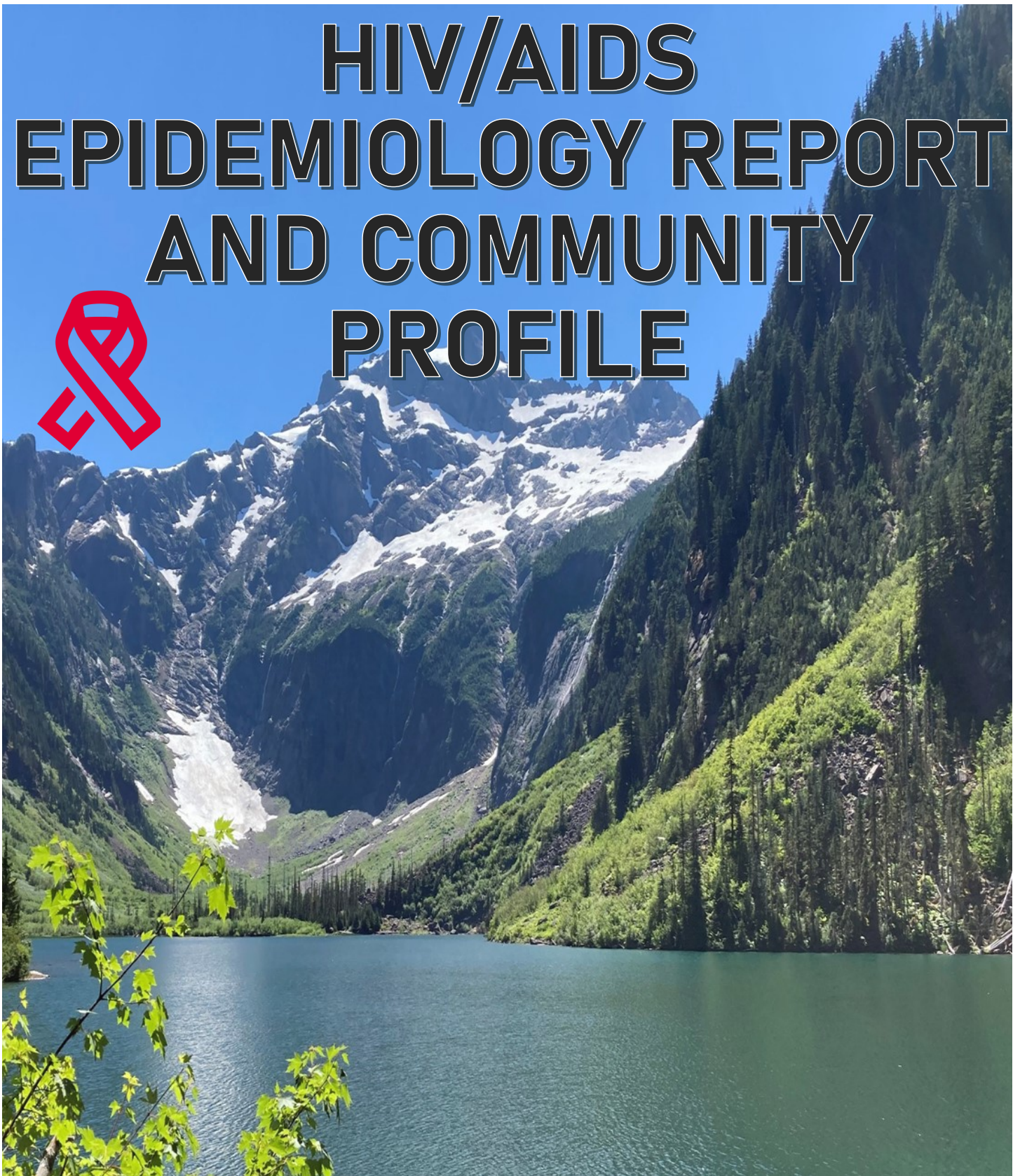


HIV/AIDS EPIDEMIOLOGY REPORT AND COMMUNITY PROFILE

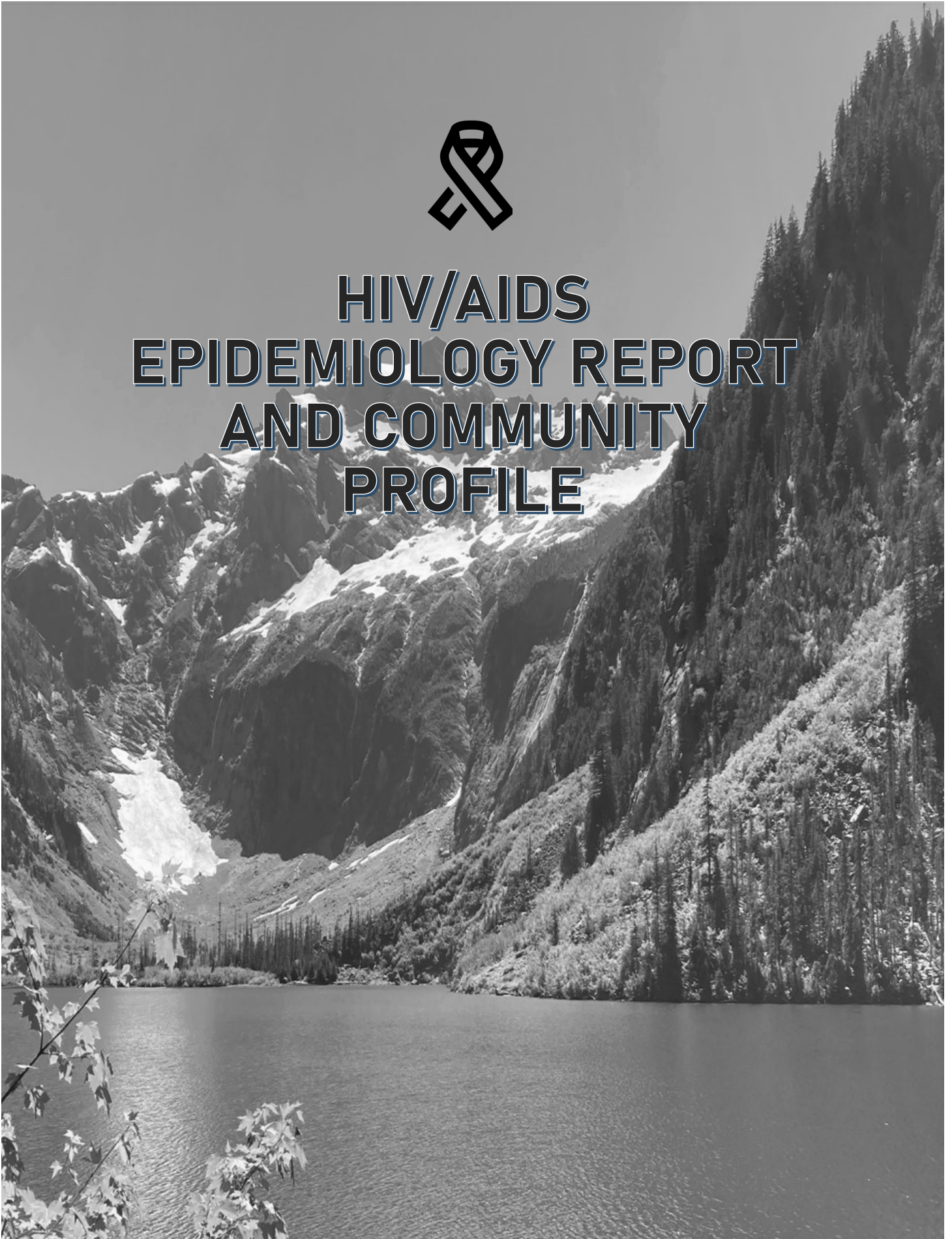


2022

**WASHINGTON STATE &
KING COUNTY**



HIV/AIDS EPIDEMIOLOGY REPORT AND COMMUNITY PROFILE



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Acknowledgements

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Photo Credit

Susan Buskin: Goat Lake 2022

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, such as CD4 counts, done due to HIV versus other diseases (such as cancer), the CD4 counts 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 888-367-5555. 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 (see Definitions on the next page). These changes can affect current calculations of estimates from prior years. Thus, differences between annual epidemiology reports for estimates for any given year are expected.

Definitions & Technical Notes

- ACUTE HIV INFECTION:** The earliest stage of HIV during which many people experience a flu-like illness occurring within 2 to 4 weeks of infection. Persons 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 < 14%), 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.
- CISGENDER:** Describes a person whose gender identity is the same as their sex assigned at birth.
- 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 men and women.
- HIV VIRAL LOAD:** The amount of HIV viral RNA that 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 both unsheltered and sheltered, as well as those living in temporary settings due to lack of adequate economic resources.
- INCIDENCE OR INCIDENT DIAGNOSES:** Refers to newly acquired HIV in a given 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 -- and exclude people reporting an initial HIV diagnosis one year or more before an initial documented diagnosis.
- MSM:** 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 identified MSM.
- PLWH (People living with HIV):** These are HIV-infected persons presumed living in a jurisdiction at a certain point or period of time. They exclude individuals lost to follow up (no reported laboratory test results for 10 or more years). To increase the precision of the King County HIV Care Continuum we further excluded 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. PLWH are those *diagnosed* with HIV; when adding estimates of undiagnosed PLWH, this is specified.
- 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. Prior to 2014 we estimated 5.7% of adult males were MSM. As of 2014, we average the most recent 3 BRFSS years; in 2021 we estimate 6.5% of men are MSM.
- PWID (People who inject drugs):** 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.
- 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 (PLWH)?

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 2022 report – which includes data through the end of 2021 – 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 goals and indicators reflects national

and local goals for 2025 that are aligned with the EHE pillars. We set goals that we believe are ambitious, achievable, and just.

Over the past decade, Washington State and King County have met important goals related to HIV prevention, treatment, and care and faced significant new challenges. 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, ensuring that 90% of all PLWH know of their infection, 90% of diagnosed people receive medical care, and that 90% of those in care are virally suppressed. In 2018, the county experienced an outbreak of HIV among people who inject drugs (PWID) leading to a transient increase in new HIV infections and highlighting the area's vulnerability to HIV outbreaks related to growing epidemics of substance use and homelessness. Then, in 2020, the COVID-19 pandemic disrupted HIV prevention and care services as well as epidemiologic data collection critical to monitoring the HIV epidemic within King County. Even now, the impacts of the COVID-19 pandemic on our area's HIV epidemic remain ill-defined due to difficulties disentangling the pandemic's impact on HIV transmission and care versus its impact on data collection. Despite all of this, the data in this report largely reflect the positive trends that preceded 2018 and provide optimism that we will reach the goals set for 2025.

EHE PILLAR 1: DIAGNOSE

In 2021, there were 406 new HIV diagnoses in Washington State, including 163 new HIV diagnoses in King County. These are slight increases from the numbers of diagnoses recorded in 2020, although the numbers of cases reported in 2020 were likely affected at least in part by a decline in HIV testing due to the COVID-19 pandemic. From 2019 to 2021, the incidence of HIV in King County declined by 11%.

In both Washington State and King County, the majority of new HIV cases were among men who have sex with men (MSM) including MSM who inject drugs (MSM-PWID) (61% and 71% for the state and county, respectively), while 6% 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 (19% in Washington State and 21% in King County), given that only 5% and 7%, respectively, of residents are Black. At both the state and county levels, the proportion of new HIV diagnoses occurring in Latinx people was also disproportionately high (24% of cases vs. 14% of the population in Washington State; 21% of cases vs. 10% of the population in King County). Among both Black and Latinx populations, new HIV diagnoses disproportionately affect people born outside of the U.S.

In King County, we estimate that 97% of residents with HIV are aware of their status, which surpasses the national and local goals of 95%. The proportion of new HIV diagnoses that were identified “late” in 2020 – defined within one year of an AIDS diagnosis – was 19%, which is higher than the PHSKC goal of $\leq 10\%$.

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 previous goals related to HIV treatment and viral suppression. EHE aims for $>95\%$ of people with HIV to be linked to care within one month of their diagnosis and $>95\%$ of people living with HIV (PLWH) to be virally suppressed. At the state level, 79% of people newly diagnosed with HIV were linked to care within one month and 80% of PLWH were virally suppressed. In King County, 86% of people newly diagnosed with HIV were linked to care within one month and 87% of PLWH were estimated to be virally suppressed. We continue to observe

disparities in viral suppression with lower rates among U.S.-born Black, American Indian / Alaska Native, and Pacific Islander individuals, as well as PWID. Currently, we estimate that 10% of PLWH are living homeless, with higher levels of homelessness among Black PLWH.

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 64% of MSM at higher risk for HIV are currently on PrEP. This estimate surpasses King County’s previous goal of 50% and is quickly approaching the 2025 goal of 70%. PrEP use data for transgender populations at higher risk for HIV is limited, but we estimate that 20-50% of transgender people at higher risk for HIV are currently on PrEP. PrEP use among PWID is very low ($\leq 1\%$). King County and the WA DOH support several ongoing efforts to promote PrEP use in King County, including 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 programs, that provide PrEP and PrEP navigation services, collaboration with community pharmacies in pharmacy-based PrEP programs, promoting increased PrEP provision through diverse community healthcare organizations, and a new EHE-funded low-barrier clinic in north Seattle.

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 five million syringes in 2021, among the highest volumes in the US. Across all SSPs in King County, we estimate that over 8.5 million syringes were distributed, which equates to 316 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, although the national EHE program does not define condoms as part of the EHE prevention pillar, they remain an important component of the PHSKC HIV/STI prevention toolkit. In 2021, PHSKC continued several condom distribution efforts to increase condom use among the populations with the highest incidence of HIV

and other STIs, including MSM and sexually active youth. In 2021, PHSKC's Condom Distribution Program dispensed more than 530,000 condoms in King County.

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 employs focused interventions to expand HIV testing, HIV prevention, and linkage to HIV care for PLWH and their networks. Cluster identification has been used by PHSKC for many years, including in the 2018 HIV outbreak among PWID in north Seattle. As of July 2021, King County had seven active clusters, each with three to eight linked members diagnosed with HIV in the past year; most clusters are largely comprised of MSM. For the first time in this report, we include goals specific to the EHE Respond pillar. These goals focus on the proportion of HIV-positive cluster members that are investigated by health department staff for potential follow up (goal is $\geq 90\%$), and the proportion of cluster members who are contacted for an interview (goal is $\geq 70\%$). In 2021, PHSKC reported estimates of 78% and 68% for these goals, respectively. Individuals who were contacted received care, resource referrals, and other services to support their health and reduce the risk of HIV transmission.

HIV epidemic, including the opening of additional low-barrier HIV prevention and care services in South King County. 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.

Conclusion

This HIV Epidemiology Report and Community Profile reports data primarily collected during the second year of 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. Following some declines in HIV-related outcomes in 2020, we saw evidence of important improvement in 2021, including a higher proportion of people with viral suppression and a higher proportion of MSM at higher risk for HIV on PrEP. To meet the new EHE goals, PHSKC will require HIV treatment and prevention services to have a greater emphasis on the most marginalized populations, reflecting the changing epidemiology of HIV in King County. EHE funding is actively being used to support an array of expanded services to diagnose, treat, prevent, and respond to the

King County HIV Goals and Evaluation Metrics: 2022 Dashboard

King County	2025 GOALS ¹		KING COUNTY DATA, 2019-21		STATUS (SEE KEY BELOW)
	NATIONAL	KING COUNTY	2019	2021	
DIAGNOSE					
New HIV diagnoses, rate	↓75%	↓75%	8.0/100,000	7.1/100,000 (↓11%)	
Disparities in new HIV diagnoses by race/ethnicity ² (rate per 100,000 pop.)	--	<5% difference between groups and overall rate	FB Black: 37.2 US-born Black: 21.0 Latinx: 17.1 White: 6.2	FB Black: 31.1 US-born Black: 19.5 Latinx: 13.5 White: 5.7	
Know HIV status ³	≥95%	≥95%	94%	97%	
Late HIV diagnosis ⁴	--	≤10%	17%	19%	
TREAT					
Linked to HIV care in 1 month ⁵	≥95%	≥95%	90%	86%	
In HIV care ^{6,7}	--	≥95%	89%	91%	
Viral suppression ^{6,8}	≥95%	≥95%	85%	87%	
Disparities in viral suppression by race/ethnicity ^{2,6,8}		<5% difference between groups and overall rate	FB Black: 86% US-born Black: 77% Latinx: 85% White: 87%	FB Black: 88% US-born Black: 80% Latinx: 87% White: 88%	
Viral suppression within 4 months of diagnosis ⁵	--	≥90%	69%	70%	
Homelessness among PLWH ^{6,9}	--	<5%	11%	10%	
Disparities in homelessness by race/ethnicity ^{2,6,9}		<5% difference between groups and overall rate	-- ¹⁴	Black: 13% Latinx: 10% White: 9%	
PREVENT					
PrEP use, higher risk MSM ¹⁰	--	≥70%	47%	64%	
Disparities in PrEP use among higher risk MSM by race/ethnicity ^{2,10}		<5% difference between groups and overall rate	-- ¹⁴	Black: 57% Latinx: 71% White: 64%	
Syringe coverage ¹¹	--	≥365/PWID	283/PWID	316/PWID	

Abbreviations: FB, foreign-born; US, United States; PrEP, pre-exposure prophylaxis for HIV; PLWH, people living with HIV; MSM, men who have sex with men.; PWID, people who inject drugs

Key:



Goal met



Goal currently not met, was met prior to the pandemic



Goal not met

Technical Notes to Dashboard

¹ All 2025 goals use 2019 as the baseline.

² The goal for disparity-related indicators is for no difference between each racial/ethnic group and the estimate for the entire population for each indicator. This is defined as having all racial/ethnicity-specific estimates within 5% of the overall estimate.

³ Percent of HIV-positive people who know their HIV status. Based on an estimation method developed by the University of Washington (see Treat article).

⁴ Percent of people diagnosed with HIV in 2020 who were diagnosed with AIDS within 1 year of HIV diagnosis. Excludes people who had an HIV-negative test within 2 years of their diagnosis.

⁵ Among people with a new HIV diagnosis.

⁶ Among people who have been diagnosed with HIV.

⁷ Defined as 1+ HIV care visit in a calendar year.

⁸ Viral suppression in 2021 was monitored over a longer time period (January 2020 through June 2022) if there was no viral load test reported in 2021. In these instances, viral suppression required a suppressed viral load for both last viral load in 2020 and the first viral load in 2022.

⁹ We define people as living homeless if they report being homeless or unstably housed. People who report being institutionalized (e.g., in jail) are not classified as living homeless. Homelessness status among people living with HIV comes primarily from three sources: (1) housing status for people receiving services through the Ryan White program; (2) for people newly diagnosed with HIV, data housing status is collected as part of a case report or from a partner services interview; and (3) reporting of HIV-related laboratory results can include patients' address and are designated as living homeless if associated with a shelter, foodbank, or other social service agency.

¹⁰ In King County, "MSM at higher risk for HIV" are defined as HIV-negative MSM with any in the past year: diagnosis of gonorrhea or syphilis, methamphetamine use, condomless sex with someone known to be living with HIV, or 10 or more male anal sexual partners. The annual estimate of PrEP use among higher risk MSM is an average across multiple contemporaneous surveys.

¹¹ 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 300 syringes per PWID per year by 2030.

¹² HIV-positive cluster members meeting eligibility criteria that were investigated within 30 days of identification.

¹³ HIV-positive cluster members eligible for cluster interview that were contacted by disease investigation specialist (DIS) by June 30th of the following year.

¹⁴ We did not monitor these goals using data comparable to what is available in 2021, thus we do not have baseline estimates for these metrics.



WASHINGTON STATE HIV DATA

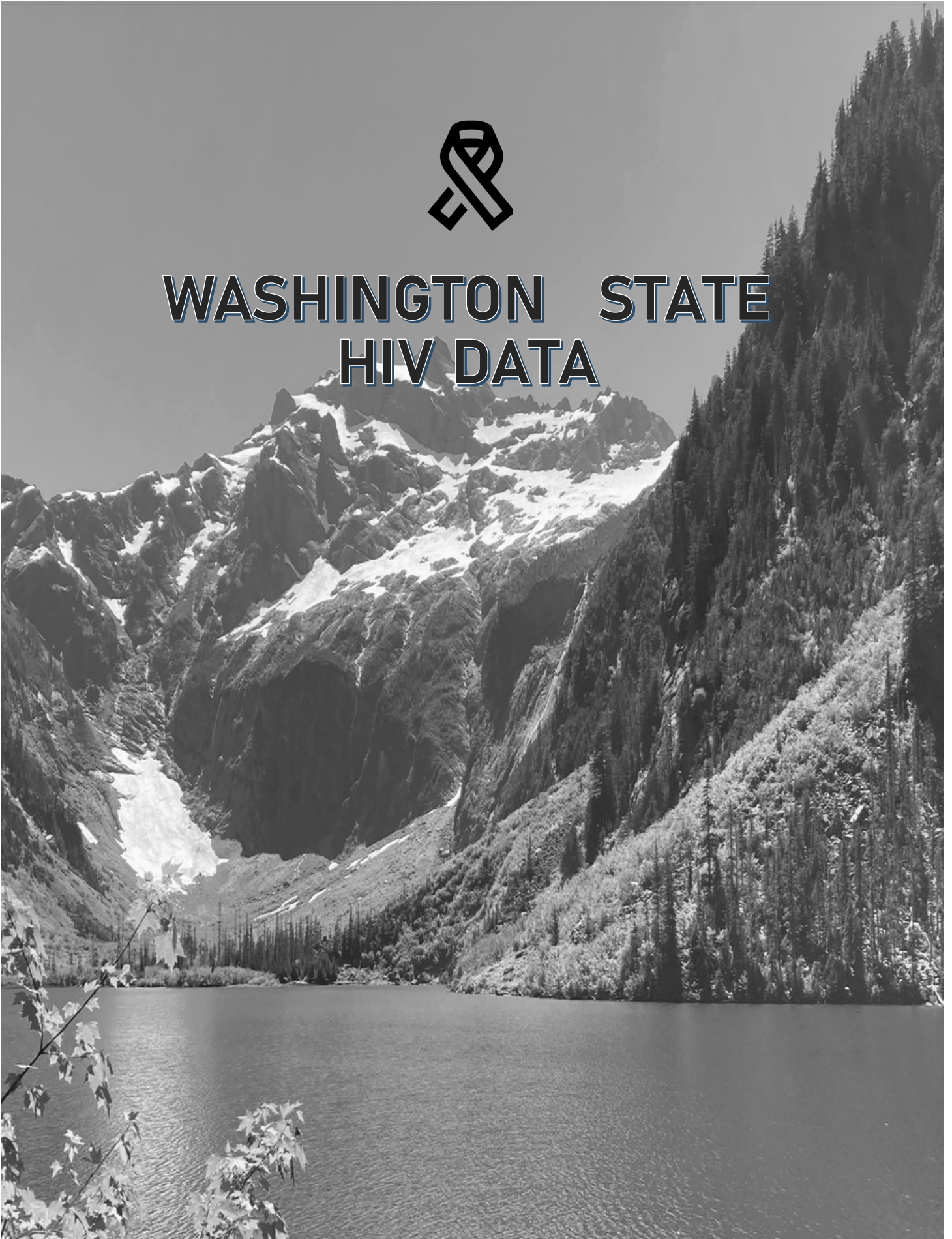


TABLE 1-1. NEW HIV AND AIDS CASES, LATE HIV DIAGNOSES AND LINKAGE TO CARE, BY DEMOGRAPHIC AND RISK CHARACTERISTICS, WA STATE, 2021

	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	185	100%	2.4	406	100%	5.3	92	23%	320	79%
Gender										
Cisgender men	151	82%	4.0	321	79%	8.4	78	24%	255	79%
Cisgender women	30	16%	0.8	71	17%	1.9	14	20%	55	77%
Transgender men	0	0%	n/a	3	1%	n/a	--	--	--	--
Transgender women	4	2%	n/a	11	3%	n/a	0	0%	7	64%
Age at HIV Diagnosis										
< 13	0	0%	0.0	2	<1%	0.2 ^{NR}	--	--	--	--
13-24	12	6%	1.0 ^{NR}	51	13%	4.4	6	12%	43	84%
25-34	42	23%	3.9	141	35%	13.1	19	13%	111	79%
35-44	56	30%	5.6	98	24%	9.7	31	32%	76	78%
45-54	39	21%	4.2	72	18%	7.7	21	29%	55	76%
55-64	28	15%	2.9	32	8%	3.3	12	38%	27	84%
65+	8	4%	0.6 ^{NR}	10	2%	0.8 ^{NR}	3	30%	7	70%
Race/Ethnicity										
AI/AN	2	1%	2.1 ^{NR}	8	2%	8.4 ^{NR}	--	--	--	--
Asian	10	5%	1.4 ^{NR}	18	4%	2.5	6	33%	14	78%
Black	39	21%	12.9	79	19%	26.1	19	24%	61	77%
Foreign-born ^{C,D}	18	10%	23.3	29	7%	37.5	12	41%	21	72%
U.S.-born ^{C,D}	17	9%	7.3	31	8%	13.4	4	13%	27	87%
Lat/Hisp	44	24%	4.3	96	24%	9.4	23	24%	80	83%
Foreign-born ^{C,D}	21	11%	6.7	42	10%	13.4	9	21%	36	86%
U.S.-born ^{C,D}	15	8%	2.1 ^{NR}	28	7%	4.0	6	21%	23	82%
NHOPI	1	1%	1.8 ^{NR}	7	24%	172.1	1	1%	4	4%
White	77	42%	1.5	181	45%	3.5	40	22%	140	77%
Multiple	12	6%	3.6 ^{NR}	17	4%	5.0	3	18%	15	88%
Mode of Exposure										
MSM	96	52%	n/a	217	53%	n/a	47	22%	172	79%
PWID	8	4%	n/a	23	6%	n/a	2	9%	18	78%
MSM/PWID	12	6%	n/a	34	8%	n/a	2	6%	24	71%
Heterosexual	24	13%	n/a	45	11%	n/a	10	22%	39	87%
Blood/pediatric	3	2%	n/a	2	<1%	n/a	--	--	--	--
NIR	42	23%	n/a	85	21%	n/a	31	36%	66	78%

Abbreviations: AI/AN, American Indian or Alaska Native; Lat/Hispanic, Latina/o/x and Hispanic; MSM, people assigned male at birth who have sex with men; NHOPI, Native Hawaiian or Other Pacific Islander; NIR, no identified risk; PWID, people who inject drugs

The Census Bureau has not released all of the data needed to calculate current rates. 2021 rates are calculated using 2020 population data
n/a Rate cannot be calculated due to no available population estimate

-- Due to the small number of HIV cases the count and percentage based on the count is not shown

^{NR} Not reliable, RSE ≥25 (RSE=relative standard error, the standard error of a survey estimate divided by the survey estimate and then multiplied by 100)

^ALate HIV diagnoses = AIDS diagnoses within 12 months of HIV diagnoses

^BInitial linkage to care = at least one CD4 or viral load result within 30 days of HIV diagnoses

^CCountry of origin data are missing for approximately 19% and 34% of newly diagnosed cases among Black and Lat/Hispanic, respectively

^DPopulation estimate was extrapolated using previous estimates from years 2010-2020

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, 2021

County or Health District or Residence	New HIV Cases			Late HIV Diagnoses ^A		Initial Linkage to HIV Care ^B	
	no.	column %	rate	no.	row %	no.	row %
Adams Co.	0	0%	0.0	0	0%	0	0%
Asotin Co.	0	0%	0.0	0	0%	0	0%
Benton Co.	12	3%	5.8 ^{NR}	5	42%	12	100%
Benton-Franklin HD	18	4%	6.0 ^{NR}	6	33%	15	83%
Chelan Co.	5	1%	6.3 ^{NR}	--	--	--	--
Chelan-Douglas HD	5	1%	4.1 ^{NR}	--	--	--	--
Clallam Co.	5	1%	6.5 ^{NR}	--	--	--	--
Clark Co.	26	6%	5.2 ^{NR}	3	12%	20	77%
Columbia Co.	0	0%	0.0	0	0%	0	0%
Cowlitz Co.	6	1%	5.4 ^{NR}	--	--	--	--
Douglas Co.	0	0%	0.0	0	0%	0	0%
Ferry Co.	1	<1%	12.6 ^{NR}	--	--	--	--
Franklin Co.	6	1%	6.2 ^{NR}	--	--	--	--
Garfield Co.	0	0%	0.0	0	0%	0	0%
Grant Co.	1	<1%	1.0 ^{NR}	--	--	--	--
Grays Harbor Co.	4	1%	5.4 ^{NR}	--	--	--	--
Island Co.	0	0%	0.0	0	0%	0	0%
Jefferson Co.	0	0%	0.0	0	0%	0	0%
King Co. ^C	182	45%	8.1	40	22%	149	82%
Kitsap Co.	5	1%	1.8 ^{NR}	--	--	--	--
Kittitas Co.	0	0%	0.0	0	0%	0	0%
Klickitat Co.	0	0%	0.0	0	0%	0	0%
Lewis Co.	4	1%	5.0 ^{NR}	--	--	--	--
Lincoln Co.	1	<1%	9.0 ^{NR}	--	--	--	--
Mason Co.	3	1%	4.6 ^{NR}	--	--	--	--
Ne Tri-County HD	1	<1%	1.5 ^{NR}	--	--	--	--
Okanogan Co.	0	0%	0.0	0	0%	0	0%
Pacific Co.	0	0%	0.0	0	0%	0	0%
Pend Oreille Co.	0	0%	0.0	0	0%	0	0%
Pierce Co.	59	15%	6.6	12	20%	41	69%
San Juan Co.	0	0%	0.0	0	0%	0	0%
Skagit Co.	2	<1%	1.5 ^{NR}	--	--	--	--
Skamania Co.	0	0%	0.0	0	0%	0	0%
Snohomish Co.	30	7%	3.6	8	27%	22	73%
Spokane Co.	22	5%	4.2	6	27%	20	91%
Stevens Co.	0	0%	0.0	0	0%	0	0%
Thurston Co.	16	4%	5.5 ^{NR}	3	19%	12	75%
Wahkiakum Co.	0	0%	0.0	0	0%	0	0%
Walla Walla Co.	1	<1%	1.6 ^{NR}	--	--	--	--
Whatcom Co.	3	1%	1.3 ^{NR}	--	--	--	--
Whitman Co.	4	1%	7.9 ^{NR}	--	--	--	--
Yakima Co.	8	2%	3.1 ^{NR}	--	--	--	--
Total	406	100%	5.3	92	23%	320	79%

The Census Bureau has not released all of the data needed to calculate current rates. 2021 rates are calculated using 2020 population data.

-- Due to the small number of HIV cases the count and percentage based on the count is not shown

^{NR} Not reliable, RSE ≥ 25 (RSE=relative standard error, the standard error of a survey estimate divided by the survey estimate and then multiplied by 100)

^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 Differences in the data reported by King County elsewhere in this report are due to small differences in case definitions

TABLE 1-3. NEW HIV CASE COUNTS OVER TIME, FIVE-YEAR AVERAGES, AND RATE PER 100,000 BY DEMOGRAPHIC AND RISK CHARACTERISTICS, WA STATE, 2017-2021

	2017	2018	2019	2020	2021	2017-2021			
	no.	no.	no.	no.	no.	total no.	avg. no.	%	rate
Total	376	399	406	357	406	1944	389	100%	5.2
Gender									
Cisgender men	303	308	334	304	321	1570	314	81%	8.4
Cisgender women	67	88	64	48	71	338	68	17%	1.8
Transgender men	1	0	1	0	3	5	1	<1%	n/a
Transgender women	5	3	7	5	11	31	6	2%	n/a
Age at HIV Diagnosis									
< 13	3	0	0	0	2	5	1	<1%	0.1 ^{NR}
13-24	59	54	61	54	51	279	56	14%	4.9
25-34	144	138	163	125	141	711	142	37%	13.5
35-44	62	92	76	84	98	412	82	21%	8.4
45-54	64	66	64	46	72	312	62	16%	6.7
55-64	35	41	31	36	32	175	35	9%	3.6
65+	9	8	11	12	10	50	10	3%	0.8 ^{NR}
Race/Ethnicity									
AI/AN	4	2	2	5	8	21	4	1%	4.5 ^{NR}
Asian	24	16	18	29	18	105	21	5%	3.1
Black	72	82	67	57	79	357	71	18%	24.8
Foreign-born ^{A,B}	37	43	29	20	29	158	32	8%	42.4
U.S.-born ^{A,B}	31	34	34	26	31	156	31	8%	14.4
Lat/Hisp	80	71	95	56	96	398	80	20%	8.1
Foreign-born ^{A,B}	39	29	52	20	42	182	36	9%	11.8
U.S.-born ^{A,B}	34	30	29	20	28	141	28	7%	4.2
NHOPI	3	5	3	4	7	22	4	1%	8.2 ^{NR}
White	177	198	201	189	181	946	189	49%	3.7
Multiple	16	25	20	17	17	95	19	5%	5.8
Mode of Exposure									
MSM	210	199	241	224	217	1091	218	56%	n/a
PWID	19	44	41	13	23	140	28	7%	n/a
MSM/PWID	27	39	23	21	34	144	29	7%	n/a
Heterosexual	38	50	38	27	45	198	40	10%	n/a
Blood/pediatric	5	2	2	0	2	11	2	1%	n/a
NIR	77	65	61	72	85	360	72	19%	n/a

Abbreviations: AI/AN, American Indian or Alaska Native; Lat/Hisp, Latina/o/x and Hispanic; MSM, people assigned male at birth who have sex with men; NHOPI, Native Hawaiian or Other Pacific Islander; NIR, no identified risk; PWID, people who inject drugs

The Census Bureau has not released all of the data needed to calculate current rates. 2021 rates are calculated using 2020 population data.

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

^{NR} Not reliable, RSE ≥25 (RSE=relative standard error, the standard error of a survey estimate divided by the survey estimate and then multiplied by 100)

^A Country of origin data are missing for approximately 19% and 34% of newly diagnosed cases among Black and Lat/Hisp, respectively

^B Population estimate for 2021 was extrapolated using previous estimates from years 2010-2020

TABLE 1-4. NEW HIV CASE COUNTS OVER TIME, FIVE YEAR AVERAGES AND RATES PER 100,000 BY COUNTY AND HEALTH DISTRICT (HD) OF RESIDENCE AT HIV DIAGNOSIS, WA STATE, 2017-2021

County and Health District of Residence	2017	2018	2019	2020	2021	2017-2021			
	no.	no.	no.	no.	no.	total no.	avg. no.	%	rate
Adams Co.	0	0	1	1	0	2	0	<1%	2.0 ^{NR}
Asotin Co.	0	0	0	0	0	0	0	0%	0.0
Benton Co.	2	0	13	6	12	33	7	2%	3.3
Benton-Franklin HD	0	0	0	0	0	0	0	0%	0.0
Chelan Co.	1	3	2	1	5	12	2	1%	3.1 ^{NR}
Chelan-Douglas HD	0	0	0	0	0	0	0	0%	0.0
Clallam Co.	2	5	2	1	5	15	3	1%	4.0 ^{NR}
Clark Co.	24	21	28	22	26	121	24	6%	5.0
Columbia Co.	1	0	0	0	0	1	0	<1%	4.8 ^{NR}
Cowlitz Co.	4	1	3	2	6	16	3	1%	2.9 ^{NR}
Douglas Co.	1	1	2	2	0	6	1	0%	2.8 ^{NR}
Ferry Co.	0	0	0	0	1	1	0	<1%	2.6 ^{NR}
Franklin Co.	1	5	6	4	6	22	4	1%	4.7
Garfield Co.	0	0	0	0	0	0	0	0%	0.0
Grant Co.	0	4	2	3	1	10	2	1%	2.0 ^{NR}
Grays Harbor Co.	4	0	2	1	4	11	2	1%	3.0 ^{NR}
Island Co.	3	2	5	3	0	13	3	1%	3.1 ^{NR}
Jefferson Co.	0	1	0	0	0	1	0	<1%	0.6 ^{NR}
King Co. ^a	178	226	189	167	182	942	188	48%	8.5
Kitsap Co.	9	9	9	4	5	36	7	2%	2.7
Kittitas Co.	0	1	2	1	0	4	1	<1%	1.7 ^{NR}
Klickitat Co.	1	0	0	1	0	2	0	<1%	1.8 ^{NR}
Lewis Co.	0	1	2	1	4	8	2	<1%	2.0 ^{NR}
Lincoln Co.	1	0	0	0	1	2	0	<1%	3.7 ^{NR}
Mason Co.	4	5	5	4	3	21	4	1%	6.5
Ne Tri-County HD	0	0	0	0	0	0	0	0%	0.0
Okanogan Co.	0	0	1	0	0	1	0	<1%	0.5 ^{NR}
Pacific Co.	0	1	0	0	0	1	0	<1%	0.9 ^{NR}
Pend Oreille Co.	0	0	1	0	0	1	0	<1%	1.5 ^{NR}
Pierce Co.	41	49	53	52	59	254	51	13%	5.7
San Juan Co.	0	0	0	0	0	0	0	0%	0.0
Skagit Co.	4	3	3	5	2	17	3	1%	2.7
Skamania Co.	0	0	0	0	0	0	0	0%	0.0
Snohomish Co.	27	20	29	23	30	129	26	7%	3.2
Spokane Co.	22	16	26	32	22	118	24	6%	4.6
Stevens Co.	0	0	0	2	0	2	0	<1%	0.9 ^{NR}
Thurston Co.	10	8	6	8	16	48	10	2%	3.4
Wahkiakum Co.	0	0	0	0	0	0	0	0%	0.0
Walla Walla Co.	2	1	0	1	1	5	1	<1%	1.6 ^{NR}
Whatcom Co.	8	3	5	3	3	22	4	1%	2.0
Whitman Co.	0	3	0	1	4	8	2	<1%	3.2 ^{NR}
Yakima Co.	26	10	9	6	8	59	12	3%	4.6
Total	376	399	406	357	406	1944	389	100%	5.2

The Census Bureau has not released all of the data needed to calculate current rates. 2021 rates are calculated using 2020 population data.

^{NR}Not reliable, RSE ≥25 (RSE=relative standard error, the standard error of a survey estimate divided by the survey estimate and then multiplied by 100)

^aDifferences in the data reported by King County elsewhere in this report are due to small differences in case definitions

TABLE 1-5. NEW CASES OF HIV INFECTION, BY GENDER^A, RACE/ETHNICITY, AND HIV EXPOSURE CATEGORY, WA STATE, 2017-2021

Gender	Exposure Category	Asian		Black		Lat/Hisp		Other ^B		White	
		No.	%	No.	%	No.	%	No.	%	No.	%
Cisgender men	MSM	64	76%	128	58%	275	79%	76	74%	522	64%
	PWID	1	1%	8	4%	7	2%	3	3%	61	7%
	MSM and PWID	0	0%	8	4%	11	3%	11	11%	110	14%
	Heterosexual Contact	0	0%	10	5%	10	3%	1	1%	14	2%
	Blood/Pediatric	0	0%	3	1%	0	0%	0	0%	1	0%
	NIR	19	23%	63	29%	46	13%	12	12%	106	13%
	Total	84	100%	220	100%	349	100%	103	100%	814	100%
Cisgender women	PWID	0	0%	4	3%	5	13%	8	29%	43	35%
	Heterosexual Contact	8	50%	64	49%	25	64%	14	50%	50	40%
	Blood/Pediatric	0	0%	5	4%	1	3%	0	0%	1	1%
	NIR	8	50%	58	44%	8	21%	6	21%	30	24%
	Total	16	100%	131	100%	39	100%	28	100%	124	100%
Transgender women	Total										
	Sex with Men	26	84%	-	-	-	-	-	-	-	-
	Sex with Men and PWID	4	13%	-	-	-	-	-	-	-	-
	NIR	1	3%	-	-	-	-	-	-	-	-
	Total	31	100%	-	-	-	-	-	-	-	-

Abbreviations: Lat/Hisp, Latina/o/x and Hispanic; MSM, people assigned male at birth who have sex with men; NIR, no identified risk; PWID, people who inject drugs

^ADue to the small number of HIV cases reported as transgender men, they are excluded from this table

^BOther includes Alaska Natives / American Indians, Pacific Islanders, and Multiracial people

TABLE 1-6. PREVALENT CASES OF HIV, INCLUDING ENGAGEMENT IN CARE AND VIRAL LOAD SUPPRESSION, AND PREVALENCE PER 100,000 BY DEMOGRAPHIC AND RISK CHARACTERISTICS, WA STATE, 2021

	Prevalent Cases of HIV			Engaged in Care ^A		Suppressed Viral Load ^B	
	no.	column %	prevalence	no.	row %	no.	row %
Total	14517	100%	189.6	12567	87%	11564	80%
Gender							
Cisgender men	2264	16%	59.3	1955	86%	1762	78%
Cisgender women	12083	83%	315.1	10465	87%	9674	80%
Transgender men	151	1%	n/a	130	86%	112	74%
Transgender women	19	<1%	n/a	17	89%	16	84%
Current Age							
< 13	23	<1%	1.9	20	87%	19	83%
13-24	282	2%	24.3	244	87%	206	73%
25-34	1924	13%	178.4	1566	81%	1382	72%
35-44	2880	20%	285.7	2384	83%	2130	74%
45-54	3648	25%	392.3	3175	87%	2910	80%
55-64	4015	28%	411.6	3577	89%	3392	84%
65+	1745	12%	136.2	1601	92%	1525	87%
Race/Ethnicity							
AI/AN	133	1%	139.9	110	83%	96	72%
Asian	547	4%	76.1	489	89%	465	85%
Black	2557	18%	846.1	2169	85%	1962	77%
Foreign-born ^{C,D}	1112	8%	1438.3	973	88%	918	83%
U.S.-born ^{C,D}	1319	9%	570.1	1089	83%	953	72%
Lat/Hisp	2296	16%	224.5	1961	85%	1797	78%
Foreign-born ^{C,D}	1139	8%	363.0	968	85%	907	80%
U.S.-born ^{C,D}	955	7%	136.0	824	86%	744	78%
NHOPI	69	<1%	123.7	50	72%	46	67%
White	7986	55%	155.8	6960	87%	6445	81%
Multiple	925	6%	274.4	824	89%	749	81%
Mode of Exposure							
MSM	8935	62%	n/a	7830	88%	7345	82%
PWID	809	6%	n/a	657	81%	556	69%
MSM/PWID	1274	9%	n/a	1107	87%	945	74%
Heterosexual	1790	12%	n/a	1554	87%	1420	79%
Blood/Pediatric	201	1%	n/a	179	89%	157	78%
NIR	1508	10%	n/a	1240	82%	1141	76%

Abbreviations: AI/AN, American Indian or Alaska Native; Lat/Hisp, Latina/o/x and Hispanic; MSM, people assigned male at birth who have sex with men; NHOPI, Native Hawaiian or Other Pacific Islander; NIR, no identified risk; PWID, people who inject drugs

The Census Bureau has not released all of the data needed to calculate current rates. 2021 rates are calculated using 2020 population data.

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

^AEngaged in care = at least one reported CD4 or VL result within calendar year.

^BSuppressed viral load = last reported viral load result in calendar year was < 200 copies/mL.

^CCountry of origin data are missing for approximately 6% and 9% of newly living cases among Black and Lat/Hisp, respectively.

^DPopulation estimate for 2021 was extrapolated using previous estimates from years 2010-2020.

TABLE 1-7. PREVALENT CASES OF HIV, INCLUDING ENGAGEMENT IN CARE AND VIRAL LOAD SUPPRESSION AND PREVALENCE PER 100,000 BY COUNTY AND HEALTH DISTRICT (HD) OF CURRENT RESIDENCE, WA STATE, 2021

County or Health District of Residence	Prevalent Cases of HIV			Engaged in Care ^A		Suppressed Viral Load ^B	
	no.	column %	prevalence	no.	row %	no.	row %
Adams Co.	13	<1%	63.6 ^{NR}	9	69%	8	62%
Asotin Co.	20	<1%	88.3	16	80%	16	80%
Benton Co.	203	1%	98.7	166	82%	106	52%
Benton-Franklin HD	297	2%	98.2	252	85%	159	54%
Chelan Co.	75	1%	94.2	60	80%	53	71%
Chelan-Douglas HD	98	1%	79.4	78	80%	70	71%
Clallam Co.	87	1%	113.3	75	86%	66	76%
Clark Co.	868	6%	173.9	667	77%	617	71%
Columbia Co.	3	0%	71.7 ^{NR}	--	--	--	--
Cowlitz Co.	159	1%	143.9	128	81%	117	74%
Douglas Co.	23	<1%	52.6	18	78%	17	74%
Ferry Co.	3	<1%	37.9 ^{NR}	--	--	--	--
Franklin Co.	94	1%	97.1	86	91%	53	56%
Garfield Co.	0	0%	0.0	0	0%	0	0%
Grant Co.	59	<1%	58.9	54	92%	50	85%
Grays Harbor Co.	109	1%	145.9	90	83%	82	75%
Island Co.	106	1%	123.9	81	76%	81	76%
Jefferson Co.	49	<1%	152.2	39	80%	36	73%
King Co. ^C	7211	50%	319.0	6443	89%	6004	83%
Kitsap Co.	365	3%	134.1	302	83%	287	79%
Kittitas Co.	37	<1%	76.9	32	86%	29	78%
Klickitat Co.	22	<1%	96.6	18	82%	17	77%
Lewis Co.	74	1%	92.2	61	82%	56	76%
Lincoln Co.	11	<1%	99.5 ^{NR}	9	82%	8	73%
Mason Co.	78	1%	118.8	62	79%	59	76%
Ne Tri-County HD	41	<1%	60.6	29	71%	28	68%
Okanogan Co.	27	<1%	62.6	23	85%	22	81%
Pacific Co.	39	<1%	178.6	30	77%	28	72%
Pend Oreille Co.	12	<1%	86.6 ^{NR}	6	50%	6	50%
Pierce Co.	1633	11%	181.3	1356	83%	1222	75%
San Juan Co.	20	<1%	115.3	18	90%	18	90%
Skagit Co.	100	1%	76.7	88	88%	85	85%
Skamania Co.	6	<1%	49.1 ^{NR}	--	--	--	--
Snohomish Co.	1242	9%	149.5	1086	87%	1032	83%
Spokane Co.	786	5%	150.4	677	86%	600	76%
Stevens Co.	26	<1%	56.6	21	81%	20	77%
Thurston Co.	347	2%	119.2	299	86%	260	75%
Wahkiakum Co.	5	<1%	118.8 ^{NR}	--	--	--	--
Walla Walla Co.	58	<1%	92.7	46	79%	45	78%
Whatcom Co.	255	2%	111.8	227	89%	208	82%
Whitman Co.	29	<1%	57.4	24	83%	23	79%
Yakima Co.	263	2%	101.9	237	90%	221	84%
Total	14517	100%	189.6	12567	87%	11564	80%

The Census Bureau has not released all of the data needed to calculate current rates. 2021 rates are calculated using 2020 population data.

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

-- Due to the small number of HIV cases the count and percentage based on the count is not shown.

^{NR}Not reliable, RSE ≥25 (RSE=relative standard error, the standard error of a survey estimate divided by the survey estimate and then multiplied by 100).

^AEngaged in care = at least one reported CD4 or VL result within calendar year.

^BSuppressed viral load = last reported viral load result in calendar year was < 200 copies/mL.

^CDifferences in the data reported by King County elsewhere in this report due to small differences in case definitions.

