients/~/media/depts/health/communicable-diseases/documents/hivstd/PrEP-implementation-guidelines.ashx.)

Contributed by Francis Slaughter and Mike Barry



LOCAL HIV CLINICAL TRIALS

UW ACTU Open Studies -- Focus on Transgender Women with HIV

Giving Standardized Estradiol Therapy In Transgender Women to Research 28 Interactions with HIV Therapy: The GET IT RIgHT Study

Transgender women are the **fastest-growing population** of people living with HIV (PLWH). Historically, they have had **few opportunities** to participate in research, and **often experience barriers** to engaging in care. More research is needed to develop **evidence-based clinical guidance** when it comes to choosing antiretroviral therapy (ART) regimens in transgender women on Feminizing Hormone Therapy (FHT), also known as **gender-affirming hormone therapy**.

Patient concerns about ART interacting with FHT and decreasing it effectiveness can lead to **decreased ART adherence.** More data is needed **to determine the best dosing** for FHT in people on ART. Data also suggest **access to gender-affirming therapy improves adherence to HIV treatment** and decreases treatment interruptions. The CDC affirms that access to gender affirming care is critical to improving HIV outcomes among transgender women.

DHHS guidelines acknowledge that recommendations regarding ART and FHT currently **are based on expert opinion**. More data from clinical trials is needed to provide an **evidence-based** approach to the care of transgender women with HIV.

The GET IT RIgHT Study has been designed explicitly to understand the bidirectional relationships of modern ART and estrogen therapies at the doses typically used for FHT in transgender women.

At entry, participants are assigned to one of 3 groups based on their ART regimen. Each group will have 50 people in it. Oral **17-β-estradiol** 2mg once daily will be **given by the study** to each group at study entry. ART will not be provided by the study. Study participants will stay on their current ART regimen and can continue to access the AIDS Drug Assistance Program (ADAP) or other forms of support for their usual medications.

At weeks 4, 12, 24, and 36, our clinicians may **titrate*** 17-β-estradiol (in 2mg increments) to achieve **the desired participant goals** and target hormone concentrations, as measured at each visit. Our study also includes **patient satisfaction surveys** as a unique opportunity to not only understand psychosocial impacts of gender-affirming care through this intervention, but also improve research processes focusing on this community.

To be in this study the person must be/have:

- **18 years** or older
- Living with **HIV**
- Identify as a transgender woman or as a female or transfeminine person with male sex assigned at birth
- On continuous ART for **at least 24 weeks** prior to being in this study without missing doses for more than 7 days in the 3 months before screening
- Currently at screening on **BIKTARVY®** (BIC/FTC/TAF), **SYMTUZA®, or Prezcobix® plus Descovy® or Truvada® (**DRV/c + TDF or TAF and FTC or 3TC), or **TIVICAY® + DESCOVY®** or **TRUVADA®** (DTG + TDF or TAF and FTC or 3TC)
- **OR** willing to switch to one of these regimens for at least 4 weeks prior to study entry
- Desire to initiate or restart FHT
- HIV-1 RNA <50 copies/mL obtained at screening and a second HIV-1 RNA <200 copies/mL available through clinical care between 24-48 weeks prior to study entry and while on ART

If you're a smoker, you may still be eligible to participate. The risk associated with estrogen use in persons who use tobacco products will be discussed during the informed consent process.

Contributed by Michael Louella, Mostafa ElHakim, and Rachel Bender Ignacio

Current ACTU Studies:

Study Title	Purpose	Intervention	Participant Characteristics	Procedures	Reimbursements
The INJECTABLES PLUS Study (A5357)	To find out if a new injectable long-acting therapy would be safe and effective for viral suppression in peo-	Cabotegravir and VRC07-523LS (monoclonal antibody)	-On a three-drug HIV regimen (ie, INSTI, NNRTI, or boosted PI + two NRTIs) for ≥8 weeks -CD4 count ≥350 and HIV-1 viral load 50	Medical history, physical exams, blood draws, intramuscular shots and IV infusions	$20 per visit and $50 per infusion
The DO-IT Study (A5391)	To understand whether switching ART regimen can help people who gain excessive weight while taking integrase inhibitors	Doravirine with either TAF or TDF	-Taking ART with Integrase Inhibitors + tenofovir alafenamide for ≥48 weeks -BMI ≥27.5 kg/m2 with weight gain in 1-3 years of starting an integrase inhibitor -HIV-1 viral load 50	Medical history, physical exams, blood draws, and two dual-energy X-ray absorptiometry (DEXA) scans Study ART	$20 per visit and $20 for each DEXA scan
The SLIM LIVER Study (A5371)	To evaluate the safety and tolerability of a drug called semaglutide and to see whether it can reduce fat in the liver in people with HIV.	Semaglutide (Ozempic)	-No change in ART within 24 weeks -CD4 count ≥200, HIV-1 VL 50 -Prediabetes and non-alcoholic fatty liver disease (checked at screening) -No Hepatitis B or C infection	Medical history, physical exams, blood draws, MRI scan of your liver, questionnaire, 3-day food diary, and stool collection	$20 for each visit, $60 for the MRI scan, and $20 for each stool collection
The BEe-HIVe STUDY (A5379)	To determine if 2 or 3 doses of HEPLISAV-B is a more effective hepatitis B vaccine than Engerix-B in people with HIV	HEPLISAV-B or Engerix-B	-Received HBV vaccine >168 days prior with no response -CD4 count ≥100 , HIV-1 VL <1000	Medical histories, physical exams, blood draws, IM Vaccination (injection)	$20 per visit
The Acute Hepatitis C Study (A5380)	To evaluate if 4 weeks (instead of 8-12 weeks) of glecaprevir/ pibrentasvir (Mavyret®) will cure HCV when given during acute infection in people with or without HIV.	Glecaprevir and Pibrentasvir	-Acute HCV infection or reinfection within 24 weeks with detectable HCV RNA -People with or without HIV-1 coinfection	Blood draws, urine sampling, hair sampling, adherence monitoring, questionnaires Study medication	$20 per visit