TABLE 1-8. PREVALENT CASES OF HIV, BY GENDER^A, RACE/ETHNICITY, AND HIV EXPOSURE CATEGORY, WA STATE, 2021

Gender	Exposure Category	Asian		Black		Lat/Hisp		Other ^B		White	
		No.	%	No.	%	No.	%	No.	%	No.	%
Cisgender men	MSM	327	74%	848	54%	1,516	76%	644	70%	5,481	76%
	PWID	6	1%	76	5%	46	2%	41	4%	312	4%
	MSM and PWID	11	2%	93	6%	153	8%	132	14%	855	12%
	Heterosexual Contact	12	3%	175	11%	74	4%	36	4%	118	2%
	Blood/Pediatric	4	1%	41	3%	9	<1%	6	1%	39	1%
	NIR	84	19%	332	21%	184	9%	64	7%	361	5%
	Total	444	100%	1,565	100%	1,982	100%	923	100%	7,166	100%
Cisgender women	PWID	2	2%	37	4%	26	10%	45	26%	213	28%
	Heterosexual Contact	64	69%	572	59%	190	71%	102	59%	441	58%
	Blood/Pediatric	3	3%	60	6%	10	4%	4	2%	23	3%
	NIR	24	26%	297	31%	40	15%	23	13%	87	11%
	Total	93	100%	966	100%	266	100%	174	100%	764	100%
Transgender women	Sex with Men	8	89%	21	95%	36	77%	21	78%	29	63%
	PWID	0	0%	0	0%	1	2%	0	0%	0	0%
	Sex with Men and PWID	0	0%	1	5%	8	17%	6	22%	15	33%
	NIR	1	11%	0	0%	2	4%	0	0%	2	4%
	Total	9	100%	22	100%	47	100%	27	100%	46	100%

Abbreviations: Lat/Hisp, Latina/o/x and Hispanic; MSM, people assigned male at birth who have sex with men; NIR, no identified risk; PWID, people who inject drugs

^ADue to the small number of HIV Cases reported as transgender male, they are excluded from this table

^BOther includes Alaska Natives / American Indians, Pacific Islanders, and Multiracial people

TABLE 1-9. PREVALENT CASES OF HIV, BY DEMOGRAPHIC AND RISK CHARACTERISTICS, WA STATE, 2017-2021

Total	2017		2018		2019		2020		2021	
	no.	col %	no.	col %	no.	col %	no.	col %	no.	col %
	13376	100%	13780	100%	13984	100%	14218	100%	14517	100%
Gender										
Cisgender men	11267	84%	11550	84%	11691	84%	11889	84%	12083	83%
Cisgender women	1975	15%	2093	15%	2158	15%	2186	15%	2264	16%
Transgender men	12	<1%	13	<1%	13	<1%	16	<1%	19	<1%
Transgender women	122	1%	124	1%	122	1%	127	1%	151	1%
Age at HIV Diagnosis										
< 13	43	<1%	37	<1%	30	<1%	27	<1%	23	<1%
13-24	312	2%	309	2%	319	2%	299	2%	282	2%
25-34	1803	13%	1837	13%	1860	13%	1924	14%	1924	13%
35-44	2707	20%	2781	20%	2767	20%	2825	20%	2880	20%
45-54	4266	32%	4114	30%	3923	28%	3733	26%	3648	25%
55-64	3180	24%	3471	25%	3711	27%	3882	27%	4015	28%
65+	1065	8%	1231	9%	1374	10%	1528	11%	1745	12%
Race/Ethnicity										
AI/AN	126	1%	129	1%	132	1%	125	1%	133	1%
Asian	438	3%	454	3%	484	3%	524	4%	547	4%
Black	2133	16%	2289	17%	2381	17%	2455	17%	2557	18%
Foreign-born ^A	850	6%	958	7%	1016	7%	1052	7%	1112	8%
U.S.-born ^A	1203	9%	1248	9%	1271	9%	1292	9%	1319	9%
Lat/Hisp	1954	15%	2045	15%	2126	15%	2194	15%	2296	16%
Foreign-born ^A	949	7%	980	7%	1048	7%	1081	8%	1139	8%
U.S.-born ^A	871	7%	918	7%	916	7%	934	7%	955	7%
NHOPI	55	<1%	61	<1%	61	<1%	63	<1%	69	<1%
White	7744	58%	7863	57%	7859	56%	7936	56%	7986	55%
Multiple	921	7%	934	7%	936	7%	916	6%	925	6%
Mode of Exposure										
MSM	8238	62%	8447	61%	8598	61%	8757	62%	8935	62%
PWID	788	6%	810	6%	821	6%	806	6%	809	6%
MSM/PWID	1305	10%	1324	10%	1275	9%	1277	9%	1274	9%
Heterosexual	1668	12%	1710	12%	1735	12%	1758	12%	1790	12%
Blood/Pediatric	191	1%	193	1%	200	1%	196	1%	201	1%
NIR	1186	9%	1296	9%	1355	10%	1424	10%	1508	10%

Abbreviations: AI/AN, American Indian or Alaska Native; Lat/Hisp, Latina/o/x and Hispanic; MSM, people assigned male at birth who have sex with men; NHOPI, Native Hawaiian or Other Pacific Islander; NIR, no identified risk; PWID, people who inject drugs

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

^APopulation estimate for 2021 was extrapolated using previous estimates from years 2010-2020

TABLE 1-10. PREVALENT CASES OF HIV, BY COUNTY AND HEALTH DISTRICT (HD) OF RESIDENCE AT HIV DIAGNOSIS, WA STATE, 2017-2021

County and Health District of Residence	2017		2018		2019		2020		2021	
	no.	col %	no.	col %	no.	col %	no.	col %	no.	col %
Adams Co.	11	<1%	13	<1%	14	<1%	13	<1%	13	<1%
Asotin Co.	23	<1%	23	<1%	19	<1%	18	<1%	20	<1%
Benton Co.	160	1%	180	1%	194	1%	201	1%	203	1%
Benton-Franklin HD	238	2%	264	2%	275	2%	289	2%	297	2%
Chelan Co.	55	<1%	56	<1%	59	<1%	61	<1%	75	1%
Chelan-Douglas HD	70	1%	72	1%	78	1%	89	1%	98	1%
Clallam Co.	79	1%	81	1%	86	1%	84	1%	87	1%
Clark Co.	729	5%	767	6%	801	6%	869	6%	868	6%
Columbia Co.	6	<1%	4	<1%	3	<1%	3	<1%	3	<1%
Cowlitz Co.	146	1%	153	1%	151	1%	155	1%	159	1%
Douglas Co.	15	<1%	16	<1%	19	<1%	28	<1%	23	<1%
Ferry Co.	5	<1%	5	<1%	6	<1%	4	<1%	3	<1%
Franklin Co.	78	1%	84	1%	81	1%	88	1%	94	1%
Garfield Co.	3	<1%	3	<1%	2	<1%	2	<1%	0	<1%
Grant Co.	41	<1%	44	<1%	51	<1%	59	<1%	59	0%
Grays Harbor Co.	98	1%	98	1%	95	1%	103	1%	109	1%
Island Co.	91	1%	101	1%	105	1%	110	1%	106	1%
Jefferson Co.	46	<1%	53	<1%	48	<1%	49	<1%	49	<1%
King Co. ^A	6934	52%	7033	51%	7062	51%	7094	50%	7211	50%
Kitsap Co.	335	3%	331	2%	351	3%	358	3%	365	3%
Kittitas Co.	30	<1%	29	<1%	33	<1%	33	<1%	37	<1%
Klickitat Co.	17	<1%	17	<1%	19	<1%	20	<1%	22	<1%
Lewis Co.	65	<1%	69	1%	68	<1%	66	<1%	74	1%
Lincoln Co.	9	<1%	5	<1%	7	<1%	6	<1%	11	<1%
Mason Co.	67	1%	69	1%	69	<1%	75	1%	78	1%
Ne Tri-County HD	44	<1%	45	<1%	46	<1%	41	<1%	41	<1%
Okanogan Co.	29	<1%	28	<1%	28	<1%	27	<1%	27	<1%
Pacific Co.	25	<1%	29	<1%	33	<1%	35	<1%	39	<1%
Pend Oreille Co.	14	<1%	12	<1%	14	<1%	13	<1%	12	<1%
Pierce Co.	1465	11%	1554	11%	1575	11%	1605	11%	1633	11%
San Juan Co.	21	<1%	23	<1%	23	<1%	22	<1%	20	<1%
Skagit Co.	97	1%	97	1%	96	1%	97	1%	100	1%
Skamania Co.	7	<1%	6	<1%	5	<1%	5	<1%	6	<1%
Snohomish Co.	1079	8%	1154	8%	1207	9%	1232	9%	1242	9%
Spokane Co.	637	5%	680	5%	691	5%	731	5%	786	5%
Stevens Co.	25	<1%	28	<1%	26	<1%	24	<1%	26	<1%
Thurston Co.	334	2%	341	2%	342	2%	336	2%	347	2%
Wahkiakum Co.	4	<1%	6	<1%	4	<1%	4	<1%	5	<1%
Walla Walla Co.	62	<1%	60	<1%	56	<1%	56	<1%	58	<1%
Whatcom Co.	251	2%	249	2%	254	2%	254	2%	255	2%
Whitman Co.	25	<1%	26	<1%	29	<1%	26	<1%	29	<1%
Yakima Co.	258	2%	253	2%	257	2%	252	2%	263	2%
Total	13376	100%	13780	100%	13984	100%	14218	100%	14517	100%

^{NR} Not reliable, RSE ≥25 (RSE=relative standard error, the standard error of a survey estimate divided by the survey estimate and then multiplied by 100)

^ADifferences in the data reported by King County elsewhere in this report are due to small differences in case definitions

TABLE 1-11. CHARACTERISTICS AND CARE OUTCOMES OF PEOPLE LIVING WITH HIV REPORTING ANY AMERICAN INDIAN OR ALASKA NATIVE RACE, 2017-2021

	New HIV Cases		Prevalent HIV Cases, 2021	
	no.	column %	no.	column %
Total	64	3% ^A	565	4% ^A
Gender				
Cisgender men	39	61%	446	79%
Cisgender women	23	36%	104	18%
Transgender men	0	0%	2	<1%
Transgender women	2	3%	13	2%
Mode of Exposure				
MSM	27	42%	309	55%
PWID	11	17%	64	11%
MSM/PWID	7	11%	80	14%
Heterosexual	11	17%	72	13%
NIR/Other	8	13%	40	7%
Geography				
King County	30	47%	266	47%
Other Western Washington	19	30%	226	40%
Eastern Washington	15	23%	73	13%
Care Metrics				
Initial Linkage to HIV Care ^B	52	81%	N/A	N/A
Engaged in Care ^C	N/A	N/A	490	87%
Viral Suppression ^D	N/A	N/A	436	77%

Abbreviations: MSM, people assigned male at birth who have sex with men; NIR, no identified risk; PWID, people who inject drugs

^APercentage of total Washington Cases

^BInitial linkage to care = at least one CD4 or viral load result within 30 days of HIV diagnoses

^CEngaged in care = at least one reported CD4 or VL result within calendar year

^DSuppressed viral load = last reported viral load result in calendar year was < 200 copies/mL

TABLE 1-12. DEATHS AMONG CASES OF HIV INFECTION, BY DEMOGRAPHIC AND RISK CHARACTERISTICS, WA STATE, 1984-2020

Total	2020					1984-2020	
	no.	column %	Mortality rate (per 100,000)	case fatality rate (per 1,000) ^A	standard mortality ratio ^B	no.	column %
	180	100%	2.4	12.7	1.5	8,759	100%
Gender							
Cisgender men	148	82%	3.9	12.4	1.5	7,942	91%
Cisgender women	31	17%	0.8	14.2	2.3	794	9%
Transgender men	0	0%	n/a	0.0	n/a	0	0%
Transgender women	1	1%	n/a	7.9 ^{NR}	n/a	23	0%
Current Age							
< 13	0	0%	0.0	0.0	0.0	19	<1%
13-24	2	1%	0.2 ^{NR}	6.7 ^{NR}	5.4	103	1%
25-34	4	2%	0.4 ^{NR}	2.1 ^{NR}	3.9	1,753	20%
35-44	18	10%	1.8	6.4	3.2	3,071	35%
45-54	53	29%	5.7	14.2	2.6	2,127	24%
55-64	52	29%	5.3	13.4	1.8	1,130	13%
65+	51	28%	4.0	33.4	0.8	556	6%
Race/Ethnicity							
AI/AN	6	3%	6.3 ^{NR}	48.0 ^{NR}	n/a	141	2%
Asian	1	1%	0.1 ^{NR}	1.9 ^{NR}	n/a	98	1%
Black	21	12%	6.9	8.6	n/a	851	10%
Foreign-born ^C	5	3%	6.5 ^{NR}	4.8 ^{NR}	n/a	82	1%
U.S.-born ^C	14	8%	6.1 ^{NR}	10.8 ^{NR}	n/a	734	8%
Lat/Hispanic	24	13%	2.3	10.9	n/a	597	7%
Foreign-born ^C	4	2%	1.3 ^{NR}	3.7 ^{NR}	n/a	199	2%
U.S.-born ^C	18	10%	2.6	19.3	n/a	343	4%
NHOPI	1	1%	1.8 ^{NR}	15.9 ^{NR}	n/a	21	0%
White	111	62%	2.2	14.0	n/a	6,724	77%
Multiple	16	9%	4.7 ^{NR}	17.5 ^{NR}	n/a	326	4%
Mode of Exposure							
MSM	92	51%	n/a	10.5	n/a	5,538	63%
PWID	21	12%	n/a	26.1	n/a	994	11%
MSM/PWID	29	16%	n/a	22.7	n/a	988	11%
Heterosexual	18	10%	n/a	10.2	n/a	529	6%
Blood/pediatric	2	1%	n/a	10.2	n/a	188	2%
NIR	18	10%	n/a	12.6	n/a	522	6%

Abbreviations: AI/AN, American Indian or Alaska Native; Lat/Hispanic, Latina/o/x and Hispanic; MSM, people assigned male at birth who have sex with men; NHOPI, Native Hawaiian or Other Pacific Islander; NIR, no identified risk; PWID, people who inject drugs

The Census Bureau has not released all of the data needed to calculate current rates. 2021 rates are calculated using 2020 population data.

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

^{NR} Not reliable, RSE ≥25 (RSE=relative standard error, the standard error of a survey estimate divided by the survey estimate and then multiplied by 100)

^ACase fatality rate = the number of deaths among people living with HIV divided by the total number of people living with HIV and then multiplied by 1000

^BStandard mortality ratio = the death rate among people living with HIV divided by the death rate of the general population adjusted for age and gender

^CCountry of origin data are missing for approximately 6% and 9% of living cases among Black and Lat/Hispanic, respectively

FIGURE 1-1. HIV CARE CONTINUUM, WASHINGTON STATE 2021 (BASED ON DATA REPORTED THROUGH JUNE 2022)

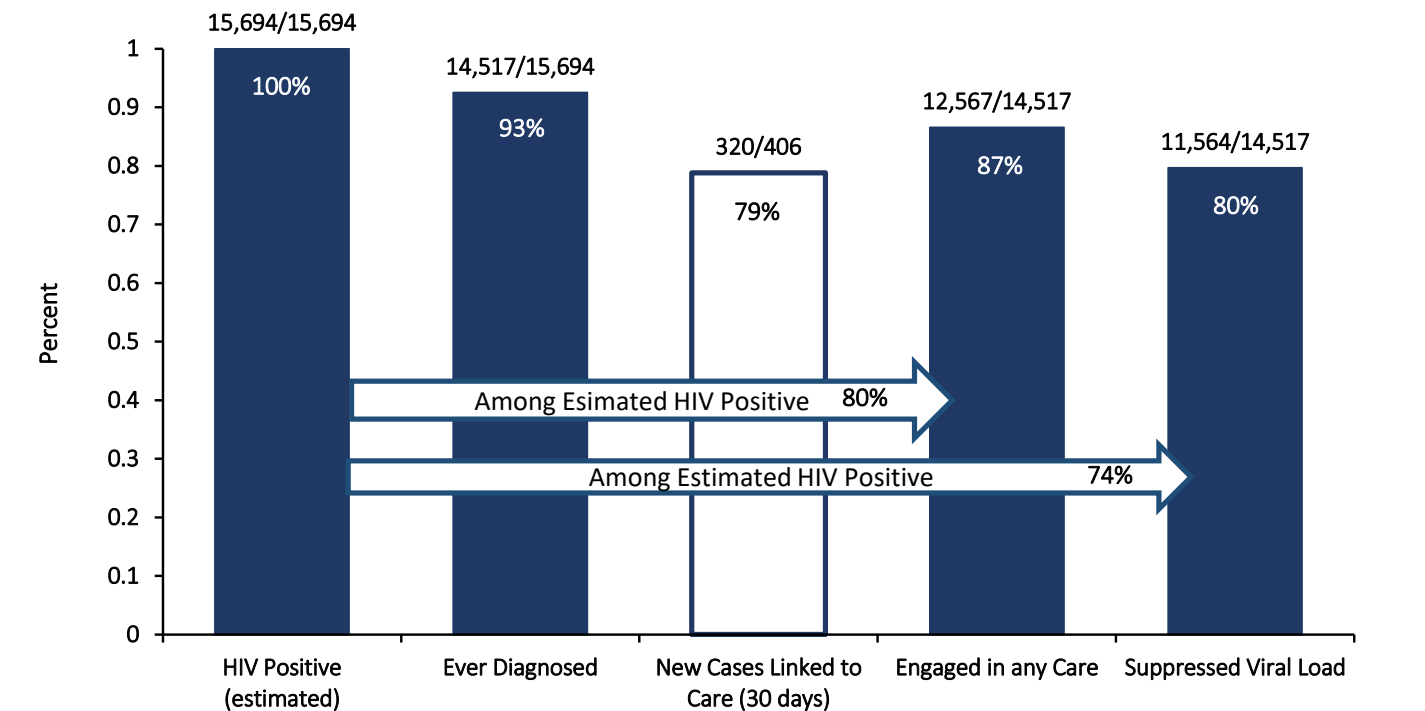


FIGURE 1-2. NEW HIV DIAGNOSES, DEATHS, AND CUMULATIVE NUMBER OF HIV DIAGNOSES, WASHINGTON STATE 2021 (BASED ON DATA REPORTED THROUGH JUNE 2022)

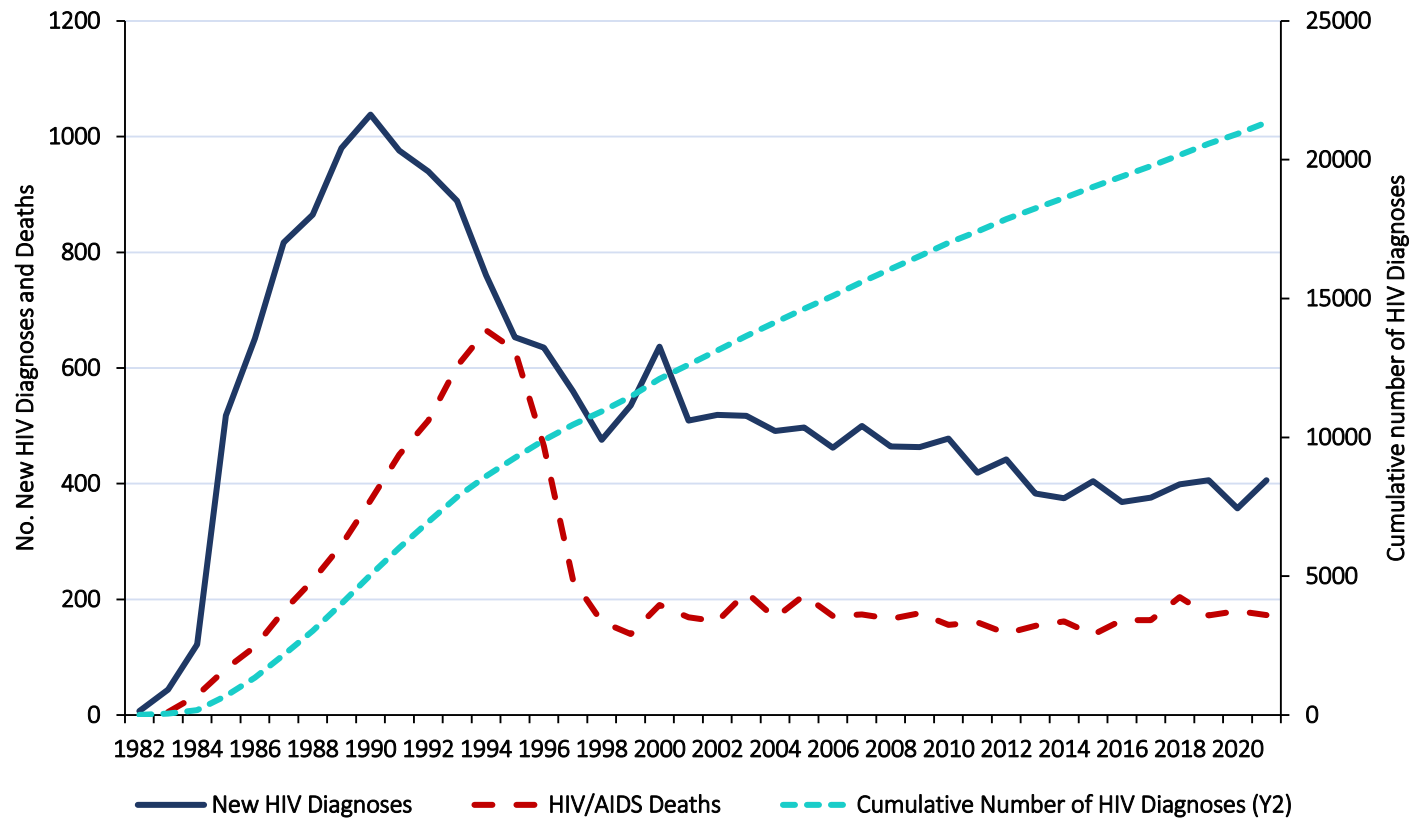
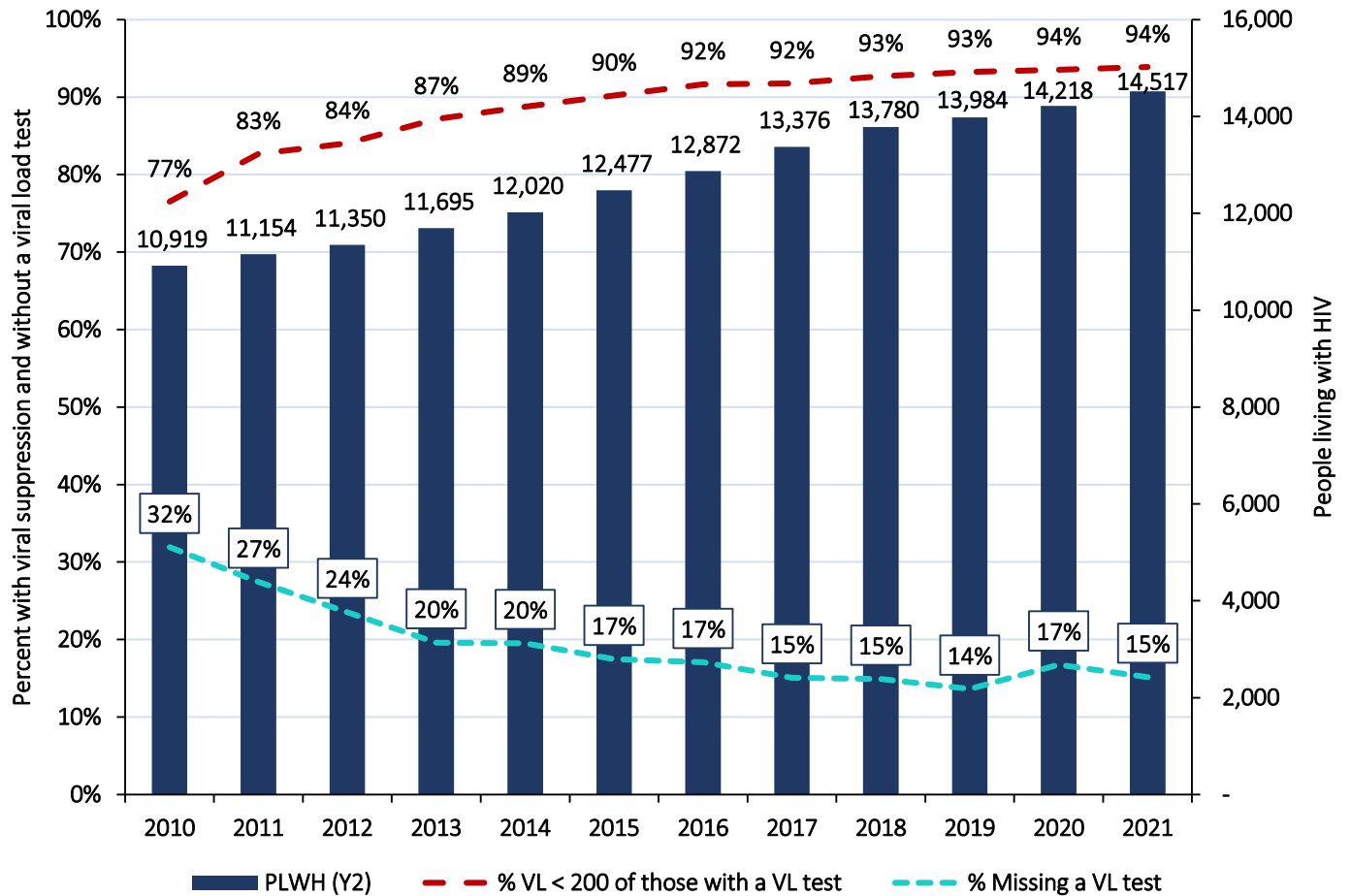


FIGURE 1-3. PEOPLE LIVING WITH HIV (PLWH), % WITH VIRAL SUPPRESSION (OF THOSE WITH A VIRAL LOAD [VL] TEST), AND % WITH NO VL, WASHINGTON STATE 2021 (BASED ON DATA REPORTED THROUGH JUNE 2022)



Development of A Rural-Urban Classification System for Evaluating HIV Outcomes in Washington State 2015-2021

Background

To reach the Ending the HIV Epidemic (EHE) goals of reducing HIV incidence 90% by 2030, it is necessary to ensure that all populations have access to HIV testing and care. Although disparities have been identified across individual characteristics such as race, sexual orientation, and substance use, less attention has been paid to community factors in Washington State. A primary dimension of community health is the urban-rural distinction. In the United States, people living in rural areas have poorer health outcomes than those in cities, and rural areas are characterized by a reduced access to healthcare, higher rates of poverty, and higher rates of exposure to specific environmental hazards.^{1,2} People living with HIV (PLWH) are unlikely to be exempt from these barriers and may face additional challenges specific to HIV such as HIV stigma.

Although there have been several studies demonstrating differences in the HIV care continuum between urban and rural areas nationally, there have been none in Washington State. A handful of published and unpublished analyses in Washington examined related topics (AIDS Drug Assistance Program [ADAP] enrollment, HIV stigma) but they did not find significant differences between PLWH who live in rural and urban settings.³

One challenge of performing such analyses in Washington State is the lack of a satisfactory classification system for rurality. The recommended methodology for Washington state relies on Rural-Urban Commuting Area (RUCA) codes which are published by the Food and Drug Administration (FDA).⁴ A map of the codes, however, reveals some incongruous features, including large parts of relatively rural counties (such as Asotin and Franklin) that are classified as urban and equated to cities such as Seattle and Spokane. Such a classification scheme could diminish the contrast between HIV outcomes in rural and urban areas and could hide important differences. There are several other methods of classifying rural and urban areas, but all either operate on the county level or their theoretical basis is unclear.^{4,5}

Without a full understanding of the barriers facing PLWH in Washington State, it will be impossible to reach the EHE incidence goals. Rurality is a key dimension of health in other regions and it has not been examined in Washington state. The purpose of this evaluation was to

- Develop and describe a Washington-specific urban-rural classification system
- Calculate the demographics and care continuum metrics for PLWH in rural and urban areas
- Compare the frequency of unmet service needs among PLWH in rural and urban areas

Methods

DERIVATION OF AN URBAN-RURAL CLASSIFICATION SYSTEM

The derivation of the urban-rural classification system consisted of three steps: 1) Identification of a theoretical model and measurement variables; 2) Factor analysis to convert measurement variables into continuous scale of rurality; and 3) Categorization of the continuous scale into discrete categories.

Our theoretical model was based loosely on work from the National Academies of Sciences, Engineering, and Medicine, which collected different conceptions of rurality from academic sources.⁶ We conceptualized rurality as a property arising from four components: population density, ties between the economy and natural resources, development, and quality of the natural environment. We identified five census-tract level measures with which to measure these constructs:

- Population density from the 2019 American Community Survey⁷
- Percent of workforce employed in agriculture, forestry, fishing and hunting, and mining from the 2019 American Community Survey
- Walkability index from the U.S. Environmental Protection Agency (2019)⁸
- Percent of households in single unit dwellings from the 2019 American Community Survey
- Air quality from average 24-hour fine particle concentration (2.5 micrometer particulate matter) as estimated by the U.S. Environmental Protection Agency Downscaler Model, 2011-2014⁹

Next, we performed a factor analysis on these measures to isolate the latent factor of rurality. A latent factor is a concept that we can't measure directly, but its value can be inferred from variables that we can measure. We estimated a single factor and calculated an index score using factor loadings. We scaled variables to 0-1 by dividing by their maximum values, log-transformed non-normal variables, and used varimax rotation. Lastly, we converted the continuous index score into categories of "Urban", "Periurban", and "Rural" by selecting cut points. These were selected after the analysis was complete based on our team's assessment of the resulting maps.

DEMOGRAPHICS CARE CONTINUUM METRICS

We used SAS Proc Geocode to identify the census tract of residence for all PLWH living in Washington on 12/31/2021. If Proc Geocode failed to identify the census tract for an individual, we attempted to geocode all

addresses between 2015 and 2020 and used the most recent address that could be successfully assigned to a census tract. After geocoding, we assigned a rurality classification (urban, periurban, or rural) based on census tract.

We calculated the proportion of the total number of PLWH living in each rurality category, the proportion of PLWH in each category belonging to each gender, race, age, and transmission category, and the proportion of PLWH in each category engaged in HIV care and virally suppressed (see surveillance definitions elsewhere). We also calculated the rate of new diagnosis, the proportion of new cases linked to care in 30 days, and the proportion of new cases diagnosed with AIDS within 12 months (late diagnosis). As a sensitivity analysis, we repeated the analyses of care continuum metrics adjusted for the demographic variables using a log binomial model.

UNMET SERVICE NEEDS

The Medical Monitoring Project is a surveillance system that gathers information about the experiences of a randomly selected sample of PLWH via interview and medical record abstraction. During the interview, participants are asked to indicate whether they use, need, or do not need a range of services including: meals and food assistance, peer or group support, shelter or housing assistance, Supplemental Security Income, mental health services, substance abuse services, adherence support, transportation assistance, patient navigation, Social Security Disability Income, ADAP, case management, domestic violence services, interpretative services, legal services, and dental services. We estimated the proportion of PLWH in each rurality category had unmet need for each service. We performed a chi-square test to test for the associations between the rurality categories and unmet need. These analyses were performed using data from the 2015 – 2020 cycles weighted to account for non-response.

Results

CLASSIFICATION SYSTEM

Nearly all (1,444 of 1,458) census tracts had complete data for the census tract level measures. The input and result of the factor analyses can be found in **Table 2-1**. The resulting rurality scale ranged from -0.43 to 2.39 with a median of 1.23 (higher values indicating more urban). With our selected cut points of 0.6 and 1.0 (0.3

TABLE 2-1: COVID VACCINATION STATUS (ONE OR MORE DOSES) AMONG PEOPLE LIVING WITH HIV BY DEMOGRAPHIC CATEGORIES, WASHINGTON STATE 6/7/2021

Measure	Median	Q1-Q3	Factor Loading ^B
Population Density (per square km)	1,086	197-1,957	0.93
% of Households in Single Unit Housing	80%	55%-93%	-0.61
Particulate Matter (PM) 2.5	7.7	6.9-8.4	0.73
Walkability Index	10.7	6.4-13.7	0.82
% Workforce Employed in Natural Resources	1%	0-2%	-0.46

^ACensus tract measures selected to represent the basis of rurality consisting of population density, ties between the economy and natural resources, development, and natural beauty.

^BFactor loading from single factor model using varimax rotation.

and 1.0 standard deviations below the mean), 253 of Washington's census tracts were classified as rural, 281 as periurban and 924 as urban. A map of the results is presented as **Figure 2-1**.

DEMOGRAPHICS AND CARE CONTINUUM METRICS

Of the 14,411 PLWH living in Washington state in 2021, we successfully geocoded 13,342 (93%) to the level of the census tract. In 2021, 11,547 (85%) of PLWH in Washington lived in urban areas, 1,088 (8%) lived in periurban areas, and 707 (5%) lived in rural areas (**Table 2-2**). This represents an HIV prevalence of 237 per 100,000 in urban areas, 84 per 100,000 in periurban areas, and 70 per 100,000 in rural areas.

PLWH in rural areas were more likely to be White (rural 73%, periurban 68%, urban 63%) and less likely to be Black (rural 5%, periurban 8%, urban 19%). Aside from race, the demographics and care outcomes of PLWH did not differ markedly between rural, periurban, and urban areas. There was a slight trend in viral suppression favoring more urban areas (rural 78%, periurban 79%, urban 81%).

Urban areas had substantially higher rates of HIV diagnosis than rural areas (rate per 100,000: Urban 6.5, periurban 2.3, rural 2.0). People in urban areas were less likely to be diagnosed late (24% late diagnosis vs 31% in periurban and 29% in rural). There were only small differences in the proportion of new diagnoses linked to care within 30 days

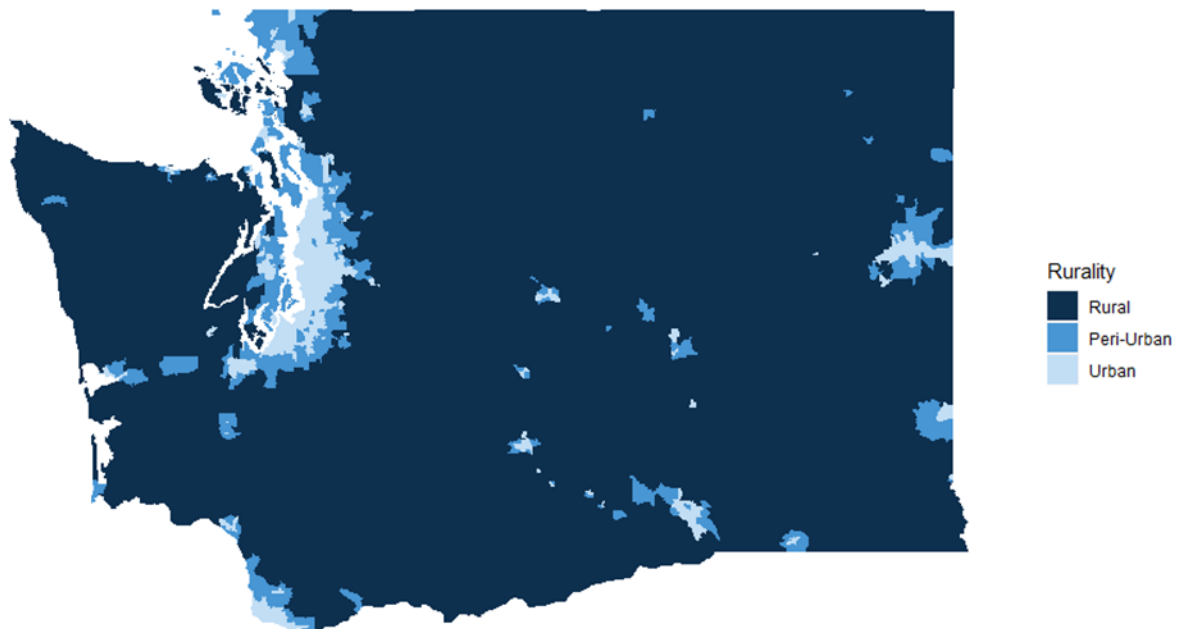
FIGURE 2-1: FIGURE 1. MAP OF WASHINGTON STATE RURAL-URBAN CLASSIFICATION SYSTEM

TABLE 2-2. DEMOGRAPHIC CHARACTERISTICS AND CARE CONTINUUM METRICS OF PEOPLE LIVING WITH HIV (PLWH) AND NEW HIV DIAGNOSES BY RURALITY^A WASHINGTON STATE, 2021

Variable	Value	Urban	Periurban	Rural
PLWH (2021)	N	11,547 (85%)	1,246 (9%)	743 (5%)
Current Gender	Cisgender Man	9,617 (83%)	1,015 (81%)	603 (81%)
	Cisgender Woman	1,789 (15%)	225 (18%)	129 (17%)
	Transgender Man	15 (<1%)	<10	<10
	Transgender Woman	126 (1%)	<10	<10
Race	AIAN	94 (1%)	17 (1%)	9 (1%)
	Black	2,195 (19%)	106 (9%)	40 (5%)
	Hispanic	1,867 (16%)	176 (14%)	101 (14%)
	White	6,085 (63%)	844 (68%)	539 (73%)
	Other	1,306 (11%)	103 (8%)	54 (7%)
Transmission Category	MSM	7,174 (62%)	724 (58%)	415 (56%)
	IDU	608 (5%)	83 (7%)	59 (8%)
	MSM+IDU	1,041 (9%)	106 (9%)	58 (8%)
	Heterosexual Contact	1,387 (12%)	180 (15%)	112 (15%)
	Other	1,337 (12%)	153 (12%)	99 (13%)
Age in years	<25	236 (2%)	37 (3%)	18 (2%)
	25-45	3,916 (34%)	355 (28%)	213 (29%)
	45-65	6,082 (53%)	681 (55%)	403 (54%)
	65+	1,313 (11%)	173 (14%)	109 (15%)
Care Continuum Metrics	Engaged in Care ^B	11,855 (88%)	1070 (86%)	637 (86%)
	Virally Suppressed ^B	9,348 (81%)	984 (79%)	582 (78%)
New Diagnoses (2015-2021)	N	1,591 (86%)	149 (8%)	101 (5%)
	Linked to Care 30 Days ^C	1,324 (83%)	121 (81%)	83 (82%)
	Late Diagnosis ^D	388 (24%)	46 (31%)	29 (29%)

^ARurality assigned based on census tract of most recent address that could be geocoded using SAS Proc Geocode.

^BEngaged in care was defined as at least one reported CD4 or VL result in 2021. Virally suppressed was defined as having one's last reported viral load result in calendar year < 200 copies/mL.

^CLinkage to care was defined as at least one CD4 or viral load result within 30 days of HIV diagnoses.

^DLate diagnoses were defined as an AIDS diagnosis within 12 months of HIV diagnoses.

AIAN = American Indian/Alaska Native; MSM = Men who have sex with men; IDU = Injection drug user

(urban 83%, periurban 81%, rural 82%). Adjustment for demographic factors did not meaningfully change the results of our analyses.

UNMET SERVICE NEEDS

Of the 1,033 MMP participants, we successfully geocoded 935 (90%) to the level of the census tract. Of these 935, 838 (88%) lived in urban areas, 76 (8%) lived in periurban areas, and 33 (4%) lived in rural areas. Generally, only a small proportion of individuals had unmet needs in each service category, and no comparison was significant at an alpha of 0.05. Although we cannot rule out the role of chance, PLWH living in periurban areas were more likely to need shelter or housing assistance (12% vs 3% in rural and 7% in urban. $P=0.17$), meals and food services (11% vs 5% in rural and 6% in urban, $p=0.37$), and mental health

services (16% vs 12% in rural and urban, $p=0.62$). Full results can be found in **Table 2-3**.

Discussion

Our analysis found that that PLWH in rural and periurban areas of Washington state have similar outcomes and service needs to those in urban areas. We found that the incidence and prevalence of HIV are higher in urban areas, suggesting that HIV continues to be primarily an urban epidemic.

To our knowledge, our urban-rural classification system is the first to be developed specifically for Washington state. This gives it an advantage over nationwide systems in that it can be evaluated solely on its ability to accurately

TABLE 2-3. PROPORTION OF POPULATION UNMET NEED FOR SERVICES BY RURALITY, WASHINGTON STATE MEDICAL MONITORING PROJECT (MMP), 2015-2020^A

Service	Rural ^B	Periurban	Urban	p-value ^C
N	33 (4%)	76 (8%)	838 (88%)	-
Dental Services	17% (5-28%)	8% (2-14%)	19% (16-22%)	0.05
Shelter or Housing Assistance	3% (0-8%)	12% (4-20%)	7% (5-9%)	0.17
Meals and Food Services	5% (0-13%)	11% (3-18%)	6% (5-8%)	0.37
Case Management	3% (0-8%)	3% (0-7%)	5% (3-7%)	0.59
Mental Health Services	12% (2-22%)	16% (7-25%)	12% (10-14%)	0.62
Substance Abuse Services	3% (0-8%)	3% (0-7%)	4% (3-5%)	0.82
Transportation Assistance	7% (0-15%)	10% (2-17%)	8% (6-10%)	0.85
Peer or Group Support	7% (0-15%)	10% (3-17%)	8% (6-10%)	0.86
Adherence Support	0% (NE)	0% (NE)	1% (0-2%)	-
ADAP	0% (NE)	0% (NE)	2% (1-3%)	-
Patient Navigation	0% (NE)	1% (0-3%)	6% (4-8%)	-
Domestic Violence Services	0% (NE)	1% (0-4%)	1% (1-2%)	-

^ARurality assigned based on census tract of residential address closes to the date of MMP interview. Individuals who could not be assigned a census tract were excluded (n=95).

^BAll percentages except for the first row were weighted to account for non-response.

^Cp-value from chi-square test and excluding King County in the comparison.

ADAP = AIDS Drug Assistance Program

describe our region, rather than largely unrelated areas. Our classification scheme is also unique in its incorporation of development and quality of the natural environment, which were key themes from the National Academy of Sciences, Engineering, and Medicine.⁶

The classification scheme has limitations, however. Our decision to estimate only one factor depends on the independence of our measures in all aspects unrelated to rurality. Our decision to calculate the index score using the raw factor loadings assumes that their effect is additive. These are not testable assumptions, but the agreement of the map with an intuitive sense of the geography of Washington state gives credibility to our analytic decisions. Another weakness is our categorization of the scale; our manual selection of cut points for the classification system introduces the authors' personal experiences and opinions into the analysis, which may differ from those of others.

The subtlety of the differences in HIV outcomes between urban, periurban, and rural areas was surprising, and may be a testament to improvements made to healthcare delivery (especially during the COVID-19 pandemic). The slightly higher rate of late diagnosis in rural and periurban

areas (29% and 31% vs 24% in urban areas) suggests that testing in periurban and rural areas could be improved. The modest trend in viral suppression (78% rural, 79% periurban, and 81% urban) is notable, but disappears if King County is considered separately from other urban areas. King County has several innovative surveillance and care delivery programs that increase population viral suppression; it is unclear whether these programs are characteristic of large urban settings or if they are unique to King County.

The lack of differences in unmet service needs between urban, periurban, and rural areas may be due to the nature of the MMP, which disproportionately includes PLWH who are successfully engaging in HIV care. These individuals may be more likely to have their critical needs met, and their experience may not represent that of all PLWH. Although caution should be used when interpreting results that are within the realm of chance, the higher rates of unmet need for basic supportive services (food, housing support, mental health services) in periurban areas is notable. This evaluation explored only a small aspect of the experience of PLWH across the urban-rural continuum and there are other dimensions that need to be explored.

However, it offers an important new method for measuring rurality that is tailored to Washington state that can be applied to additional research questions.

Contributed by Steven Erly, Danika Troupe, and Jennifer Reuer

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KING COUNTY HIV DATA TABLES

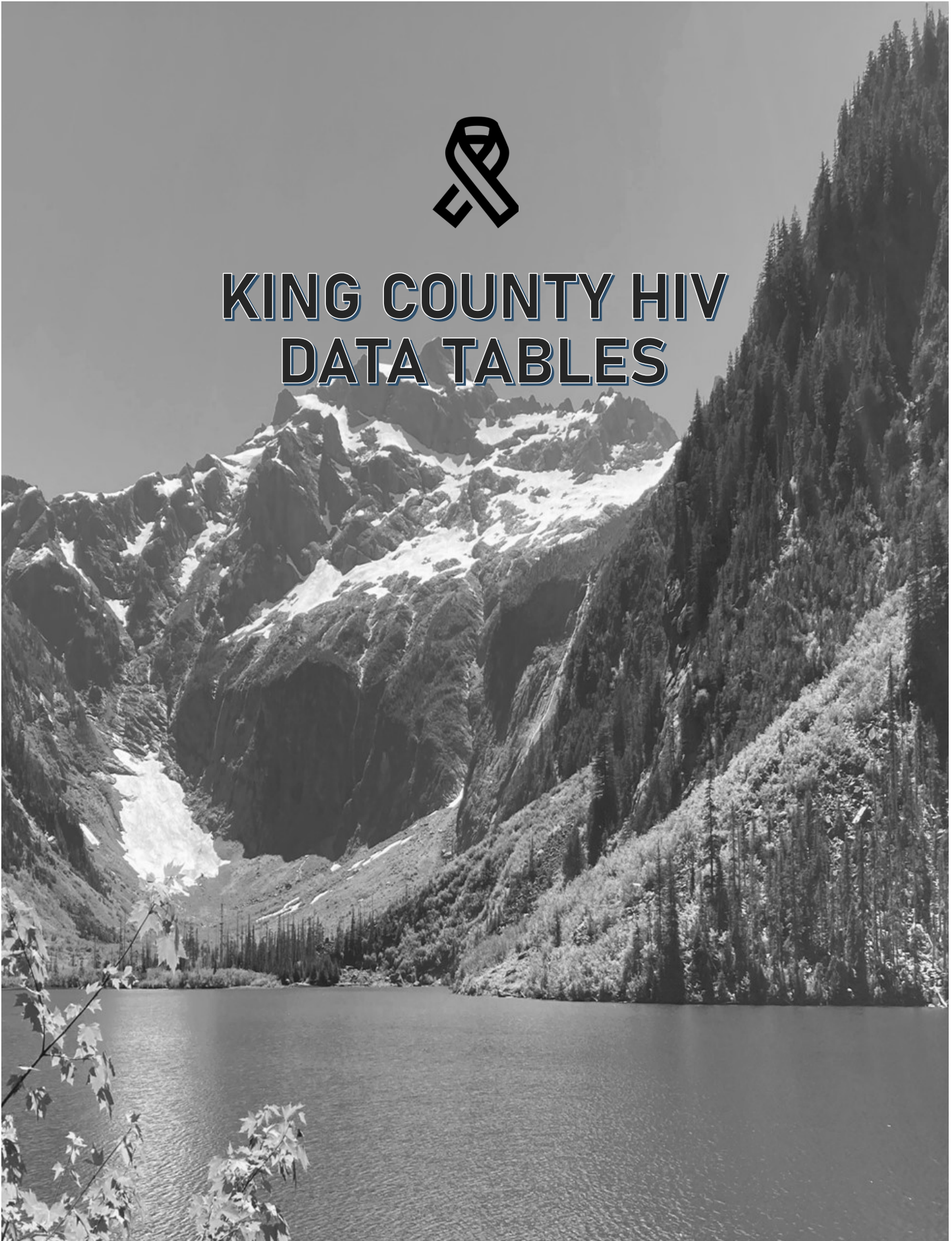


TABLE 3-1. PEOPLE LIVING WITH HIV AS OF DECEMBER 31, 2021 BY RESIDENCE STATUS, KING COUNTY^A

	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	7,160	100%	4,685	100%	2,475	100%	3,572	100%
Gender ^B								
Cisgender men	6130	86%	3958	84%	2,172	88%	3162	89%
Cisgender women	943	13%	671	14%	272	11%	377	11%
Transgender men	8	<1%	6	<1%	2	<1%	4	<1%
Transgender women	79	1%	50	1%	29	1%	29	1%
Current Age								
< 13	6	<1%	5	<1%	1	<1%	0	0%
13 - 24	116	2%	71	2%	45	2%	44	1%
25 - 34	985	14%	577	12%	408	16%	263	7%
35 - 44	1,514	21%	872	19%	642	26%	611	17%
45 - 54	1,813	25%	1,174	25%	639	26%	989	28%
55+	2,726	38%	1,986	42%	740	30%	1,665	47%
Race and Hispanic/Latinx Origin ^C								
American Indian / Alaska Native	264	4%	189	4%	75	3%	122	3%
Asian	568	8%	390	8%	178	7%	214	6%
Black	1,893	26%	1,143	24%	750	30%	704	20%
- U.S.-Born	1,126	16%	587	13%	539	22%	399	11%
- Foreign-Born ^D	767	11%	556	12%	211	9%	305	9%
Latina/o/x and Hispanic (all races)	1,116	16%	686	15%	430	17%	527	15%
- U.S.-Born ^D	517	7%	268	6%	249	10%	252	7%
- Foreign-Born	599	8%	418	9%	181	7%	275	8%
Native Hawaiian / Pacific Islander	95	1%	64	1%	31	1%	35	1%
White	4,805	67%	3,130	67%	1,675	68%	2,593	73%
Multiple Race	493	7%	299	6%	194	8%	223	6%
Transmission Category								
Cisgender Men:								
- Male / Male Sex (MSM)	4,685	65%	3,034	65%	1,651	67%	2,449	69%
- Injecting Drug Use (IDU)	167	2%	107	2%	60	2%	80	2%
- MSM and IDU	637	9%	356	8%	281	11%	349	10%
- Heterosexual Contact	188	3%	127	3%	61	2%	83	2%
- Pediatric	21	<1%	11	<1%	10	<1%	8	<1%
- Transfusion / Hemophiliac	12	<1%	10	<1%	2	<1%	4	<1%
- No Identified Risk	418	6%	311	7%	107	4%	190	5%
Transgender Men (all transmission categories)	7	<1%	5	<1%	2	<1%	4	<1%
Cisgender Women:								
- Injecting Drug Use	105	1%	73	2%	32	1%	48	1%
- Heterosexual Contact	593	8%	443	9%	150	6%	242	7%
- Pediatric	41	1%	20	0%	21	1%	11	0%
- Transfusion / Hemophiliac	8	<1%	7	<1%	1	<1%	4	0%
- No Identified Risk	197	3%	129	3%	68	3%	72	2%
Transgender Women (all transmission categories)	81	1%	52	1%	29	1%	28	1%

^ABased on HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2022.^BWe assume that people are cisgender in the absence of known transgender identity.^CRacial and ethnic groups in this table include multiracial individuals; individuals appear more than once and percentages will sum >100%.^DWhen country of birth is unknown, we assume individuals were born in the United States. Additionally, people born in U.S. Territories were counted as Foreign Born.

TABLE 3-2. NEWLY DIAGNOSED CASES OF HIV INFECTION, KING COUNTY, 2016-2021

	Newly Diagnosed Cases of HIV Disease								Late HIV	
	Year of HIV Diagnosis:	2016	2017	2018	2019	2020	2021	2020-2021	Annual Rate 2020-2021	2016-2020 ^A
	No.	No.	No.	No.	No.	No.	No.	No. %		%
Total	179	171	216	177	159	163	322	100%	7.1	19%
Gender^B										
Cisgender men	150	143	169	145	138	134	272	84%	12.0	15%
Cisgender women	26	25	47	29	18	22	40	12%	1.8	24%
Transgender men	0	1	0	0	0	1	1	<1%	---	0%
Transgender women	3	2	0	3	3	6	9	3%	---	12%
Age at HIV Diagnosis										
< 13	0	1	0	0	0	0	0	0%	0.0	0%
13 - 24	34	26	26	25	27	17	44	14%	6.7	3%
25 - 34	65	67	81	70	56	74	130	40%	14.7	9%
35 - 44	38	25	50	39	36	37	73	23%	10.0	19%
45 - 54	20	34	30	28	23	21	44	14%	8.0	29%
55+	22	18	29	15	17	14	31	10%	2.9	37%
Race and Hispanic/Latinx Origin^C										
American Indian / Alaska Native	3	2	1	1	2	4	6	2%	21.8	8%
Asian	17	11	10	9	16	9	25	8%	2.8	26%
Black	32	41	46	36	28	35	63	20%	20.4	28%
- U.S.-Born Black ^D	18	23	20	21	17	20	37	11%	17.8	18%
- Foreign-Born Black	14	18	26	15	11	15	26	8%	25.6	38%
Hispanic/Latinx (all races)	42	34	39	39	19	34	53	16%	11.3	14%
- U.S.-Born Latinx ^D	24	13	25	14	8	14	22	7%	7.5	6%
- Foreign-Born Latinx	18	21	14	25	11	20	31	10%	17.3	21%
Native Hawaiian / Pacific Islander	0	3	3	3	2	1	3	1%	7.6	17%
White	75	73	107	79	85	70	155	48%	6.0	11%
Multiple Race	10	7	10	10	7	10	17	5%	7.9	9%
Transmission Category										
Cisgender Men:										
- Male / Male Sex (MSM)	110	107	105	108	109	97	206	64%	---	14%
- Injection Drug Use (IDU)	8	4	15	7	4	2	6	2%	---	24%
- MSM and IDU	16	14	25	13	15	18	33	10%	---	10%
- Heterosexual Contact	5	2	5	5	2	2	4	1%	---	37%
- Pediatric	0	0	0	0	0	0	0	0%	---	n/a
- Transfusion / Hemophiliac	0	0	0	0	0	0	0	0%	---	n/a
- No Identified Risk	11	16	19	12	8	15	23	7%	---	45%
Transgender Men (all transmission categories)	0	1	0	0	0	1	1	0%	---	n/a
Cisgender Women:										
- Injection Drug Use	3	3	16	9	1	2	3	1%	---	6%
- Heterosexual Contact	19	16	25	15	10	11	21	7%	---	27%
- Pediatric	0	1	1	0	0	0	0	0%	---	50%
- Transfusion / Hemophiliac	1	0	0	0	0	0	0	0%	---	n/a
- No Identified Risk	3	5	5	5	7	9	16	5%	---	56%
Transgender Women (all transmission categories)	3	2	0	3	3	6	9	3%	---	18%

Based on HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2022. Rates are per 100,000 residents.

Rates assume 33% of Black and 38% of Hispanic/Latinx residents are foreign born.

n/a designates estimate is not available.

^ALate HIV diagnoses based on new HIV cases diagnosed between 2016 and 2020; late diagnoses are defined as those with AIDS (a CD4 count of <200/microliter and/or opportunistic infection diagnosis) within one year of initial HIV diagnosis and no evidence of a negative HIV test in the two years preceded-

^BWe assume that people are cisgender in the absence of known transgender identity.

^CRace/ethnicity includes Latinx/Hispanic persons of any race and non-Latinx/Hispanic individuals with single races or whom are multiracial. These categories differ from categories used elsewhere in this report to match census data for rate calculations.

^DWhen country of birth is unknown, we assume individuals were born in the United States. Additionally, people born in U.S. Territories were counted as Foreign Born.

TABLE 3-3. AIDS CASES AND CUMULATIVE DEATHS, 1982-2021, KING COUNTY

	Recent AIDS Cases 2020-2021			Current AIDS Cases Living in King County 2021			Cumulative AIDS Cases 1982-2021		Cumulative Deaths ^A 1982-2021	
	No.	%	Rate	No.	%	Prevalence	No.	%	No.	%
Total	167	100%	3.7	3,408	100%	148.4	9,363	100%	5,723	100%
Gender^B										
Cisgender men	134	80%	5.9	2,918	86%	253.8	8,530	91%	5,372	94%
Cisgender women	29	17%	1.3	451	13%	39.4	785	8%	338	6%
Transgender men	1	1%	---	1	<1%		2	<1%	1	<1%
Transgender women	3	2%	---	37	1%		46	0%	12	<1%
Age at AIDS Diagnosis				Current Age			Age at Diagnosis		Age at Death	
< 13	0	0%	0.0	0	0%	0.0	14	<1%	7	<1%
13 - 24	11	7%	1.7	16	0%	4.9	314	3%	41	1%
25 - 34	40	24%	4.5	192	6%	42.4	3,155	34%	1,171	20%
35 - 44	45	27%	6.2	558	16%	148.7	3,635	39%	2,129	37%
45 - 54	39	23%	7.1	918	27%	333.4	1,642	18%	1,344	23%
55+	32	19%	3.0	1,724	51%	324.4	603	6%	1,031	18%
Race and Hispanic/Latinx Origin^C										
American Indian / Alaska Native	1	1%	3.6	25	1%	180.3	97	1%	72	1%
Asian	17	10%	1.9	159	5%	35.0	222	2%	78	1%
Black	40	24%	13.0	721	21%	453.8	1,328	14%	637	11%
Hispanic/Latinx (all races)	35	21%	7.4	529	16%	221.1	935	10%	355	6%
Native Hawaiian / Pacific Islander	2	1%	5.0	14	<1%	69.5	26	<1%	12	<1%
White	62	37%	2.4	1,704	50%	130.9	6,284	67%	4,390	77%
Multiple Race	10	6%	4.7	256	8%	235.2	471	5%	179	3%
Transmission Category										
Cisgender Men:										
- Male / Male Sex (MSM)	80	48%	---	2,102	62%	---	6,405	68%	4,064	71%
- Injecting Drug Use (IDU)	5	3%	---	109	3%	---	380	4%	289	5%
- MSM and IDU	21	13%	---	331	10%	---	1,007	11%	668	12%
- Heterosexual Contact	6	4%	---	124	4%	---	203	2%	69	1%
- Pediatric	0	0%	---	8	<1%	---	10	<1%	5	<1%
- Transfusion / Hemophiliac	0	0%	---	10	<1%	---	66	1%	55	1%
- No Identified Risk	22	13%	---	234	7%	---	459	5%	222	4%
Transgender Men (all transmission categories)	0	0%	---	1	<1%	---	1	<1%	1	0%
Cisgender Women:										
- Injecting Drug Use	3	2%	---	59	2%	---	173	2%	133	2%
- Heterosexual Contact	14	8%	---	301	9%	---	494	5%	158	3%
- Pediatric	1	1%	---	15	<1%	---	14	<1%	5	<1%
- Transfusion / Hemophiliac	0	0%	---	6	<1%	---	23	<1%	18	<1%
- No Identified Risk	12	7%	---	71	2%	---	82	1%	24	<1%
Transgender Women (all transmission categories)	3	2%	---	37	1%	---	46	<1%	12	<1%

Based on HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2022. Rates and prevalence are per 100,000 residents.

^AIncludes 403 cases with an HIV-only diagnosis and 5,320 AIDS cases. 3,935/5,723 (69%) deaths had HIV listed as an underlying condition.

^BWe assume that people are cisgender in the absence of known transgender identity

^CRace/ethnicity includes Latinx/Hispanic persons of any race and non-Latinx/Hispanic individuals with single races or whom are multiracial. These categories differ from categories used elsewhere in this report to match census data for rate calculations.

TABLE 3-4. LIVING CASES OF HIV INFECTION BY CURRENT GENDER, RACE/ETHNICITY, AND TRANSMISSION CATEGORY AS OF DECEMBER 31, 2021 KING COUNTY^A

Transmission Category	American Indian / Alaska Native		Asian		Black		Hispanic/Latinx		White	
	No.	%	No.	%	No.	%	No.	%	No.	%
Cisgender Men:^B										
Male / Male Sex (MSM)	19	68%	228	77%	533	56%	814	82%	2,746	81%
People Who Inject Drugs (PWID)	3	11%	3	1%	51	5%	16	2%	79	2%
MSM and PWID	6	21%	9	3%	55	6%	71	7%	426	13%
Heterosexual Contact	0	0%	6	2%	108	11%	29	3%	35	1%
- U.S.-Born ^C	0	0%	0	0%	31	3%	5	1%	27	1%
- Foreign-Born	0	0%	6	2%	77	8%	24	2%	8	<1%
Pediatric	0	0%	1	<1%	14	1%	1	<1%	3	<1%
Transfusion / Hemophiliac	0	0%	0	0%	2	<1%	1	<1%	9	<1%
No Identified Risk	0	0%	48	16%	187	20%	62	6%	102	3%
Total Cisgender Men	28	100%	295	100%	950	100%	994	100%	3,400	100%
Total Transgender Men	0	0%	1	100%	3	100%	1	100%	3	100%
Cisgender Women:^B										
People Who Inject Drugs (PWID)	4	31%	1	3%	18	3%	5	5%	65	31%
Heterosexual Contact	8	62%	26	72%	335	62%	76	80%	120	57%
- U.S.-Born ^C	7	54%	3	8%	89	17%	19	21%	110	52%
- Foreign-Born	1	8%	23	64%	246	45%	56	59%	10	5%
Pediatric	0	0%	1	3%	31	6%	2	2%	5	2%
Transfusion / Hemophiliac	0	0%	0	0%	5	1%	0	0%	2	1%
No Identified Risk	1	8%	8	22%	151	28%	12	13%	19	9%
Total Cisgender Women	13	100%	36	100%	540	100%	95	100%	211	100%
Transgender Women:										
Male Sex Partner	1	100%	5	83%	13	93%	22	85%	13	59%
Male Sex Partner & PWID	0	0%	0	0%	1	7%	4	15%	9	41%
No Identified Risk	0	0%	1	17%	0	0%	0	0%	0	0%
Total Transgender Women	1	100%	6	100%	14	100%	26	100%	21	100%

Based on HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2022.

^ATable excludes 29 Native Hawaiian and Pacific Islander cases due to small numbers.^BWe assume that people are cisgender in the absence of known transgender identity.^CWhen country of birth is unknown, we assume individuals were born in the United States. Additionally, people born in U.S. Territories were counted as Foreign Born

TABLE 3-5. CASES OF HIV INFECTION AMONG TRANSGENDER PEOPLE 2016-2021, KING COUNTY^A

	New HIV Diagnoses (2016-2021)				Transgender HIV Cases Presumed Living in King County at the end of 2021	
	Transgender HIV Cas-		All HIV Cases			
	No.	%	No.	%	No.	%
Total	19	100%	1,065	100%	88	100%
Race and Hispanic/Latinx Origin ^B						
American Indian/Alaska Native	1	5%	39	4%	6	7%
Asian	3	16%	95	9%	11	13%
Black	3	16%	266	25%	24	27%
Hispanic/Latinx	7	37%	207	19%	27	31%
Native Hawaiian / Pacific Islander	3	16%	21	2%	6	7%
White	8	42%	676	63%	47	53%
Injection Drug Use						
Yes	3	16%	178	17%	19	22%
No	13	68%	769	72%	65	74%
Unknown	3	16%	118	11%	4	5%
Age at HIV Diagnosis in Years						
< 13	0	0%	1	0%	0	0%
13 - 24	6	32%	155	15%	3	3%
25 - 34	10	53%	413	39%	29	33%
35 - 44	3	16%	225	21%	23	26%
45 - 54	0	0%	156	15%	22	25%
55+	0	0%	115	11%	11	13%
Gender identity						
Transgender Men	2	11%	NA		7	8%
Transgender Women	17	89%			81	92%

Based on HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2022.

^AIdentification of people that 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. Data presented here are a potential undercount.

^BRacial and ethnic groups in this table include multiracial individuals; individuals appear more than once and percentages will sum >100%.

TABLE 3-6. CASES OF HIV INFECTION AMONG MEN WHO HAVE SEX WITH MEN (MSM), 2020-2021, KING COUNTY

	New HIV Diagnoses (2020-2021)				MSM HIV Cases Presumed Living in King County at the End of 2021	
	MSM HIV Cases		All HIV Cases		No.	%
	No.	%	No.	%		
Total	239	100%	322	100%	5,322	100%
Race and Hispanic/Latinx Origin^A						
American Indian / Alaska Native	8	3%	12	4%	206	4%
Asian	24	10%	31	10%	421	8%
Black	43	18%	78	24%	891	17%
Hispanic/Latinx (all races)	39	16%	53	16%	885	17%
Native Hawaiian / Pacific Islander	2	1%	4	1%	73	1%
White	175	73%	207	64%	4,135	78%
Injection Drug Use						
Yes	33	14%	46	14%	637	12%
No	206	86%	188	58%	4,685	88%
Unknown	0	—	88	27%	0	0%
Age at HIV Diagnosis in Years					Age at end of 2021	
< 13	0	0%	0	0%	0	0%
13 - 24	38	16%	44	14%	69	1%
25 - 34	103	43%	130	40%	781	15%
35 - 44	53	22%	73	23%	1,125	21%
45 - 54	30	13%	44	14%	1,285	24%
55+	15	6%	31	10%	2,062	39%
Country of Birth						
United States	186	78%	222	69%	4,297	81%
Outside of the United States ^B	44	18%	82	25%	788	15%
Unknown	9	4%	18	6%	237	4%

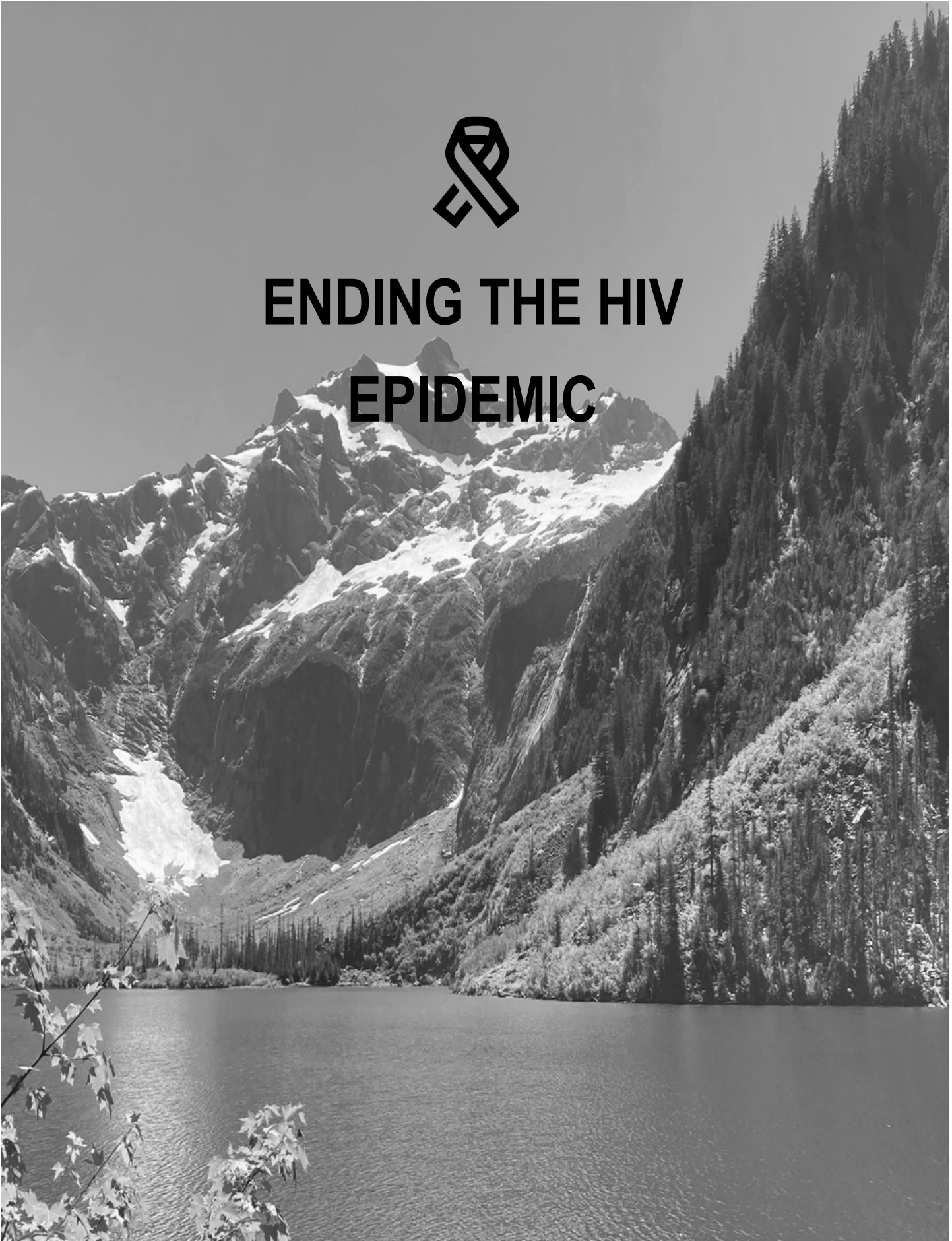
Based on HIV/AIDS surveillance data reported to the Washington State Department of Health as of June 30, 2022.

^ARacial and ethnic groups in this table include multiracial individuals; individuals appear more than once and percentages will sum >100%.

^BIncludes U.S. territories.



ENDING THE HIV EPIDEMIC



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

KEY POINTS

In 2021, 163 people were newly diagnosed with HIV in King County, continuing an overall downward trend since 2014.

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

Rates of new HIV diagnoses among Latinx and U.S.-born Black residents have overall declined since 2018 but increased from 2020 to 2021. Other than Asian residents, all people of color face disproportionately higher diagnosis rates relative to White residents.

MSM continue to comprise the majority of new HIV diagnoses, and Multiracial, American Indian/Alaska Native, Black, and Latinx MSM had the highest diagnosis rates, respectively, in 2021.

Approximately 12% of people newly diagnosed with HIV in 2021 and 10% of all people living with HIV (PLWH) in King County were homeless or unstably housed. PLWH who were living homeless had lower levels of viral suppression and care engagement than PLWH who were stably housed.

Introduction

DESCRIPTION OF KING COUNTY: King County currently has a population of about 2.3 million people living within 2,307 square miles between the eastern shore of Puget Sound and the Cascade Mountains. The county is the 13th largest in the U.S. by population. The county seat of King County 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 a house in 2021 was about \$3,000 and the median house price was about \$828,000. 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 at least five-fold. Latinx residents make up 11% of the population. Excluding Latinx people, 54% of the county population is White, 20% is Asian, 7% is Black, 1% is Pacific Islander, and 7% is multiracial. About 24% of King County residents are foreign-born, including 33% of Black, 38% of Latinx, and 67% of Asian residents. In 2021, 15% of the King County population was under 13 years and 26% was 55 years and older.

HIV PREVALENCE: As of December 31, 2021, 7,211 people living with HIV (PLWH) had a King County address. This

estimate has been stable for many years. However, 51 (0.7%) cases were investigated due to having no known HIV care for at least 1.5 years and found likely to be no longer living in King County based on a search of publicly available records. In accordance with national HIV surveillance protocols, Public Health – Seattle & King County (PHSKC) does not change the official residence of PLWH unless a health department in another jurisdiction confirms that a person has relocated. Thus, the current official federal count of PLWH in King County in 2021 is 7,211; however, 7,160 is a more accurate number of PLWH in King County. (Note that Washington State and King County numbers of prevalent King County PLWH will differ due to differences in data cleaning, record access, and/or date of analysis.) Therefore, in the remainder of this section and throughout the remainder of this report, we use a local estimate of 7,160 PLWH, removing cases PHSKC believes have left the county based on our investigations. Surveillance reports in 2020 and 2021 used a similar adjustment.

NOTES REGARDING 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. The number of 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 163 new diagnoses in 2021. 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 222 new HIV diagnoses reported in King County in 2021. However, 59 of these cases (27% of 222) were diagnosed prior to 2021 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 163 new HIV diagnoses in 2021. 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 due to differences in data cleaning, record access, and/or date of analysis.)

HIV diagnosis rates are calculated by dividing the number of new cases in a population by an estimated population size of people at risk of HIV. Calculating these rates by characteristics collected in demographic data is largely straightforward because the U.S. Census and American Community Surveys provide reliable estimates of the size of each population. However, calculating HIV diagnosis

rates by risk categories (e.g., men who have sex with men [MSM], people who inject drugs [PWID], heterosexual exposure) involves more uncertainty since the size of these populations are not precisely known. When calculating these rates, we often need to make assumptions or use imperfect measures of population size. See **Table 4-1** for a summary of relevant King County population sizes. Due in part to a lack of data on transgender status in the U.S. Census data, 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 averages 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 defined as residents aged 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.

New HIV Diagnoses and Prevalence

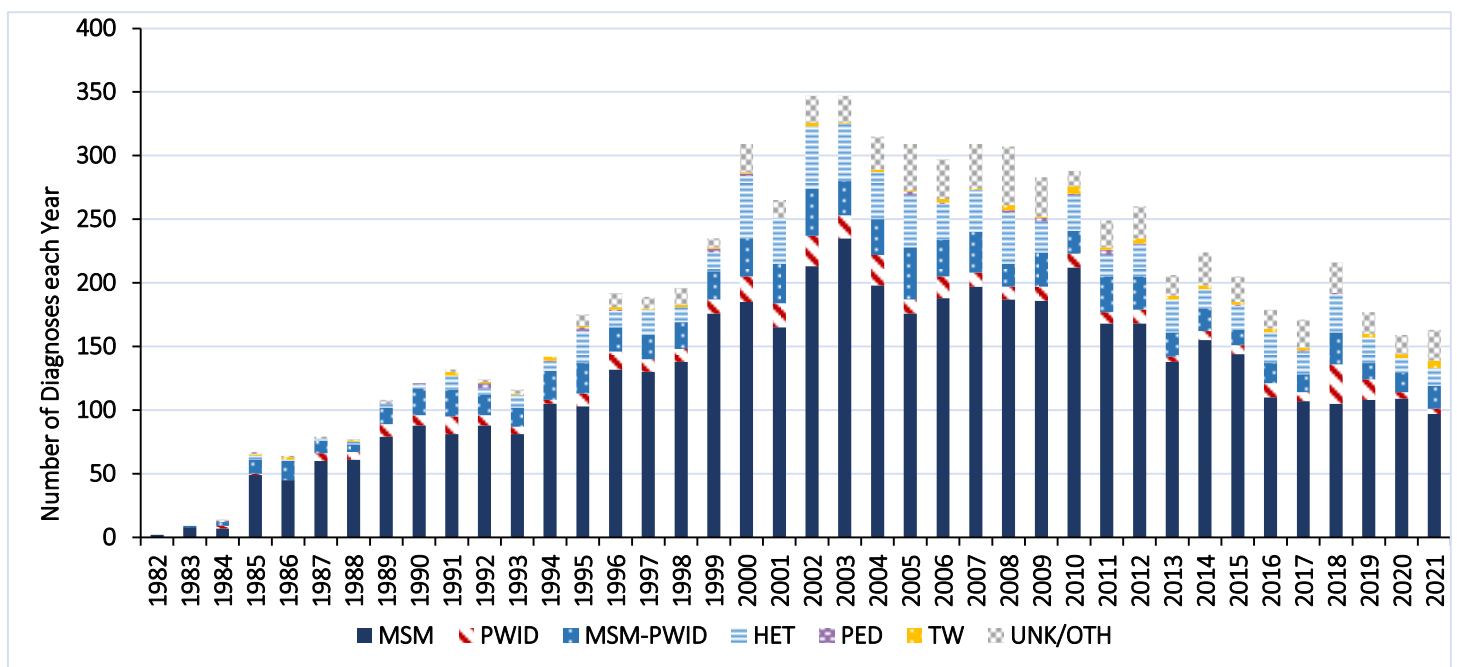
TRENDS IN DIAGNOSES BY TRANSMISSION CATEGORY: **Table 4-2** and **Figure 4-1** present the numbers of new HIV diagnoses by HIV risk category among King County residents from the start of the epidemic (1982) through 2021. Over the past 10 years there has been a 37% overall, absolute decline in new diagnoses. (Adjusting for population growth, this is a 47% decline.) There was, however, an increase in HIV cases in 2018-2019 largely due to a 328% increase in cases among people PWID between 2017 and 2018. Correspondingly, the percent of HIV diagnoses who were non-PWID MSM declined from 63% in 2017 to 48% in 2018 and then increased to a more typical proportion of 59% in 2021.

TRENDS IN HIV DIAGNOSIS RATES: HIV incidence and prevalence are characterized by profound gender, racial, and ethnic disparities. The overall 10 year diagnosis incidence rate, and that for men (based on sex assigned at birth), both declined 47% between 2012 and 2021 (**Figure 4-2**). The diagnosis rates for women, although at least six times lower than that in men, remained relatively stable over the past decade. In **Figure 4-3**,

TABLE 4-1 POPULATION SIZE FOR RELEVANT DEMOGRAPHICS IN KING COUNTY

Population	Estimated Population Size, King County, 2021	Data Source
Men who have sex with men (MSM)	61,960	PHSKC estimate of the percentage of all men who are MSM based on BRFSS (Behavioral Risk Factor Surveillance System) sexual orientation metrics applied to U.S. Census data of males aged 15 years and over
People who inject drugs (excluding MSM)	22,000	PHSKC estimate based on national and local estimates of the
Latinx	253,242	Washington Office of Financial Management projections based on Washington-specific trends and U.S. Census data
U.S.-Born Latinx	157,010	
Foreign-Born Latinx	96,232	
Single Race, non-Latinx American Indian Alaska Native	13,863	
American Indian Alaska Native, including Latinx and Multiracial AI/AN	51,063	
Single Race, non-Latinx Black/African American	151,763	
Single Race U.S.-Born Black	101,681	
Single Race Foreign-Born Black	50,082	
Non-Latinx Multiracial	151,601	
Single Race, non-Latinx White	1,233,630	
Single Race, non-Latinx Asian	464,921	
Single Race, non-Latinx Pacific Islander	19,943	
Male (sex assigned at birth)	1,145,255	
Female (sex assigned at birth)	1,141,795	
Total Population	2,287,050	

FIGURE 4-1. HIV DIAGNOSES BY YEAR AND HIV TRANSMISSION CATEGORY, KING COUNTY, WA, 1982-2021



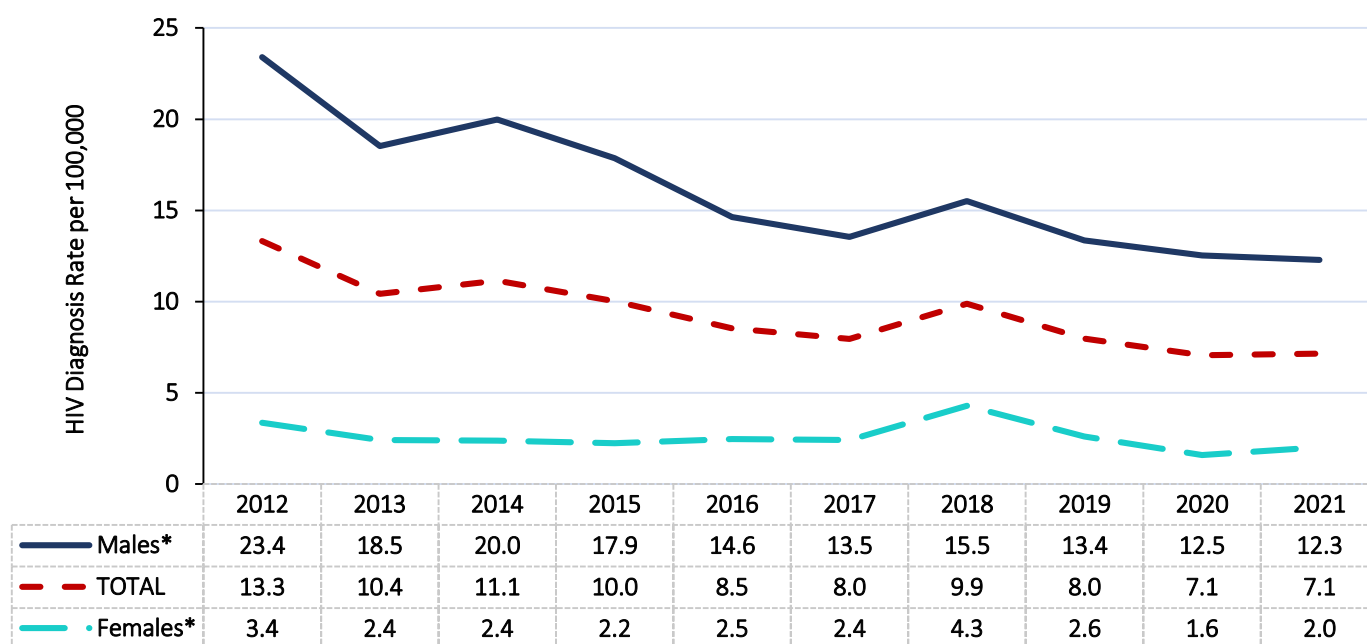
MSM=Men who have sex with men; PWID = People who inject drugs; HET = Heterosexuals (opposite sex partner with or at higher risk of HIV), including presumed heterosexual transmission (women who have sex with men and deny PWID); PED = pediatric transmission, neonatally; TW: transgender women (any risk group(s)); UNK/OTH = other risk, such as blood products or transfusions or no reported risk.

TABLE 4-2: HIV DIAGNOSES BY YEAR AND TRANSMISSION CATEGORY, KING COUNTY, WA, PRE-1985-2021

Year of diagnosis	MSM	PWID	MSM-PWID	HET	PED	TW	UNK/ OTH	Total	Year of diagnosis	MSM	PWID	MSM-PWID	HET	PED	TW	UNK/ OTH	Total
<1985	17	2	4	0	0	0	2	25	2003	235	18	27	45	0	1	21	347
1985	49	1	11	3	0	1	2	67	2004	198	24	28	37	0	2	26	315
1986	45	0	15	1	0	2	1	64	2005	176	11	41	41	3	1	36	309
1987	60	6	10	1	0	0	2	79	2006	188	17	29	28	1	3	31	297
1988	61	6	6	2	0	1	1	77	2007	197	11	32	33	0	1	35	309
1989	79	10	13	3	1	0	2	108	2008	187	10	18	40	2	4	46	307
1990	88	8	21	3	1	0	0	121	2009	186	11	27	24	3	1	31	283
1991	81	14	21	11	0	3	2	132	2010	212	11	18	28	1	6	12	288
1992	88	8	16	5	4	1	2	124	2011	168	9	28	17	4	2	21	249
1993	81	6	15	10	0	1	3	116	2012	168	11	26	25	1	4	25	260
1994	105	3	23	7	1	3	0	142	2013	138	4	19	26	0	3	16	206
1995	103	10	24	25	3	1	9	175	2014	155	7	18	15	0	3	26	224
1996	132	14	19	13	1	2	11	192	2015	144	7	12	19	1	2	20	205
1997	130	10	19	20	0	1	9	189	2016	110	11	16	24	0	3	15	179
1998	138	10	21	12	0	2	13	196	2017	107	7	14	18	1	2	22	171
1999	176	11	22	15	3	1	7	235	2018	105	31	25	30	1	0	24	216
2000	185	20	30	49	2	1	22	309	2019	108	16	13	20	0	3	17	177
2001	165	19	31	36	0	0	14	265	2020	109	5	15	12	0	3	15	159
2002	213	24	37	49	0	3	21	347	2021	97	4	18	14	0	6	24	163

MSM: Men who have sex with men (those presumed cisgender); **PWID:** people who inject drugs, **MSM-PWID:** Men who have sex with men and inject drugs, **HET:** Persons with presumed or documented heterosexual risk (e.g. opposite-sex partner living with or at risk of HIV, including persons assigned female at birth [cisgender women and transgender men] who deny injecting drugs; includes transgender men due to small numbers), **PED:** pediatric transmission, neonatally, **TW:** transgender women (any risk group[s]), **UNK/OTH:** other risk, such as blood products or transfusion, or no reported risk.

FIGURE 4-2: HIV DIAGNOSES RATES BY YEAR AND SEX ASSIGNED AT BIRTH, KING COUNTY, WA, 2012-2021



* According to sex assigned at birth.

these rates are stratified by nativity. Overall, the percent of new diagnoses who are foreign-born has remained steady, ranging between 24% and 30% over the 10 years. HIV diagnosis rates are similar for U.S.-born and foreign-born males, but overall and female rates are higher for foreign-born residents.

The highest rates of infection by race/ethnicity were among Black/African American and American Indian/Alaska Native people (**Figure 4-4**). These disparities reflect both the 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 and racism. In general, both HIV diagnosis rates and the numbers of diagnoses among ethnic/racial minority groups are declining, and disparities in HIV diagnosis rates relative to the rate in non-Latinx White people are declining (**Table 4-3**). However, from 2020 to 2021, diagnosis rates and/or numbers of diagnoses increased among Latinx, Black (including foreign-born Black and U.S.-born Black), and American Indian and Alaska Native people (AI/AN). These numbers could signal a return to routine testing following COVID-19-related service disruptions in 2020.

Figure 4-5 shows estimated diagnosis rate trends by HIV risk categories. There is more uncertainty in these rates as less is known about the size of the underlying populations of MSM and PWID. As demonstrated in the figure, MSM-PWID had the highest HIV risk, followed by MSM, PWID, and then heterosexuals (note a different scale is used for heterosexuals). The 10-year trends demonstrate large decreases for MSM, who have the

largest HIV burden in King County.

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 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 2021. We assume that the percentage of men who are MSM does not vary by race/ethnicity. As seen in **Figure 4-6**, multiracial, Latinx, Black, AI/AN, and Native Hawaiian/Pacific Islander MSM have disproportionately higher rates of HIV compared to White 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 is 3.2 per 1,000). **Figure 4-7** 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 8.1%.

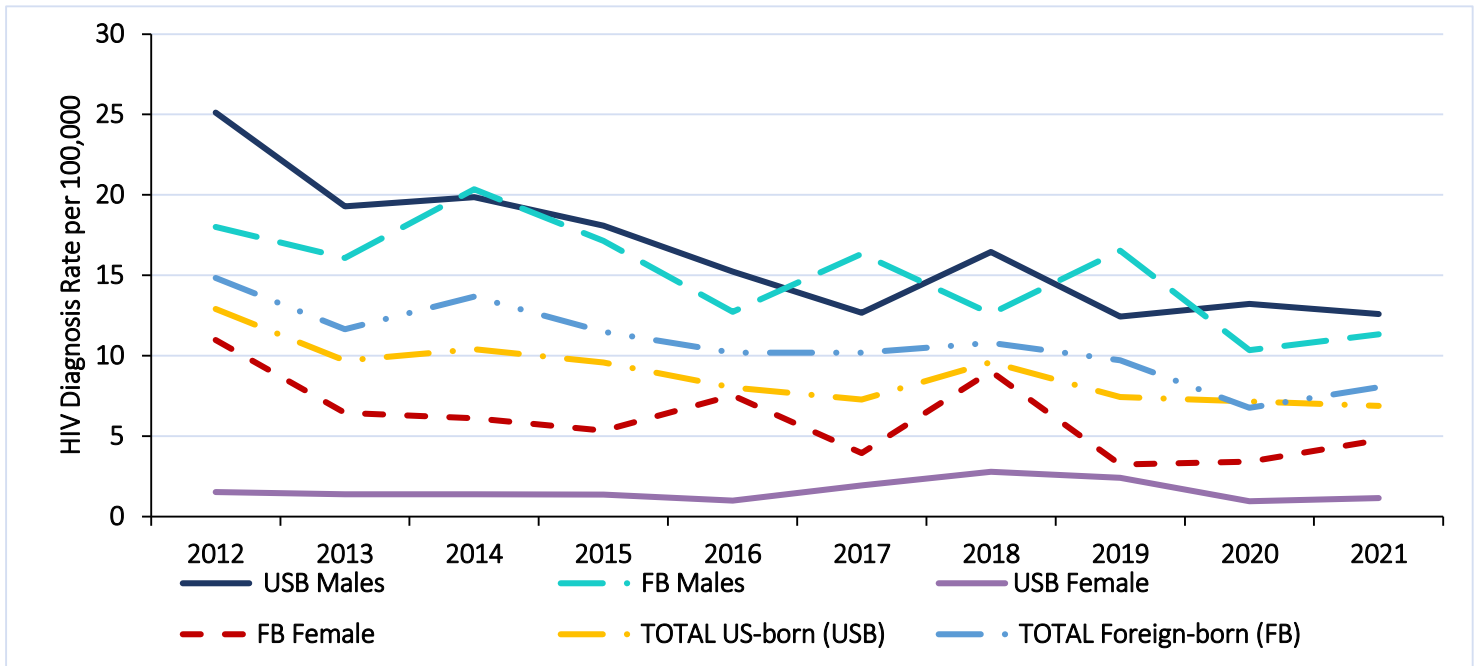
HIV DIAGNOSIS RATES BY RACE AMONG PLWH WITH

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 4-8**). Over the past decade, HIV diagnosis rates for PLWH with heterosexual contact risk

TABLE 4-3: NUMBER OF HIV DIAGNOSES BY YEAR AND RACE/ETHNICITY, KING COUNTY, WA, 2012-2021

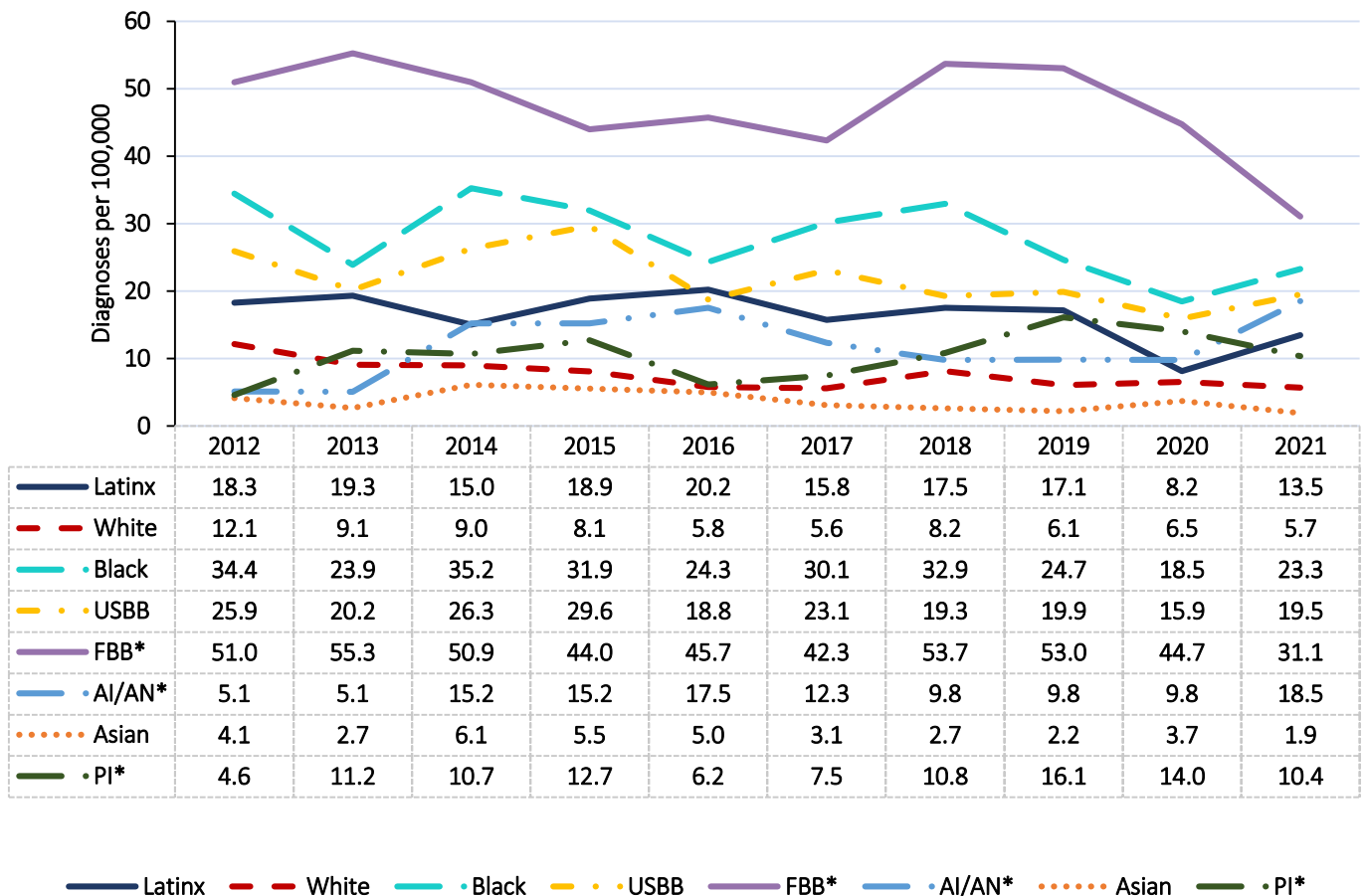
	White	Latinx	U.S.- Born Black	Foreign Born Black	Asian	American Indian Alaska Native	Pacific Islander	Multi- racial	Total
2012	152	33	24	17	12	0	0	22	260
2013	114	36	18	11	8	2	3	14	206
2014	114	29	24	20	19	4	2	12	224
2015	103	38	28	13	18	0	1	4	205
2016	75	42	18	14	17	3	0	10	179
2017	73	34	24	17	11	2	3	7	171
2018	107	39	20	26	10	1	3	10	216
2019	79	39	21	15	9	1	3	10	177
2020	85	19	17	11	16	2	2	7	159
2021	70	34	20	15	9	4	1	10	163

FIGURE 4-3: HIV DIAGNOSIS RATES BY YEAR, SEX ASSIGNED AT BIRTH, AND NATIVITY, KING COUNTY, WA, 2012-2021



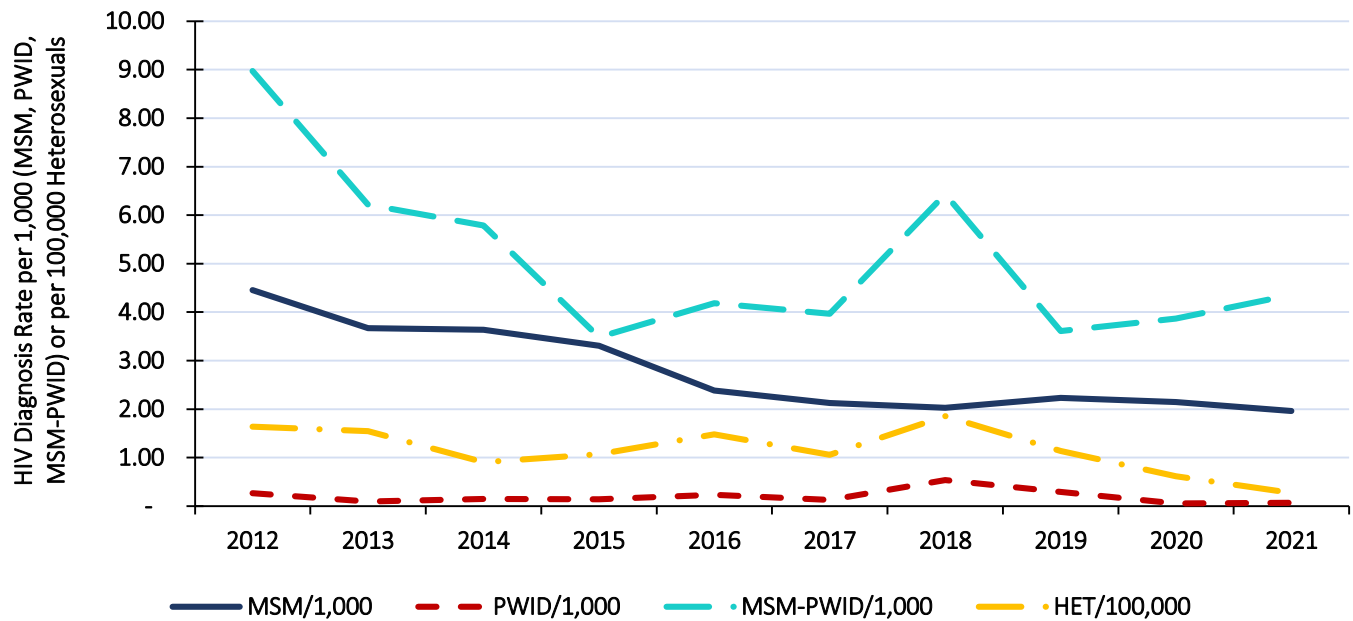
FB=Foreign born; USB=U.S.-born. U.S.-born here includes people born in U.S. territories.

FIGURE 4-4. RATE OF HIV DIAGNOSES PER 100,000 BY YEAR AND RACE/ETHNICITY, KING COUNTY, WA, 2012-2021



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

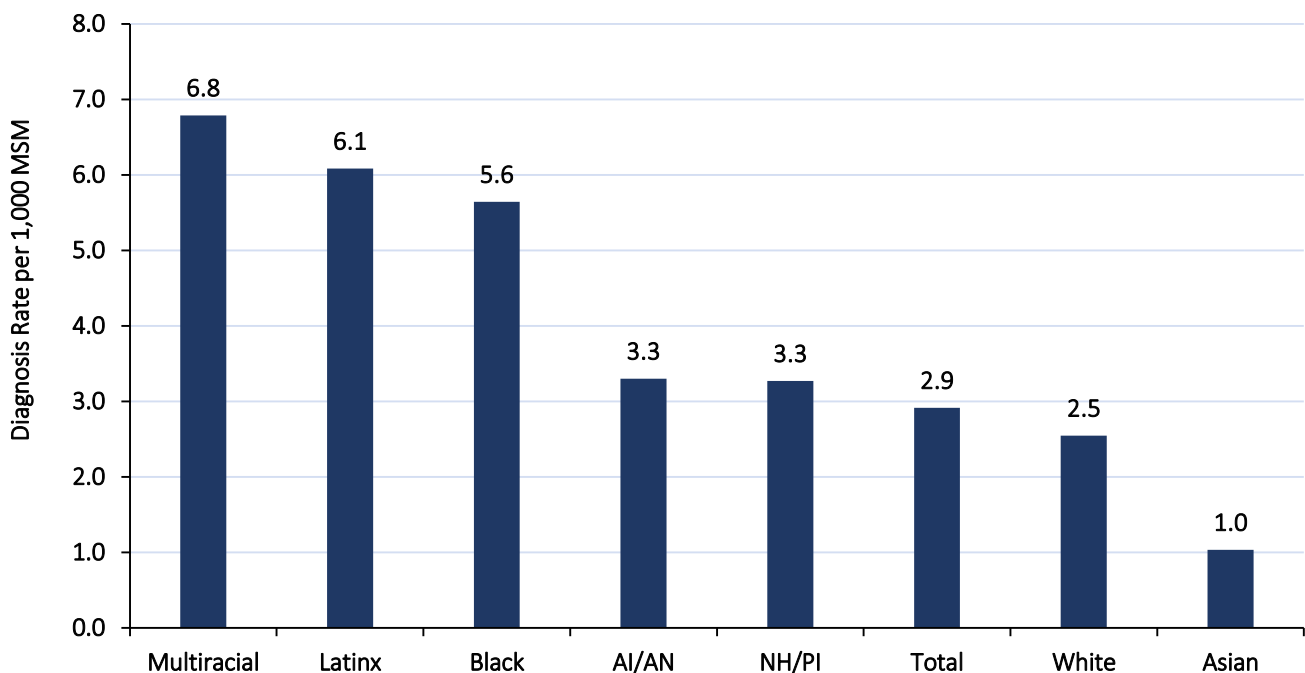
FIGURE 4-5. RATE OF HIV DIAGNOSES BY HIV TRANSMISSION CATEGORY, KING COUNTY, WA, 2012-2021



Note the line for heterosexual rates uses a different scale (per 100,000) than the other groups (per 1,000).

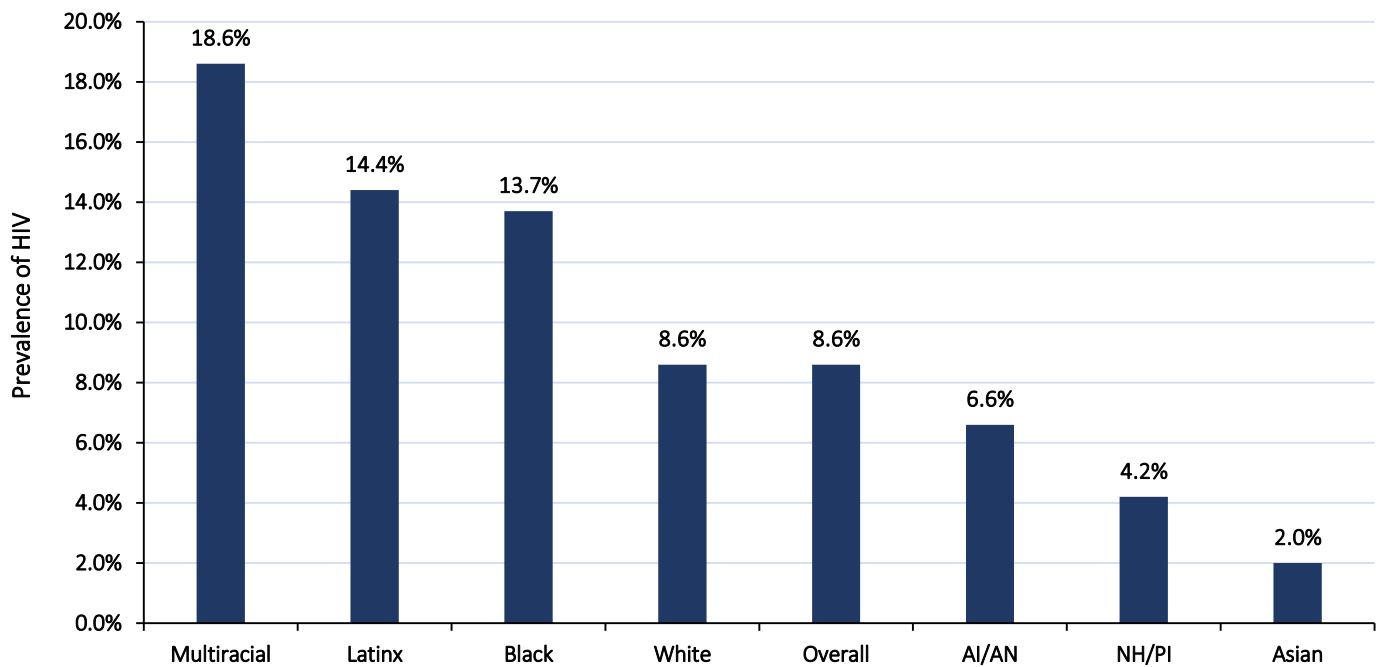
MSM=Men who have sex with men; **PWID** = People who inject drugs; **HET** = Heterosexuals (opposite sex partner with or at higher risk of HIV), including presumed heterosexual transmission (women who have sex with men and deny being PWID).

FIGURE 4-6: HIV DIAGNOSIS RATES* AMONG MEN WHO HAVE SEX WITH MEN (MSM) BY RACE/ETHNICITY, KING COUNTY, WA, 2012-2021



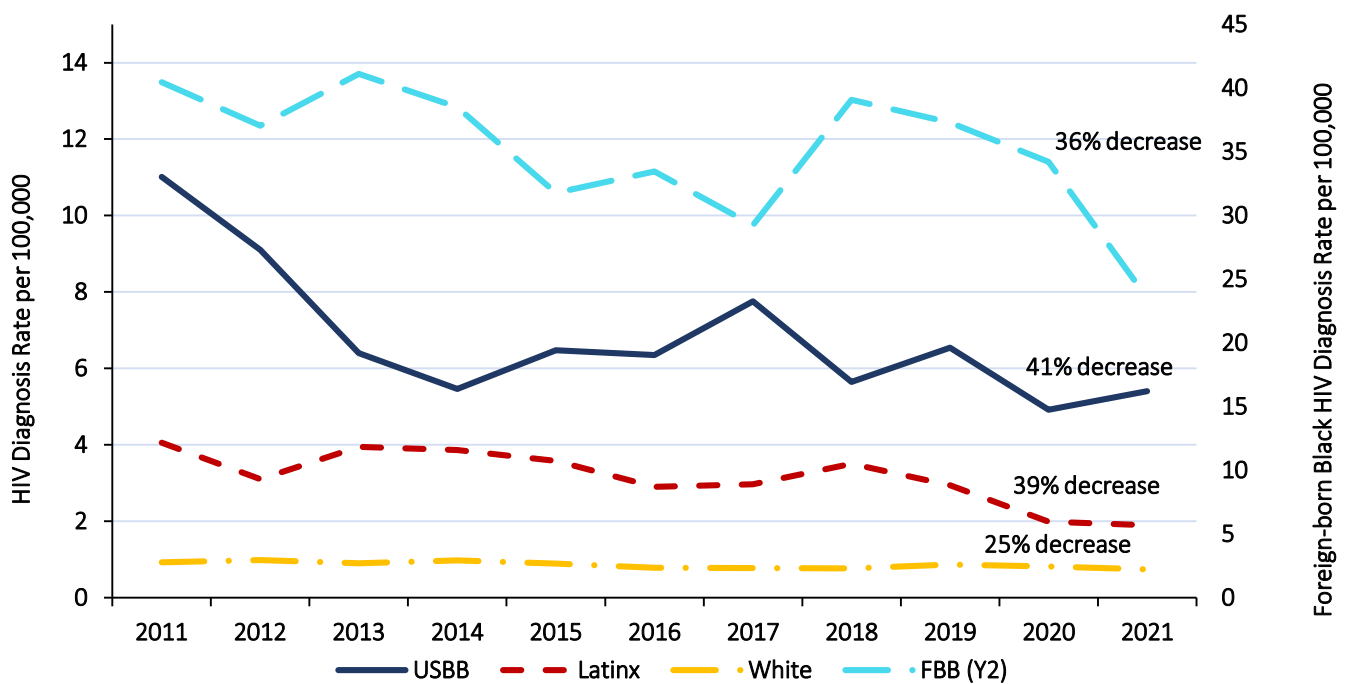
* 10 year average rate; **AI/AN**: American Indian/Alaska Native; **NH/PI**: Native Hawaiian/Pacific Islander.