AIDS Malignancy Trials Open Studies as of mid 2021

Study	Synopsis	Select Enrollment	Intervention(s)	Enrolled
ANCHOR AMC-A01 Anal Cancer/High-grade Squamous Intraepithelial Lesions (HSIL) Outcomes Research Study	Eligible participants will be randomized to treatment or active monitoring at baseline. Participants will be followed every six months for HSIL outcomes for up to five years after the last participant's date of randomization. Throughout the study, the incidence of invasive cancer in both arms will be monitored, and biospecimens and associated participant data will be collected for correlative science studies.	≥ 35 years old living with HIV infection. No HPV vaccination. No history of ano-genital cancer. No history of HSIL treatment.	Ablation Cream:5-fluorouracil or imiquimod Surgery Monitoring	151
AMC-088A Randomized, Phase III Study of Intra-anal Imiquimod 2.5% vs. Topical 5-fluorouracil 5% vs. Observation for the Treatment of High-Grade Anal Squamous Intraepithelial Lesions in HIV-Infected Men and Women	Prospective, randomized, three-arm, open-label study to evaluate the complete response rate of intra-anal high grade squamous intraepithelial lesions (HSIL) treated with imiquimod 2.5% or topical 5-fluorouracil 5% as compared to spontaneous regression in HIV-infected participants.	≥25 years old living with HIV. No history of anal cancer.No previous use of the intervention for treatment of HSIL (listed to the right), previous ablation is okay.	5-fluorouracil cream or imiquimod cream	2
AMC-095A Phase I Study of Ipilimumab and Nivolumab in Advanced HIV-Associated Solid Tumors, with Expansion Cohorts in HIV-Associated Solid Tumors and a Cohort of HIV-Associated Classical Hodgkin Lymphoma	To demonstrate safety and feasibility of ipilimumab and nivolumab at the standard doses of drug in solid tumor and relapsed refractory HIV-cHL participants with human immunodeficiency virus (HIV) infection given the possibility of increased toxicity based on immune activation, comorbidity, or interference with HAART therapy. The purpose for this would be to provide appropriate experience and guidelines, if necessary, to allow participants with HIV infections to participate in ongoing trials.	> 18 years old living with HIV infection. Diagnosis of a metastatic or non-resectable solid tumor (trial excludes brain/spinal cord primary tumor or metastases). No autoimmune disease requiring immune-suppressive treatment relapsed refractory HIV-associated classical Hodgkin lymphoma (HIV-cHL) as a separate cohort.	Nivolumab alone or Ipilumumab and Nivolumab	3
AMC-096 A Phase II Study of sEphB4-HSA in Kaposi Sarcoma	To evaluate the clinical response and toxicity of sEphB4-HSA (at initial dosing of 15 mg/kg every 2 weeks) in participants with Kaposi sarcoma.	> 18 years old. Known HIV status. Biopsy-proven KS. Treatment naïve, refractory to, or intolerant of one or more prior therapies, or treated with prior systemic treatment.	sEphB4-HSA	0

CONTINUED, AIDS MALIGNANCY TRIALS OPEN STUDIES AS OF MID 2020, CONT.