FIGURE 4-7: HIV PREVALENCE AMONG MEN WHO HAVE SEX WITH MEN (MSM) BY RACE/ETHNICITY, KING COUNTY, WA, 2021



AI/AN: American Indian/Alaska Native; NH/PI: Native Hawaiian/Pacific Islander.

FIGURE 4-8: HIV DIAGNOSIS RATE* AMONG HETEROSEXUALS BY RACE/ETHNICITY AND NATIVITY, KING COUNTY, WA, 2012-2021



FBB: Foreign-born Black; USBB: U.S.-born Black.

*Rates are presented as 3-year rolling averages.

Note: Heterosexuals are loosely 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. Additionally, note the line for foreign-born Black people is on a different axis.

declined for foreign-born Black individuals (36%), U.S.-born Black people (41%), and Latinx people (39%) with a more modest decline (25%) for White individuals.

DRUG USE, MSM STATUS, AND DISPARITIES IN HIV PREVALENCE

AMONG PWID: Among PWID, HIV prevalence varies markedly by MSM status and methamphetamine use (Figure 4-9). 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 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.

HIV BY GEOGRAPHY

Data about PLWH in King County cities that had a population size above 50,000 or more than 100 PLWH in 2021 are included in Table 4-4. 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. Additionally, viremia – having record of an HIV viral load ≥ 200 copies/mL – was most

common in South King communities such as Burien, Auburn, and Kent.

NESS 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 has been consistently high and has perhaps increased somewhat over the past decade, with a large increase in 2018 coincident with the outbreak of HIV in north Seattle (Figure 4-10). From 2012-2017, 8-13% of newly diagnosed persons were homeless or unstably housed. This increased abruptly to 24% in 2018 and has declined since that time to 12% in 2021.

To assess homelessness among all PLWH, PHSKC compared address data on lab reports with a list of

TABLE 4-4: KEY METRICS OF INCIDENT HIV DIAGNOSES (2017-2021) AND PREVALENCE (2021) BY KING COUNTY CITIES

City	New Diagnoses, 2017-2021	New Diagnoses, 2021	PLWH in 2021	Number out of care or not virally suppressed	Percent Viremic	Percent Out-of-care	Population (2021 Estimate)	Diagnosis rate per 100K in 2021
Seattle	519	95	4,585	675	13%	8%	733,919	13.0
Bellevue	23	5	167	23	12%	9%	149,440	3.3
Kent	66	9	353	63	16%	10%	134,835	6.7
Renton	41	7	292	49	15%	10%	105,179	6.7
Federal Way	44	11	288	48	15%	9%	99,037	11.1
Kirkland	20	2	106	16	12%	9%	92,107	2.2
Auburn	22	1	218	41	17%	11%	85,699	1.2
Redmond	12	3	82	14	15%	10%	76,354	3.9
Sammamish	6	2	27	7	15%	19%	66,630	3.0
Burien	26	5	166	34	18%	14%	51,073	9.8
SeaTac	21	3	135	20	13%	7%	30,759	9.8
Tukwila	15	1	143	18	13%	4%	21,615	4.7
Shoreline	16	4	112	11	7%	6%	57,918	6.9
Other towns or unincorporated	55	15	486	66	12%	8%	547,740	2.7
Total	886	163	7160	1085	13%	9%	2252305	7.3

FIGURE 4-9: PREVALENCE OF HIV AMONG PWID, SEATTLE AREA NATIONAL HIV BEHAVIORAL SURVEILLANCE, 2018

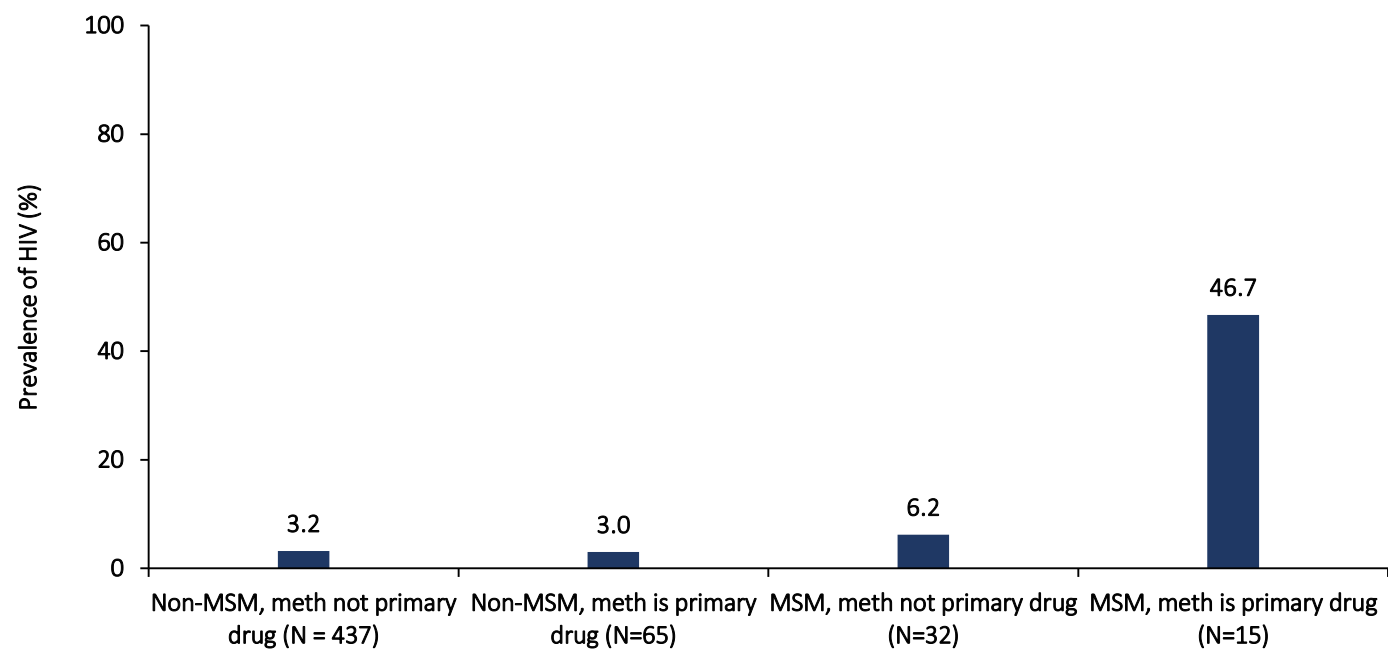
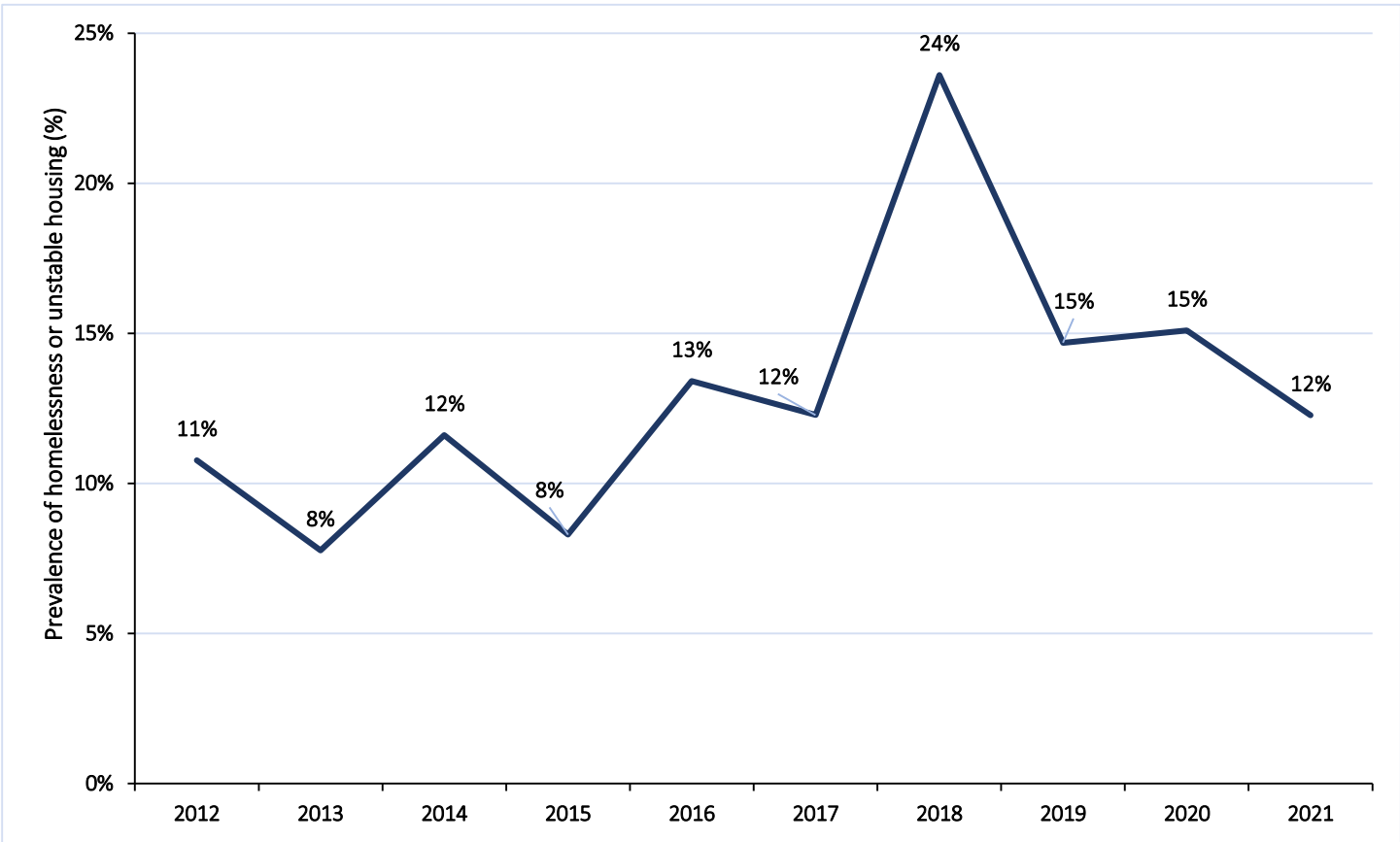


FIGURE 4-10: PREVALENCE OF HOMELESSNESS OR UNSTABLE HOUSING AMONG PEOPLE NEWLY DIAGNOSED WITH HIV, 2012-2021



homeless service centers, food banks, day centers, transitional housing facilities, shelters, medical facilities, and other addresses associated with housing instability. If the most recent address reported for an individual matched one of those addresses, we considered them to be homeless or unstably housed. Of the 7,160 PLWH in King County as of December 31, 2021, 368 (5%) had evidence of being unhoused or unstably housed in the HIV surveillance system based on a current or most recent address. For people whose HIV diagnosis was first reported to PHSKC in 2021, and who received a partner services interview, we considered self-report of housing instability, where available, instead of relying on surveillance data. Among the 3,555 (50%) PLWH in King County who received Ryan White services in 2021, 300 (8%) reported being unhoused, 16 (<1%) reported staying in an institution such as jail, and 101 (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 and considering any PLWH homeless if they were categorized as such in either method, we estimate at least 732 (10%) PLWH are unhoused or unstably housed. Of note, Black PLWH were more likely to be homeless than Latinx and White PLWH (13% compared to 10% and 9%). Although the number of unhoused persons in King County is not precisely known, King County government estimates that approximately 1.8% of county residents were homeless at some point in 2020, suggesting that homelessness is vastly more common among PLWH than the population as a whole. 647 (88%) of the PLWH classified as homeless by the combined method were receiving Ryan White Services in 2021. Ryan White is designed to meet the needs of economically vulnerable people, so this high proportion is encouraging. The remaining 12% of PLWH believed to be homeless may comprise a group that included people who were misclassified as homeless. Still, all PLWH facing housing instability likely qualify for Ryan White services, so this group represents a missed opportunity to provide PLWH in need with important services.

In 2021, both viral suppression and engagement in HIV care were strongly associated with housing stability. Seventy-two percent of people assumed to be unhoused were virally suppressed compared to 89% of those assumed stably housed. Additionally, 87% of persons assumed to be unhoused received HIV care 2021 (e.g., had evidence of a visit with a medical provider, receipt of an HIV medication refill, and/or evidence of HIV care-related lab services) while 92% of persons assumed to be

housed received care that year. We estimate that people experiencing housing instability were 2.4-times as likely to not have been virally suppressed than those who were stably housed (95% CI: 2.1, 2.8). Similarly, we estimate people who were unstably housed were 1.6-times as likely to have no evidence of care in 2021 than those who were housed (95% CI 1.3, 2.0). These findings imply that PLWH experiencing homelessness and housing instability are less likely to engage in HIV care and are much less likely to be virally suppressed compared to those who are stably housed. Moreover, increased viremia in this vulnerable population indicates the potential for onward HIV transmission and adverse HIV-related outcomes.

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 2020. As shown in **Figure 4-11**, 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.

As shown in **Figure 4-12**, age-adjusted mortality has been consistently declining among PLWH in King County, with the exception of increases in 2017 and especially 2018. The reasons for the increase in 2018 are uncertain but coincided with an outbreak of HIV among PWID and persons living homeless. The percentage of deaths among people with HIV that were caused by HIV has dropped from 51% to 27%. These trends highlight the success of HIV treatment.

Contributed by Mike Barry, Linnae Baird, Amy Bennett, Richard Lechtenberg, and Matthew Golden

FIGURE 4-11: DECADE OF AGE, IN YEARS, OF PEOPLE LIVING WITH HIV IN KING COUNTY, WA, 2012-2021

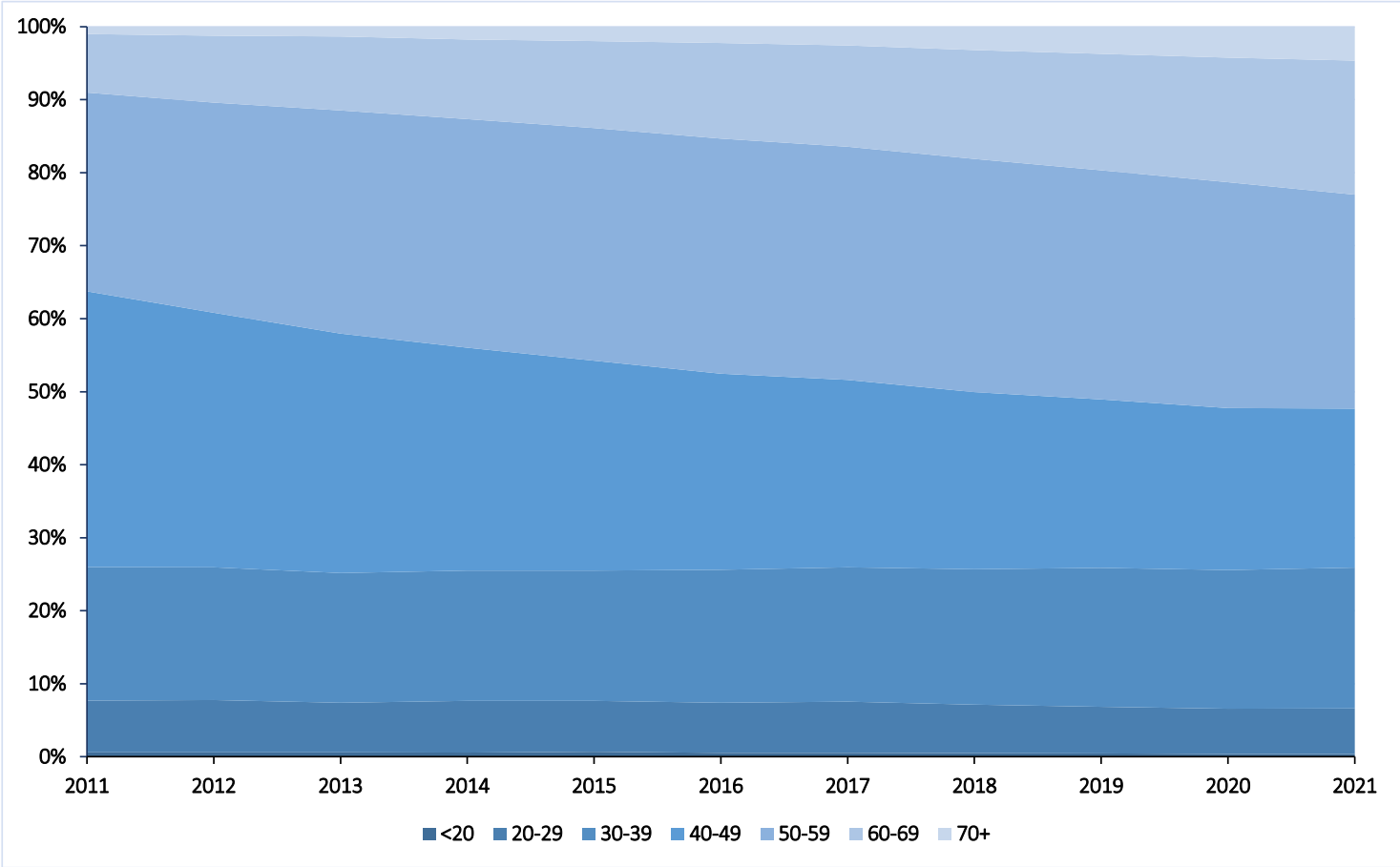
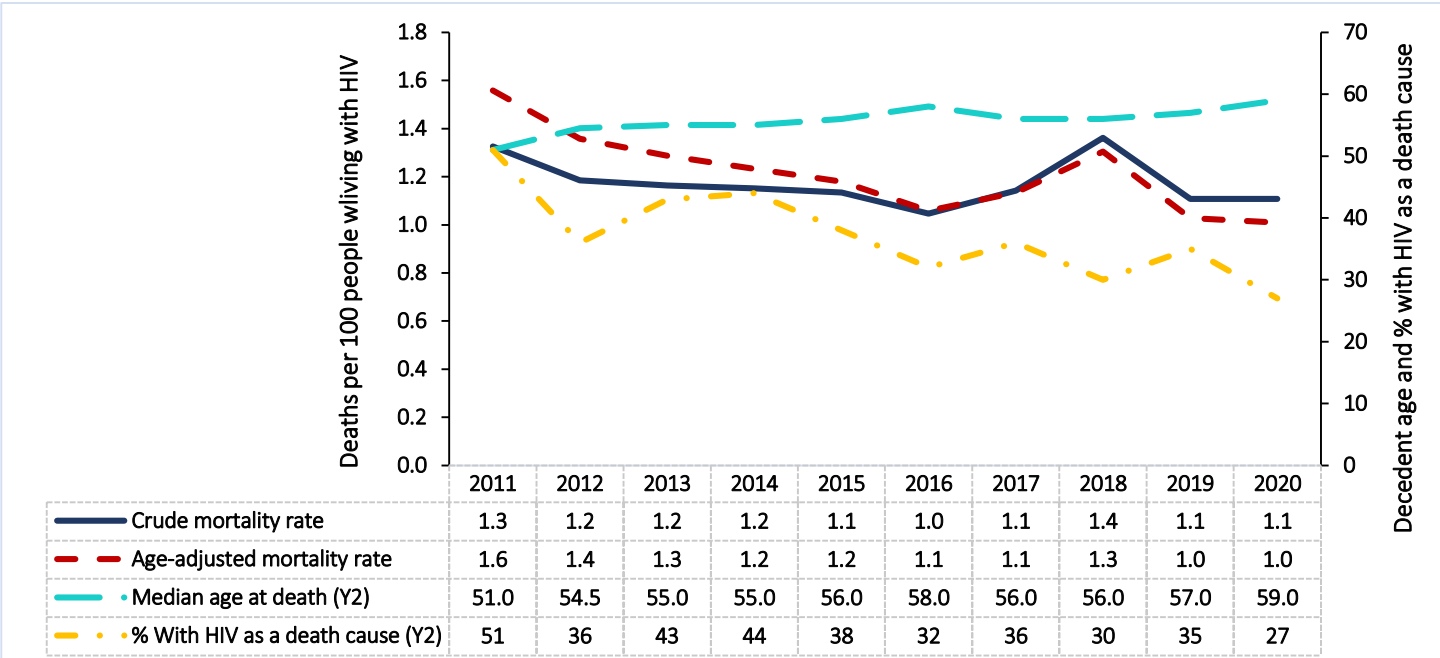


FIGURE 4-12: MORALITY RATES AMONG PEOPLE DIAGNOSED WITH HIV IN KING COUNTY 2011-2020, WA: (1) UNADJUSTED (CRUDE) AND (2) ADJUSTED FOR CHANGES IN AGE DISTRIBUTION; (3) MEDIAN AGE AT DEATH AND (4) PERCENT OF DEATHS WITH HIV LISTED AS A CONTRIBUTING CAUSE



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 now 40-year-old HIV epidemic. The proposed 2023 federal budget includes \$850 million to support EHE, a \$377 million increase over the 2022 budget, and continues to focus on geographic areas in the U.S. with the largest number of new HIV diagnoses each year. King County, WA, but not Washington State as a whole, is one of the 57 geographic areas 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 “pillars” or strategies: 1) Diagnose, 2) Treat, 3) Prevent, and 4) Respond (**Table 5-1**), and the federal government requires recipients to use EHE funding to implement activities aligned with those strategies. To determine how best to use EHE funding in King County, in 2019, PHSKC received federal funding to work with community collaborators to develop an EHE plan. Funding for implementation of the activities defined in the plan began in 2020. During phase one of

EHE (2020-2025), PHSKC was awarded two 5-year cooperative agreements, one from the Centers for Disease Control and Prevention (CDC) in the amount of \$2.1 million annually, and another from the Health Resources Services Administration (HRSA) Ryan White HIV/AIDS Program in the amount of \$1.4 million annually. Also, during phase one six health organizations in King County (Country Doctor Community Health Centers, PHSKC Healthcare for the Homeless program, HealthPoint, International Community Health Services, Sea Mar Community Health Center, and Seattle Indian Health Board) received between \$250,000-\$400,000

TABLE 5-1: ENDING THE HIV EPIDEMIC (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

each through HRSA Bureau of Primary Health Care EHE funding to increase HIV testing, pre-exposure prophylaxis (PrEP) prescribing, and linkage to care. The National Institute of Health (NIH) also funded several EHE related implementation science research studies in King County.

EHE PLANNING AND COMMUNITY ADVISORY COMMITTEE

Between 2019 and 2020, we convened a diverse group of stakeholders including representatives from government, community, and healthcare and social service organizations to develop an EHE plan. 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

King County has been very successful in the fight against HIV. As detailed elsewhere in this report, an estimated 97% of HIV-positive people in King County know their HIV status, 87% of people living with diagnosed HIV are virally suppressed, and 64% of HIV-negative men who have sex with men (MSM) at higher risk for HIV are on PrEP. Between 2011 and 2021, the rate of new HIV diagnoses dropped by 46%. But the county's pre-EHE strategies were not effective for all populations at risk for or living with HIV. Of particular concern, King County has not eliminated racial and ethnic disparities in HIV incidence

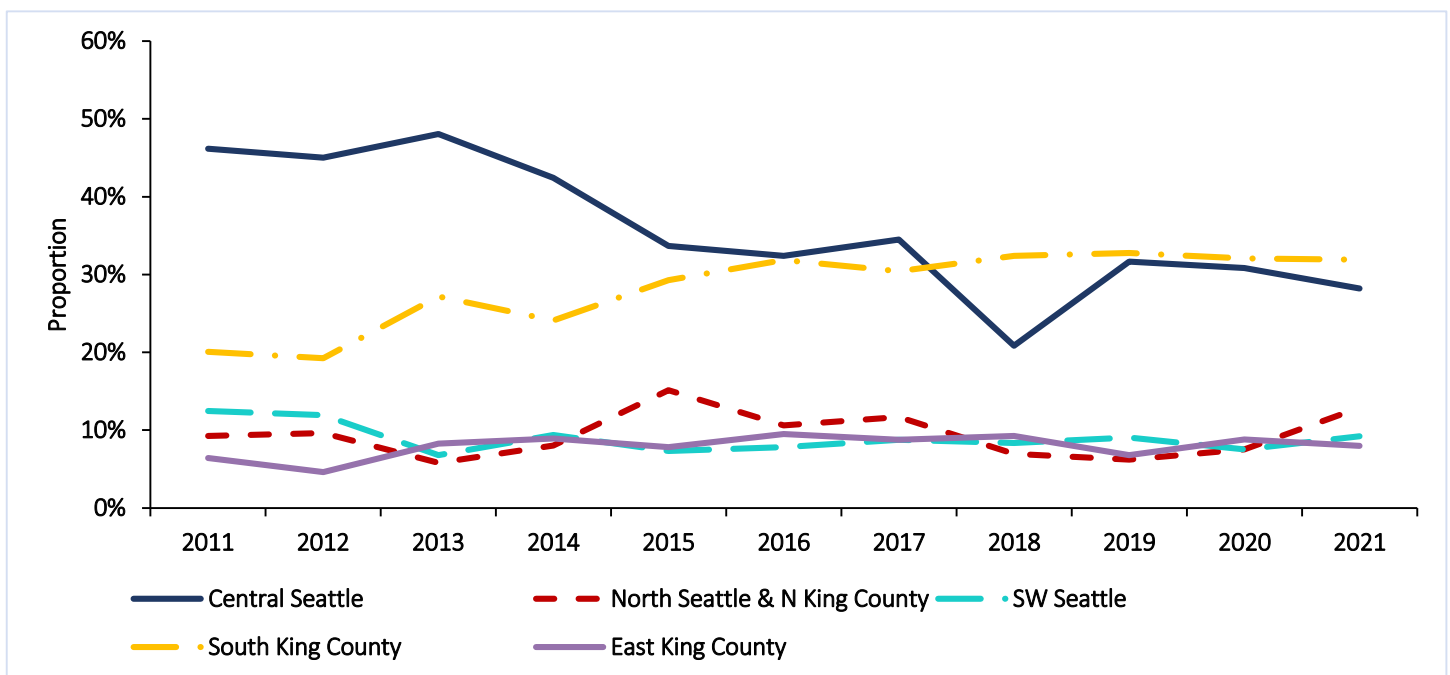
or HIV viral suppression. More discouraging still, the estimated percentage of PLWH who are unhoused remains stubbornly high even as the community invests 21% of local Ryan White Part A funds to support housing for PLWH. As a result, in developing the King County EHE plan, PHSKC and its collaborators sought to focus new resources on populations not well served by the existing HIV prevention and care system and to prioritize strategies that might be more effective in helping those populations engage in HIV prevention and care.

FOUR PRIMARY PRINCIPLES OF KING COUNTY'S EHE PLAN

The King County EHE plan seeks to fundamentally change the county's approach to HIV prevention and care and is guided by four primary principles that reflect the current epidemiology of HIV in the area and deficiencies in 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 clinical and prevention infrastructure in King County developed in response to an epidemic that predominantly affected MSM, many of whom lived in central Seattle. As recently as 2012, nearly half of all new HIV diagnoses occurred among persons living in central Seattle (**Figure 5-1**). However, where people with HIV and at risk for HIV live has shifted. Since 2018, the largest

FIGURE 5-1. TRENDS IN RESIDENCE AMONG PEOPLE DIAGNOSED WITH HIV IN KING COUNTY 2012-2021



proportion of new HIV diagnoses have occurred among persons living in south King County (about one-third). Meanwhile, the 2018 north Seattle outbreak highlighted the paucity of prevention and care services in that area. Thus, EHE is expanding clinical and prevention infrastructure to new areas of King County to meet the needs of a more dispersed population of people at risk for and diagnosed with 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. Among King County residents living with HIV in 2021, Public Health estimates that 10% (approximately 732 people) are unhoused or unstably housed. As of 2021, of the 7,160 PLWH in King County, approximately 945 (13%) were out of care or virally unsuppressed; 23% of these people are unhoused, 21% use injection drugs, and 34% are either unhoused or use injection drugs. Further, in 2018-19, the area experienced an outbreak of HIV among unhoused people in north Seattle, many of whom used methamphetamine. King County now confronts an explosive epidemic of syphilis concentrated in a similarly marginalized population, evidence of the community's continued vulnerability to outbreaks of infectious disease fostered by social determinants of health related to poverty and drug use.² 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. Thus, EHE is creating the infrastructure needed to better serve the most disadvantaged populations with HIV and at risk for HIV.

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 1.6 times as likely as White MSM to be virally unsuppressed. The Monkeypox outbreak of 2022 provides another example of an infection that

disproportionately affects racial and ethnic minority MSM; 27% of Monkeypox cases in King County have occurred among Latinx MSM, while only 10% of the county's population is Latinx. Thus, a key focus of the EHE Plan in King County is reducing and ultimately eliminating disparities in HIV care and prevention.

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 infrastructure includes the PHSKC Sexual Health Clinic, the Seattle's LGBTQ+ Center (formerly Gay City), Madison Clinic, Max Clinic, SHE Clinic, and numerous private medical practices that serve large numbers of MSM. The King County EHE initiative seeks to grow and expand this specialized system of care by supporting three new low-barrier clinics (one in north Seattle and two in South King County) and promoting new walk-in sexual health services in community health centers and public health clinics throughout the county. But even with this expanded capacity, specialized clinics cannot meet the needs of all PLWH or at risk for HIV in King County. Successful efforts to end the HIV epidemic will require that the entire medical system implement recommended HIV testing and provide PrEP according to local and national guidelines. Thus, King County's EHE work includes convening learning collaboratives and providing individualized technical assistance to support efforts by large healthcare systems to improve the medical care they provide to their LGBTQ+ patients.

The full King County EHE plan is available at: <https://kingcounty.gov/depts/health/communicable-diseases/hiv-std/patients/ending-HIV-epidemic/planning.aspx>.

CURRENT STATUS OF KING COUNTY EHE ACTIVITIES

PHSKC is now into year three of implementing the EHE Plan, much of which was initially delayed due to the COVID-19 pandemic. The current status of implementation of the core EHE activities is presented in **Table 5-2** and regularly updated at: [kingcounty/EHE](https://kingcounty.gov/depts/health/communicable-diseases/hiv-std/patients/ending-HIV-epidemic/planning.aspx).

SELECTED COMPONENTS OF KING COUNTY'S EHE ACTIVITIES

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

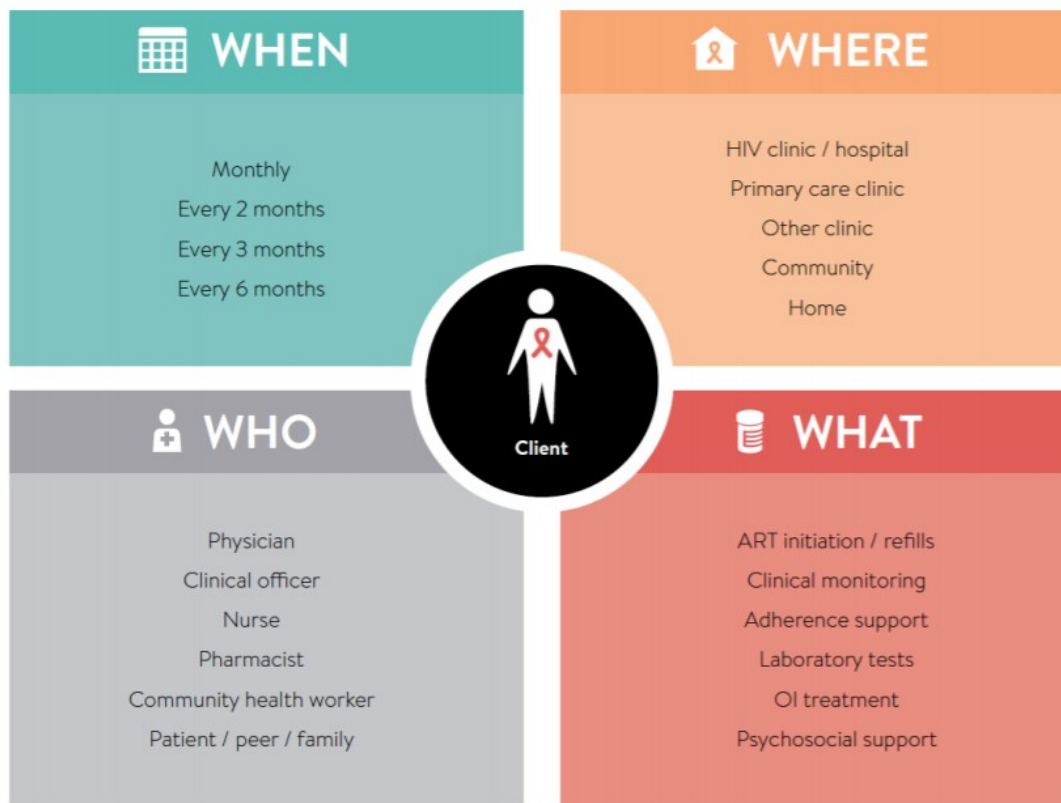
TABLE 5-2: CORE ELEMENTS OF THE KING COUNTY EHE PLAN AND PROGRESS TO DATE

Strategy	Objective	EHE Activities
Diagnose	Increase routine testing in clinical settings	Promote routine testing through the Healthcare Collaborative Promote universal or risk-based HIV testing through the Emergency Department Collaborative HIV Testing through new low barrier sites
	Increase HIV testing in non-clinical settings (e.g., street outreach, jails)	HIV testing through the South King County Correctional Entity (SCORE) Expanded testing at SSP sites Fund CBO partners to pilot new models of HIV testing within communities at higher risk for HIV
	Increase partner notification services	New staff hired to expand capacity
	Conduct public awareness and mobilization campaigns focusing on Black and Latinx populations	Completed a 12-week digital media social marketing campaign to raise awareness of the four central EHE strategies Contracting with POCAAN, Entre Hermanos and Seattle's LGBTQ+ Center (formerly Gay City) to develop promotional campaigns focusing on PrEP awareness and uptake Launched new EHE website for PHSKC Creating campaigns to promote Low Barrier Services, PrEP and HIV testing Creating a campaign to promote HIV testing in emergency department settings
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 opened in north Seattle late 2021, expanded SHE Clinic in 2022 Initiated Hygiene Center services and medication lockers for north low barrier clinic patients Two new low barrier clinics opening in south King County in fall 2022 Walk in sexual health services starting in PHSKC Sexual and Reproductive Health Clinics and Community Health Centers
	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 Collective Medical
	Enhanced retention in care efforts	Pre-Housing case management and housing stabilization services for newly housed 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

TABLE 5-2: CORE ELEMENTS OF THE KING COUNTY EHE PLAN AND PROGRESS TO DATE (CONT.)

Strategy	Objective	EHE Activities
Prevent	Expand PrEP access – focus on north and south King County and healthcare system-level interventions	PrEP promotion through the Healthcare Collaborative PrEP provision through new and expanded low barrier clinic sites, Madison Clinic, and Community Health Centers throughout King County Expanded PrEP services in the PHSKC sexual health clinic Expanded PrEP and HIV services in PHSKC Sexual and Reproductive Health Clinics in south Seattle and south King County-PrEP promotional campaigns
	Develop new PrEP navigation and retention models	Pilot program of home-based PrEP Fund CBO partners to pilot new models of PrEP navigation and provision for communities at higher risk for HIV
	Expand condom access – focus north and south King County	Condom distribution project – 290,000 condoms distributed in south King County Continued expansion to additional zip codes with high incidence of HIV
	Expand SSP – focus north Seattle and south King County	North Seattle Outreach Referral and Exchange (NORE) SSP expansion South County Outreach and Referral Exchange (SCORE) SSP expansion Expanded morning hours at downtown needle exchange
	Expand availability and accessibility of medications for opiate use disorder (MOUD)	Increased availability of MOUD through low barrier clinics in north Seattle & south King County Collaboration with HMC physicians to provide Office Based Opiate Treatment in south Low Barrier Clinic sites
	Improve delivery of comprehensive health services to LGBTQ persons by medical providers	Health care collaborative, including funding to support improvement projects among participants
Respond	Identify and investigate HIV outbreaks using molecular laboratory and other data	Cluster Detection and Response (CDR) system implemented Expanded staff capacity to conduct outreach to cluster members, test them for HIV, and link them to PrEP or HIV care
	Provide outreach to persons identified through outbreak investigations – focus on virally un-suppressed persons	
	Community engagement	CDR focus groups and one on one interviews completed to inform implementation of CDR Educational video developed

FIGURE 5-2 KEY FACTORS IN DIFFERENTIATED APPROACHES TO CARE (ADAPTED FROM WHO)



and at risk for HIV. To address this, King County has developed a system of differentiated care which it is expanding 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 5-2**). 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. As part of EHE, King County is expanding the network of low barrier clinics. This expansion includes 1) increased capacity at the MAX and MOD Clinics, both of which are located on the Harborview Medical Center (HMC) campus in central Seattle; 2) establishment of Aurora Clinic and expansion of SHE Clinic, both low barrier clinics co-located with Aurora Commons, a community-based organization trusted by people living unhoused, many of whom engage in sex work in north Seattle; and 3) establishment of two low barrier clinics in south King

County, Engage Health-Kent and Engage Health-Federal Way, both of which are co-located in Catholic Community Services of Western Washington engagement centers trusted by people living unhoused in south King County. Additionally, EHE has worked with the PHSKC family planning program and health care collaborative participants throughout King County to integrate walk-in HIV prevention and care services in their respective clinical settings. Walk-in services include HIV testing, PrEP, HIV treatment, and STI testing and treatment. Finally, EHE is supporting a new mobile outreach/medical team to engage the hardest to reach people with HIV who have fallen out of care wherever they live, especially those who struggle to maintain engagement in care even through low barrier clinic settings.

Services to support EHE priority populations - Meeting people where they're at and addressing people's basic needs improves engagement with health services and health outcomes. To this end, King County's EHE program is supporting CBOs and health systems to provide pre-housing case management and housing stabilization services, behavioral health services, condoms, HIV testing services, PrEP, and expanded access to syringe services

throughout King County, with a particular emphasis on south King County. In 2023, EHE will fund additional HIV prevention and care services, including expanded HIV testing and PrEP services through community-based organizations serving EHE priority populations and geographic areas.

Promotion of healthcare system change – 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 (<https://www.qualityhealth.org/bree/wp-content/uploads/sites/8/2020/06/LGBTQ-health-care-recommendations-Final-20-06.pdf>), in 2020, PHSKC initiated the King County EHE Healthcare Collaborative. The Healthcare Collaborative is comprised of 13 health systems in King County and seeks to implement healthcare system changes that increase HIV testing, PrEP use, and culturally affirming and responsive HIV care and prevention services. Current Healthcare Collaborative participants are listed in **Table 5-3.A**. Core activities the collaborative seeks to promote include changes in electronic health records that allow patients to voluntarily identify their gender, sexual orientation, and

HIV risk behaviors; staff training; changes in the physical environment of healthcare settings (e.g., signage) that is less stigmatizing; implementation of new, low-barrier access to PrEP; and promotion of HIV/STI testing according to local and national guidelines. Starting in 2021, EHE funding also supported four health systems in implementing projects to improve care to LGBTQ+ patients, such as implementing the use of tablets for patients' disclosure of sexual orientation and gender identity (SOGI) information. Since the inception of the collaborative, several health systems, including Swedish and the University of Washington, have allocated new funds to support improvements in care for LGBTQ+ populations. Other health systems (Sea Mar, HealthPoint, ICHS) have written grants and received federal funding to further this work and deepen the impacts of this initiative.

In 2021, a second collaborative comprised of emergency departments throughout King County – the King County EHE Emergency Department Collaborative - convened to promote increased HIV testing in King County emergency departments. Emergency Department Collaborative participants (see **Table 5-3.B.**) are working with their leadership and staff to identify the most appropriate approaches to testing in their settings (universal or risk-based), develop and pilot processes to increase HIV testing, and collaborate to implement an emergency department HIV testing campaign in 2023. Due to

TABLE 5-3 ENDING THE HIV EPIDEMIC (EHE) COLLABORATIVE MEMBERS

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

repeated Covid-19 surges in 2021 and early 2022, most ED collaborative participants have found it challenging to fully implement these strategies, however some are making significant progress and identifying new cases of HIV. We anticipate additional participants will increase testing in 2023. Collaborative members submit data monthly to observe their progress overall and in relation to their peers.

Expanded Public Health Outreach – Increasing and assuring engagement with HIV testing, PrEP, and HIV care – particularly for our most vulnerable populations – will require a more robust system of outreach. Through EHE, PHSKC is implementing an intensified system of linkage and relinkage to care utilizing a data information exchange and collaborations with diverse partners to identify and re-link HIV-positive persons who are out of care when they touch emergency rooms, hospitals, jails, and pharmacies. This outreach integrates the work of PHSKC outreach staff with low-barrier clinics with the goal of increasing HIV testing, PrEP use, and HIV viral suppression.

EHE OUTCOMES

In the HIV/STD Program HIV Goals (**King County HIV Goals and Evaluation Metrics: 2022 Dashboard**, p.4), we present goals and measurable indicators for EHE outcomes. These include both nationally and locally defined goals and are intended to be ambitious but achievable. In 2023, EHE will launch a data dashboard reporting on updated outcomes at: <https://kingcounty.gov/depts/health/communicable-diseases/hiv-std/patients/ending-HIV-epidemic/data.aspx>.

Contributed by Matthew Golden, Sara Magnusson, and Becca Hutcheson

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1. What is *Ending the Epidemic: A Plan for American*? <https://www.hiv.gov/federal-response/ending-the-hiv-epidemic/overview>
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Ending the HIV Epidemic

Pillar 1: Diagnose

SUMMARY

An estimated 97% of people living with HIV in King County know their HIV status.

Just under half (42%) of King County men who have sex with men with newly diagnosed HIV reported a negative test in the prior year, and 61% reported a negative test in the prior 2 years.

There were 13,713 publicly-funded HIV tests in 2021, and 17% of all newly identified cases in King County were diagnosed through publicly-funded HIV testing.

One-quarter (25%) of people with newly diagnosed HIV infection were concurrently diagnosed with AIDS, many of whom had longstanding HIV infection. This was particularly common among HIV-positive heterosexuals born outside of the U.S.

Background

HIV testing is a cornerstone of HIV care and prevention. It plays a critical role in advancing both of Public Health – Seattle & King County’s (PHSKC) primary objectives related to HIV: averting the morbidity and mortality associated with HIV and preventing HIV transmission. 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 prevents HIV-related morbidity and mortality by identifying those living with HIV, the first step in 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 6-1**. 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:

DIAGNOSE Goals and Evaluation Metrics	2019	2021	2025 Goal
New HIV diagnoses, rate	8.0/100,000	7.3/100,000 (↓9%)	↓75%
Disparities in new HIV diagnoses by race/ethnicity (per 100,000)	FB Black: 37.2 US-born Black: 21.0 Latinx: 17.1 White: 6.2	FB Black: 30.6 US-born Black: 16.8 Latinx: 14.3 White: 5.4	<5% difference between groups and overall rate
Know HIV status	94%	97%	≥95%
Late HIV diagnosis	26%	19%	≤10%

FB: Foreign-born

- The percentage of people living 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 (ITI) - The HIV 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 HIV-positive people are undiagnosed, off antiretroviral therapy, and potentially unknowingly exposing others to HIV. PHSKC's goal is to promote 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.
- 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) without an HIV negative test in the prior year. AIDS is a clinical and laboratory diagnosis (i.e., CD4+ T lymphocyte <200/microL) related to advanced immunosuppression typically observed in people with long-standing HIV infection.
- Measures of CD4+ lymphocyte counts at time of HIV diagnosis. In general, people who have been infected for a longer period of time have a lower CD4 count at the time of their HIV diagnosis, though CD4 count is not an accurate means for assessing how long ago a newly diagnosed individual many have acquired HIV.

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

TABLE 6-1: 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 (concurrent with syphilis testing) in the 3rd trimester in the setting of methamphetamine use, opioid use, exchange sex, or housing instability/homelessness^A

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^B

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.

^APHSKC and the WA State Department of Health recommend 3rd trimester testing for syphilis of all pregnant women.

^B 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.

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

attempt to contact all people with newly diagnosed HIV 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 Centers for Disease Control and Prevention (CDC) funded national 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 higher 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 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 data on HIV testing history and a statistical tool developed by University of Washington (UW) researchers to estimate the proportion of all people with HIV who are unaware of their status (i.e., the undiagnosed fraction).⁸ The estimated undiagnosed fraction among HIV-positive people in King County in 2021 is 3%; an estimated 2% for MSM with HIV are undiagnosed.

HIV TESTING IN POPULATIONS AT ELEVATED RISK FOR HIV (DATA FROM NHBS)

HIV testing histories were collected during the six most recent NHBS surveys between 2016 and 2021, which sampled MSM (twice), PWID, heterosexually-active people at higher risk for HIV, transgender women, and women who exchange sex (WES) (Figure 6-1). Of these five populations, MSM and transgender women were the most likely to have had an HIV test in the past 6 months (64%-65% and 47%, respectively), and MSM were least likely to have never tested for HIV (2%-3%).

HIV TESTING METRICS IN PEOPLE WITH NEWLY DIAGNOSED HIV

Because the primary goal of HIV testing is to minimize the amount of time infected people spend not knowing their HIV status and off treatment, much of Public Health's monitoring of testing focuses on people with newly diagnosed HIV infection. The success of HIV testing

FIGURE 6-1. HIV TESTING HISTORY (TIME SINCE LAST HIV TEST) AMONG MEN WHO HAVE SEX WITH MEN (MSM), TRANSGENDER WOMEN (TRANS), HETEROSEXUALLY-ACTIVE PEOPLE AT HIGHER RISK FOR HIV (HET), PEOPLE WHO INJECT DRUGS (PWID), AND WOMEN WHO EXCHANGE SEX FOR DRUGS OR MONEY (WES), SEATTLE AREA NATIONAL HIV BEHAVIORAL SURVEILLANCE SYSTEM, 2016-2021

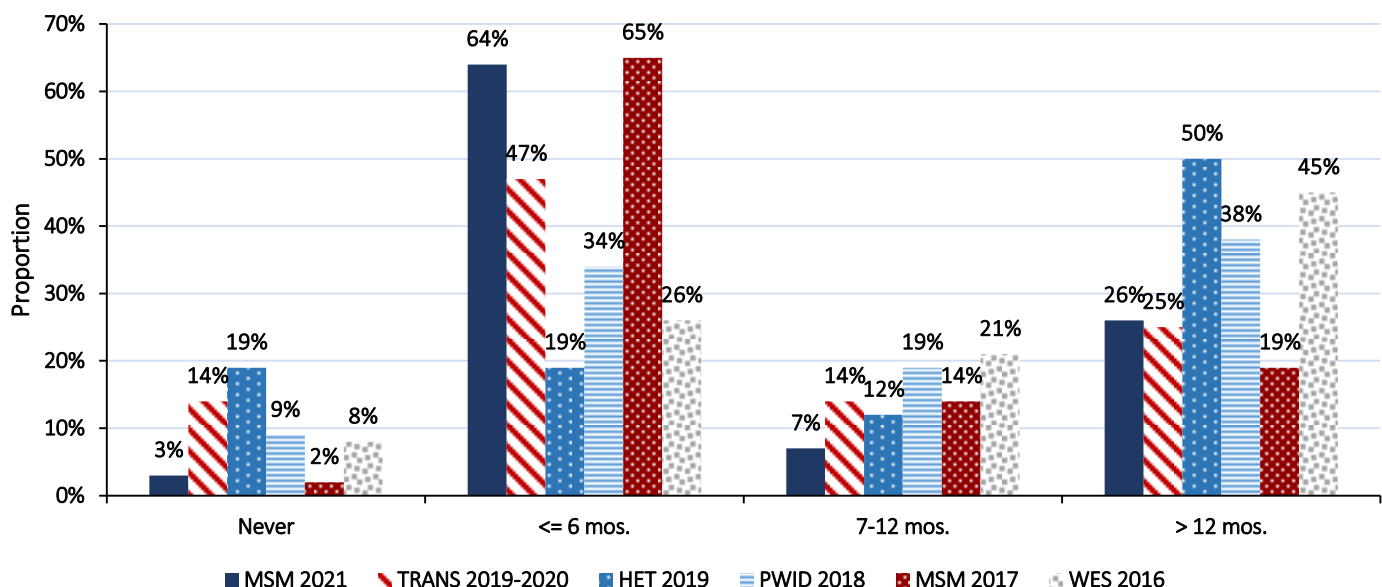


TABLE 6-2. KEY HIV TESTING METRICS AMONG INDIVIDUALS NEWLY DIAGNOSED WITH HIV, KING COUNTY, WA, 2020-2021

	Never Previously HIV Tested ^A	Median In-test 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	Percent with Late HIV Diagnosis ^C
All (N=322)	16%	12 (5, 27)	40%	59%	379 (230, 558)	19%
Men who have sex with men (MSM) (N=247)	12%	11 (5, 25)	47%	66%	403 (273, 570)	11%
Black MSM (N=45) ^D	11%	8 (4, 15)	54%	71%	480 (279, 581)	9%
Latinx MSM (N=43) ^D	15%	8 (4, 13)	50%	70%	355 (257, 612)	9%
White MSM (N=178) ^D	12%	11 (5, 26)	47%	65%	412 (289, 618)	10%
Other MSM (N=37) ^D	6%	12 (5, 22)	45%	68%	335 (235, 504)	16%
Transgender people (N=32)^E	17%	5.5 (4, 20.5)	54%	67%	416.5 (256, 619)	9%
People who inject drugs (PWID), non-MSM (N=9)	17%	10 (6, 22)	40%	80%	473 (263, 576)	22%
Presumed heterosexual contact (N=66)^F	40%	28 (20, 43)	5%	23%	252 (98, 434)	48%
U.S.-born presumed heterosexual contact (N=31) ^F	20%	25 (18, 41)	10%	40%	331 (242, 581)	26%
Foreign-born presumed heterosexual contact (N=35) ^F	60%	32 (26, 43)	5%	40%	150 (88.5, 327)	69%

^AAmong those with a known HIV test history.^BCD4 at diagnosis are limited to those within a 6-month window.^CProportion of people diagnosed with AIDS within 1 year following HIV diagnosis among those who did not have a negative HIV test within 2 years of HIV diagnosis^DRace and Latinx ethnicity categories are not mutually exclusive^EDue to small numbers in 2020-2021 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%).^FPresumed heterosexual contact includes all people recently diagnosed with HIV without known MSM or PWID HIV risks.

varies substantially between different populations defined by HIV risk factors and nativity. The section below looks at different populations using data related to HIV testing history (i.e., history prior HIV testing, inter-test interval, CD4 count at HIV diagnosis, and AIDS within 1 year of HIV diagnosis) (Table 6-2).

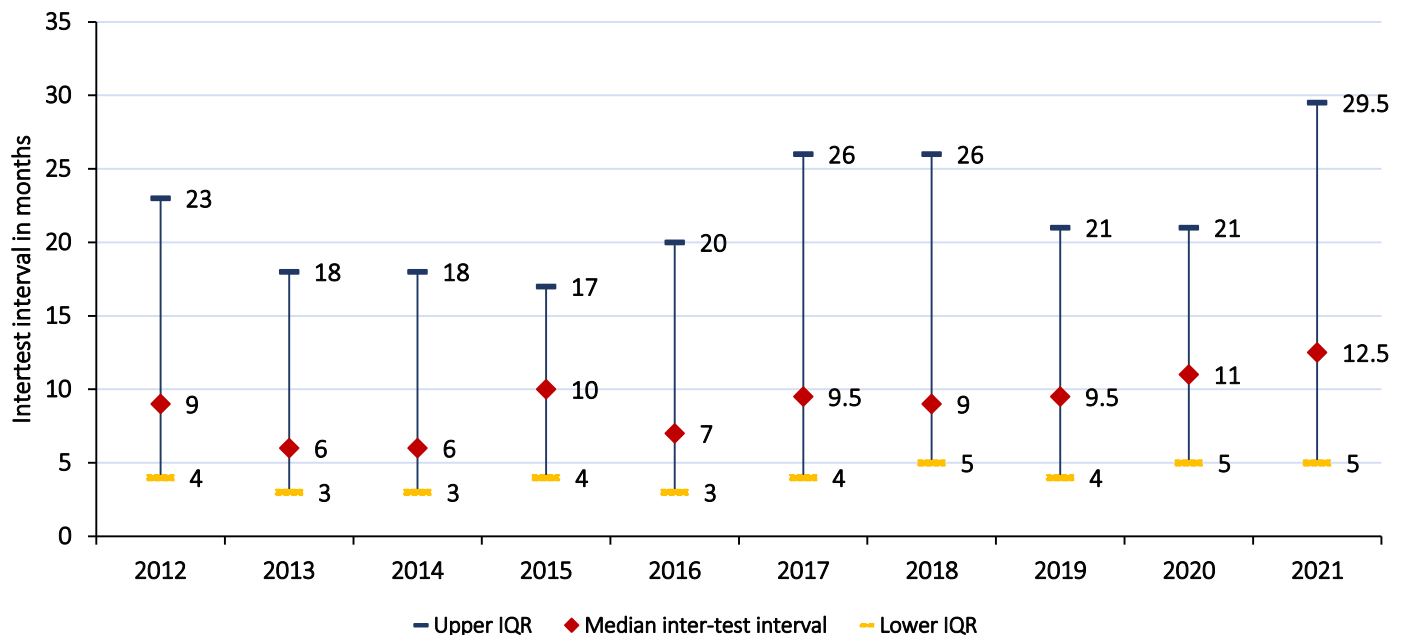
MSM

Over three quarters of all HIV infections in King County occur in MSM, and publicly funded HIV testing has traditionally focused on ensuring widespread and frequent testing among MSM. In 2021, 14% of MSM with newly diagnosed HIV infection had never HIV tested prior to their HIV diagnosis, and 61% with a known test history had tested in the prior 24 months; their median ITI in MSM was 12.5 months (Figures 6-2 and 6-3). Twelve percent of MSM were classified as having a late HIV diagnosis. Most of these HIV testing metrics have been

roughly stable among MSM and all PLWH over the last decade (Figures 6-2 through 6-5), though in 2021 the proportion of MSM who have never HIV tested was higher and the ITI was somewhat longer than in recent years, perhaps reflecting decreased HIV testing during the COVID-19 pandemic. Of note, looking at two years of recent data (Table 6-2), similar proportions of Black, Latinx, and White MSM had tested in the prior two years and were classified as having a late HIV diagnosis. Overall, these data demonstrate that existing HIV testing efforts ensure that the majority of HIV infected MSM are diagnosed relatively soon after acquiring HIV. At the same time, King County has not made significant progress decreasing the time of HIV acquisition to diagnosis among MSM, and recent data suggest some worsening of these measures.

About one-fifth of MSM diagnosed with HIV during 2020

FIGURE 6-2: MEDIAN AND INTER-QUARTILE RANGE (IQR) OF INTEREST INTERVALS (MONTHS BETWEEN LAST NEGATIVE AND FIRST POSITIVE TEST) OF NEWLY HIV DIAGNOSED MSM, KING COUNTY, 2012-2021



and 2021 were foreign born (48/247, 19%). Of those 48, about half (25/48, 52%) have a known immigration date, and among those 25, just over one-quarter (7/25, 28%) immigrated into the U.S. in the 18 months prior to their HIV diagnosis. There were 18 MSM who were known to have immigrated more than 18 months before diagnosis, of whom 7 (38%) had tested for HIV within the past year, 11 (61%) had tested with the past 2 years, and 3 (17%) had never had an HIV test. These metrics are quite similar to the overall group of MSM diagnosed with HIV during 2020 and 2021, suggesting that MSM testing efforts are likely reaching the foreign-born MSM population.

PWID

While some HIV testing metrics among PWID suggest that existing testing efforts have been effective, the data present a somewhat inconsistent picture. As with MSM, HIV testing history data, which is provided by diagnosed persons during partner services interviews, suggest that local HIV testing programs successfully diagnose the majority of PWID without a long delay from infection to diagnosis. Only 17% of PWID diagnosed with HIV in 2020 and 2021 had never HIV tested and 80% reported that they had tested in the prior two years. However, in contrast to MSM, based on clinical findings and CD4 lymphocyte counts, 22% of PWID diagnosed with HIV – twice the percentage of MSM – were diagnosed late. It is important to note that only 9 PWID cases were diagnosed during the last two years, compared to 247

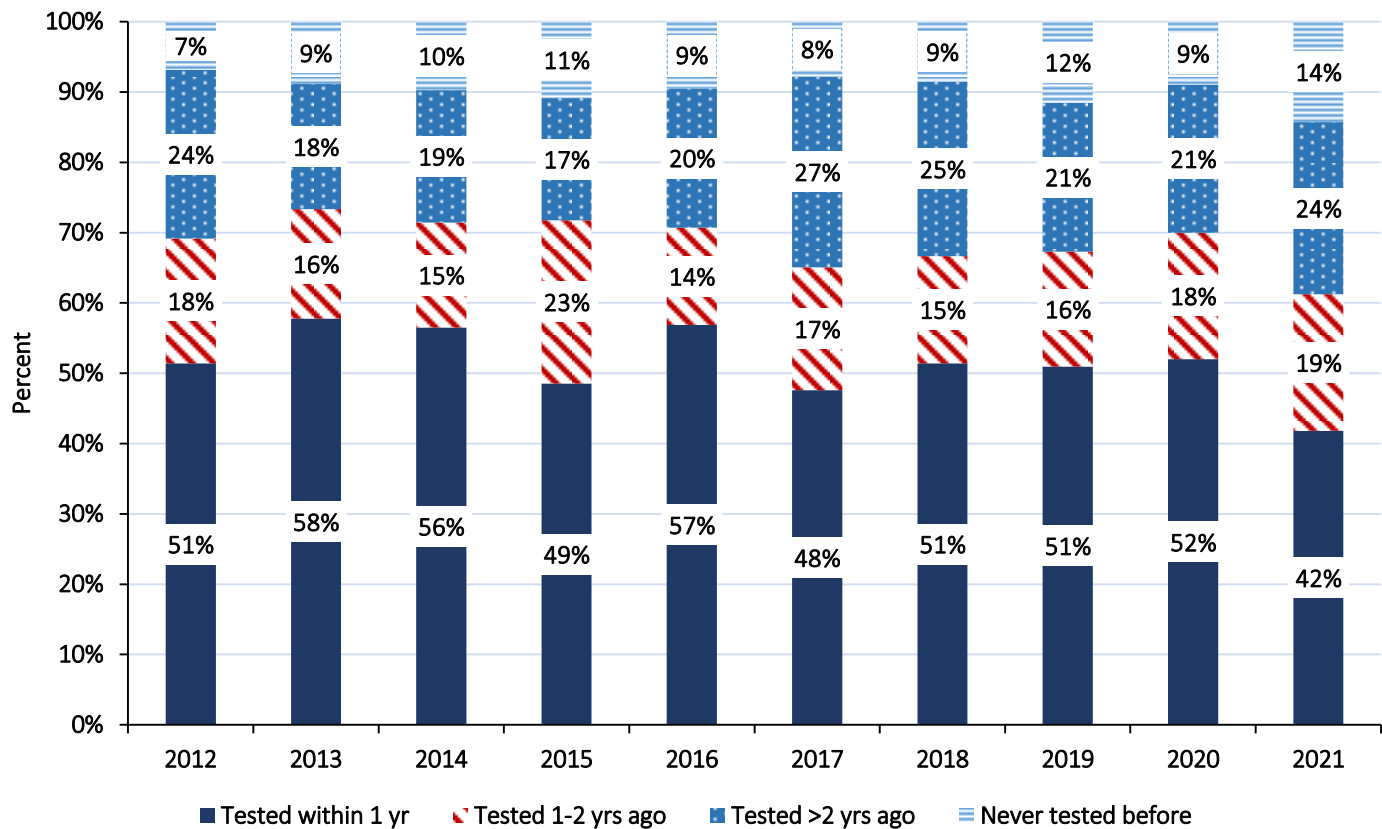
MSM cases, so testing metrics for this population are imprecise. The somewhat inconsistent findings with the HIV testing history data suggest the need for expanded testing among PWID.

Heterosexuals, including foreign-born heterosexuals

Recent data raise concerns about the adequacy of HIV testing among heterosexuals, particularly foreign-born heterosexuals. Among 66 heterosexuals diagnosed during 2020 and 2021, 40% had never tested for HIV prior to their HIV diagnosis, only 23% had tested in the prior two years, and 48% were classified as having a late diagnosis. All of these metrics of HIV testing were worse among the 35 (66%) of heterosexuals who were foreign born: 60% had never HIV tested and 69% were classified as having a late HIV diagnosis.

While we do not have information about HIV screening specifically in the foreign-born heterosexual population, we can consider date of immigration to U.S. in relation to HIV diagnosis date. Just under half (15/35, 43%) of the foreign-born heterosexuals diagnosed in 2020 and 2021 had a known immigration date, and of those, only 20% (3/15) immigrated into the U.S. within the 18 months prior to their HIV diagnosis. Of the 12 foreign-born heterosexuals who were known to have been in the U.S. longer than 18 months at the time of their HIV diagnosis, 8 (66%) had never tested before and 3 (25%) had a negative HIV test more than two years before HIV diagnosis. Taken together, these metrics indicate that

FIGURE 6-3 HIV TESTING HISTORY AMONG MEN WHO HAVE SEX WITH MEN WITH NEWLY DIAGNOSED HIV, KING COUNTY, WA 2012-2021



foreign-born heterosexuals are not being screened for HIV frequently enough to identify them early in infection; increased HIV screening of foreign-born heterosexuals should be made a priority, particularly immigrants from countries with high levels of endemic HIV infection.

CD4 COUNT AT HIV DIAGNOSIS

CD4 data demonstrate the converse of late HIV diagnosis, with over three-quarters of individuals being diagnosed with HIV before experiencing severe immunosuppression (CD4+ T lymphocyte <200/microL). Late HIV diagnosis are defined as diagnoses with AIDS and HIV concurrently, or within six months or a year. (Most AIDS diagnoses are due to severe immunosuppression, hence the strong correlation of CD4 and late HIV diagnosis.) Both the proportion of individuals with late HIV diagnoses and the median CD4 count at the time of HIV diagnosis have been roughly stable since 2012 (Figures 6-4 and 6-5). The median CD4 counts of newly HIV diagnosed people 2012-2021 has been between 356 and 415 among individuals with a CD4 count measured within 6 months of their HIV diagnosis (Figure 6-5).

PLACE OF HIV DIAGNOSIS AND REASON FOR HIV TESTING

Figure 6-6 presents information on the facilities where people were newly diagnosed with HIV in 2021 (N=163). The largest single source of HIV diagnoses were outpatient clinics. (This category excludes health department clinics, community clinics, and known specialty HIV or MSM medical practices). A total of 55 different outpatient clinics diagnosed 45% of all cases in 2021. Only one of these 55 clinics diagnosed more than three cases and most (75%) diagnosed 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, but diagnosed only 5% (n=8) of all cases in 2021. The next most common diagnosing facilities were Seattle's LGBTQ+ Center (formerly Gay City) and Harborview Medical Center's inpatient care, which each diagnosed 3% of all cases in King County in 2021 (n=5 each). Seattle's LGBTQ+ Center is included with the 7% of diagnoses occurring at MSM and HIV specialty sites, a category that also includes medical practices that primarily serve MSM. Inpatient diagnoses and emergency department/urgent care facilities diagnoses made up 10% and 13% of the diagnoses, respectively, in King County in 2021. Overall, 17% of new diagnoses were diagnosed at facilities that

FIG 6-4 LATE HIV DIAGNOSES DEFINED BY AIDS DIAGNOSIS CONCURRENT, WITHIN SIX MONTHS, OR WITHIN ONE YEAR OF HIV DIAGNOSIS, KING COUNTY, WA, 2012-2021

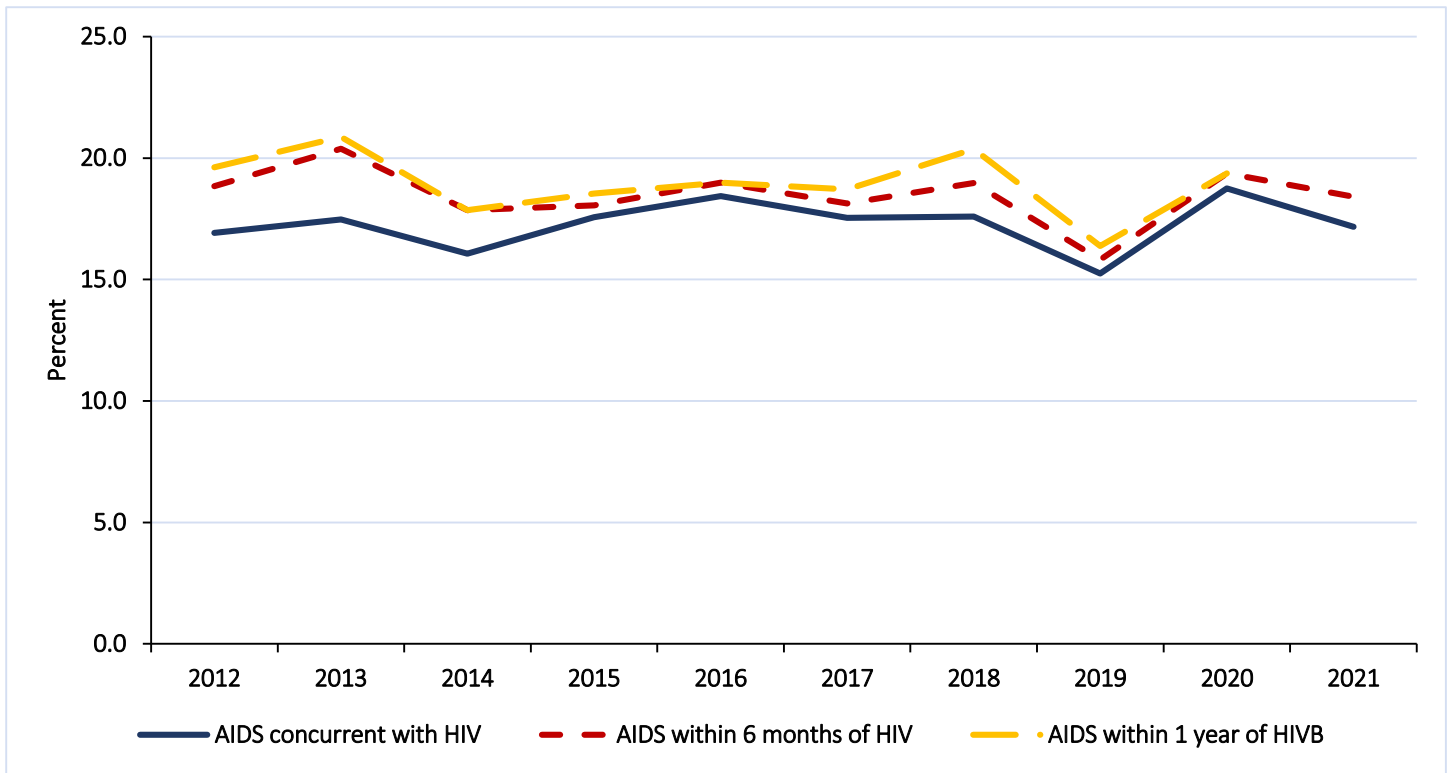


FIGURE 6-5: MEDIAN AND INTER-QUARTILE RANGE (IQR) OF FIRST CD4 COUNTS AMONG PEOPLE NEWLY DIAGNOSED WITH HIV, KING COUNTY, WA, 2012-2021

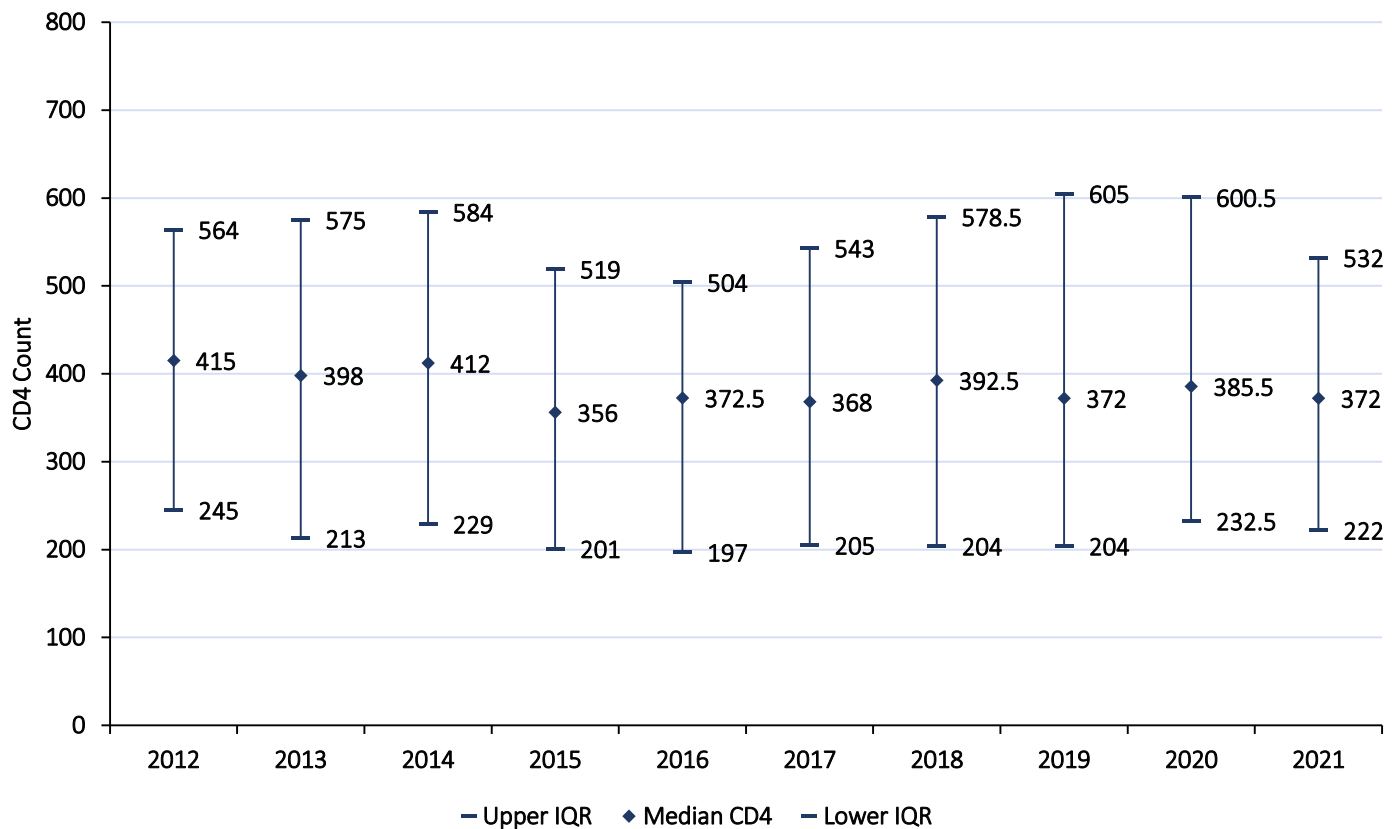
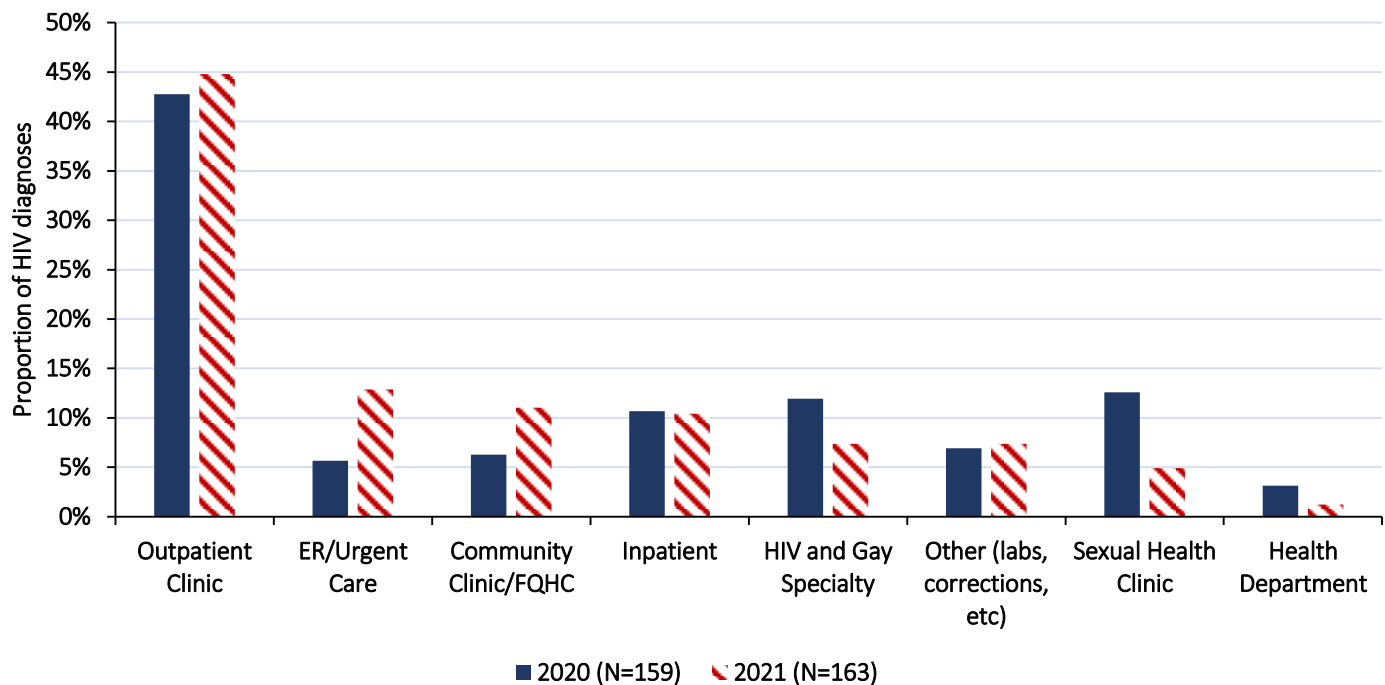


FIGURE 6-6: PROPORTION OF HIV DIAGNOSES BY DIAGNOSING FACILITY TYPE AND YEAR, KING COUNTY, WA, 2020-2021



received public health funding for HIV testing in 2021.

Figure 6-6 also compares the proportion of HIV cases diagnosed by facility type in 2020 and 2021. In both years, outpatient clinics diagnosed the most cases (43% in 2020, 45% in 2021), and the proportion of cases diagnosed at inpatient clinics remained stable as well (11% in 2020, 10% in 2021). The proportion of cases diagnosed at the PHSKC Sexual Health Clinic declined from 13% in 2020 to only 5% in 2021. Similarly, the proportion of cases diagnosed at HIV and gay specialty clinics declined from 12% in 2020 to 7% in 2021. Conversely, diagnoses at ER/urgent care clinics increased, from 6% of all diagnoses in 2020 to 13% in 2021, and diagnoses at community clinics increased from 6% of all diagnoses in 2020 to 11% in 2021. The reasons for these shifts in where people are diagnosed with HIV are uncertain, but may reflect of impact of PrEP – which is used by many patients seen in places like the Sexual Health Clinic and HIV and gay specialty clinics – and/or the COVID-19 epidemic, which affected where patients were able to seek care.

Table 6-3 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 113 people diagnosed with HIV in 2021 for whom PHSKC had data on reason for testing, most were tested because of testing they initiated themselves (32%), because of symptoms of a sexually transmitted infection (STI) or through partner notification for HIV or STIs (25%), or because of testing recommended by a medical provider (20%). (Partner notification includes both people notified by their partners and people notified by public health staff because of partner notification interventions.) Ten percent were diagnosed after presenting with symptoms related to HIV or AIDS, excluding symptoms of acute HIV. Compared to 2020, a larger proportion of people were newly diagnosed because of medical provider initiated testing and fewer people were diagnosed because of symptoms of AIDS, both positive changes demonstrating improvements in HIV testing.

Public Health Interventions that Support this Pillar

The WA DOH and PHSKC fund HIV testing, primarily for people at higher risk for HIV infection. This testing occurs at the PHSKC Sexual Health Clinic and other public health clinics, through several community-based organizations, and in the King County Jail. **Figure 6-7** shows trends in the number of HIV tests performed using public health funds

TABLE 6-3: REASON FOR HIV TESTING AMONG PEOPLE DIAGNOSED WITH HIV, KING COUNTY PARTNER SERVICES DATA, 2020-2021

	2020		2021	
	N	%	N	%
Patient initiated regular or risk-based testing, including plasma and blood donations	27	27%	36	32%
Medical provider-initiated testing ^A	19	19%	23	20%
Symptoms of sexually transmitted infection (STI) or STI partner notification ^B	13	13%	22	19%
Symptoms of HIV/AIDS	24	24%	11	10%
PrEP screening or prenatal testing	7	7%	8	7%
HIV partner notification ^B	10	10%	7	6%
Symptoms of acute HIV infection	1	1%	6	5%
Total	101	101%	113	100%

^ARoutine testing or testing occurring in the absence of symptoms attributable to HIV

^BPartner 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.

between 2013 and 2021, overall and for MSM. The COVID-19 pandemic limited testing in 2020, and though the volume of testing was higher in 2021, it was still lower than it had been prior to the pandemic. From 2013 through 2019, the total number of tests performed increased by 45% overall and by at least 29% among MSM. It is important to note, however, that risk

information among people testing for HIV has been less complete in recent years, thus the true increase in tests among MSM may be higher. This change reflects a concerted effort to focus HIV testing resources on the populations at greatest risk for HIV. This group has traditionally been MSM, though the increase in HIV among PWID in 2018-19 prompted PHSKC to expand

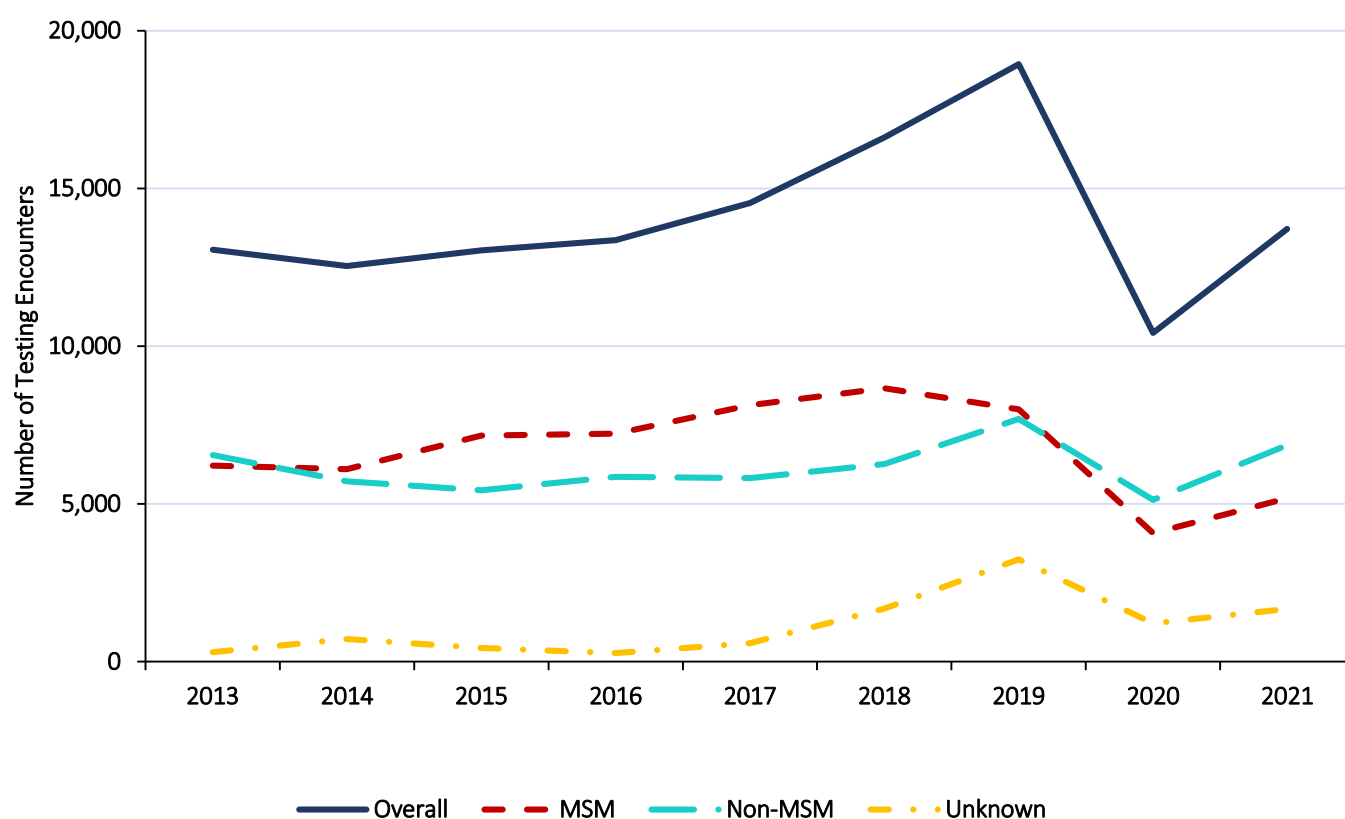
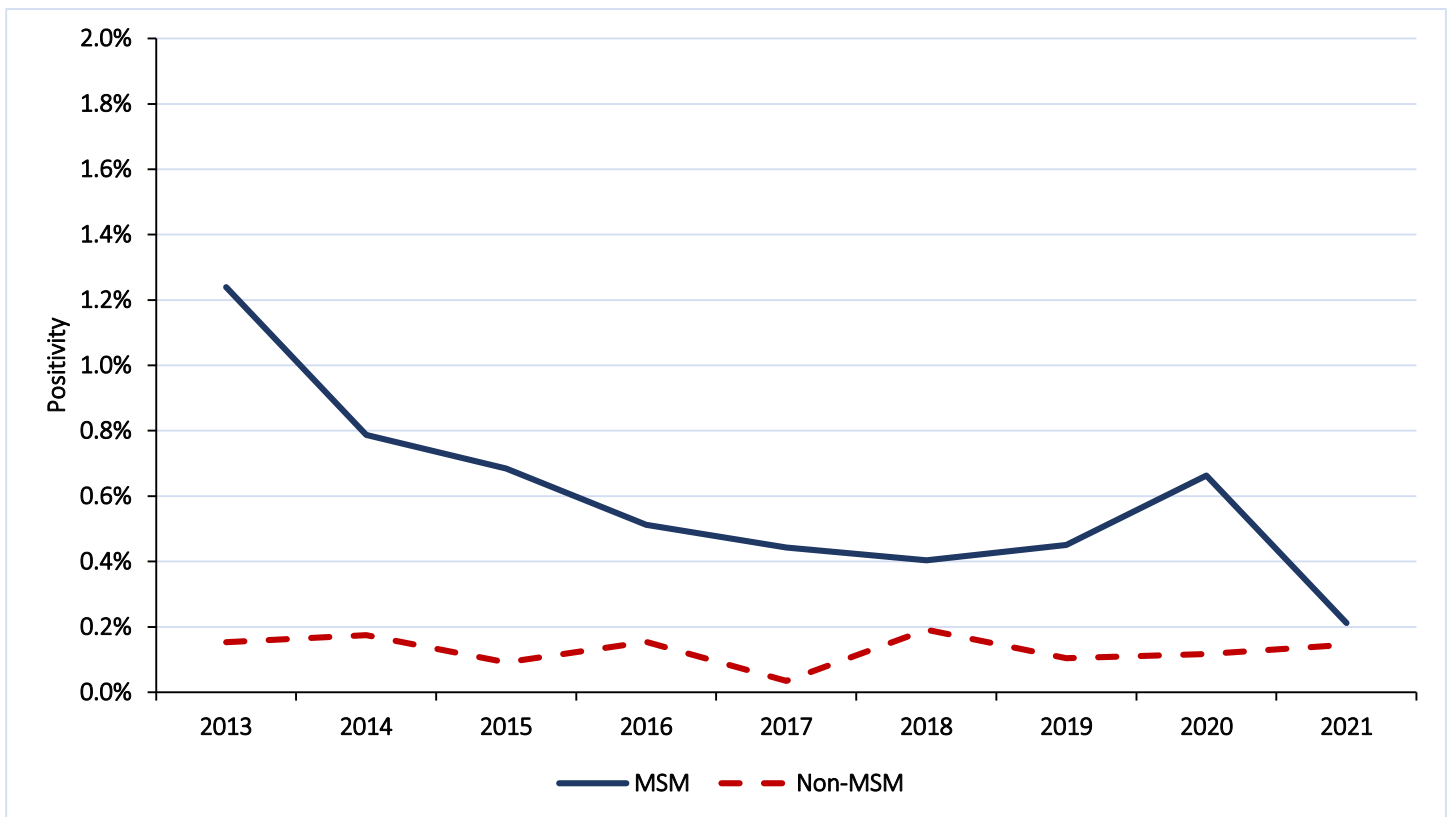
FIGURE 6-7: PUBLICLY FUNDED HIV TESTS IN KING COUNTY OVERALL AND AMONG MEN WHO HAVE SEX WITH MEN (MSM), 2013-2021

FIGURE 6-8. POSITIVITY RATE FOR MEN WHO HAVE SEX WITH MEN (MSM) AND NON-MSM AT PUBLICLY FUNDED TESTING SITES, KING COUNTY 2013-2021



efforts to test that population, particularly those who are living homeless or exchanging sex.

Between 2013 and 2019, the percentage of MSM testing HIV-positive at publicly funded testing sites declined from 1.2% to 0.5% (**Figure 6-8**), a 64% reduction, while non-MSM test positivity remained stable at 0.2% or less. Test positivity among MSM increased in 2020, likely because those at the highest risk were the most motivated to seek testing at the height of the COVID-19 pandemic, but positivity declined again in 2021. The overall decline occurred concurrent with a drop in the rate of new HIV diagnoses from 2009 through 2017 and supports the conclusion that HIV incidence among MSM in King County declined from 2009 to 2017. HIV positivity among non-MSM increased in 2018 concurrent with the outbreak of HIV among PWID, declined in 2019, and has remained low since.

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 am - 6:00 pm five days a week (except Tuesday when it opens at 9:30 am). 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 2021, an estimated 97% of people living with HIV have been diagnosed. Among MSM diagnosed with HIV in 2021, over half (51%) had tested HIV-negative in the prior 2 years and only 14% reported never having tested for HIV previously. Despite these successes, nearly 20% of people diagnosed with HIV in 2020 and 2021 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 has been a 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.

Contributed by Christina Thibault and Richard Lechtenberg

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Ending the HIV Epidemic

Pillar 2: Treat

SUMMARY

An estimated 87% of people with diagnosed HIV in King County (PLWH) were virally suppressed at the end of 2021.

The percentage of the population with viral suppression was lower among Black people who were born in the U.S. (compared to non-Hispanic White people), people who inject drugs, and people who use methamphetamine.

The time between HIV diagnosis and viral suppression has decreased substantially over the past 5 years.

An estimated 945 people were virally unsuppressed at the end of 2021 (13% of PLWH in King County), of whom 355 had confirmed viremia by laboratory report (5% of all PLWH in King County) and the remainder had no laboratory data reported to PHSKC.

As in prior years, Public Health-Seattle & King County (PHSKC) received new information since the time of the last surveillance report that lowered the estimate of people who were virally unsuppressed or out of care in the prior year (2020) from 958 (14%) to 805 (12%).

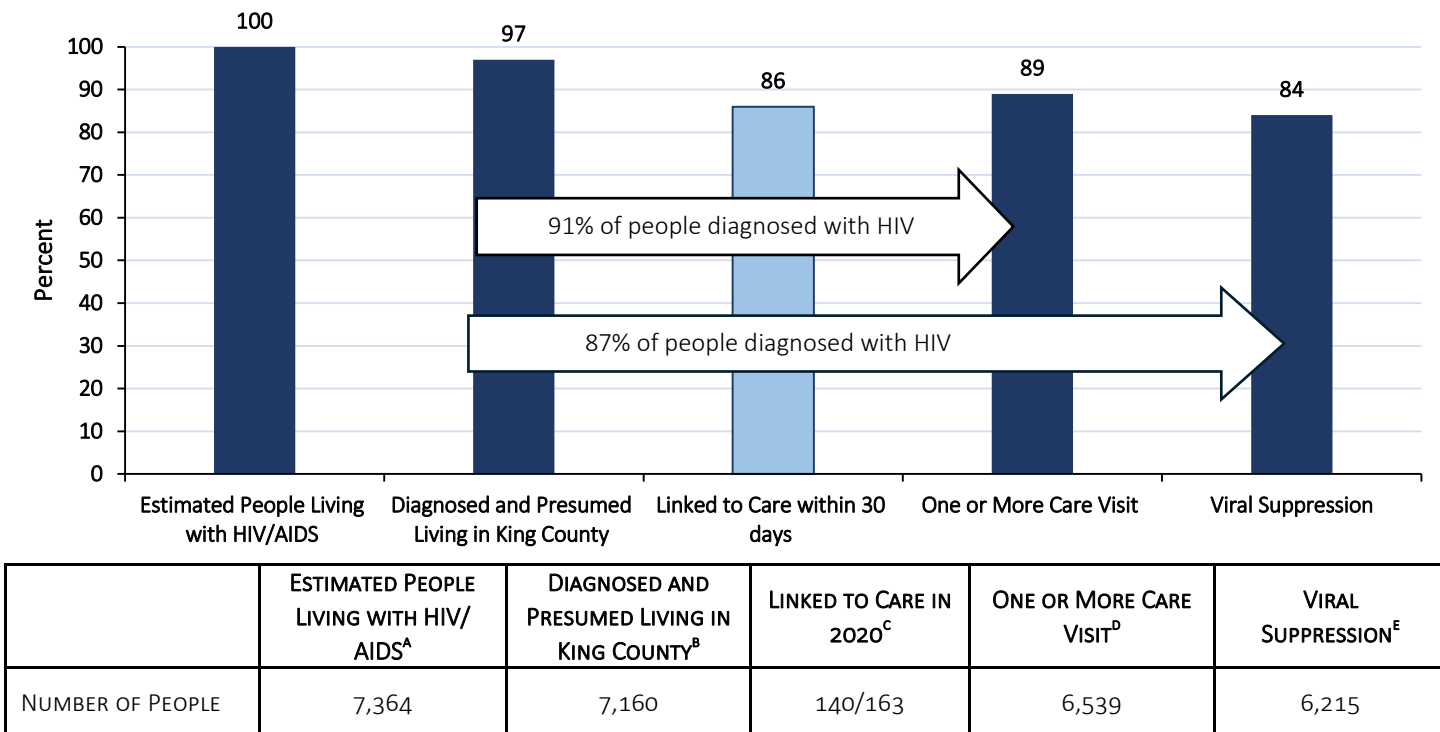
TREAT GOALS AND EVALUATION METRICS	2019	2021	2025 Goal
Linked to care in 1 month	90%	86%	≥95%
In HIV Care	89%	91%	≥95%
Viral Suppression	85%	87%	≥95%
Disparities in Viral Suppression by Race/Ethnicity	FB Black: 86% US-born Black: 77% Latinx: 85% White: 87%	FB Black: 88% US-born Black: 80% Latinx: 87% White: 88%	<5% Difference Between Groups and Overall Rate
Viral suppression within 4 months of Diagnosis	69%	70%	≥95%

FB: Foreign-born; In HIV Care: indicates one or more care visit, based on one or more reported laboratory result (CD4, viral load, genotypic resistance assay)

Background

The CD The primary goal of the Ending the HIV Epidemic (EHE) initiative is to reduce HIV incidence by 75% by 2025 and by 90% by 2030 (compared to 2019). 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

FIGURE 7-1 HIV CARE CONTINUUM, KING COUNTY, WA, 2021



^APercent undiagnosed was calculated as 3% for King County², based on a publicly available R back calculation package (<https://github.com/hivbackcalc/package1.0/wiki>). Our estimate based on this program is 2.7%, which we round to 3%. Estimated people living with HIV/AIDS is calculated by dividing “diagnosed and presumed living in King County” residents by .9723.

^BDiagnosed cases are those presumed living in King County at the end of 2021. 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 = 53 probable relocations excluded).

^CLinked to care in 2021 is not a subset of earlier data (hence different color in the graph) and is based on the percent diagnosed in 2021 with a CD4 or viral load test within 30 days of diagnosis. The percent linked in the figure, 86%, is the percent of diagnosed cases in 2021 who linked within 30 days of diagnosis: (140/163). Three-month linkage to care occurred for 93% of people living with diagnosed HIV (151/163).

^DOne or more care visit was based on one or more reported laboratory result (CD4, viral load, genotypic resistance assay).

^EViral suppression is defined as the most recent viral load test result in 2021 <200 copies. For individuals diagnosed in the last quarter of 2021, a viral suppression in the first quarter of 2022 was counted as viral suppression in 2021 and provided a suppression status for 13 people who are included. People with no viral load reported in 2021 and who were suppressed in 2020 and in 2022 to date (as of July 2022) are also added as presumptively suppressed in 2021, resulting in an additional 137 people. These additions total to 150 people, or 2.4% of 6,215 people counted as virally suppressed.

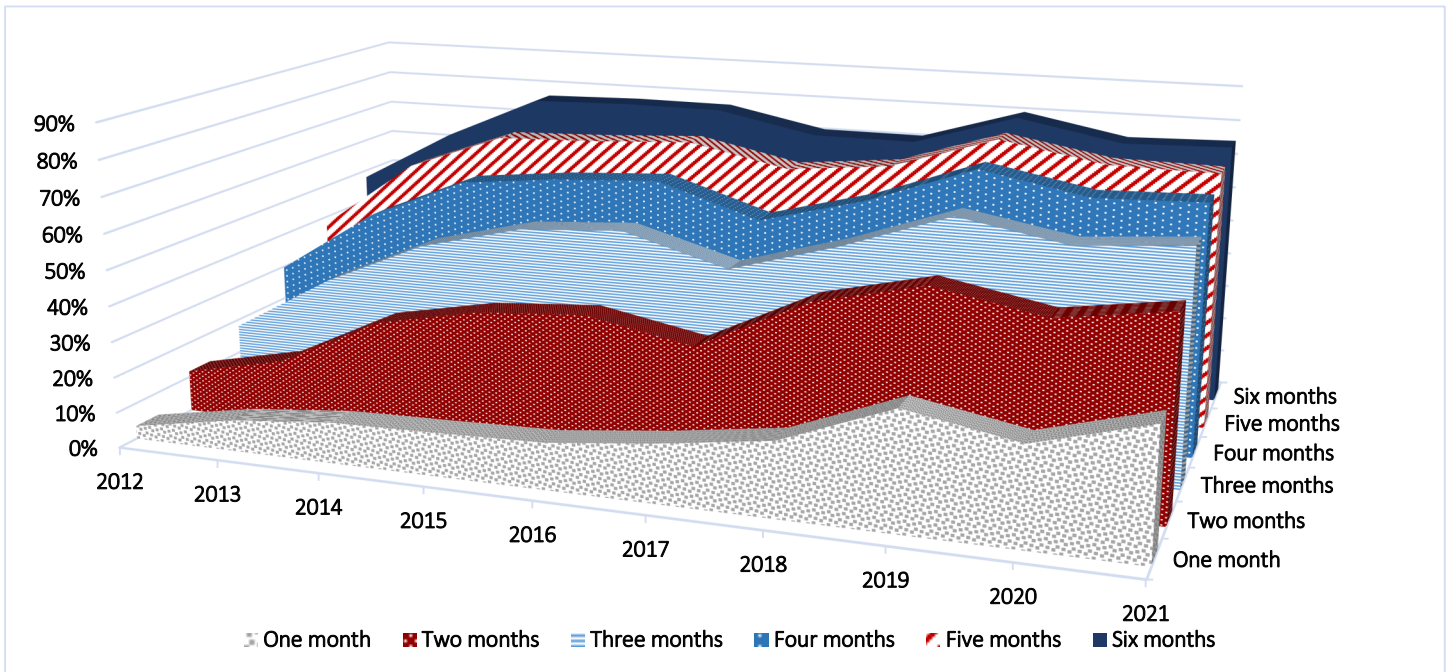
suppression (or a suppressed viral load) as soon as possible after diagnosis and remain consistently virally suppressed over time. Achieving and sustaining viral suppression benefits an individual’s health and prevents HIV transmission. King County set the following goals for the HIV care continuum by 2025: 1) 95% of newly diagnosed PLWH should link to HIV care within one month of diagnosis; 2) 95% of people diagnosed with HIV should be virally suppressed within four months of HIV diagnosis; 3) 95% of people diagnosed with HIV should be virally suppressed; and 4) elimination of racial and ethnic disparities in each step of the continuum (**Figure 7-1**) in King County. We no longer have a goal related to engagement in medical care since that is difficult to measure in a meaningful way with the current frequency

of laboratory tests collected in routine care. The current goals focus on initial linkage to 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 2021, 86% of newly diagnosed individuals linked to care within one month of diagnosis and 93% linked within three months. This means that 23 people newly

FIGURE 7-2: MONTHS TO VIRAL SUPPRESSION FOLLOWING AN HIV DIAGNOSIS, KING COUNTY, WA, 2012-2021



diagnosed with HIV did not link to care within one month. After three months post-diagnosis, only 12 people had not linked to care.

VIRAL SUPPRESSION AFTER A NEW HIV DIAGNOSIS

A key step in successful linkage to HIV treatment is the initiation of antiretroviral medication, ideally as soon as possible after diagnosis. For most people diagnosed with HIV in King County, the first opportunity to start medications is at the time of the 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 2021, the median time to documented viral suppression after an HIV diagnosis was 53 days (interquartile range [IQR]: 34 to 83 days). This indicator has improved substantially since 2017 (median 97 days in 2017 [IQR: 56-174 days]) (Figures 7-2 and 7-3). Over the prior 10 years, not only did the median time to viral suppression decrease, but the range of times decreased, meaning that more people were suppressed in a shorter time.

Receipt of and Retention in Care

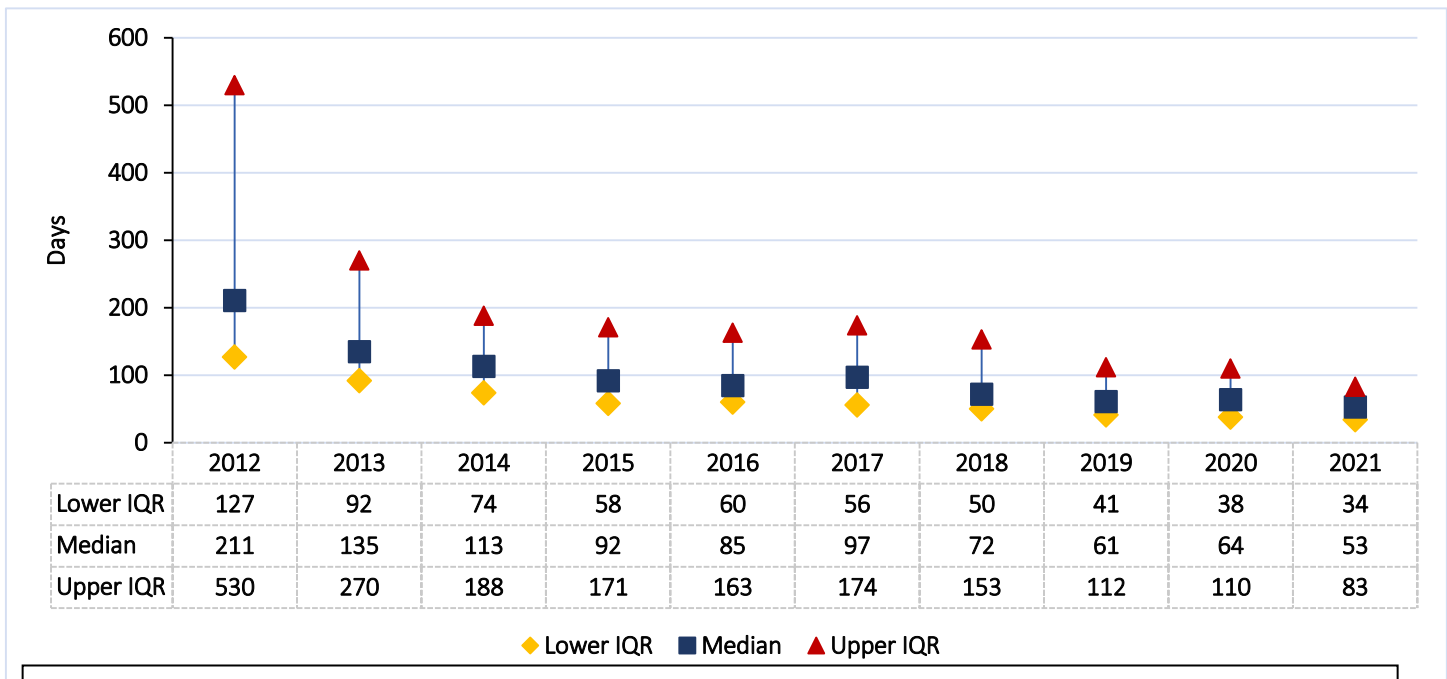
As described above, this measure is no longer a central goal in King County. We report data here for comparison with national reports and other data sources. The

proportion of people with diagnosed HIV who received any care in 2021, defined by having at least one HIV-associated laboratory test result (CD4 count or viral load) reported to the health department in 2021, was 91%. (See **Definitions** page for more detail about laboratory reporting.) Another measure used nationally 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. Because 32% of persons with a suppressed viral load had only one laboratory test in 2021, many people with viral suppression would be categorized as not engaged in care by this definition despite having a clear marker of treatment success. According to this definition, 53% of people diagnosed with HIV were retained in care in 2021.