STUDY	SYNOPSIS	SELECT ENROLLMENT	INTERVENTION(S)	ENROLLED LO-
AMC-098 A PILOT STUDY OF NELFINAVIR FOR THE TREATMENT OF KAPOSI SARCOMA	To determine the efficacy of a therapeutic escalation strategy consisting of standard dose nelfinavir, followed by high dose nelfinavir, for the treatment of KS tumor lesions.	> 18 years old. Known HIV status. Biopsy-proven KS.	Nelfinavir	6
AMC-101 A PILOT STUDY OF IBRUTINIB AND R-DA-EPOCH FOR FRONT LINE TREATMENT OF AIDS-RELATED LYMPHOMAS	To assess the safety and tolerability of ibrutinib and R-da-EPOCH in participants with ARL. This will define the recommended phase II dose (RP2D) of ibrutinib in combination with R-da-EPOCH in participants with ARL. Dose finding and dose expansion cohorts	> 18 years old living with HIV infection. histologically documented CD20 positive or negative diffuse large B-cell lymphoma (DLBCL). Stage II-IV disease, measurable by CT or PET scans if enrolled in the	Ibrutinib	0
AMC-S004 CLINICAL AND GENOMIC FACTORS FOR PROGNOSIS OF AIDS PRIMARY EFFUSION LYMPHOMA	Retrospective case study of participants diagnosed with primary effusion lymphoma (HIV seropositive or negative) on or after January 1, 1998 and on whom survival status at 2 years post diagnosis is available. Record review and data collection.	Diagnosis of primary effusion lymphoma (PEL); known survival status	None; Retrospective	4

Clinical Trials Enrolling at the Office of Dr. Peter Shalit and Associates

Studies for persons living with HIV whose virus is suppressed on therapy

Once-a-week maintenance treatment: GS-US-563-6041 (Gilead) A Phase 2 Randomized, Open Label, Active Controlled Study Evaluating the Safety and Efficacy of an Oral Weekly Regimen of Islatravir in Combination with Lenacapavir in Virologically Suppressed People with HIV. This study is recruiting volunteers whose HIV is suppressed on bictegravir/emtricitabine/tenofovir alafenamide (Biktarvy) and randomly assigning them to either remain on Biktarvy, or switch to a once-a-week pill consisting of two investigational agents, lenacapavir and islatravir. If the study regimen is successful after one year, all participants will be offered this regimen on an open label basis.

Twice-a-year maintenance treatment: GS-US-536-5816 (Gilead) A Phase 1b Randomized, Blinded, Proof-of-Concept Study to Evaluate the Safety and Efficacy of Broadly Neutralizing Antibodies (bNAbs) GS-5423 and GS-2872 in Combination with Capsid Inhibitor Lenacapavir (GS-6207) in Virologically Suppressed Adults with HIV-1 Infection. Volunteers whose HIV is suppressed can enter this study that will provide injections of two monoclonal antibodies plus the investigational capsid inhibitor lenacapavir, given once every six months in an effort to see if HIV infection can be treated with twice-a-year injections.

"Cure" pathway: Our clinic is be participating in a trio of Phase 1 studies sponsored by Abbvie: M19-939, M19-966, and M19-972. The goal of these studies is to look at the safety and tolerability of two investigational agents, ABBV-181 and ABBV-382. Both drugs are monoclonal antibodies given parenterally (intravenously or subcutaneously). The goal is to develop drugs that can be given to induce a functional cure, in which the person living with HIV is able to control their virus without ongoing medication. Each study involves one or a few doses of study drug (or placebo) followed by several weeks of monitoring for safety and tolerability. The studies will recruit participants of any gender, between the ages of 18 and 65, with chronic suppressed HIV infection and no history of AIDS-defining illness. Viral load must have been suppressed for the preceding 6 months. CD4 must be over 450 cells/microliter at screening and at least once during the preceding 12 months.

Study for people whose virus is resistant to multiple agents and are experience lack of efficacy of their current regimen: "Salvage:" We continue to recruit for Merck 019, a study for patients with multi resistant HIV and limited treatment options, who will receive the experimental antiviral islatravir, along with doravirine and other approved agents.

Study for preventing HIV in people who have sex with men and are at risk of HIV infection: PrEP: We are recruiting for GS-US-528-9023, described by the sponsor (Gilead) as a Phase 3, Double-Blind, Multicenter, Randomized Study to Evaluate the Efficacy and Safety of Subcutaneous Twice Yearly Long-Acting Lenacapavir for HIV Pre-Exposure Prophylaxis in Cisgender Men and Transgender Women ≥ 16 Years of Age who Have Sex With Male Partners and are at Risk for HIV Infection. Persons of any gender, who are HIV-negative and have male sexual partners putting them at risk of HIV infection, are encouraged to participate in this study exploring the feasibility of every-six-month PrEP. The study is double blind. All participants will receive one active drug, either lenacapavir or Truvada. Volunteers must not have had an HIV test in the three months preceding screening.

Referring providers should contact our Study Coordinator, Jon White, PA-C, at <jon@tribalmed.com>, or Principal Investigator, Peter Shalit, MD, PhD, at <peter@tribalmed.com>, or via telephone at 206-624-0688.