Viral Suppression

In 2021, 84% of all PLWH in King County had a suppressed viral load (<200 copies/mL) at their last viral load test during 2021. However, this proportion increases to 87% when we consider people virally suppressed if they had a suppressed viral load at the time of last report in the previous year (2020) and the time of first report in the following year (2022). This “flanking viral load” approach recognizes that many PLWH in King County are missing a viral load report in a given year but nonetheless continued antiretroviral therapy (ART). (Specifically, 199 people had no viral load report in 2021 but had suppressed VLs in 2020 and 2022 [through June

FIGURE 7-3: MEDIAN TIME TO VIRAL SUPPRESSION IN DAYS (AND INTERQUARTILE RANGE, IQR) FOLLOWING AN HIV DIAGNOSIS, KING COUNTY, WA, 2012-2021



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. Viral suppression is defined as a viral load of <200 copies/mL. Due to the COVID-19 pandemic, in 2020 and 2021, 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. We repeated this method in 2021, although in 2021 there were more than 60,000 HIV-related tests received. To measure the validity of this approach, we reviewed the medical records of 167 individuals living with HIV who were virally suppressed in 2020 and the first half of 2022 but had no viral load measurement in 2021. We presumed that people who met these criteria were likely to have had uninterrupted ART use, and thus viral suppression in 2021. In support of this hypothesis, we found evidence of continued ART prescriptions between 2019 and 2021 for 92% of the 167.

2022]. We investigated a subset of 154 of these cases, and 92% were found to have other evidence showing that they were definitely or probably on ART throughout 2021.) Throughout this report, we use 87% as our estimate of the proportion of PLWH who were virally suppressed during 2021. (See the “Viral Load Suppression Estimate Explained” section for a more detailed explanation.)

FACTORS ASSOCIATED WITH BEING VIREMIC OR NOT IN HIV CARE

Table 7-1 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. The UNAIDS 90-90-90 goal (90% of people living with HIV are diagnosed, 90% of diagnosed PLWH are on ART, and 90% of PLWH on ART are virally suppressed) translates to 81% viral suppression among persons with diagnosed HIV. Viral suppression was above the threshold of 81% in most subpopulations presented in the table but below this threshold in the following subpopulations: U.S.-born Black people (80%), PWID (79% in MSM-PWID; 77% in non-MSM PWID), and people who use methamphetamine (73%). MSM of all race/

TABLE 7-1: HIV CARE METRICS, INCLUDING LATE DIAGNOSES, LINKAGE TO CARE, BEING IN MEDICAL CARE, AND VIRAL SUPPRESSION FOR SELECTED GROUPS LIVING WITH DIAGNOSED HIV, KING COUNTY, WA, 2021^A

	People Diagnosed with HIV ^B (N)	New diagnoses in 2021 ^A	Late HIV diagnoses (AIDS within one year of HIV)	Percent of people with diagnosed HIV in King County in 2021: ^A		
				Linked ^C to care within one month of diagnosis	Had one or more care visit in 2021	Had suppressed recent viral load (in 2021) (<200 copies)
Total	7,160	163	22%	86%	91%	87%
Gender^D						
Cisgender men	6,128	134	22%	85%	91%	87%
Cisgender women	944	22	27%	86%	92%	86%
Transgender people	88	7	0%	100%	88%	84%
Race/Ethnicity^E						
American Indian/Alaska Native	264	7	29%	100%	91%	81%
Asian	568	14	29%	93%	93%	90%
Black	1,893	43	23%	86%	91%	83%
<i>Foreign-born</i>	767	16	38%	75%	92%	88%
<i>U.S.-born^F</i>	1,126	27	15%	93%	90%	80%
Latinx (all races)	1,116	34	21%	91%	92%	87%
<i>Foreign-born</i>	599	20	15%	95%	92%	88%
<i>U.S.-born^F</i>	517	14	31%	85%	91%	86%
Pacific Islander ^A	95	20	25%	85%	91%	81%
White	4,805	100	19%	84%	92%	88%
HIV Risk Factors						
Men who have sex with men (MSM) ^G	4,748	102	19%	87%	92%	91%
People who inject drugs (PWID) ^{A,G}	274	63	24%	68%	85%	77%
MSM-PWID ^G	654	19	5%	79%	90%	79%
Heterosexual	782	14	29%	93%	93%	86%
<i>Foreign-born</i>	470	8	38%	88%	94%	90%
<i>U.S.-born^F</i>	312	6	17%	100%	91%	81%
Other Factors						
Foreign-born	1,789	44	27%	86%	92%	89%
Meth use (collected since 2009)	422	17	24%	94%	87%	73%
Race/Ethnicity Among MSM (including PWID-MSM)^F						
Asian MSM	430	11	18%	91%	93%	91%
Black MSM	913	24	17%	88%	90%	82%
Latinx MSM	911	24	17%	96%	92%	89%
<i>Foreign-born</i>	449	12	8%	100%	94%	90%
<i>U.S.-born^F</i>	462	12	25%	92%	91%	88%
White MSM	4,178	85	15%	84%	92%	89%
Age in 2021						
<30 years	473	50	16%	86%	89%	81%
30-39 years	1,383	65	23%	91%	88%	81%
40+ years	5,304	48	25%	79%	92%	89%

^ADue to small numbers (i.e., fewer than 6 new diagnoses in 2021), newly diagnosed Pacific Islander/Native Hawaiian people, and PWID (excluding MSM-PWID) were based on 5 years of diagnoses from 2017 to 2021.

^BExcludes 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 (resulting in 7,160 PLWH).

^C"Linked" is based on the percent of cases diagnosed in 2021 linking to care based on CD4 or viral load tests within 30 days of diagnosis.

^DTransgender individuals are those for whom we have data reflecting transgender status, and includes transgender women and men. All other people are categorized by their sex assigned at birth, and presumptively labeled as cisgender women and cisgender men. For prevalent cases of people living with diagnosed HIV, the transgender category is comprised of 92% transgender women and 8% transgender men; for incident diagnoses, the breakdown was 86% transgender women and 14% transgender men.

^ERace/ethnicity allows people to be in more than one category

^FU.S.-born includes unknown country of birth

^GMSM, PWID, and MSM-PWID are all mutually exclusive

ethnicity strata had >81% viral suppression, though the level was lowest in Black MSM. 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 (65% in 2019), and viral suppression in each of the subpopulations named above has increased since last year.¹

OUT OF CARE AND UNSUPPRESSED PLWH

Table 7-2 presents detailed information on the characteristics of PLWH in King County who were not known to be virally suppressed. Of all PLWH presumed to be living in King County at the end of 2021, 13% (N=945) were virally unsuppressed including 355 (5%) with confirmed viremia. Black MSM and PWID were more likely to be virally unsuppressed. The geographic residences of PLWH who are virally unsuppressed were similar to the overall distribution residences of PLWH in King County. On multivariate analysis, the following factors were associated with being virally unsuppressed or out of care (OOC): injection drug use, U.S.-born Black race, younger age, and more recent HIV diagnosis (**Table 7-3**).

OUTCOMES AMONG PEOPLE WHO WERE NOT VIRALLY SUPPRESSED IN 2020

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 gains additional information about the status of people who appeared to be OOC (and presumed virally unsuppressed) during the prior years. Many people who appear to be OOC 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 last year's surveillance report, an estimated 958 people were presumed to be virally unsuppressed based on having no laboratory result reported to PHSKC during 2020 (the focus of the 2021 surveillance report), including 367 were defined as virally unsuppressed based on a confirmed report of an unsuppressed viral load. **Figure 7-4** shows the status of those individuals as of the end of 2021 with data reported through mid-2022. Because 151 (16%) people were ultimately found to have

moved away, they likely were not living in King County at the end of 2020. An additional two people had died in 2020. Of the revised estimate of 805 people OOC or virally unsuppressed in King County at the end of 2020, 19 (2%) died in 2021. Thus, Public Health's initial estimate was approximately 20% too high. The magnitude of this overestimate has been roughly stable over time (**Table 7-4**). Assuming 2021 is similar to other recent years. Public Health estimates that approximately 800 PLWH in King County were unsuppressed or OOC in 2021, with a plausible range for this estimate of 600-900 persons.

Many of the people who were unsuppressed in 2020 subsequently achieved viral suppression in 2021; their viral suppression was transient. Of the 786 PLWH who were OOC or unsuppressed at the end of 2020 and still alive throughout 2021, 313 (40%) were virally suppressed at the end of 2021 and 473 (60%) were not. Based on past investigations, many of the individuals who had no suppressed viral load labs reported in either 2020 or 2021 (N=293) have likely moved away, but PHSKC has been unable to confirm relocation.

In summary, of the 958 people presumed to be out of care/virally unsuppressed at the end of 2020 reported in last year's surveillance report, 16% were confirmed to have moved away, 49% remained out of care/virally unsuppressed in 2021 (31% OOC and 19% not suppressed), 33% were virally suppressed at the end of 2021, and 2% died in 2020 or 2021. Like the overestimate of the number of people who are unsuppressed or OOC, the proportion of PLWH who have transient versus sustained viremia has been relatively stable over the last few years prior to the onset of the COVID-19 pandemic. These analyses demonstrate that the number of PLWH who are truly virally unsuppressed is somewhat lower than are base estimates suggest, and that only 3-7% of all diagnosed PLWH in King County are consistently virally unsuppressed, though a significantly larger group is intermittently unsuppressed.

Contributed by Julie Dombrowski, Francis Slaughter, Richard Lechtenberg, and Susan Buskin

Reference

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.

TABLE 7-2: NUMBER AND CHARACTERISTICS OF PEOPLE LIVING WITH DIAGNOSED HIV WHO ARE NOT VIRALLY SUPPRESSED, KING COUNTY, WA, 2021

	Living with diagnosed HIV in King County	Unsuppressed due to no viral load reported in 2021	Unsuppressed due to viral load in 2021 ≥ 200	Total number without a suppressed viral load in 2021	
Group	N	N (row%)	N (row%)	N (row %)	
Total unadjusted ^A	7,160	809 (11%)	371 (5%)	1,180 (16%)	
Total adjusted estimate ^B	7,160	590 (8%)	355 (5%)	945 (13%)	Of total % un-suppressed
	Of 7160	Persons Without a Suppressed VL			Of 945
	N (Col %)	N (Row %) ^B			Col %
Men who have sex with men (MSM)	5402 (75%)	404 (7%)	247 (5%)	651 (12%)	69%
<i>American Indian/Alaska Native MSM</i> ^C	212 (<1%)	17 (8%)	17 (8%)	34 (16%)	4%
<i>Asian MSM</i> ^C	430 (10%)	28 (7%)	11 (3%)	39 (9%)	4%
<i>Pacific Islander MSM</i> ^C	79 (<1%)	6 (8%)	9 (11%)	15 (19%)	2%
<i>Black MSM</i> ^C	913 (10%)	92 (10%)	76 (8%)	168 (18%)	18%
<i>Latinx MSM</i> ^C	911 (10%)	60 (7%)	40 (4%)	100 (11%)	11%
<i>White MSM</i> ^C	4178 (60%)	290 (7%)	165 (4%)	455 (11%)	48%
People who inject drugs (PWID, excluding MSM)	274 (4%)	38 (14%)	26 (9%)	64 (23%)	7%
MSM-PWID (subset of MSM)	654 (9%)	61 (9%)	77 (12%)	138 (21%)	15%
Foreign-born Black people (FBB excluding MSM & PWID)	632 (10%)	42 (7%)	28 (4%)	70 (11%)	7%
Heterosexual risk (excluding FBB) ^D	460 (10%)	43 (9%)	34 (7%)	77 (17%)	8%
Others (excluding FBB, PWID, MSM, and heterosexuals)	392 (10%)	63 (16%)	20 (5%)	83 (21%)	9%
Seattle	4585 (60%)	361 (8%)	223 (5%)	584 (13%)	62%
South King County	1844 (30%)	183 (10%)	107 (6%)	290 (16%)	31%
East King County	501 (7%)	36 (7%)	18 (4%)	54 (11%)	6%
North King County	228 (3%)	10 (4%)	7 (3%)	17 (7%)	2%

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

^AOriginally there were 7,211 PLWH presumed living in King County at the end of 2021. Of these, 51 people (0.7%) had no laboratory tests reported for at least 18 months and had some evidence of a relocation which could not be verified with another surveillance jurisdiction. These 51 are not included, leaving 7,160.

^BFlanking/adjusted viral load redefines individuals as suppressed who (1) have no viral load reported in 2021, but were suppressed as of a last viral load in 2020 and a first viral load in 2022 and (2) if they were diagnosed in the last quarter of 2021, and achieved suppression in the first quarter of 2022.

^CRace/Ethnicity categories are not mutually exclusive, if an individual identifies as multiple races they were counted in the denominator of each race.

^DHeterosexual combines those identified as heterosexual and presumed heterosexual individuals (presumed heterosexuals are women won have sex with men and deny injection drug use)

TABLE 7-3: FACTORS ASSOCIATED WITH (1) NOT BEING IN CARE IN 2021 OR (2) BEING VIREMIC (VIRAL LOAD ≥ 200 COPIES PER ML), AMONG PEOPLE DIAGNOSED WITH HIV THROUGH 2020; KING COUNTY, WA, DATA REPORTED AS OF 6/30/2022^A

Factor	Percent Out of Care or Not Virally Suppressed		Relative Risk (95% CI)	Adjusted Relative Risk ^A (95% CI)
	N	N=896 ^B Row %		
Total	6,939	13%	NA	NA
HIV Exposure Category				
People who inject drugs	904	21%	1.8 (1.6-2.1)	1.9 (1.6 - 2.2)
No known injection drug use	6,035	12%	1.0 (Ref cat.)	1.0 (Ref cat.)
Men who have sex with men	5,184	12%	0.7 (0.6-0.8)	1.0 (0.6-1.6)
Not men who have sex with men	1,755	17%	1.0 (Ref cat.)	1.0 (Ref cat.)
Race/Ethnicity/Nativity				
Foreign-born Latinx	559	12%	1.0 (0.8-1.3)	0.9 (0.7-1.2)
U.S.-born Latinx	501	14%	1.2 (1.0-1.6)	1.0 (0.7-1.3)
Foreign-born Black single race (Non-Latinx [NL])	658	11%	1.0 (0.8-1.3)	1.0 (0.6-1.7)
U.S.-born Black, single race NL	795	22%	1.9 (1.6-2.3)	1.9 (1.5-2.3)
NL White, single race	3,557	11%	1.0 (Ref cat.)	1.0 (Ref cat.)
NL Asian and Pacific Islanders, single race	348	8%	0.7 (0.5-1.0)	0.7 (0.5-1.1)
NL Native American/Alaska Native, single race	38	21%	1.8 (1.0-3.4)	1.8 (0.9-3.6)
Multiple Races	483	14%	1.2 (1.0-1.6)	1.1 (0.9-1.5)
Gender				
Women ^C	909	14%	1.1 (0.9-1.3)	1.2 (0.6-2.3)
Men ^C	5,951	13%	1.0 (Ref cat.)	1.0 (Ref cat.)
Transgender	79	14%	1.1 (0.6-1.9)	Not calculable
Age in 2020				
Less than 30 years	497	18%	1.8 (1.4-2.3)	2.8 (1.9-4.1)
30 – 39 years	1,361	18%	1.9 (1.9-2.3)	2.5 (1.8-3.4)
40 – 49 years	1,551	15%	1.6 (1.3-1.9)	2.2 (1.6-3.0)
50 – 59 years	2,090	11%	1.1 (0.9-1.3)	1.8 (1.3-2.3)
Age 60+ years	1,440	10%	1.0 (Ref cat.)	1.0 (Ref cat.)
HIV Diagnosis Year				
< 2001	2,047	8%	1.0 (Ref cat.)	1.0 (Ref cat.)
2001-2005	1,167	12%	1.5 (1.2-1.8)	1.3 (1.0-1.7)
2006-2010	1,300	16%	1.9 (1.6-2.3)	1.6 (1.2-2.0)
2011-2015	1,255	15%	1.8 (1.5-2.2)	1.4 (1.1-1.8)
2016-2020	1,170	16%	2.0 (1.6-2.4)	1.3 (1.0-1.7)

BOLD type designated statistical significance.

^AAdjusted relative risks adjust for all other factors in the table.

^BThe 896 people evaluated include 322 with viremia (viral load > 199) and 574 out of care (no laboratory results).

^CMen and women are presumptively cis-gender, although transgender status may be under-ascertained; of known transgender people, 92% were transgender women and 8% were transgender men.

FIGURE 7-4: CURRENT STATUS OF HIV CASES IDENTIFIED AS VIRALLY UNSUPPRESSED AT THE END OF 2020, KING COUNTY, WA

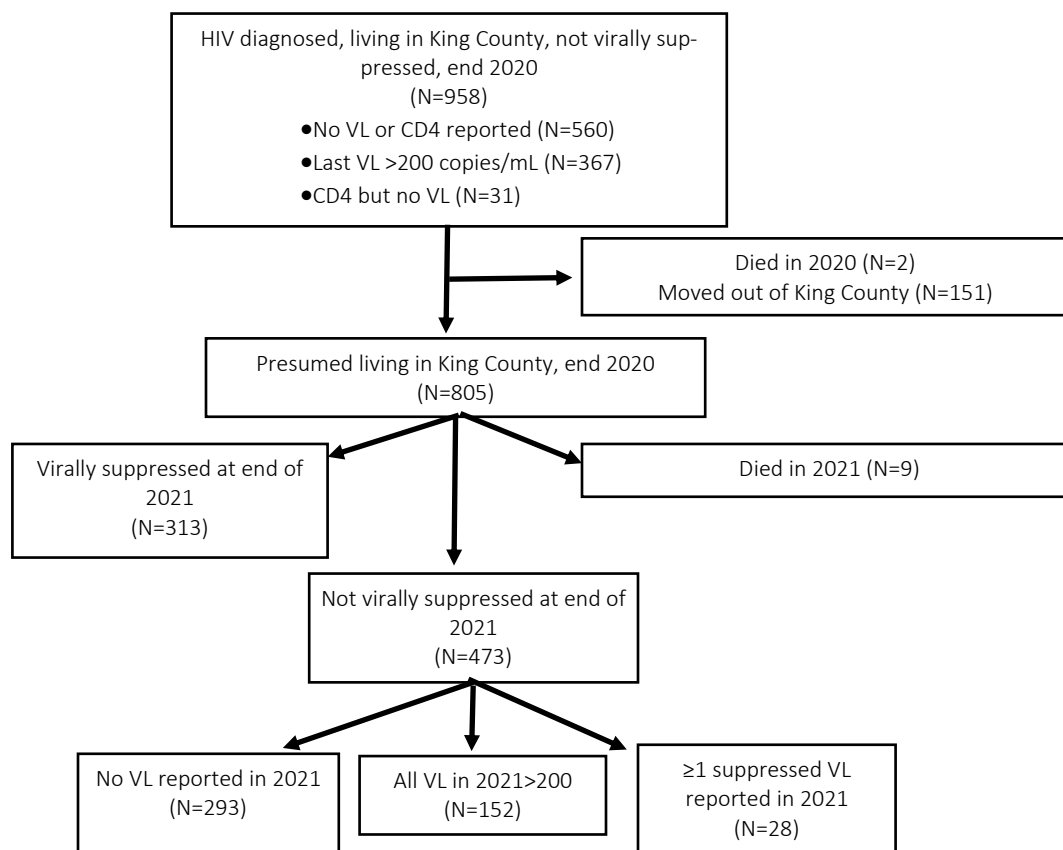


TABLE 7-4: INITIAL AND REVISED ESTIMATES OF PEOPLE DIAGNOSED WITH HIV (PWDH) WHO WERE OUT OF CARE (OOC) AND VIRALLY UNSUPPRESSED AND OUTCOMES IN THE SUBSEQUENT YEAR, KING COUNTY, WA, 2017-2020.

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%)
2020	958 (14%)	151 (16%)	805 (12%)	19 (2%)	313 (39%)	473 (59%)

*Total number of people diagnosed with HIV adjusted to exclude people found to have died in the given year or earlier (these deaths are small in number and thus not shown; 0 – 3 each year)

Ending the HIV Epidemic

Pillar 3: Prevent

SUMMARY

Two in five (40%) local men who have sex with men (MSM) are currently on pre-exposure prophylaxis (PrEP) for HIV.

Over one-half (approximately 64%) of MSM at higher risk of HIV are currently using PrEP.

In 2021, the Public Health – Seattle & King County (PHSKC) syringe services program (SSP) sites distributed over 5 million syringes, with over 8.5 million syringes distributed by all local SSPs.

In 2021, PHSKC distributed 661,248 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) 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)

KEY HIV GOALS	2019	2021	2025 GOAL
PrEP use, high-risk MSM	47%	64%	≥70%
Disparities in PrEP use among high-risk MSM by race/ethnicity	--	Black: 57% Latinx: 71% White: 64%	<5% difference between groups and overall rate
Syringe cover-	283/PWID	316/PWID	≥365/PWID

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 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 medication 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 and taken daily. In addition, in 2021, an injectable version of PrEP (cabotegravir) received approval by the U.S. Food and Drug Administration (FDA). 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 oral PrEP medication, emtricitabine/tenofovir disoproxil fumarate (FTC/TDF), became widely available, decreasing the cost of this medication by more than 90%.¹

In 2021, Public Health – Seattle & King County (PHSKC) and the Washington State Department of Health (WA DOH) PrEP implementation guidelines recommend PrEP initiation in the following groups of patients:

- 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).

PHSKC also recommends that medical providers discuss PrEP with HIV-negative MSM, 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. Two surveys monitor current PrEP use in these key populations:

- Pride Survey - Local data from the King County Pride surveys, conducted during June-July Pride events, provide insight into PrEP use and sexual behavior (including condom use) among MSM, transgender, and non-binary individuals. The 2022 Pride survey was administered through both online and in-person methods. Overall, in 2022, 769 King County residents were recruited during Seattle Pride events and identified as being transgender, non-binary, bisexual, queer, gay, and/or lesbian. A total of 274 (36%) participants identified as a cis or trans man and have had sex with men; 10 (4%) of these MSM reported being transgender. Overall, 134 (17%) participants identified as transgender and/or non-binary. All MSM estimates from the 2022 Pride Survey include transgender MSM.
- 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 and 2021), 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.

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

- STI Surveillance Data and Partner Services - Individuals with diagnosed STIs receiving public health partner services who were asked if they were currently using PrEP. Current PrEP use is also asked on the STI case report form.
- Harborview Sexual Health Clinic (SHC) MSM and transgender patients – Patients who reported at least one sex partner in the last year were asked if they were currently taking PrEP.

When possible, PrEP outcomes are presented separately for MSM who do and do not meet criteria for being at “higher 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.² 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 “higher risk” for HIV: 10+ male anal sex partners, methamphetamine use, gonorrhea or syphilis diagnosis, or condomless anal intercourse (CAI) with an HIV-positive partner or partner of unknown status (unless the participant only had CAI with monogamous partner(s)). When data were available, HIV-negative MSM as “low/negligible risk” for HIV were those who reported no sex partners or one HIV-negative mutually monogamous partner in the past year. All other HIV-negative MSM who were not defined as higher risk or low/negligible risk were defined as “intermediate risk.”

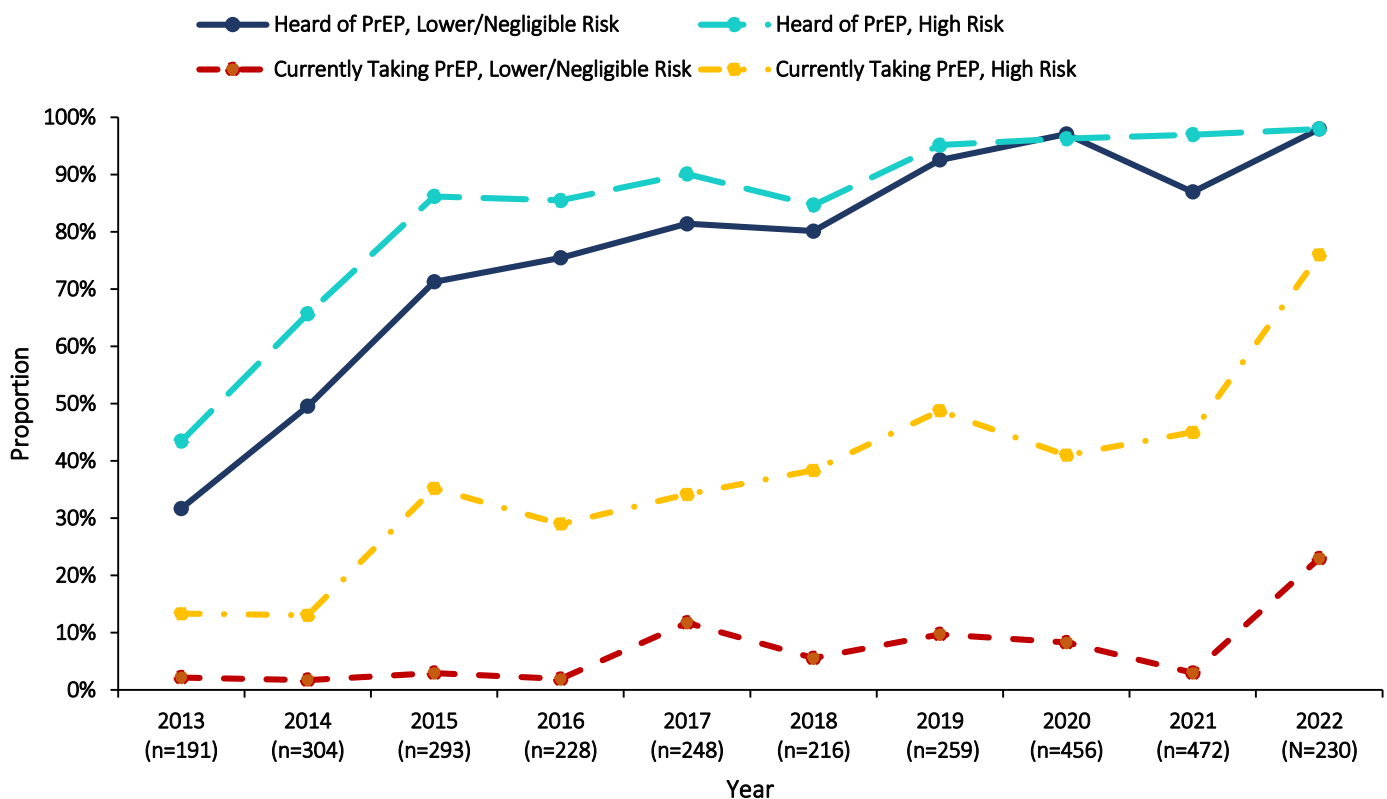
PREP AWARENESS

The annual Pride survey has collected data on PrEP awareness among MSM since 2009. **Figure 8-1** 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 8-1**, data from the 2021 NHBS-MSM survey are similar with 92% of low-risk and 97% of higher risk MSM reporting being aware of PrEP.

PREP USE

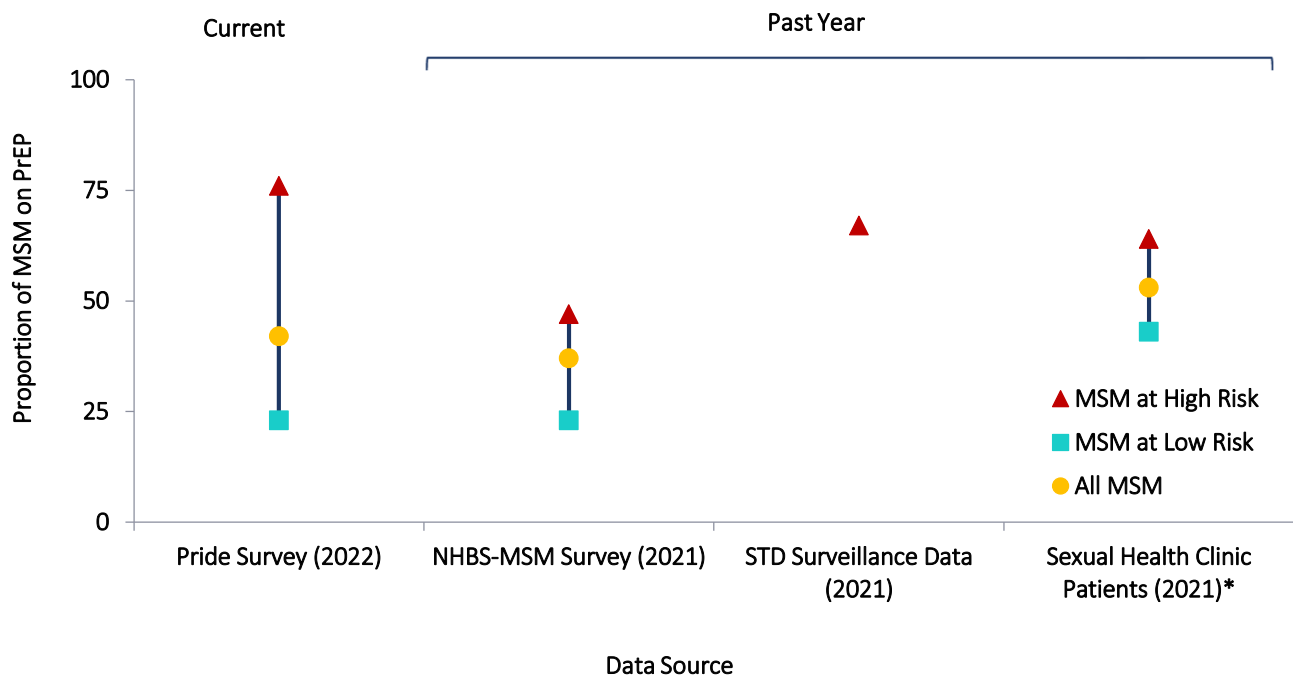
PrEP Use among MSM. Since the first licensure of antiretroviral therapy for PrEP in 2012, PrEP use has rapidly expanded among King County MSM (**Figure 8-1**). In 2021-2022, approximately 40% (range: 37-42%) of MSM in King County were on PrEP, including approximately 64% (range: 47-76%) of MSM at higher risk for HIV (**Table 8-2**). The percentage for all MSM was calculated based on the average of the Pride Survey and NHBS-MSM survey, which are the data sources most

FIGURE 8-1. PREP AWARENESS AND USE AMONG MSM IN KING COUNTY, SEATTLE AREA PRIDE SURVEY, 2013-2022^A



^A Prior to 2015, respondents were asked if they had ever used PrEP.

FIGURE 8-2. CURRENT PREP USE AMONG SEATTLE MEN WHO HAVE SEX WITH MEN (MSM) BY RISK CRITERIA, 2021-2022



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

representative of the entire population of MSM; the estimate for MSM at higher risk for HIV also included PHSKC SHC and STD surveillance data. By contrast, in 2014, just 13% of MSM who met higher risk criteria reported ever using PrEP in the Pride survey. As shown in **Figure 8-2**, 2017-2021 estimates of current PrEP use for MSM at higher and lower risk of HIV were similar across the two general surveys of MSM: NHBS, and Pride.

Using these same data sources, we observed moderate differences in current PrEP use among MSM at higher risk for HIV: 57% of Black MSM at higher risk, 71% of Latinx MSM at higher risk, and 64% of White MSM at higher risk (**Table 8-1**).

Among MSM patients seen in the PHSKC SHC in 2021, 64% of MSM at higher risk, 43% of MSM at intermediate/lower risk, and 35% of MSM with negligible HIV risk reported currently using PrEP. Overall, 53% of all MSM SHC patients were currently taking PrEP 2021. Among Black MSM patients seen in the PHSKC SHC in 2021, 57% at higher risk and 42% overall were currently taking PrEP, which was lower than White MSM patients (64% at higher risk and 53% overall) and Latinx MSM patients (74% at higher risk and 64% overall).

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 syphilis. PS also present an opportunity to monitor PrEP use among a population at higher 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 higher 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. 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. This prioritization continued into 2021. In March 2020, current PrEP use was added to the STI case report form which allows for monitoring PrEP use among MSM diagnosed with STIs who were not interviewed for PS. For

TABLE 8-1. CURRENT PREP USE AMONG MSM AT HIGHER RISK FOR HIV, KING COUNTY, WA, 2021-2022

Group	PHSKC Sexual Health Clinic 2021	Pride Survey 2022	NHBS-MSM Survey 2021	Aggregate Estimate of MSM Currently on PrEP ^A
Black MSM, Higher risk for HIV	57%	57%	50%	57%
Latinx MSM, higher risk for HIV	74%	67%	50%	71%
White MSM, higher risk for HIV	64%	78%	53%	64%
All MSM at higher risk for HIV	64%	76%	47%	64%
All other MSM (i.e., not at higher risk for HIV)	43%	23%	24%	23% ^B
All MSM, any HIV risk level	53%	42%	37%	40% ^B

^AAggregate estimates are weighted by sample size of subgroup in each data source

^BEstimates exclude Sexual Health Clinic data due to overrepresentation of MSM at higher risk for HIV

the PS PrEP data presented below, only interviewed gonorrhea and syphilis cases were included for 2014-2020 and starting in 2021 all gonorrhea and syphilis cases among MSM were included.

By definition, all MSM who had been diagnosed with a bacterial STI met the criteria for being at higher risk for HIV; 67% of these MSM reported currently being on PrEP. This estimate is likely higher than most 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 MSM patients who did not have HIV diagnosed with an STI between 2014-2021 who were using PrEP is shown in **Figure 8-3**. The percent of cases reporting already taking PrEP increased from 19% in 2014 to 72% in 2021 among MSM with early syphilis and rectal gonorrhea. Among MSM diagnosed with an STI other than early syphilis or rectal gonorrhea, PrEP use increased from 30% to 56% among MSM at high 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 diagnosed with urethral gonorrhea, PrEP use increased from 18% in 2014 to 53% in 2021.

PrEP Use among Transgender, Non-binary, and Genderqueer People Who Have Sex with Men - Data on PrEP use among transgender and non-binary/

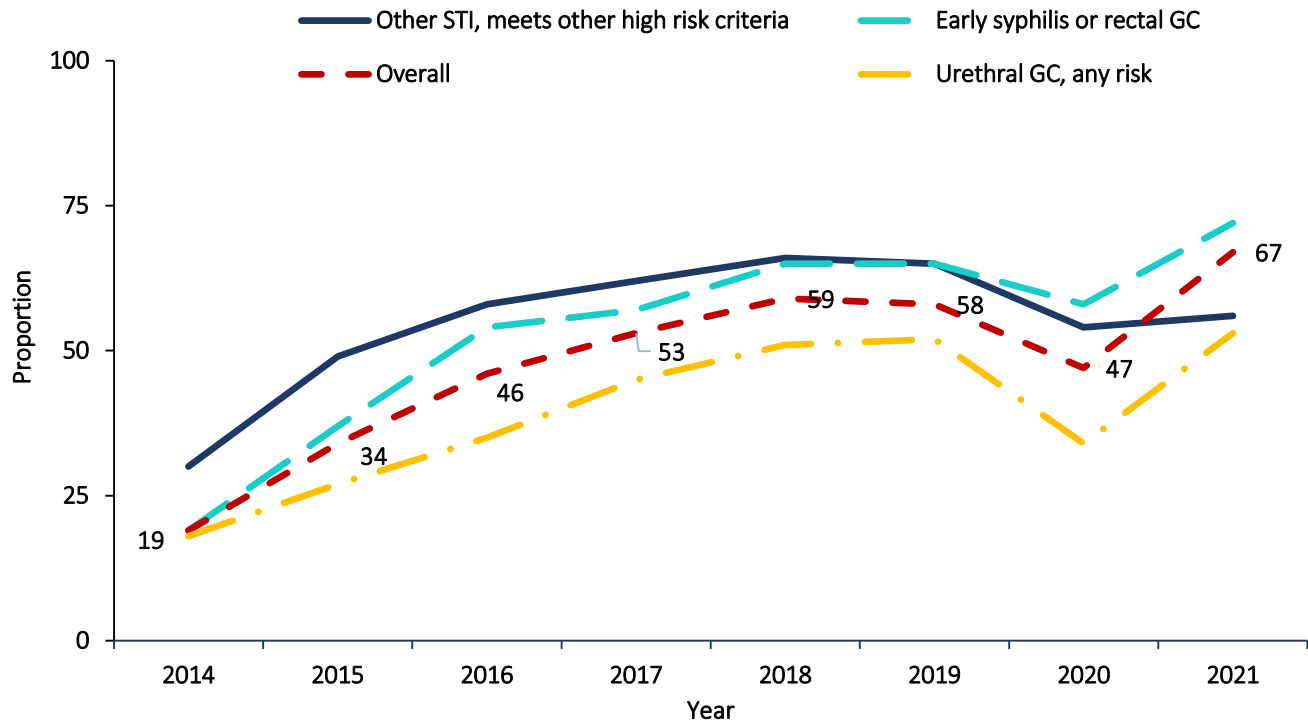
genderqueer populations is available in multiple data sources (**Table 8-2**). Current PrEP use among all HIV-negative transgender or non-binary/genderqueer people who reported sex with male partners ranged from 22% to 39%. Among those who met criteria for being at higher risk of HIV (including a recent STI diagnosis), over half (51% to 57%) were currently on PrEP.

Non-MSM People Who Inject Drugs (PWID) and Women who Exchange Sex for Money or Drugs - PrEP awareness and use remain very low among non-MSM 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 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.

FIGURE 8-3. CURRENT PREP USE AMONG MSM DIAGNOSED WITH A BACTERIAL SEXUALLY TRANSMITTED INFECTION (STI) IN KING COUNTY COMPLETING A PARTNER SERVICES INTERVIEW, 2014-2021*



Abbreviations: GC, gonorrhea or syphilis case

*Data from 2014-2020 is limited to MSM completing a partner services interview. Data in 2021 includes all MSM.

TABLE 8-2. PREP USE AMONG TRANSGENDER AND NON-BINARY PEOPLE, KING COUNTY, WA, 2021-2022

Data Source	Population	Proportion Currently on PrEP	Proportion Ever on PrEP
Pride Survey, 2022	HIV-negative, transgender or non-binary/genderqueer, reported cisgender man, transgender women, and/or nonbinary assigned male at birth (AMAB) sex partners	22%	34%
	HIV-negative, transgender or non-binary/genderqueer, reported sex with men	39%	--
PHSKC Sexual Health Clinic, 2021	HIV-negative, transgender or non-binary/genderqueer, reported sex with men, and met clinic criteria for being at higher risk for HIV	51%	--
	HIV-negative, transgender women	19% (past year)	--
NHBS survey of transgender women, 2019-2020	HIV-negative, transgender women, met criteria for being at higher risk for HIV	21% (past year)	--
	HIV-negative, transgender or non-binary/genderqueer, reported sex with men, diagnosed with gonorrhea or syphilis	57%	--
STI partner services data		58% of transgender women 44% of transgender men 63% of non-binary/genderqueer	--

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 2021 PrEP Implementation Guidelines.

From October 2014 to December 2021, 1,960 patients had completed an initial intake for PrEP in the SHC. As of December 31, 2021, 666 of these patients were currently receiving PrEP through the SHC, the majority of whom were MSM (92%). In 2021, 368 patients completed an initial intake for PrEP in the SHC, of whom 89% (n=329) were MSM. The racial and ethnic composition of the population of receiving PrEP in the SHC in 2021 was similar to that of MSM diagnosed with HIV in King County in 2021; 23% of PrEP patients were Latinx (vs. 18% diagnosed with HIV) 13% were Black, non-Latinx (vs. 11% of MSM diagnosed with HIV).

2) Promoting PrEP via STI Partner Services (PS)

PS present an opportunity to provide population-based HIV prevention, including PrEP referrals, to people at higher risk for HIV and other STIs. In 2021, medical providers reported 1,921 cases of syphilis or gonorrhea among HIV-negative MSM in King County, 417 of whom received PS. Of these cases, 179 (43%) were already using PrEP at the time of their PS interview and the remaining 238 (57%) were not. PHSKC workers offered to refer 161 (68%) men to a PrEP provider, of whom 72 (45%) accepted.

3) 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: Seattle's

LGBTQ+ Center (formerly Gay City) & POCAAN. In 2021, Seattle's LGBTQ+ Center had a panel of 284 patients seen for any PrEP related visit; 184 (65%) of whom filled a PrEP prescription through their PrEP Clinic. POCAAN's PrEP Clinic linked 3 patients to PrEP in 2021, its first year.

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. Our state PrEP DAP was the first program of its kind. 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 seeks to be the payer of last resort, with some enrollees required to use other drug assistance programs prior to using PrEP DAP. Expanding PrEP DAP to include medical and laboratory services reduced the barriers of medical cost to enrollees and supports engagement in care. The expansion allowed enrollees to see a contracted provider and have out of pocket costs for allowed services paid by PrEP DAP.

A total of 5,422 people enrolled in PrEP DAP between January 1, 2014 and July 31, 2022, of whom 4,113 (76%) were King County residents; 75% of these enrollees had medical insurance. Since expanding in November 2017, PrEP DAP has processed 76,729 medical and lab claims

and has contracts with 317 medical providers and 292 laboratory locations across the state. In July 2022, 250 enrollees received any services paid for through PrEP DAP, including 184 people in King County. Statewide, this included 97 enrollees with and 95 without insurance who filled their tenofovir/emtricitabine prescription through PrEP DAP. Of the 250 enrollees, 178 only filled a tenofovir/emtricitabine prescription, 58 enrollees only received a medical and/or lab service, and 14 both filled a prescription and received a medical and/or lab service. 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 1,960 patients who enrolled in the SHC PrEP program from October 2014 to December 2021, 447 (23%) patients were retained on PrEP at the clinic from their initial start date until June 30, 2022, 232 (12%) patients did not fill their first prescription, 364 (19%) moved or transferred care, seven (<1%) tested positive for HIV at their initial visit, and the remaining 910 (46%) patients discontinued PrEP at the SHC at least once between their initial start date until June 30, 2022.

The median time from PrEP initiation to PrEP discontinuation was similar among SHC PrEP patients and MSM receiving HIV PS. The median time to first PrEP discontinuation for SHC patients was seven months (IQR: 3-16 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: 1-12 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.

SUCCESSSES

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 2021, approximately 40% of all MSM in King County were on PrEP, including an estimated 64% of MSM at higher

risk for HIV. Notably, 67% of MSM diagnosed with 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

While King County has made substantial progress using PrEP to prevent HIV, the county will need to make additional efforts to meet the local EHE goal of having 70% of MSM at higher risk for HIV on PrEP by 2025. In addition to continuing challenges in providing sexual health services, including PrEP, during the COVID-19 and monkeypox pandemics, challenges remain in promoting appropriate PrEP retention and in defining which populations of non-MSM PWID and women might benefit from PrEP and assuring high levels of use in those populations. Some data suggest that PrEP use is disparate, with lower levels of use among Black MSM, a population at particularly higher risk for HIV infection. Black SHC PrEP patients were retained on PrEP for shorter time periods, with the median time to first discontinuation being four months for Black patients compared to seven months for SHC PrEP patients overall.

Syringe Service Programs (SSPs)

BACKGROUND

SSPs are public health programs for people who use drugs, including 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 clients 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 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.) In 2021, there were three additional 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 and follows CDC recommendations. Moreover, PHSKC SSPs continue to support “secondary exchange,” which is provided

syringes to individuals who then provide these syringes to others. This is also recommended by CDC.

NUMBER OF SYRINGES EXCHANGED AND SYRINGE COVERAGE

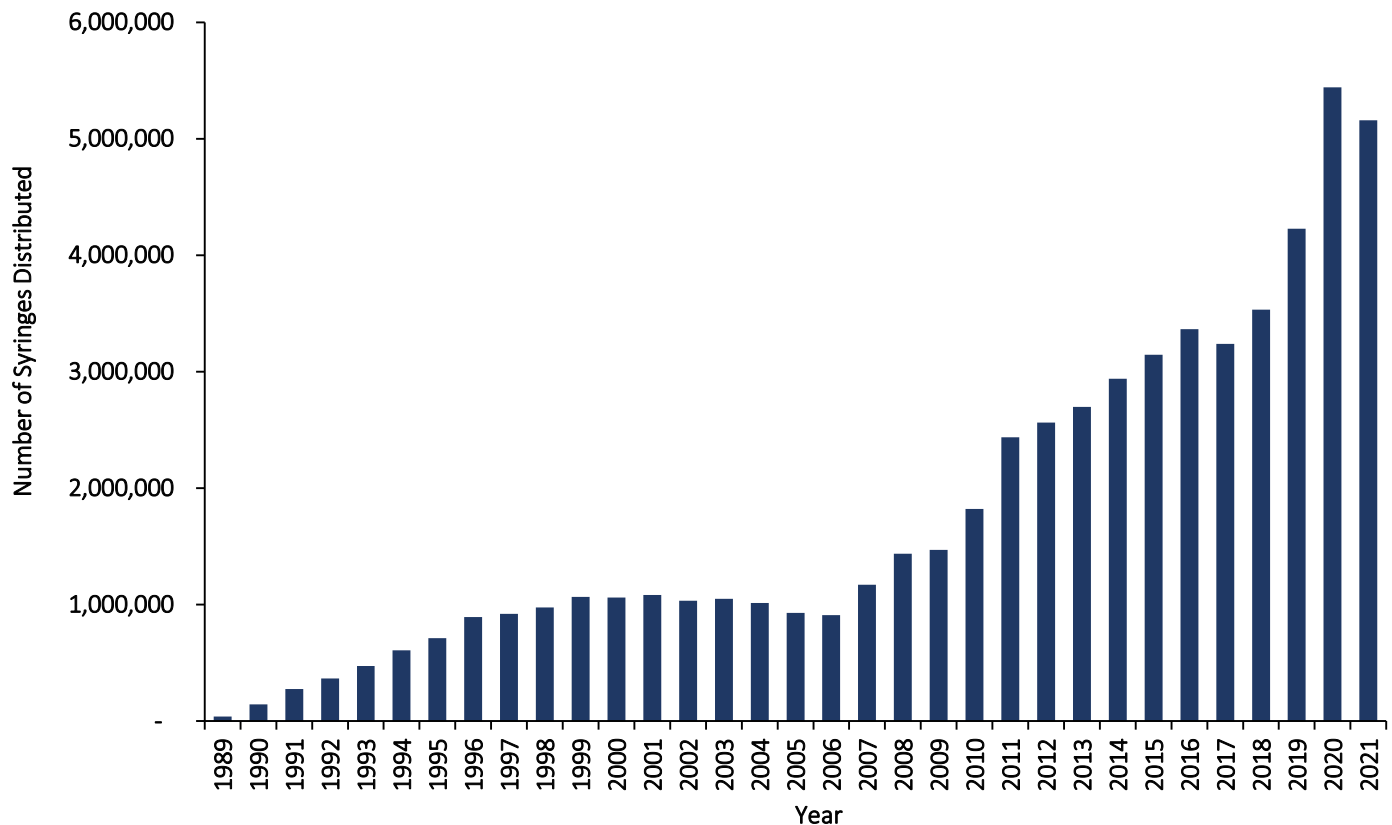
In 2021, the PHSKC SSP distributed 5,158,262 syringes at its four sites, a 5.2% decrease from 2020 (**Figure 8-4**).

These syringes were exchanged during 18,018 exchange encounters, which was an 8.6% decline from 2020.

Across all four SSPs within Seattle and King County, SSPs distributed 8,527,294 syringes in King County in 2021 (a 3% decline from 2020). This included 2,933,979 syringes at PHRA, 410,743 syringes at HEP, and 24,310 syringes at Project NEON. (Note: Data from Project NEON were only available for half of the year.)

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 2021, SCORE exchanged 1,514,200 syringes (a 16% decrease from 2020) during 2,295 encounters (23% decrease from 2020), largely due to secondary exchange (i.e., obtaining

FIGURE 8-4. TOTAL ANNUAL SYRINGE DISTRIBUTION FOR PUBLIC HEALTH—SEATTLE & KING COUNTY (PHSKC) SYRINGE SERVICE PROGRAM SITES, 1989-2021



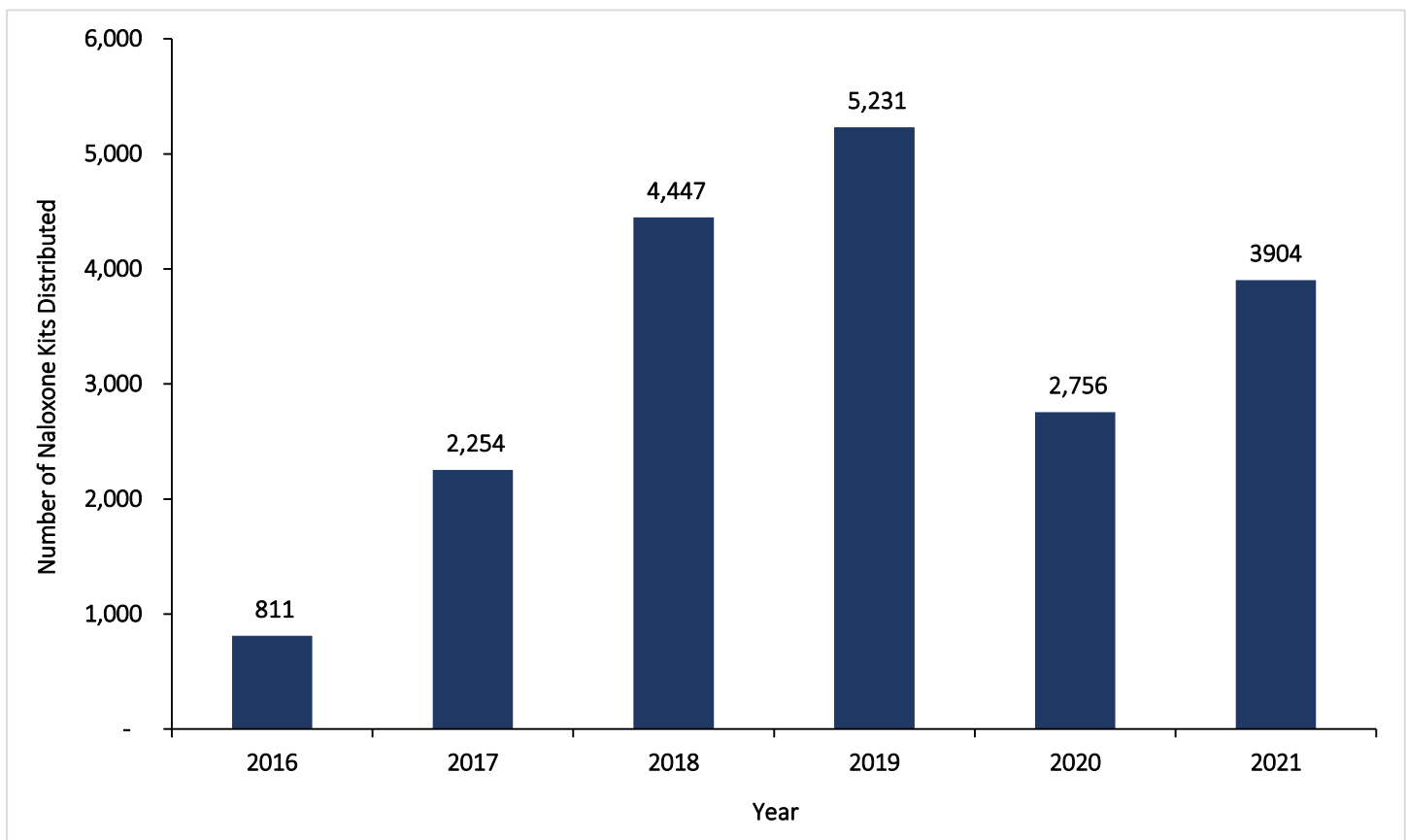
syringes for others). Because of the increase in HIV cases among PWID in 2018, PHSKC expanded its SSP to include the North Seattle Outreach Referral and Exchange (NORE). NORE is a mobile SSP that visits homeless encampments and other locations frequented by PWID to provide syringe services, including sterile injection equipment, HIV testing, and vaccinations. In 2021, NORE and other outreach activities distributed 844,400 syringes (a 35% increase from 2020) during 3,104 encounters (a 15% increase from 2020). NORE also distributed 938 naloxone kits in 2021.

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 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 2021 estimates of distributed syringes among all SSPs in King County (over 8.5 million) and the PWID population size estimate for King County (27,000), syringe coverage in King County in 2021 was 316 syringes per PWID, which surpasses the 2020 WHO goal. The PHSKC HIV/STD Program had a goal to distribute 365 syringes per PWID by 2021, thus our program fell slightly short of this goal.

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 2021, 3,904 naloxone kits were distributed at PHSKC SSP sites, which is a 42% increase from the 2,726 kits distributed in 2020. As shown in **Figure 8-5**, this increase follows a steep decline in 2020 that can almost entirely be attributed to the COVID-19 pandemic. In 2021, 292 clients self-reported using a kit to reverse an opioid overdose. Data from the

FIGURE 8-5. PUBLIC HEALTH – SEATTLE & KING COUNTY (PHSKC) NALOXONE DISTRIBUTION VOLUMES, 2016-2021



2021 SSP survey of 224 clients found that 77% of clients reported having a naloxone kit in the past 3 months.

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 2021 social workers provided services to 93 unique clients with a range of one to eight contacts per client.

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

Pathways (formerly known as Bupe Pathways) was launched in January 2017 and provides low-barrier access to buprenorphine, a type of medication for opioid use disorder.⁵ 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 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 Pathways providers for ongoing care due to the trusting relationships that develop with the staff.

Through the end of 2021, Pathways had 455 unique clients with 2,582 client visits during the year. In addition to Pathways, SSP social workers provided referrals to 49 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 higher.)

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 2021, 885 clients at the downtown SSP were seen for wound care services and follow-up. PHSKC non-SSP staff also provided HIV and hepatitis C virus (HCV) testing, including 59 HIV tests and 41 HCV tests, which were 74% and 21% increases, respectively, from 2020.

There was one positive HIV test and that person was linked to HIV care. Among the HCV tests, 27 (66%) were HCV antibody positive and 21 (51%) of all people tested had a positive confirmatory test; 18 people were linked to HCV care.

Data from other local surveys have shown that HIV prevalence among non-MSM PWID 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 2021 SSP survey found that 49% of PWID reported an HIV test in the past year, which was down from 66% in 2019. This aligns with national trends in decreased HIV testing at SSPs during the pandemic. Past local survey data have also shown that the prevalence of HCV antibodies remains very high (approximately 70%) among PWID in King County. Although some of these antibody positive people have cleared their infections, either spontaneously or through treatment, it seems almost certain that a substantial number have not and benefit from curative HCV treatments.⁵ PHSKC is currently conducting a survey of PWID that includes HCV confirmatory testing which will provide a more accurate estimate of the proportion of PWID who have chronic HCV.

SSP PARTICIPANT CHARACTERISTICS AND SUBSTANCE USE PATTERNS

PHSKC conducts a survey of needle exchange clients every other year to monitor demographics, health, and behavior trends among PWID. In November 2021, PHSKC SSP staff surveyed 224 SSP clients, 203 of whom reported injection drug use in the past 3 months and are included in this analysis. Results related to client demographics, injection related behaviors, health conditions, overdose, and substance use treatment are in **Table 8-3**.

Since the last survey in 2019, the most notable trends were:

- Increase in fentanyl use (17% in 2019 vs. 47% in 2021)
- Increase in using fentanyl in pill form (e.g., “blues”) among those reporting fentanyl use (5% in 2019 vs. 41% in 2021)
- Continued high levels of polysubstance use including 82% of PWID ever using methamphetamine by itself, 75% ever using heroin by itself, and 52% ever using goofballs (methamphetamine and heroin)
- In 2021, SSP participants reporting visiting the SSP fewer times per month (2.4 times/month in 2021 vs.

TABLE 8-3. RESULTS FROM THE 2021 PUBLIC HEALTH -- SEATTLE & KING COUNTY SYRINGE SERVICES PROGRAM CLIENT SURVEY, AMONG PARTICIPANTS WHO REPORTED INJECTION DRUG USE IN THE PAST 3 MONTHS

Characteristic	N=203 %	Characteristic	N=203 %
Demographics		Drug Use, past 3 months	
Age, mean	37 years	Any methamphetamine use	82%
Women (cis and trans)	33%	Any heroin use	75%
Race/ethnicity ¹		Any goofball use	52%
American Indian / Alaska Native	11%	Any fentanyl use	47%
Asian / South Asian	1%	Last time was on purpose (if used fentanyl)	72%
Black / African American	5%	In pill form (if used fentanyl)	41%
Latinx / Hispanic	10%	Primary drug	
Native Hawaiian / Pacific Islander	3%	Heroin, by itself	42%
White	81%	Methamphetamine, by itself	20%
Person of Color	31%	Goofball (heroin and meth together)	25%
Homeless	41%	Health Conditions, past 12 months	
Unstably housed	27%	Abscess or skin or soft tissue infection	51%
Jail or prison, past year	15%	Infected blood clot or blood infection	10%
Exchange sex, past year	15%	Endocarditis	3%
Men who have sex with men (of men, cis or trans)	24%	Syphilis (if tested, self-reported)	18%
SSP Use		HCV, ever (if tested, self-reported)	42%
Number of SSP visits in past 30 days, mean	2.4	Ever treated for HCV (if HCV+) ³	40%
Getting syringes for someone else, on that day	66%	HIV test, last year	49%
Use a syringe once, on average	77%	HIV (self-reported)	7%
Interest in smoking equipment from SSP	68%	Ever heard of PrEP (if HIV-)	46%
Would inject less often if had smoking equipment ²	56%	Currently on PrEP (if HIV-)	2%
Injection Behaviors, past 3 months		Overdose, past 12 months	
Number of days injected in last 7 days, mean	5.6	Opioid overdose (self-reported)	24%
Number of injections per day, mean	4.3	Had naloxone	76%
Any syringe sharing	11%	Used naloxone	43%
Any equipment sharing	38%	ER due to meth use (if used meth)	14%
Femoral injection	15%	Substance Use Treatment, past 12 months	
Neck injection	29%	Any treatment	41%
Ever inject in public	49%	Buprenorphine/Suboxone	15%
Ever inject alone	76%	Methadone	14%

3.6 times/month in 2019) but were more likely to be getting syringes for someone else (66% in 2021 vs. 53% in 2019) and more likely to report using syringes once (77% in 2021 vs. 64% in 2019). These changes align with the shift in the syringe distribution policy at the SSP.

- Continued decline in syringe sharing (15% in 2019 vs. 11% in 2021)
- Decline in HIV testing in the past year (66% in 2019 vs. 49% in 2021)
- Decline in any substance use treatment in the past year (52% in 2019 vs. 41% in 2021)
- Decline in incarceration in the past year (37% in 2019 vs. 15% in 2021)

Data from the survey also highlight areas for the expansion of syringe services and other harm reduction interventions:

- Compared to the general population of King County, the PHSKC SSP serves proportionately fewer Black / African American and Asian / South Asian participants that would be expected.
- The majority (68%) of SSP participants were interested in getting smoking equipment from the SSP, and of those 56% reported they would inject less if they had free, accessible smoking equipment.
- 76% of SSP participants reported ever injecting alone, which is a risk factor for fatal overdose
- 42% of SSP participants reported ever testing positive for HCV and 7% reported being HIV-positive, which are similar estimates to 2019
- 40% of SSP participants who had ever had HCV had been treated, an increase from 26% in 2019
- 46% of SSP participants had ever heard of PrEP and 2% were currently on PrEP
- 76% of SSP participants reported having naloxone in the past year, which is similar to 2019
- 41% of SSP participants had received any substance use treatment in the past year

SUCCESSSES

One year after the start of the COVID-19 pandemic, the PHSKC SSP continues to adapt its harm reduction services to meet participant needs, which increasingly includes fentanyl use. The slight (6%) decline in syringes distributed in 2021 followed an unprecedented increase (27%) from 2019 to 2020, and still reflects a 22% increase from 2019 levels. More participants are reporting getting syringes for others and using syringes only once. These changes likely reflect the impact in shifting the SSP's syringe distribution model (i.e., one-for-one to

negotiated exchange) and should reduce risk for bloodborne infections among PWID. Across King County, syringe coverage, which is the average number of syringes distributed to each PWID per year, was 316. While we fell short of our local 2021 goal of 365 syringes per PWID per year, we have already met the WHO's 2030 benchmark for syringe coverage (300+ syringes per PWID per year). Finally, a high proportion (76%) of PHSKC SSP participants continue to report naloxone possession in the past year, and the SSP directly provided more naloxone to participants than it did in 2020. These efforts are critical given the influx of fentanyl use and increasing fatal overdose rates in the community.

CHALLENGES

Although the number of syringes distributed remained high in 2021, there are other areas for growth and expansion. The dramatic increase in the proportion of SSP participants reporting fentanyl use (17% in 2019 vs. 47% in 2021) and the corresponding increase in the number of fatal overdoses in King County, point to the need for additional harm reduction services. Given that many people are reporting acquiring fentanyl in pill form – as well as anecdotal evidence of an increase in the frequency of smoking fentanyl – there is a clear need to expand harm reduction services for smoking. A high proportion (68%) of SSP survey participants reported an interest in access to smoking supplies and the majority of these participants stated that it would result in their injecting less. Another pandemic-related challenge has been returning to pre-pandemic HIV testing rates. Following the 2018 HIV outbreak among PWID, PHSKC made substantial efforts to increase HIV testing among PWID, and we observed an increase in the proportion of SSP clients who had been tested in the past year from 2017 (57%) to 2019 (66%). Unfortunately, in 2021 that estimate was 49%, which reflects the overall decrease in HIV testing during the pandemic and is a strong indication for expanded testing efforts. Finally, our past surveys have indicated a high interest in treatment for substance use disorder, but we observed a decline in the proportion of PWID who reported any treatment in the past year (52% in 2019 vs. 41% in 2021). This likely reflects the impact of the pandemic despite widespread local efforts to increase access to low-barrier treatment, particularly with buprenorphine.

The increase in fentanyl use coupled with the lingering impacts of the pandemic present a significant challenge to efforts to reduce risk of overdose, HIV, and HCV. 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. The HIV/STD program at PHSKC has recently expanded its low-barrier care options for underserved populations at highest risk for HIV, including PWID, who should continue to be a priority population for prevention services.

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-July 2022 provide insight into condom use among MSM. There were 225 (95% of the 274 total) MSM participants in the 2022 Pride Survey who reported having had at least one anal and/or vaginal/front hole sex partner in the last 12 months. Among these sexually active participants who provided answers to condom use questions, 49% reported at least some condom use in the last 12 months, including 51% of HIV negative MSM and 38% of HIV positive MSM. Respondents identified the context in which they used condoms including: 11% reported always using condoms, 22% used condoms with partners outside of their primary relationship, and 7% with partners whose HIV status they did not know. Overall, 49% reported never using condoms.

IMPACT OF PREP ON CONDOM USE

In the 2022 Pride survey referenced above, 226 King County MSM who reported being HIV-negative provided information about PrEP use and had sex with a man in the past year. Of them, 44% were currently using PrEP. Of these, 65% reported they were more likely to have condomless sex since starting PrEP. Additionally, 48% reported having more sex partners since starting PrEP, 48% reported having more sex partners since starting PrEP, and 27% reported that their sexual behavior had not changed since starting PrEP.

CONDOM DISTRIBUTION

In 2021, 661,248 condoms were procured through the WA-DOH to the following King County sites: People's Harm Reduction Alliance (272,160 condoms), PHSKC HIV/STD Program (132,048 condoms), PHSKC Sexual Health Clinic at Harborview (64,512 condoms), PHSKC (42,336 condoms), Harborview Medical Center – Madison Clinic (15,120 condoms), and Harborview Medical Center – SHE Clinic (14,112 condoms). Additionally, HIV Community Services contractors in King County including Center for MultiCultural Health, Entre Hermanos, Seattle's LGBTQ+ Center, Lifelong, and POCAAN documented distributing 101,662 condoms in 2021.

In 2021, PHSKC's HIV/STD Condom Distribution Program (CDP) – described in more detail below - dispensed 530,156 external condoms, 1,400 internal condoms, and 22,064 tubes of lubricants (lube). Condoms distributed by CDP increased by 67% from 2020 to 2021. This increase is attributed to the addition and updates of condom distribution projects like the Washington State Free Condom Map, Condom Cubes, Bulk General Condom Distribution, and Fit Kits (described below).

CONDOM ACCESS & DISTRIBUTION PROJECTS

To improve usage and reduce rates of HIV and STIs, the PHSKC HIV/STD Program has several condom access and distribution projects. One is the mobile-friendly and interactive Washington State Free Condom Map that allows residents to identify free condom locations in King County and throughout the state. (See <https://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 2021, the condom map had 1,495 total page views. Google Analytics data showed that 39% of viewers used a personal computer and 60% of viewers used a mobile device to view the map.

In 2019, the PHSKC HIV/STD Condom Distribution Program (CDP) launched a Condom Cube Project. (See <https://condomcubes.com/>) This project aims to promote the availability, accessibility, and acceptability of free condoms to increase condom use and decrease HIV/STI transmission. One priority of the Condom Cube Project was to expand availability of free condoms specifically to

King County 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 2021, the project distributed 328,000 external condoms. This is a 12% increase in condom distribution from 2020 (290,000 condoms). From April 2020–July 2021, Condom Cubes were available in 8 King County zip codes. Condom Cubes expanded from 8 to 17 zip codes between August 2021 – December 2021. As of December 2021, 185 Condom Cubes were available in King County.

The HIV/STD CDP also supplies King County non-profit and community-based organizations (CBOs) with free bulk condoms and lube for their clients and community outreach. This effort aims to reduce HIV and other STDs in the region. From January – December 2021, CDP dispensed 190,276 external condoms, 1,000 internal condoms, and 27,316 lubricants.

SUCCESES 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%) continue to use condoms at least some of the time. Although not reported here, other data suggest that 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.

Contributed by Anna Berzkalns, Francesca Collins, Sara Glick, Joe Tinsley, Jsani Henry, Francis Slaughter, and Mike Barry

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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 to one another 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.

Although community members have expressed concerns regarding stigma and confidentiality of the information collected for CDR investigations, the majority of community members and CDR participants who were asked about their attitudes towards CDR during interviews and focus groups have expressed support for the program.

Introduction

Pillar 4 of the Ending the HIV Epidemic Initiative (EHE) promotes novel methods of identifying outbreaks and responding rapidly to get needed prevention and treatment to cluster members and their sexual and drug use networks. It combines 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 use of partner services, where disease investigators identify clusters and promote HIV testing among partners, treatment of HIV-positive cluster members, and PrEP and condom use among HIV negative members. Additional cluster identification methods include seeking time and space clusters (people newly diagnosed with HIV within a short timeframe and in close geographical proximity) and molecular clusters using parts of HIV viral genetic sequences from antiretroviral sensitivity tests. Use of

RESPOND Goals and Evaluation Metrics	2021	2025 Goal
HIV+ cluster members meeting eligibility criteria investigated within 30 days of identification	78%	≥ 90%
Cluster members eligible for cluster interview contacted by DRIS by June 30 th of the following year	68%	≥70%

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 PLWH.

Prior to 2018 in King County, identification and response to clusters of people with similar strains of HIV 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. After more than one year of ongoing CDR work, Public Health – Seattle & King County (PHSKC) continues to focus interventions among high priority clusters among diverse populations as they develop.

Methods

Methods for cluster identification include medical provider reports, time-space cluster analyses, partner services/case investigations, and linkages of HIV viral genetic sequences. 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 look for geographic areas with counts of recent diagnoses that are higher than expected. They 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. Identification of clusters using partner services and molecular linkages is described in more detail below. 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 link to medical care to offer them assistance in ensuring their sex and needle-sharing partners are tested. This activity also allows PHSKC staff to collect information about people with newly diagnosed HIV 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.

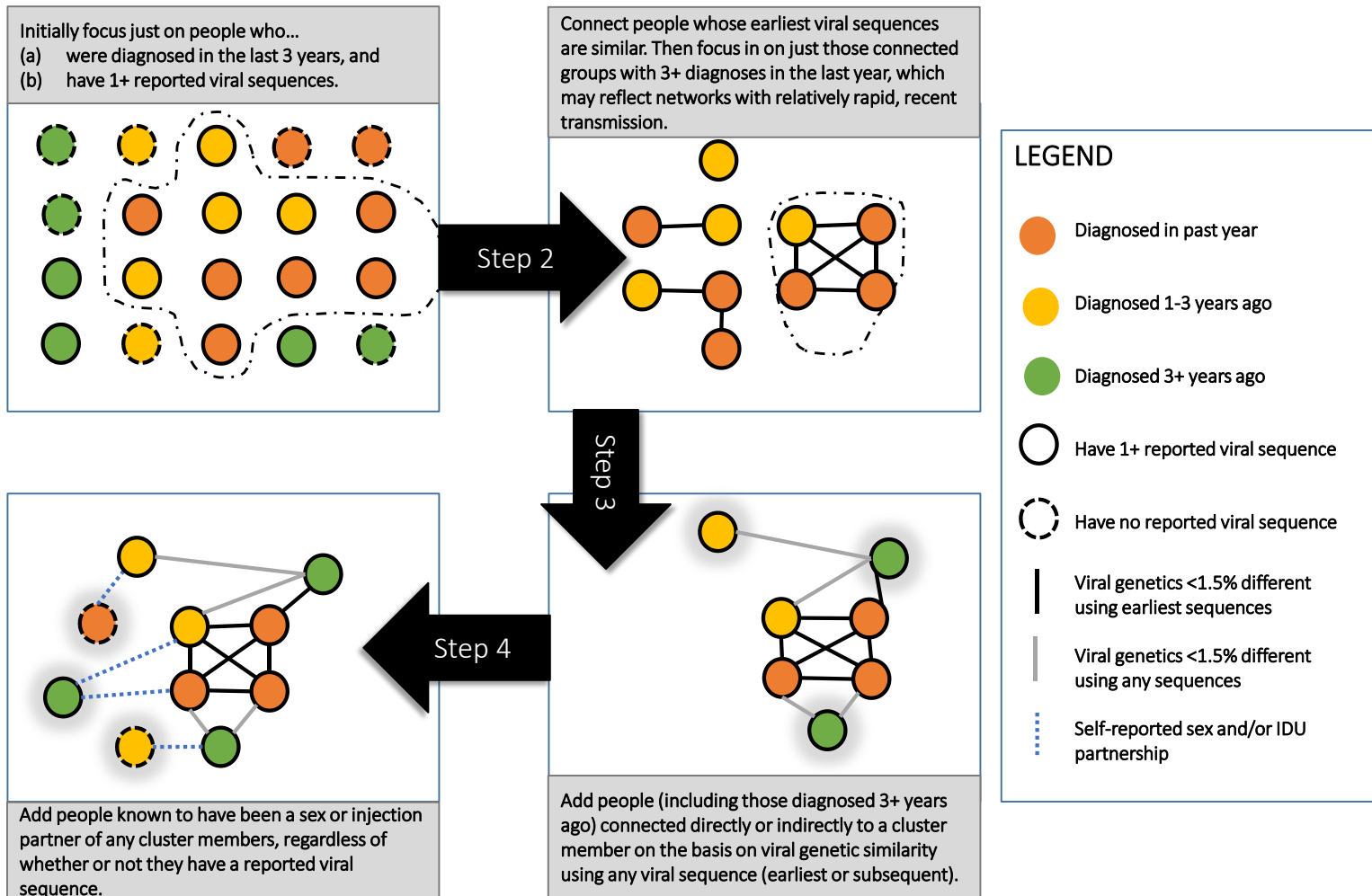
GENETIC CLUSTER IDENTIFICATION

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 prior to initiating antiretroviral therapy (ART) or if a patient's treatment is ineffective in suppressing their HIV. These tests define selected parts of the genetic sequence of the virus to look for mutations known to be associated with resistance to ARTs. This genotypic testing guides the choice of ART 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, i.e., the cases are linked. These data cannot be used to determine if one person transmitted HIV to another person, or even if two people had 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 HIV may be rapidly spreading in a sexual and/or injection drug-using network, and that an outbreak may be ongoing.

The tools we use to identify molecular clusters are the CDC-sponsored Secure HIV TRACE (HIV TRANsmiSSion Cluster Engine, created by University of California - San Diego and Temple University) and DIVEIN, a University of Washington-created tool. HIV TRACE is used by HIV surveillance groups for cluster identification across the nation. HIV TRACE can identify and visualize clusters but 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

FIGURE 9-1: DEFINING PRIORITY CLUSTERS AND TOTAL MEMBERS OF THESE CLUSTERS, KING COUNTY, WA



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 become aware more quickly of new populations with HIV transmission 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 HIV 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 9-1** above.

Members of newly identified clusters as well as PLWH newly identified as members of a previously identified cluster are referred to PHSKC's data-to-care (D2C) programs, which uses surveillance data and other sources to provide outreach services designed to link out of care and unsuppressed people to HIV care and promote their successful treatment.

CLUSTER DETECTION AND RESPONSE (CDR)

The core of Pillar 4 work, CDR is an integral part of D2C. CDR involves identifying members of recent and rapid clusters who live in King County, contacting them for an enhanced partner services interview, and providing 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 sexual and drug using network. Persons eligible for CDR include cluster members diagnosed with HIV in the past 12 months, those who are virally unsuppressed or otherwise lost to care, and those diagnosed with HIV 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

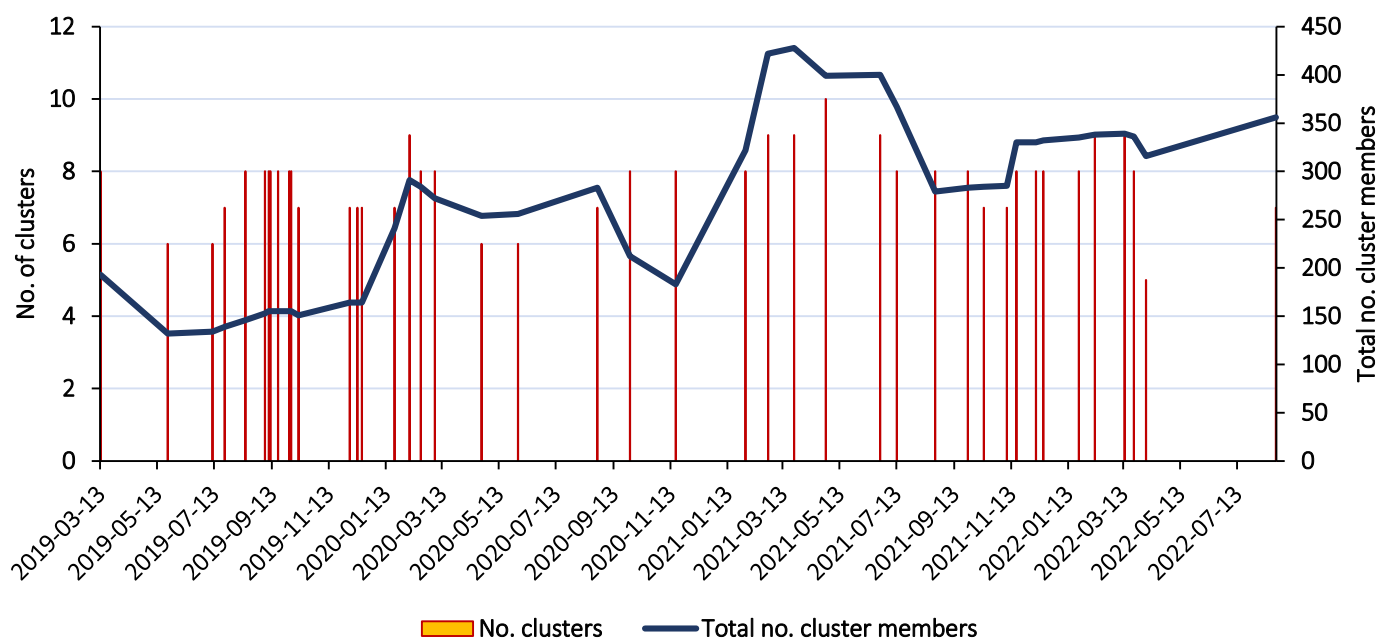
HISTORICAL CLUSTERS

Cluster investigations have been ongoing in King County for 16 years, starting with a 2006-2007 investigation of multi-class drug resistant HIV among nine MSM who used methamphetamine. 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 123 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

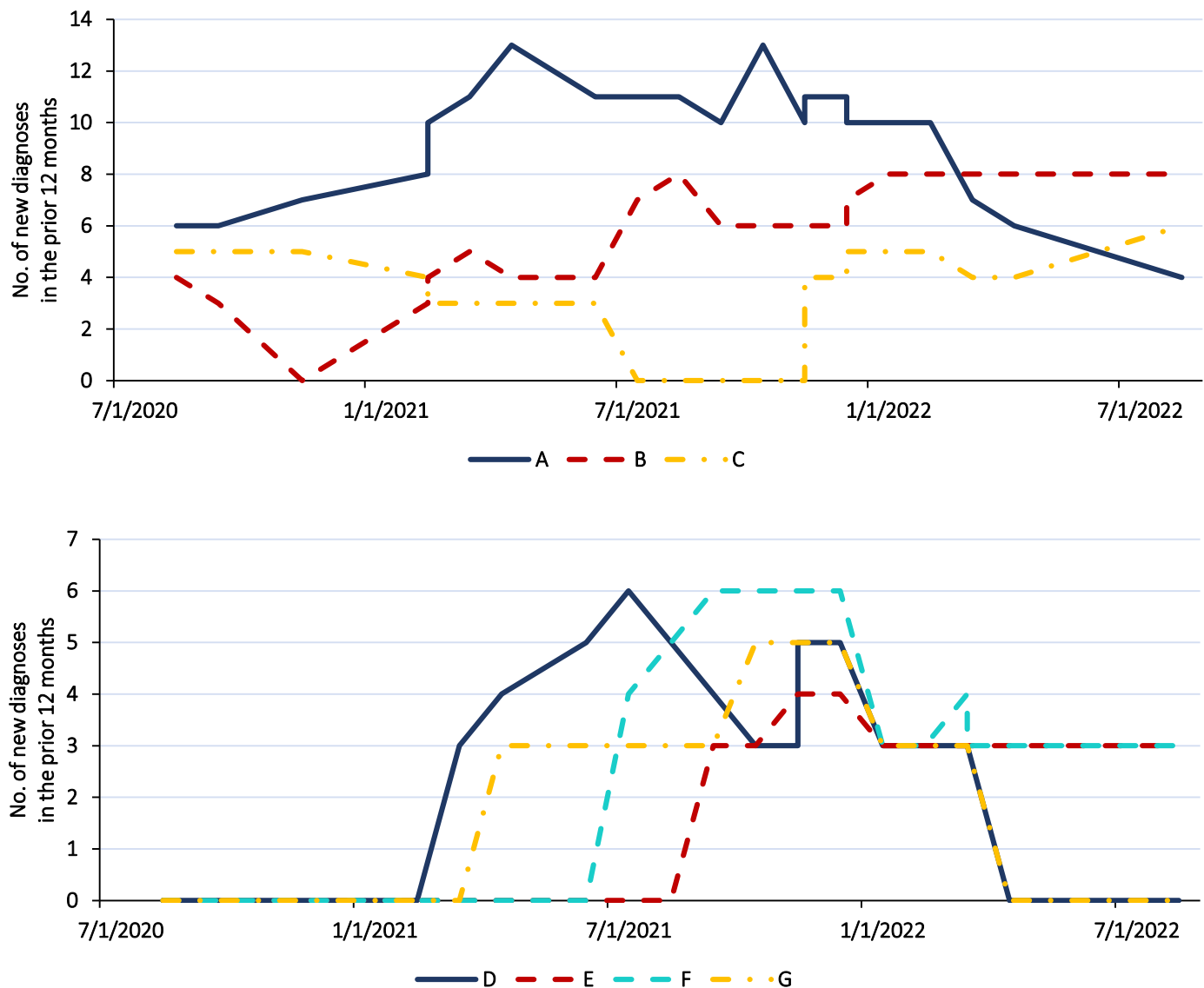
Since 2019, PHSKC has identified priority clusters with DIVEIN and overlaid these with Secure HIV-TRACE data to provide consistent cluster enumeration over a 40-month period. Thirty distinct clusters with at least one member residing in King County at diagnosis were identified over this period, with a mean of 7.7 clusters ongoing at each analysis (Figure 9-2). 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; in summer 2022, the monkeypox pandemic also compromised staff capacity for cluster detection. The number of people included in the priority clusters at each analysis averaged 154 through the end of 2019, 253 in 2020, and 341 through August 2022. 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

FIGURE 9-2: NUMBERS OF CLUSTERS AND MEMBERS OF THESE CLUSTERS, KING COUNTY, WA, MARCH 2019-AUGUST 2022



*In January 2020 cluster membership expanded to search all genetic sequences of the virus that a person has — not just their initial sequence, and in January 2021 cluster membership expanded to include earlier-diagnosed PLWH only indirectly linked to the most recent diagnoses.

FIGURE 9-3: CHANGES, OR GROWTH AND SHRINKAGE, OF SEVEN LARGER HIV CLUSTERS, KING COUNTY, JULY 2020 – JULY 2022



connected to a cluster and reflects our increasing capacity for cluster response.

PHSKC defines priority clusters 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 9-3** illustrates this metric over the past 24 months for the seven priority clusters with the highest numbers of diagnoses in that period, all with five or more. Four patterns are seen: (1) continuous inclusion as priority clusters (e.g., cluster A); (2) clusters which were a high priority at one point, but transmissions waned (e.g., D, G and—not pictured—the north Seattle Cluster); (3) newly emerging clusters (e.g., F); and (4) on-again-off again status (e.g., C).

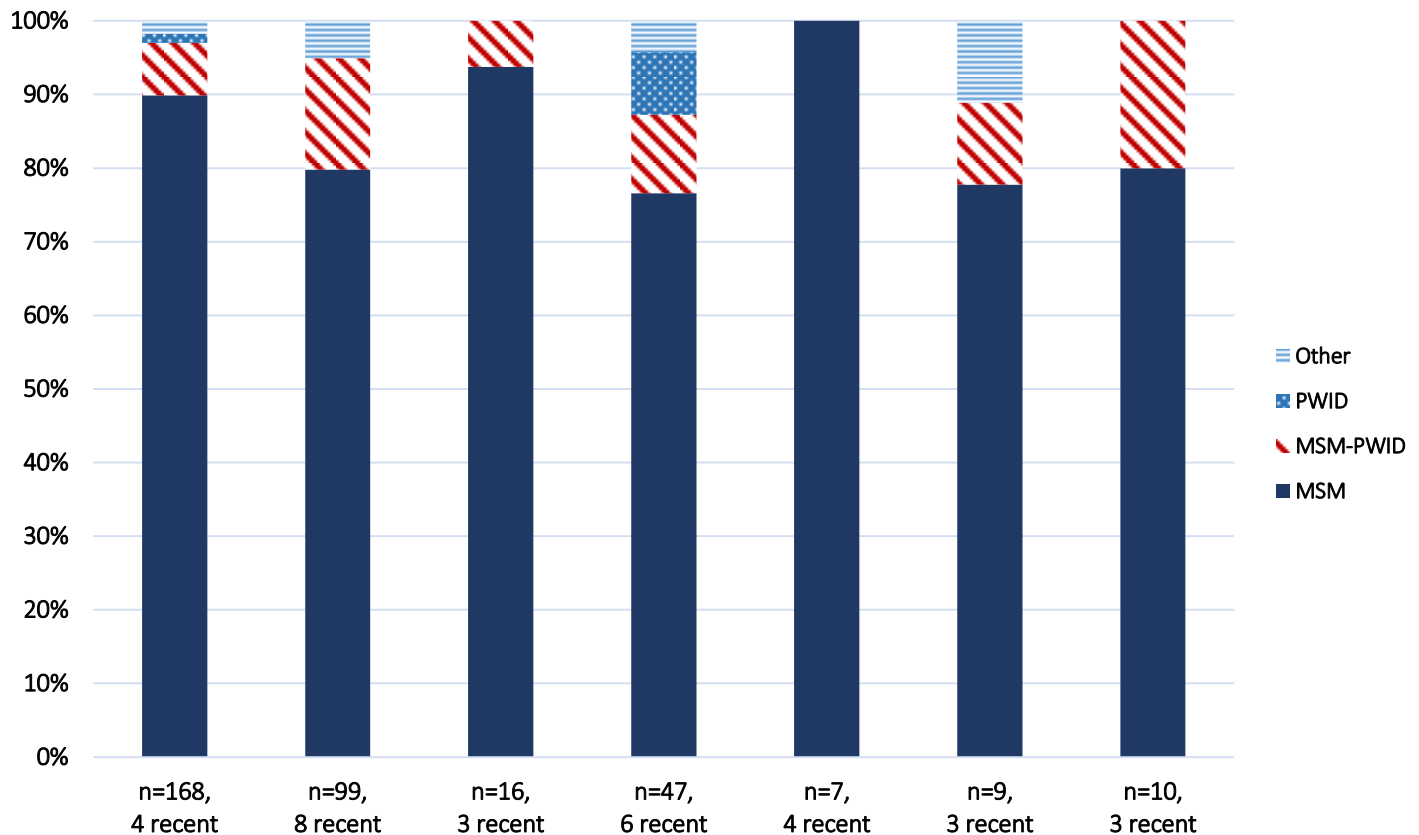
CHARACTERISTICS OF CURRENT CLUSTER MEMBERS

As of August 2022, King County had seven clusters with three to eight linked cluster members diagnosed with HIV in the past year. The total counts of members (diagnosed at any time, living or dead) range from seven to 168. All seven clusters include members who are not currently King County residents. Risk categories for the seven clusters are illustrated in **Figure 9-4**.

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

FIGURE 9-4: RELATIVE SIZES AND HIV RISKS OF SEVEN CURRENT CLUSTERS WITH RECENT AND RAPID GROWTH, AUGUST 2022



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.

EXAMPLE OF CLUSTER RESPONSE, NORTH SEATTLE PWID CLUSTER, 2018-2019

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.

UNDERSTANDING AND ADDRESSING COMMUNITY CONCERNS ABOUT CLUSTER INVESTIGATIONS

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 initiate criminal proceedings 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 activities aimed at re-engaging cluster members in HIV care and supporting them in achieving viral suppression. 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. The context in which people have had interactions with a local health department strongly impacted 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.

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 on our EHE Pillar 4 webpage^{2,3}. We evaluated the impact of the video by recruiting 87 MSM and transgender women from the Madison Clinic at Harborview Medical Center and the PHSKC Sexual Health Clinic – as well as through Entre Hermanos social media – and assessing their knowledge and attitudes about CDR before and after watching the video. Half were living with HIV and 2/3 of the rest were on PrEP. We found that the proportion that thought PHSKC should contact people who are part of an HIV cluster was already very high (91%) before watching the video and nearly unanimous (97%) afterwards. Additionally, the proportion of participants that reported that CDR is very important rose from 74% to 85%. Though 14% expressed concerns

about the privacy and confidentiality of the information collected for cluster investigations, 84% of participants reported that they found the activities described in the video very acceptable.

MODERNIZING LAWS RELATED TO HIV TRANSMISSION

Independent of CDR, in 2020, Washington State updated its laws to better align with the current science on HIV transmission. Although PHSKC does not share any of our data with any law enforcement agencies and previous laws criminalizing HIV exposure had been used very rarely, 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—were 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, ART use, PrEP use, or condom use.
- Requiring intent to transmit for a conviction
- Reclassifying HIV transmission from a Class A felony to a misdemeanor, which carries much lower penalties.

Successes and Challenges

CHALLENGES

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 2019–2021, baseline genotypic sequences for King County residents newly diagnosed with HIV were reported to PHSKC a median of 30 days after being collected. (97% were 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

PHSKC's CDR work has had some success in contacting people in priority clusters of HIV. CDR outreach aims to both disrupt HIV transmission and provide linkage to HIV care for those marginally engaged in or lost to care. As of

mid-September 2022, we had initiated CDR activities for 165 individuals, of whom 60 (36%) were successfully contacted and completed at least part of the CDR interview. Sixteen (27%) of those interviewed provided contact information for at least one sex or injection equipment sharing partner, with a total of twenty identifiable partners named. Of these, eleven were confirmed to be previously HIV-positive. 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. Additionally, cluster members who were contacted were provided with several care and resource referrals as a data-to-care activity; 11 were newly linked to care (nine of whom achieved viral suppression as of mid-September 2022) and 27 received referrals to resources including housing support, mental health, PLWH support groups, COVID-19 vaccination, dental care, case management, food resources, and maternal health services.

This year we have introduced a couple of annual metrics to evaluate our CDR program. Our goals are to (1) investigate cluster members within 30 days of identification of each PLWH meeting CDR eligibility and (2) contact each cluster member within 18 months of their identification. The latter goal has a longer follow-up period that centers around an entire year and allows a minimum of six months of follow up. As in the table at the start of this article we have successfully investigated 78% of newly identified cluster members from 2021 within 30 days of their identification. This is somewhat short of the 90%+ goal, but it is a good start.

Individuals contacted for CDR interviews have overwhelmingly 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. Of 25 participants that have answered these questions to date, only one person has disagreed with statement #1, and only two people have disagreed with statement #2. The overwhelming agreement with both statements suggests that, to date, 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

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Ryan White HIV/AIDS Program

SUMMARY

Public Health – Seattle & King County receives approximately \$7 million annually for HIV-related services.

Funds are distributed by the Seattle Transitional Grant Area (TGA) Ryan White Part A Program through a competitive Request for Applications (RFA) process. RFA Service Categories and funding amounts are developed by the Seattle HIV Planning Council.

These funds, plus additional funds provided by other Ryan White Parts B through F, Medicare, and Medicaid provide a robust wrap-around panel of services for people living with HIV (including medical and psychosocial care and services).

In 2021, 2913 PLWH received services funded through the Ryan White Program.

The majority of Ryan White Part A funding is used to support housing (including housing case management), food, and dental care for PLWH.

Background

The Ryan White HIV/AIDS Program (RWHAP) is a national federal program that provides direct health care and support services for more than half a million people with HIV. It is administered by the U.S. Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA), and the HIV/AIDS Bureau (HAB). The RWHAP was funded at \$2.42 billion in fiscal year (FY) 2021 and is the largest federal program focused exclusively on HIV care, treatment, and support services.

There are five parts of the RWHAP. Each has a different funding purpose as outlined in **Table 10-1**.

HIV Care Funding Landscape

The Seattle TGA receives approximately \$7 million in RW Part A and MAI funding annually. In addition to Part A and MAI, there was approximately \$94 million of other funding for HIV related services from Ryan White Parts B, C, D, and F; Housing Opportunities for Persons with AIDS, CDC, Medicaid, and Medicare; and other federal, state, and local funding. These funds support coordination and access to core medical and other HIV-related support services. See **Figure 10-1** for a breakdown of funding sources.

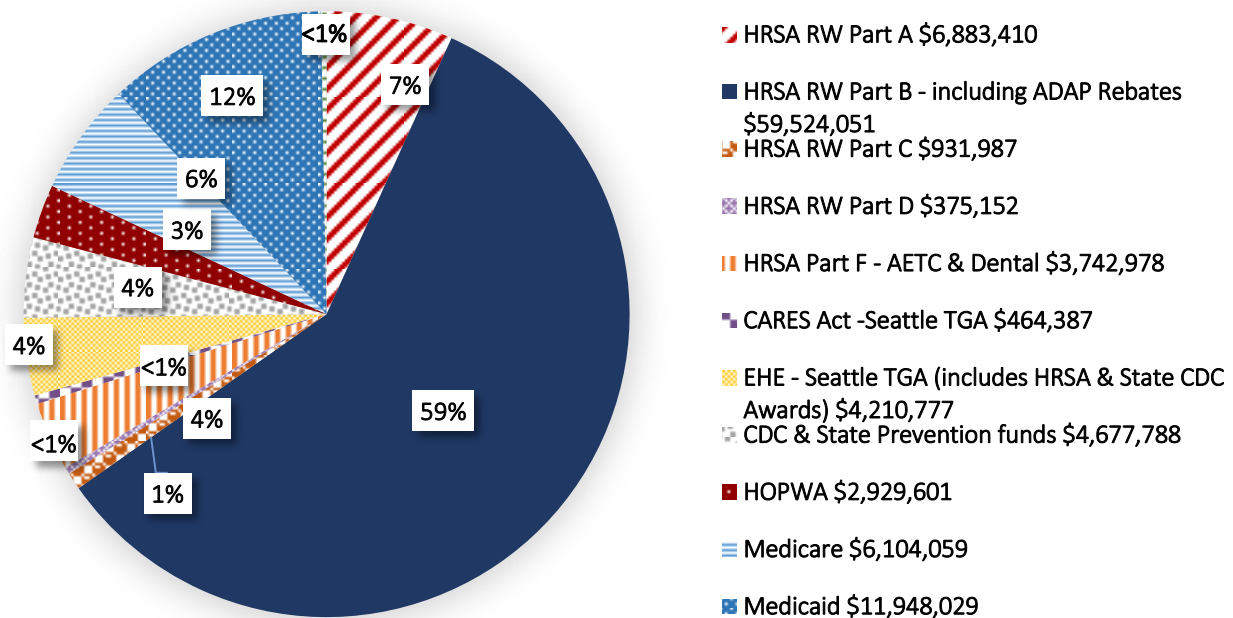
Ryan White Part A and Minority AIDS Initiative (MAI) Funding

PHSKC is the recipient of Ryan White Part A funds in the

TABLE 10-1. RYAN WHITE HIV/AIDS PROGRAM COMPONENTS IN THE SEATTLE AREA

RWHAP		
Program Parts	Grant Recipients	Purpose
Part A	<ul style="list-style-type: none"> Eligible Metropolitan Areas (EMAs): have reported at least 2,000 AIDS cases in the most recent five years and have a population of at least 50,000. Transitional Grant Areas (TGAs): have reported 1,000 to 1,999 AIDS cases in the most recent five years and have a population of at least 50,000. Public Health — Seattle & King County (PHSKC) is the recipient of Ryan White Part A funds in the Seattle Transitional Grant Area (TGA), which includes King, Island, and Snohomish Counties. These funds are used to develop and enhance access to a comprehensive system of care that provides primary health care and support services throughout the service area. Part A also supports administrative activities, including a community planning process; managing, monitoring, and evaluating programs; and clinical quality management activities. 	Provides medical and support services to cities and counties most severely affected by HIV
	<ul style="list-style-type: none"> All 50 states, District of Columbia, Puerto Rico, U.S. Virgin Islands, and six U.S. territories. WA State Department of Health is the recipient of Part B funding, and most Part B program funds pay for health insurance coverage, copays, and deductibles. The remaining funds are allocated for care and support services delivered outside the Seattle TGA and for services not funded by the Ryan White Part A program within the TGA. State funds also pay for medical case management. Centers for Disease Control and Prevention (CDC) and state dollars cover HIV testing for the highest risk populations. 	<p>Improve the quality of and access to HIV health care and support in the U.S.</p> <p>Provide medications to low-income people with HIV through AIDS Drug Assistance Program</p>
Part B	<ul style="list-style-type: none"> Local community-based groups. In the Seattle area, Harborview Medical Center, Country Doctor Community Clinic, and Community Health Center of Tacoma receive Part C funding. 	<p>Provide outpatient ambulatory health services and support for people with HIV</p> <p>Help for community-based groups to strengthen their capacity to deliver high-quality HIV care</p> <p>Provide medical care for low-income women, infants, children, and youth with HIV</p>
Part C	<ul style="list-style-type: none"> Local community-based groups. 	<p>Offer support services for people with HIV and their family members</p> <p>Coordinate with HIV education and prevention programs designed to reduce the risk of HIV acquisition among youth</p>
Part D	<ul style="list-style-type: none"> AIDS Education and Training Centers (AETCs) and Special Projects of National Significance (SPNS) Domestic public or private, non-profit organizations, schools, academic health science centers, faith-based organizations, tribes, and tribal organizations Dental Programs Dental schools Hospitals with postdoctoral dental residency programs Community colleges with dental hygiene programs Minority AIDS Initiative (MAI) RWHAP recipients The Seattle TGA receives MAI funding which is included with the Ryan White Part A award. 	<p>AETC Programs: provide training and technical assistance to providers treating patients with or at risk for HIV</p> <p>SPNS: develop innovative models of HIV care and treatment to respond to RWHAP client needs</p> <p>Dental Programs: provide oral health care for people with HIV and education about HIV for dental care providers</p> <p>Minority AIDS Initiative (MAI): help RWHAP recipients improve access to HIV care and health outcomes for minorities</p>

FIGURE 10-1 - HIV CARE FUNDING SOURCES (\$101,764,558 TOTAL), FISCAL YEAR 2020-2021, SEATTLE TRANSITIONAL GRANT AREA



Seattle TGA, which includes King, Island, and Snohomish Counties. In accordance with guidance established by Congress and HRSA, the Seattle TGA HIV Planning Council determines how Ryan White Part A funding is allocated in our grant area. The Planning Council comprises HIV service providers, people living with HIV (PLWH) who access Part A services, representatives from state, federal, and local health jurisdictions, and representatives from other Ryan White Program Parts as described in **Table 10-1**. Through a series of priority-setting and allocation meetings that include public comment from members of the community, and review of epidemiology, Medical Monitoring Project (MMP), and needs assessment and service utilization data, Planning Council members identify the highest priority needs in the TGA and allocate resources to HRSA-approved service categories identified during the prioritization process. It is then the responsibility of Ryan White Part A program staff at PHSKC, through a competitive bi-annual Request for Application (RFA) process, to award funding to community providers (sub-recipient agencies) to deliver services to eligible PLWH in the community. RWHAP is required to be payer of last resort. Washington State has expanded Medicaid as part of the Affordable Care Act, and nearly all RW Part A-eligible PLWH in the Seattle TGA have health insurance coverage which pays

for much of their medical care. Consequently, much of the prioritized funding is in support service categories rather than medical. In-person assisters and case managers help PLWH obtain health insurance, including those whose immigration status makes them ineligible for Medicaid or insurance subsidies funded through the Affordable Care Act. All WA State residents are eligible to receive HIV care regardless of their immigration status.

In grant year 2021 (March 1, 2021 – February 28, 2022), The Seattle TGA received a total of \$6,883,410 in Part A funding and \$367,871 of that was targeted for Minority AIDS Initiative (MAI) services. These funds served 2,913 unduplicated (unique) clients and 86% were virally suppressed. **Table 10-2** shows the Seattle TGA Planning Council's prioritized service categories (in priority order), the number of clients served, and services provided.

It should be noted the COVID-19 pandemic had a continued impact on sub-recipient agency ability to provide services and client willingness to engage in some services. Also, when clients did seek services, some had more intensive needs.

In the current grant year (March 1, 2022 – February 28, 2023), the Seattle TGA was awarded \$7,281,709 in RW

TABLE 10-2. RYAN WHITE HIV/AIDS PROGRAM SERVICES PROVIDED IN FISCAL YEAR 2021

Service Category	Clients Served (not unduplicated)	Services Provided
Housing	137	16,382 Transitional and emergency bed nights
Psychosocial support	65	923 One-on-one peer counseling sessions and 140 support groups
Oral health services	622	1,887 Dental appointments
Non-medical case management	3,216	71,805 Encounters
Non-medical case management – through Minority AIDS Initiative (MAI)	383	9,646 Encounters
Emergency financial Assistance	56	72 Rental and utility assistance payments
Medical transportation	98	904 One-way rides
Outpatient/ambulatory health services – treatment adherence	295	10,779 Treatment adherence counseling sessions
Early Intervention Services - MAI	385	98 Test encounters, 262 tests completed, 1,216 health education & literacy encounters, & 70 general support encounters
Food bank/home-delivered meals	629	99,791 Prepared meals, 21,659 grocery bags, 1,637 essential household item kits, 137 nutrition consult encounters, 64 nutrition skill-building encounters.

Part A funding, with \$388,646 targeted for Minority AIDS Initiative (MAI) services. The breakdown for percentage of Part A and MAI funds by service categories for sub-recipients (86% of RW Part A funds) in grant year 2022 is represented in **Figures 10-2 and 10-3**.

In conclusion, Ryan White Part A funds are used to develop and enhance access to a comprehensive system

of care for PLWH that provides primary health care and support services throughout the service area which includes King, Snohomish, and Island Counties. It also supports administrative activities, including a community planning process; managing, monitoring, and evaluating programs; and clinical quality management activities.

Contributed by Linda Coomas

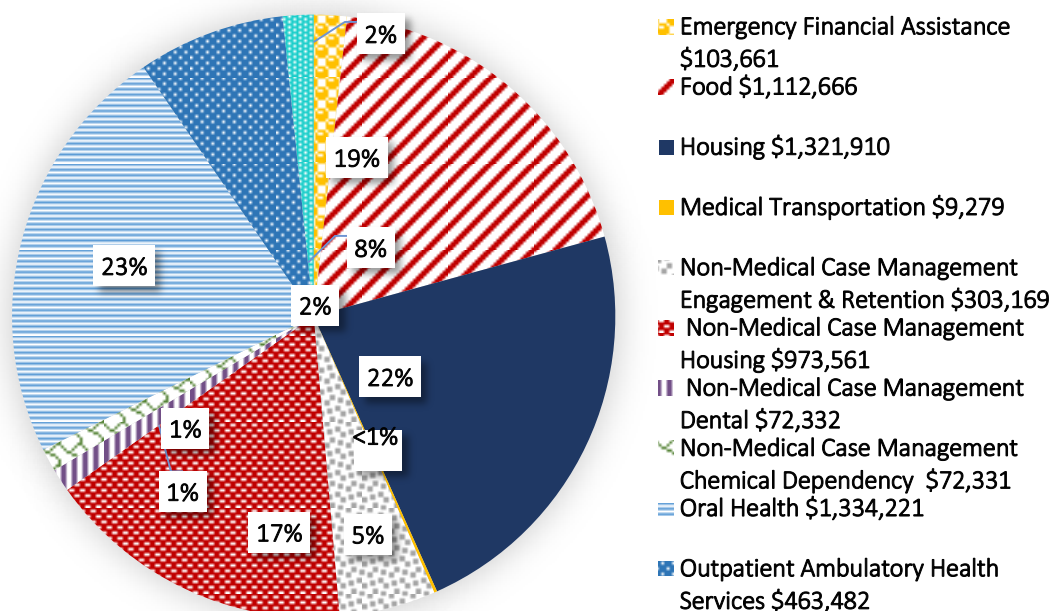
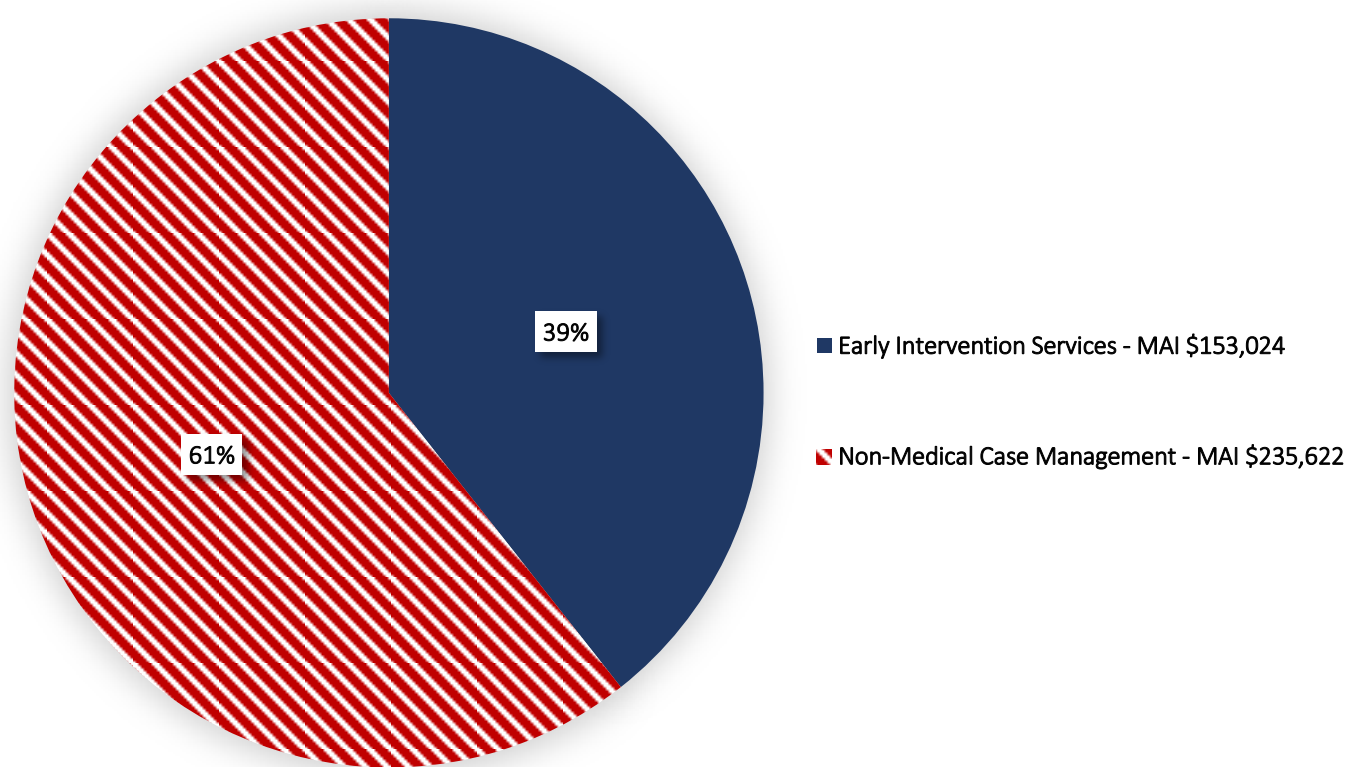
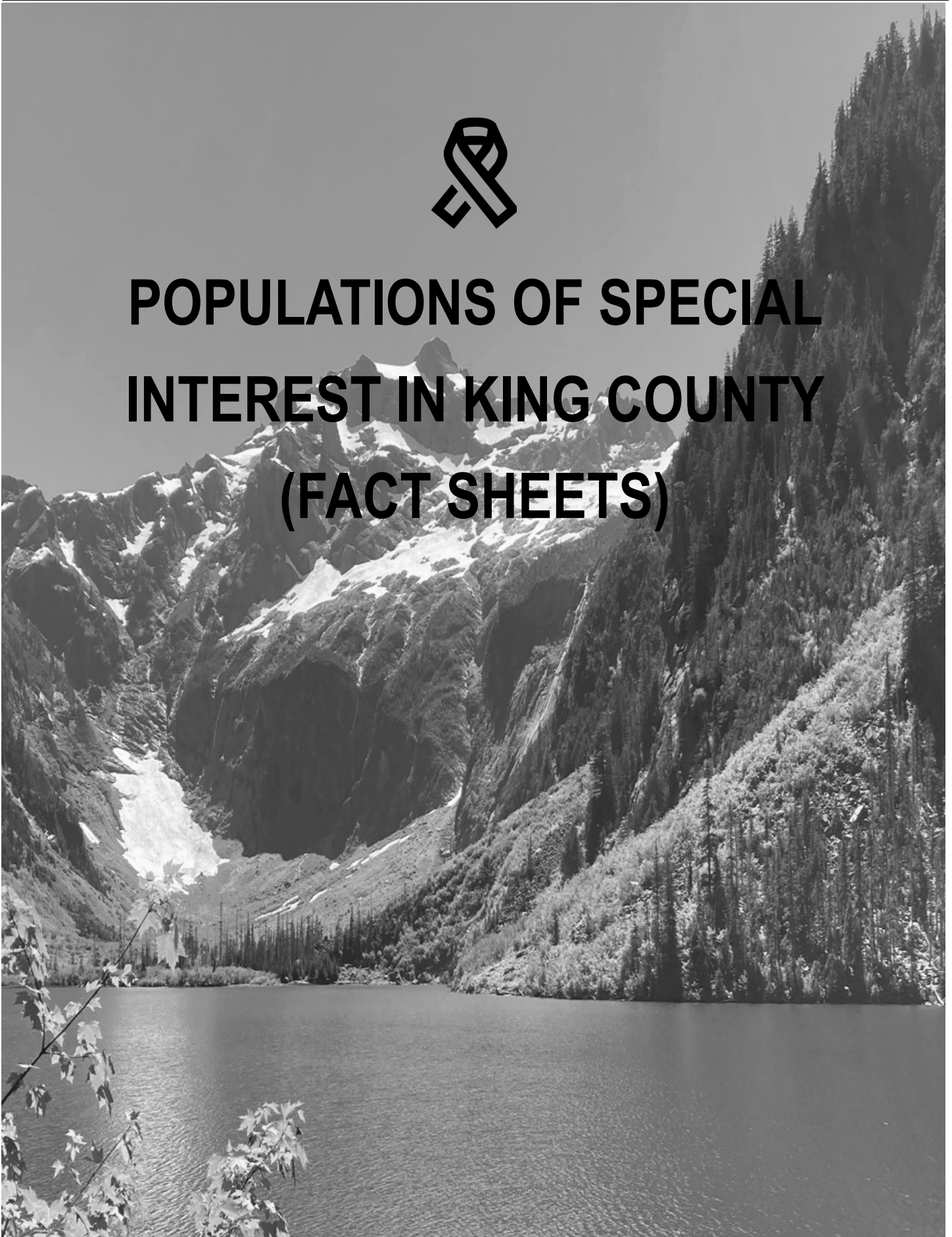
FIGURE 10- 2 – RYAN WHITE PART A FUNDED SERVICE CATEGORIES, \$5,862,724, SEATTLE TRANSITIONAL GRANT AREA, FISCAL YEAR 2022

FIGURE 10-3: MINORITY AIDS INITIATIVE (MAI) FUNDING (\$388,646), SEATTLE TRANSITIONAL GRANT AREA, FISCAL YEAR 2022



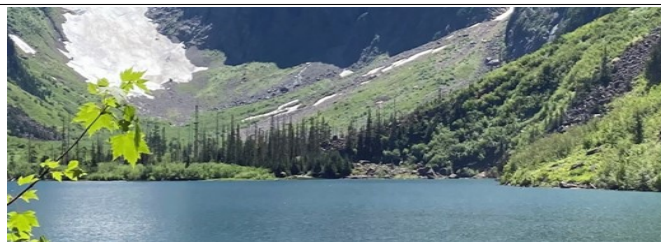


POPULATIONS OF SPECIAL INTEREST IN KING COUNTY (FACT SHEETS)



HIV/AIDS Fact Sheet

American Indian/Alaska Native Populations



KEY POINTS

Approximately 264 American Indian/Alaska Native (AI/AN) people were living with diagnosed HIV in King County in 2021. The prevalence of HIV among the AI/AN population is higher than the overall HIV prevalence in King County (517 vs 313 per 100,000).

Between 2012 and 2021, the HIV diagnosis rate among AI/AN people in King County declined by less (56%) than in the overall population (46%).

In 2021, 81% of AI/AN people living with HIV in King County were virally suppressed.

BACKGROUND OF HIV

EPIDEMIOLOGY AMONG AMERICAN INDIAN/ALASKA NATIVE PEOPLE

Since 2019, the Public Health – Seattle & King County (PHSKC) HIV/STD Program has worked to more comprehensively describe HIV among American Indian/Alaska Native (AI/AN) people. Because AI/AN people often report an additional race and/or ethnicity, many people who identify as AI/AN have been included in a broad “multiracial” group. This limits the size and composition of the AI/AN population and HIV surveillance data underestimate HIV cases among AI/AN people. To prevent this, we now include all individuals who reported AI/AN race in our assessments, including those who would also be multiracial and/or Latinx. Among all King County residents in 2021, we estimate that there were 51,063 AI/AN people. This included 13,863 (27%) who reported AI/AN as a single race category, 9,551 (19%) who were also Latinx, and 27,649 (54%) who were classified as multiracial. (The number of multiracial AI/AN was calculated using census and American Community Survey data estimating that as many as 25% of multiracial individuals are AI/AN.¹) Using this more inclusive method of classifying AI/AN, the number of AI/AN living with HIV is 6.3 times greater than what is seen using the more restricted 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 11-1). Thereafter we present additional data for everyone who reports AI/AN as part of their racial identity.

RESULTS

Table 11-1 includes key HIV metrics for AI/AN people in King County in 2021. The prevalence of HIV among all AI/AN people is 0.5%. This prevalence is higher among Latinx (0.7%) and multiracial (0.6%) AI/AN as compared to single race (0.3%) AI/AN people. The remainder of this section uses the more inclusive AI/AN definition I (i.e., 264 AI/AN PLWH in 2021, and 30 AI/AN people diagnosed with HIV in the past 5 years). Figure 11-1 shows rates of HIV diagnoses per 100,000 AI/AN people. Using rates as three-year rolling averages due to small numbers, the incidence of HIV diagnoses among all AI/AN people has declined 56% over the last decade. Of note, this positive trend antedates the onset of the COVID-19 pandemic and consequently cannot be explained entirely by a pandemic-related drop in HIV testing.

AGE AND GENDER

The age distribution of AI/AN PLWH was similar to that of all PLWH, with 48% aged 50 and higher, 44% aged 30-49, and 8% under age 30 years. Among AI/AN PLWH in King County in 2021, 86% were men, and none were known to be transgender men. Of the 38 AI/AN women living with HIV in 2021, and 6 were known to be transgender women. Of the 30 AI/AN diagnosed with HIV in the past five years, 67% were men and 33% were

TABLE 11-1: KEY METRICS FOR AMERICAN INDIAN/ALASKA NATIVE (AI/AN) PEOPLE, KING COUNTY, WA, 2021

Key Metrics	Single Race AI/AN ^A (not Latinx)	Latinx AI/AN ^A	Multiracial AI/AN ^A (not Latinx)	Total AI/AN
Estimated number of AI/AN people in King County, 2021	13,863	9,551	27,650	51,063
HIV Prevalence, 2021				
Number living with HIV	42	67	155	264
HIV prevalence (%)	0.3%	0.7%	0.6%	0.5%
Percent of all HIV cases who are AI/AN among all people living with HIV in 2021	0.6%	0.9%	2.2%	3.7%
HIV Incidence (new diagnoses)				
New diagnoses, 2017-2021	10	6	14	30
Diagnoses per 100,000 per year, 2017-2021	14.4	12.6	10.1	11.8
Viral Suppression, among HIV+ AI/AN People, 2021				
	81%	81%	82%	81%

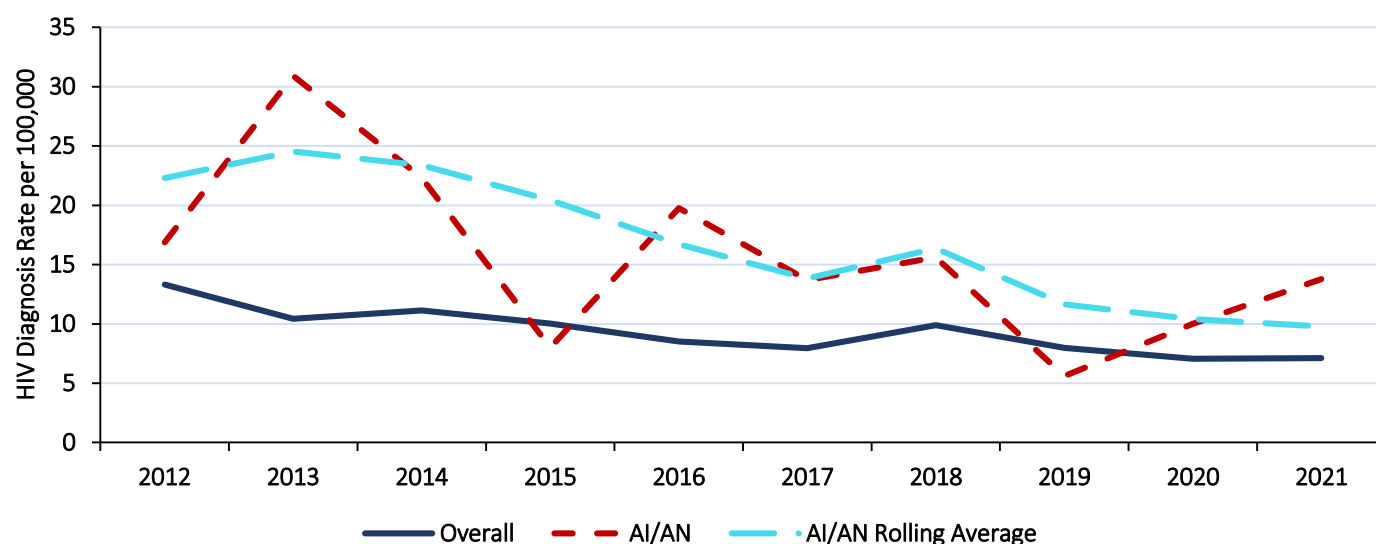
^A "Single race" AI/AN people are those who only identify as AI/AN. "Multiracial" AI/AN people are those who identify as AI/AN and at least one other race. Latinx AI/AN are people who identify as AI/AN (either as single race or multiracial) and Latinx.

women (one was known to be a transgender woman). Data on two-spirit identity are not routinely collected in HIV surveillance data.

HIV TRANSMISSION RISK CATEGORY

HIV risk categories are shown in **Figure 11-2** for AI/AN people living with HIV in 2021 (prevalent cases) and in **Figure 11-3** for AI/AN people diagnosed with HIV from 2017 through 2021 (incident diagnoses). Most AI/AN

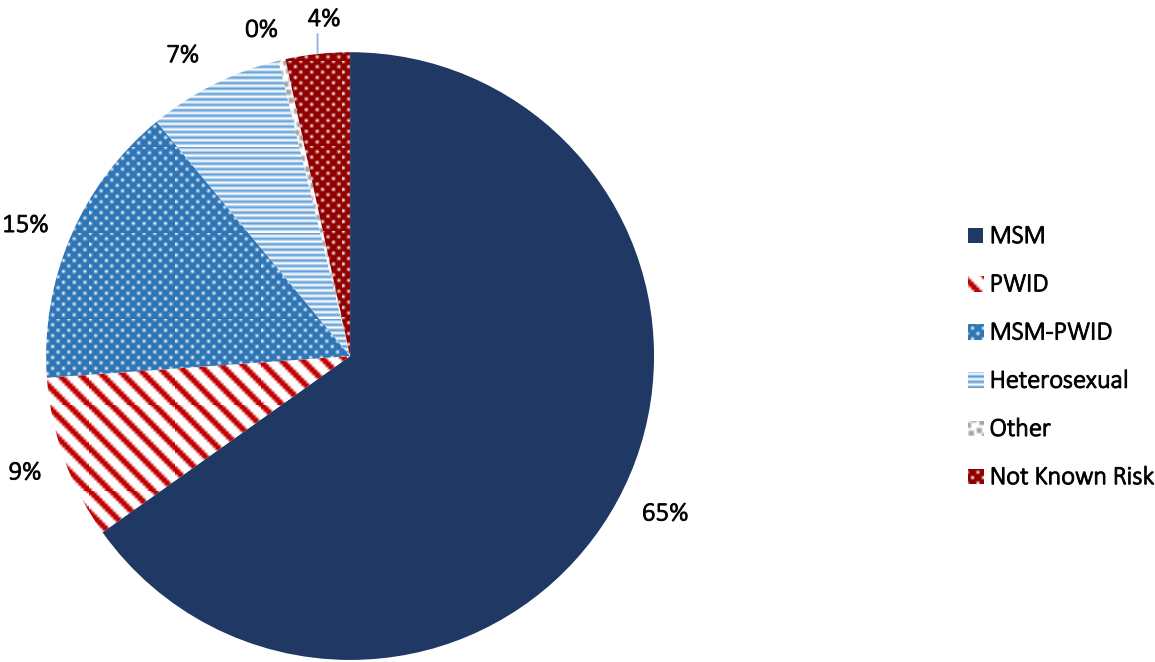
PLWH are men who have sex with men (MSM) or MSM who inject drugs (MSM-PWID), including 80% of prevalent cases and 63% of incident diagnoses over the past 5 years. Among all PLWH, 30% AIAN PLWH injected drugs (including MSM-PWID), which is higher than the overall proportion of PLWH who inject drugs (13%). Of AI/AN MSM diagnosed with HIV in the past five years, 30% were people who injected drugs (PWID) including MSM-PWID.

FIGURE 11-1: RATES OF HIV DIAGNOSES PER 100,000 AMERICAN INDIAN/ALASKA NATIVE PEOPLE AND OVERALL, KING COUNTY, WA, 2012-2021

AI/AN = American Indian Alaska Native

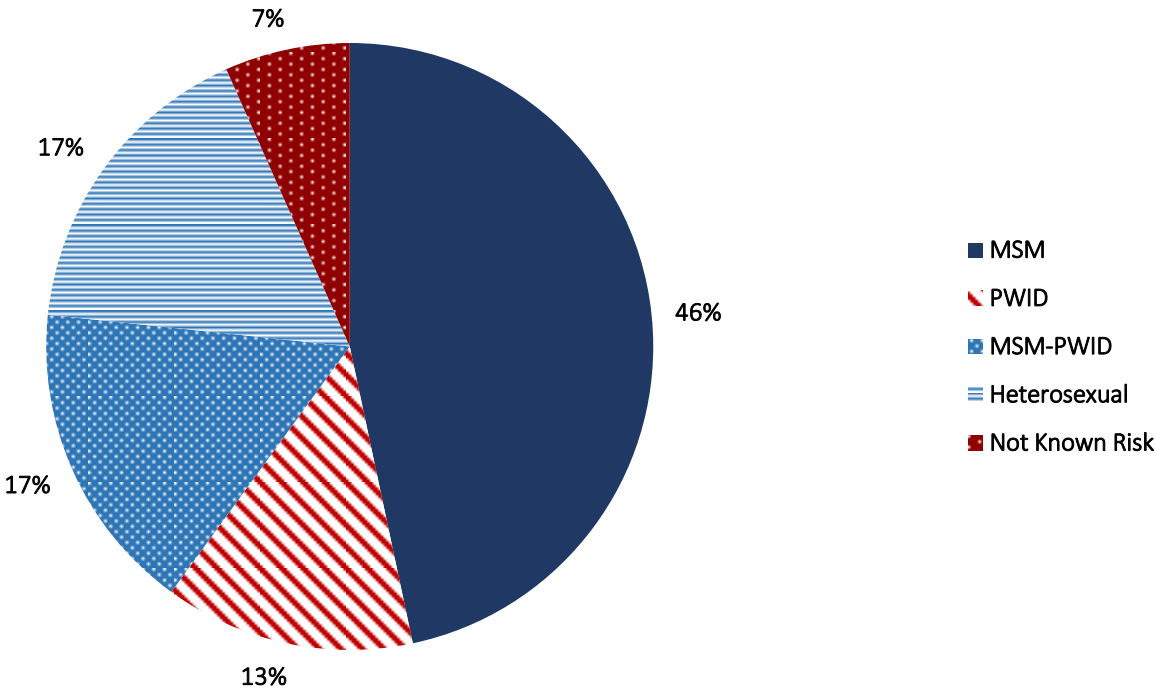
Rates are per 100,000 and include 3-year rolling averages to reduce random fluctuations year-to-year

FIGURE 11-2: AMERICAN INDIAN/ALASKA NATIVE PEOPLE LIVING WITH HIV BY HIV RISK CATEGORIES, KING COUNTY, WA, 2021



MSM= Men who have sex with men
PWID = People who inject drugs

FIGURE 11-3: AMERICAN INDIAN/ALASKA NATIVE PEOPLE NEWLY DIAGNOSED WITH HIV BY HIV RISK CATEGORIES, KING COUNTY, WA, 2017-2021 (N=30)



MSM= Men who have sex with men
PWID = People who inject drugs

VIRAL SUPPRESSION*

Eighty-one percent of AI/AN PLWH were virally suppressed in 2021 (**Table 11-1**), which is lower than for PLWH overall in King County (87%). AI/AN MSM who were not PWID were most likely to be virally suppressed (87%). AI/AN people with other risk factors had lower levels of viral suppression: 65% for non-MSM PWID, 73% for MSM-PWID, and 79% for heterosexuals. Although based on small numbers, viral suppression was lower among AI/AN people in their 20s (14 of 20, or 70%) and AI/AN people who had used meth around the time of diagnosis (16 of 26, 62%) compared to all AI/AN people.

TIMING OF HIV DIAGNOSES AND CARE LINKAGE

Late HIV diagnosis was defined as an AIDS diagnosis within one year of an HIV diagnosis in the absence of a negative HIV test in the 2 years prior to HIV diagnosis. Of the 30 AI/AN people diagnosed with HIV in the past 5 years (2017-2021), 8 (27%) had a late diagnosis of HIV. This is higher than the same estimate (19%) among all people newly diagnosed with HIV in King County. Most (93%) of the 30 AI/AN people diagnosed with HIV linked to care within 30 days of their HIV diagnosis, which is slightly higher than the overall King County estimate from 2017-2021 (89%).

Contributed by Francis Slaughter, Susan Buskin and Mike Barry

Reference

1. U.S. Census data. Available at : [https://data.census.gov/](https://data.census.gov/table?q=King+County,+Washington&t=Race+and+Ethnicity&tid=DECENNIALPL2020.P2)
table?
q=King+County,+Washington&t=Race+and+Ethnicity&tid=DECENNIALPL2020.P2. Accessed 12/14/2022.

* As has been done throughout the report, viral suppression in 2021 includes (a) PLWH diagnosed in the last quarter of 2021 who achieved viral suppression in the first quarter of 2022 and (b) those with NO viral load (VL) reported in 2021 and suppressed at both their last VL in 2020 and first VL in 2022 (through June).

HIV/AIDS Fact Sheet

Black and African-American Populations



KEY POINTS

In 2021, new HIV diagnosis rates were high among Black and African American people in King County relative to overall King County rates (23 vs. 7 per 100,000).

In 2021, the HIV diagnosis rate for foreign-born Black people was about 50% higher than that for U.S.-born Black people (30 versus 20 per 100,000), though both rates were substantially higher than the rate among King County residents overall.

In 2021, 88% of foreign-born and 80% of U.S.-born Black people living with HIV were virally suppressed.

OVERVIEW OF HIV

EPIDEMIOLOGY AMONG BLACK AND AFRICAN AMERICAN PEOPLE

The prevalence of HIV among Black and African American people in King County is approximately 1%. The prevalence of HIV is higher among foreign-born Black people in King County (1.4%) than those who are U.S.-born (0.8%). In 2021, there were 35 new HIV diagnoses among Black and African American people (excluding Latinx and multiracial) living in King County for a rate of 23 cases per 100,000 (**Table 12-1**). Among all Black and African American people living in King County, including those who were also Latinx/Hispanic and/or multiracial, there were 43 new HIV diagnoses. The diagnosis incidence rate was approximately 316% higher among foreign-born and 171% higher among U.S. born Black individuals (excluding Latinx and multiracial) compared to residents of King County overall in 2021. For brevity, throughout the remainder of this fact sheet, we use Black to reflect both Black and African American people and include Latinx and multiracial Black people, unless otherwise noted.

POPULATION SIZES AND METHODS

In 2021, U.S. Census and American Community Survey data estimated that there were 151,763 Black people (excluding Latinx and multiracial) living in King County, of which about 101,681 (67%) were U.S.-born (**Table 12-1**). Due to the lack of availability of population data for Black Latinx people and those reporting multiple races, *rate* calculations in **Table 12-1** and **Figure 12-1** include only single race Black people. Using the more inclusive classification of Black people (inclusive of Latinx and multiracial) increases the number of new HIV diagnoses among Black people in 2021 by 23% and increases the number of Black people living with HIV (PLWH) by 26%.

BIRTH COUNTRY AND TRENDS

Of the 1,893 Black PLWH in King County in 2021, 41% were foreign-born, 89% of whom were born in Africa. The next largest groups of foreign-born Black people were born in Latin and South America (4%) and the Caribbean (3%). The most common countries of origin for foreign-born Black PLWH were Ethiopia (33%), Kenya (21%), Eritrea (4%), Zambia (4%), and Somalia (3%).

Figure 12-1 shows changes in HIV diagnosis rates by nativity among Black King County residents (excluding Latinx and multiracial) between 2012 and 2021. The annual rate of HIV in this population has fluctuated between 2012 and 2021 with an overall 32% decrease for all Black people, a 29% decrease for U.S.-born Black people, and a 39% decrease for foreign-born Black people. This compares to an overall 53% reduction in the rate of new HIV diagnoses among all King County residents during the same period. These figures demonstrate that the relative decline in new diagnoses has been greater in non-Black residents than Black residents. On the other hand, the absolute reduction in the rate of new HIV diagnoses has been larger among Black

TABLE 12-1: KEY HIV METRICS FOR BLACK AND AFRICAN AMERICAN PEOPLE^A, KING COUNTY, WA, 2021

Key Metrics	U.S.-born ^B	Foreign-born	Total
Estimated Number of Black People in King County, 2021 ^C	101,681	50,082	151,763
HIV Prevalence in 2021			
Number living with HIV	816	690	1,506
HIV prevalence (%)	0.8%	1.4%	1.0%
Percent of all HIV cases who are Black among each group (U.S.-born PLWH, Foreign-born PLWH, all PLWH)	15%	39%	21%
HIV Incidence (New diagnoses)^D			
New diagnoses	20	15	35
Diagnoses per 100,000 people per year ^E	19.8	30.4	23.3
10-year trend (% change, 2012-2021)	29% decrease	39% decrease	32% decrease
Viral Suppression among HIV+ Black People^F	78%	88%	83%

^AExcluding Latinx and multiracial Black people^BU.S. – born includes people of unknown nativity^CPopulation estimates derived from the U.S. Census Bureau and American Community Survey as aggregated by the Washington State Office of Financial Management (<https://www.ofm.wa.gov/washington-data-research/population-demographics/population-estimates>).^DNew HIV diagnoses among individuals reporting a prior diagnosis in another country or an unverified diagnosis from another state are excluded.^EIn comparison overall is 7 per 100,00 people per year^FViral suppression is defined as viral load (VL) < 200; suppression includes people with no VL in 2021 who were suppressed in 2020 and 2022, also people diagnosed in the last quarter of 2021 were suppressed based on VL through the first quarter of 2022. Among those with ≥1 viral load reported in 2021, 89% of U.S.-born, 95% of foreign-born, and 92% of all Black people were suppressed.

residents than among non-Black residents, with rates declining by 11 new diagnoses per 100,000 population vs 6 new diagnoses per 100,000 population, respectively.

AGE AND GENDER

Among Black people diagnosed with HIV between 2012-2021, those who were U.S.-born were younger at the time of HIV diagnosis than those who were foreign-born, with 49% and 22%, respectively, under age 30 when they first tested HIV-positive. Among all prevalent cases of HIV

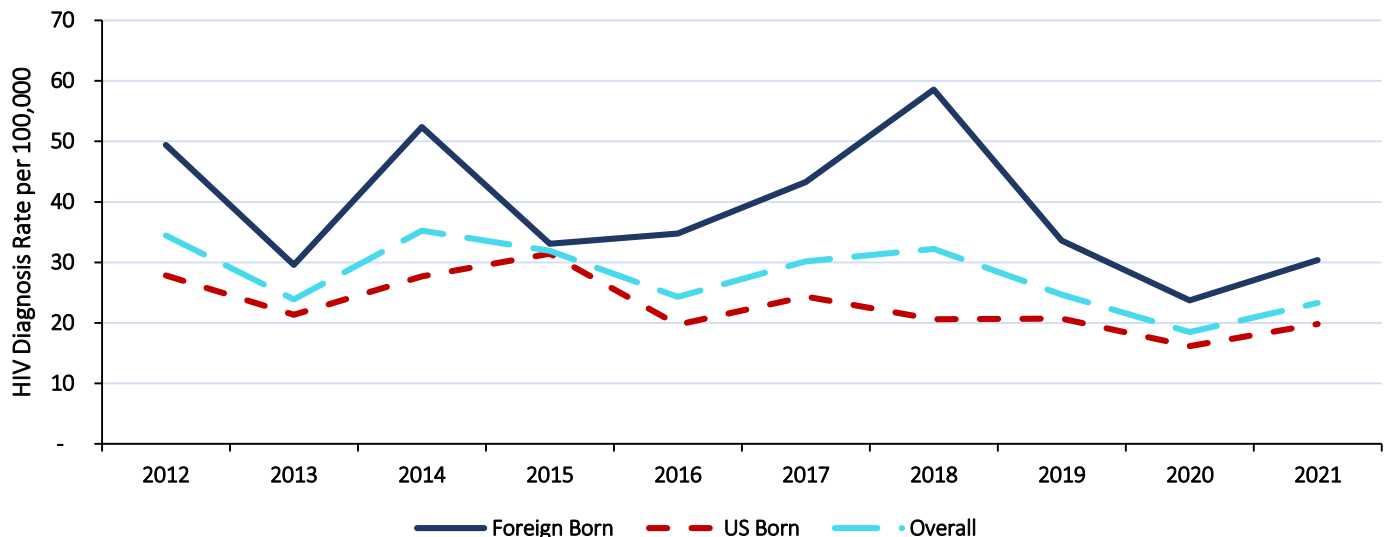
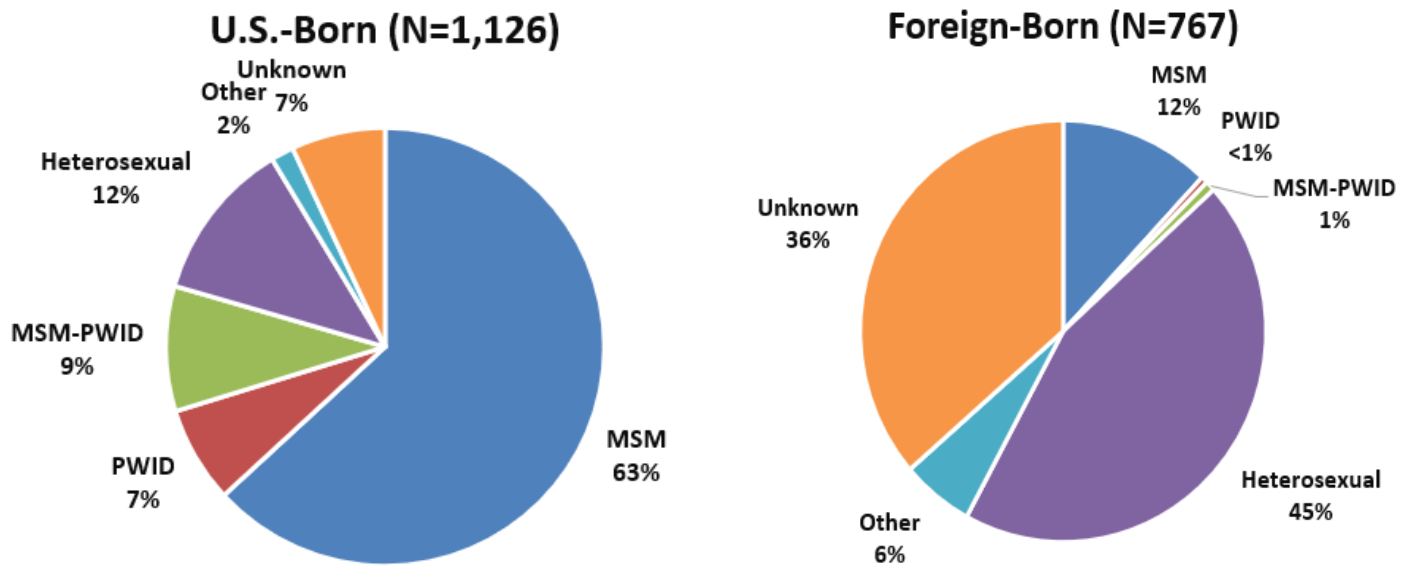
FIGURE 12-1: RATES OF HIV DIAGNOSES AMONG BLACK PEOPLE BY NATIVITY PER 100,000, KING COUNTY, WA, 2012-2021

FIGURE 12-2. HIV RISK CATEGORIES AMONG BLACK PEOPLE LIVING WITH HIV BY NATIVITY, KING COUNTY, WA, 2021^A

^AIncludes Black individuals who are multiracial and/or Latinx

MSM = men who have sex with men; **PWID** = people who inject drugs

among Black individuals, 31% were assigned female sex at birth, including 14% of U.S.-born and 56% of foreign-born Black PLWH.

HIV TRANSMISSION RISK CATEGORY

Figure 12-2 shows HIV transmission risk categories among U.S.-born and foreign-born Black people living with HIV in King County in 2021. Among U.S.-born Black people, men who have sex with men (MSM) is the predominant risk group (72%), which also includes MSM with a history of injection drug use. Among foreign-born Black people, heterosexual risk is the predominant risk factor (45% overall and 70% of those with a known risk category).

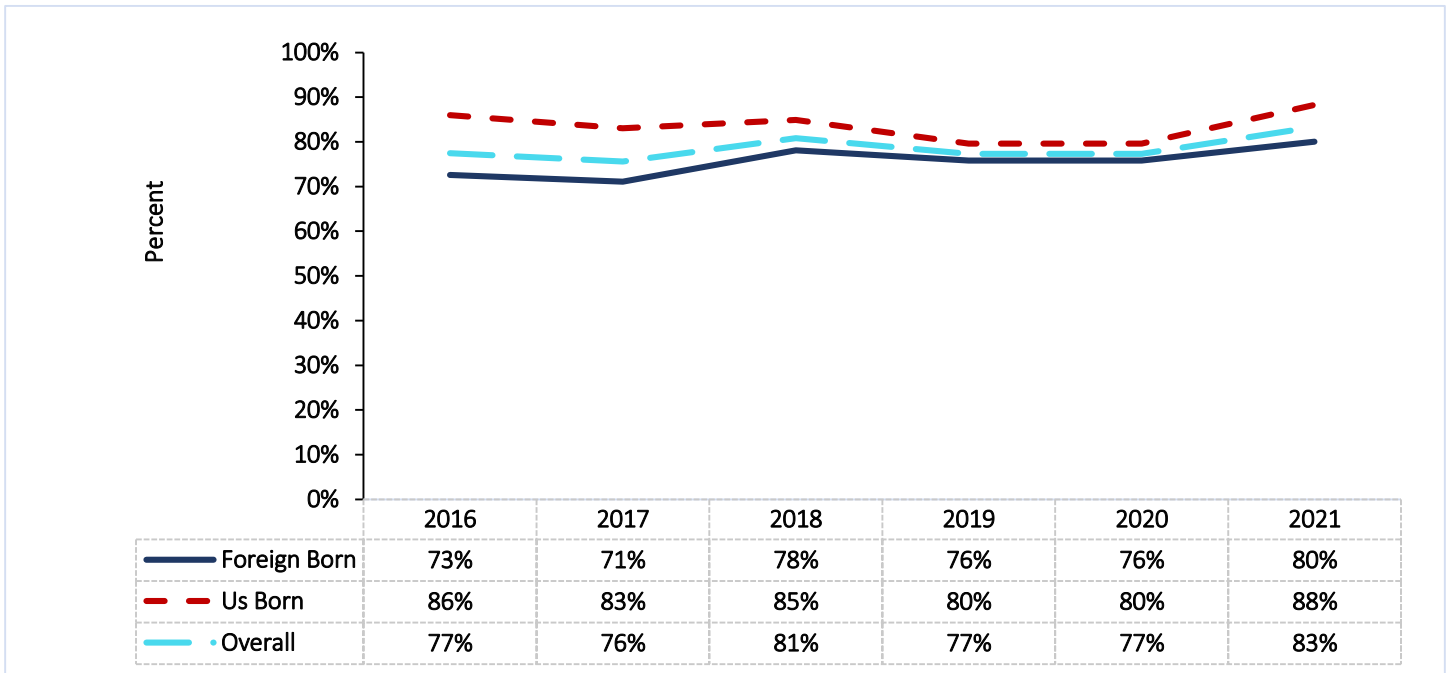
Individuals with an unknown risk factor comprised 7% of U.S.-born and 36% of foreign-born Black people. The high proportion of foreign-born Black people with an unknown HIV risk is mostly due to limitations in the definition of the heterosexual risk category. To meet the definition of heterosexual risk, the positive serostatus or risk factors of an opposite sex partner (such as injection drug use) must be known. When this information is not available, 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.

Locally and nationally, Black MSM are disproportionately affected by HIV. Seven percent of the King County population is black, but 19% of all MSM newly diagnosed with HIV in King County in 2021 were Black and 17% of all MSM living with HIV are Black. Black MSM comprise 47% of Black PLWH in King County in 2021 and 51% of new diagnoses among Black people between 2012 and 2021. Among Black MSM living with HIV in King County in 2021, 12% also were PWID and 12% of Black MSM diagnosed with HIV in King County between 2012 and 2021 had a history of injection drug use.

HIV VIRAL SUPPRESSION

Viral suppression levels for Black PLWH increased from 70% in 2012 to 83% in 2021 (**Figure 12-3**). This compares to an 87% viral suppression level in King County overall in 2021 (see **Figure 7-1**). U.S.-born Black people consistently had lower levels of viral suppression relative to foreign-born Black people. From 2012 to 2021, the average difference in viral suppression levels between U.S.-born and foreign-born Black people was 10%. This difference declined from 13% in 2012 (65% vs. 78%, respectively) to

FIGURE 12-3: HIV VIRAL SUPPRESSION AMONG BLACK PEOPLE LIVING WITH HIV IN BY NATIVITY, KING COUNTY, WA, 2012-2021^A

^AIncludes Black individuals who are multiracial and/or Latinx

8% in 2021 (80% vs. 88%, respectively) (Table 12-1).

TIMING OF HIV DIAGNOSES

Among Black King County residents diagnosed with HIV in the past ten years (2012-2021), 81% had documented information about prior HIV testing. Of these, 40% 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. The proportion for foreign-born Black people was lower (18%) than the percentage of White people and U.S.-born Black people who tested within one year during the same time period (50% and 53% respectively). Among Black MSM diagnosed with HIV 2012-2021 and with a known testing history, 60% had tested HIV negative in the prior year.

Late HIV diagnosis was defined as an AIDS diagnosis within one year of an HIV diagnosis in the absence of a negative HIV test in the 2 years prior to HIV diagnosis. By this definition, 27% of Black people diagnosed with HIV between 2012 and 2021 were diagnosed late, including 43% of foreign-born and 16% of U.S.-born Black people. However, the high proportion of foreign-born Black PLWH being classified as late diagnoses is, in part, an artefact of what data are available. Data on prior HIV testing was missing for 23(%) foreign-born Black people diagnosed with HIV and at least some of these individuals

may have had an earlier HIV diagnosis in their country of origin and are incorrectly classified as a late diagnosis in the United States. Additionally, because residence at diagnosis is generally assumed to be a proxy for residence at time of infection, it should be noted that even those foreign-born individuals accurately classified as late diagnosis did not necessarily acquire HIV locally. Among U.S.-born Black people diagnosed between 2012 and 2021, 14% of MSM and 22% of non-MSM had an AIDS diagnosis within one year of their HIV diagnoses or tested negative within two years prior to their HIV diagnosis.

HIV PREVENTION AND CARE INTERVENTIONS

Pre-Exposure Prophylaxis (PrEP) Use: PrEP has been shown to be highly effective at preventing HIV, reducing the risk of infection among MSM by >95% when taken as directed.¹ Data from the annual PHSKC Seattle Pride Survey, the National HIV Behavioral Surveillance (NHBS) surveys, and the PHSKC Sexual Health Clinic are used to monitor PrEP use among MSM. Using combined data from these three sources, we estimate that approximately 57% of Black MSM at higher risk for HIV are currently on PrEP. This is lower than the estimates for Latinx MSM (71%) and white MSM (64%) at higher risk. The Public Health—Seattle & King County (PHSKC) Sexual Health Clinic offers prescriptions of PrEP to

interested MSM and others with HIV risks with the goal of improving health equity.²

Contributed by Francis Slaughter and Susan Buskin

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1. 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.
2. 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.

HIV/AIDS Fact Sheet

Latinx Populations

(Hispanic, Latino, and Latina)



KEY POINTS

In 2021, HIV diagnosis rates were nearly twice as high among Latinx people relative to overall King County rates. (14 vs 7 per 100,000), with a higher rate among foreign born than US born Latinx people (21 vs. 9 per 100,000).

From 2012 to 2021, the rate of new HIV diagnoses among all Latinx people decreased 26%, while the rate among all King County residents declined 46%. The decline in new diagnoses was smaller (10%) among U.S.-born Latinx people than among foreign-born Latinx people (34%).

In 2021, 87% of Latinx people living with HIV were virally suppressed.

OVERVIEW OF HIV

EPIDEMIOLOGY AMONG LATINX PEOPLE

In 2021, there were 253,242 Latinx individuals living in King County, of whom about 60% were U.S.-born (**Table 13-1**).¹ At the end of 2021, there were 1,116 Latinx King County residents living with diagnosed HIV infection (PLWH) for a prevalence of 0.4% among the Latinx population. The prevalence of HIV in foreign-born Latinx residents was approximately two times that in U.S.-born Latinx people (0.6% vs 0.3%, respectively). Among foreign-born Latinx PLWH in King County, as of 2021, 88% had been born in central or South America, including 57% in Mexico, 6% in El Salvador and 5% in Brazil (**Figure 13-1**).

In 2021, there were 34 new diagnoses of HIV among Latinx people in King County (14 per 100,000), which was twice the rate among all King County residents (7 per 100,000). New diagnosis incidence for foreign-born Latinx people was 2.3 times that of U.S.-born Latinx people (21 vs. 9 per 100,000, respectively). The rate of new HIV diagnoses among all Latinx people decreased 26% between 2012 and 2021, with the largest decline observed among foreign-born Latinx people (34%) and a 10% decrease among U.S.-born Latinx people (**Figure 13-2**). For comparison, the overall new HIV diagnosis rate in King County decreased by 46% over this same period.

Of note, there was a steep decline in new HIV diagnoses among Latinx people between 2019 and 2020 and a commensurate increase from 2020 to 2021; these changes are not shown in **Figure 13-2** due to the use of three-year

TABLE 13-1: KEY HIV METRICS FOR LATINX PEOPLE, KING COUNTY, WA, 2021

Key Metrics	U.S.-born ^A	Foreign-born	Total
Estimated Number of Latinx People in King County, 2021 ^B	157,010	96,232	253,242
HIV Prevalence in 2021			
Number of Latinx people living with HIV	517	599	1,116
Prevalence (%)	0.3%	0.6%	0.4%
Percent of all prevalent HIV cases who are Latinx	10%	34%	16%
HIV Incidence (New Diagnoses) ^C			
2021 number of new diagnoses	14	20	34
2021 incidence rate per 100,000 ^D	8.9	20.9	13.5
10-year trend (2012-2021)	10% decrease	34% decrease	26% decrease
Viral suppression among HIV+ Latinx People ^E	86%	88%	87%

^AUS-Born includes those of unknown nativity.

^BPopulation estimates derived from the U.S. Census Bureau and American Community Survey as aggregated by the Washington State Office of Financial Management (<https://www.ofm.wa.gov/washington-data-research/population-demographics/population-estimates>).

^CNew HIV diagnoses among individuals reporting a prior diagnosis in another country or an unverified diagnosis from another state are excluded.

^DThe numbers shown for 2021 in Figure 13-2 differ from the ones here because they are 3-year rolling averages.

^EViral suppression is defined as viral load (VL) < 200; suppression includes people with no VL in 2021 who were suppressed in 2020 and 2022, also people diagnosed in the last quarter of 2021 were suppressed based on VL through the first quarter of 2022. Among those with ≥1 viral load reported in 2021, 94% of U.S.-born, 95% of foreign-born, and 95% of all Latinx people were suppressed.

FIGURE 13-1: COUNTRY OR REGION OF BIRTH AMONG FOREIGN-BORN LATINX PEOPLE LIVING WITH HIV, KING COUNTY, WA, 2021

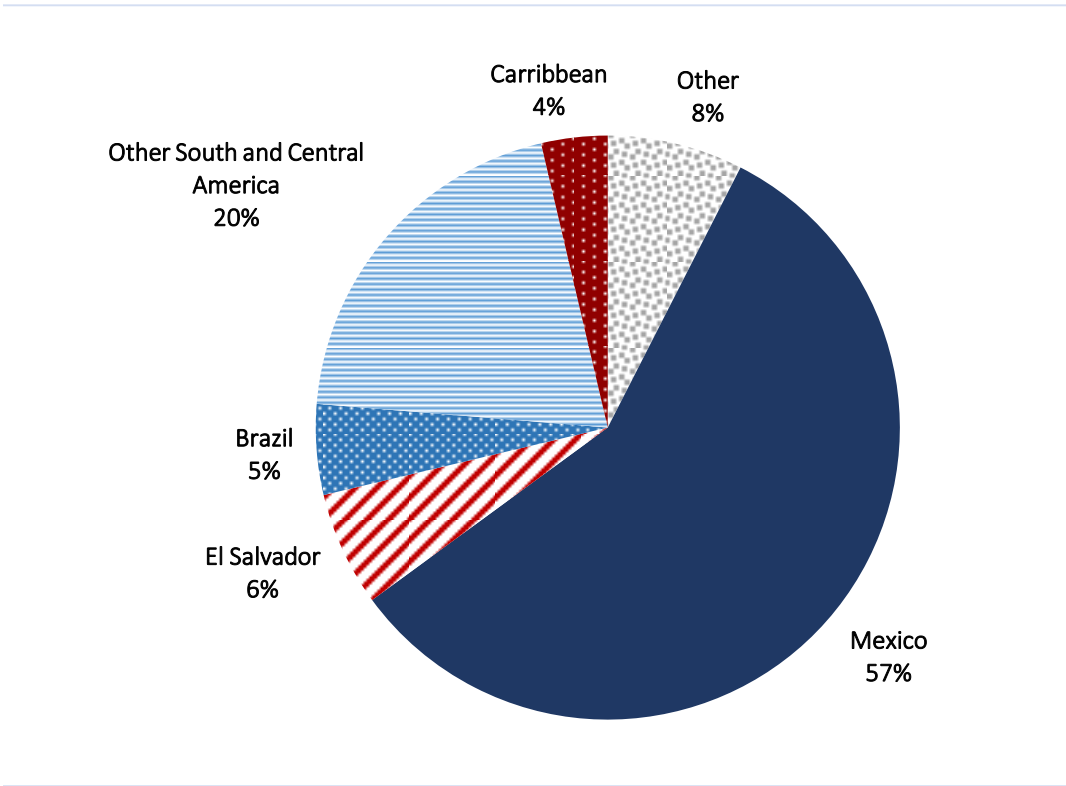
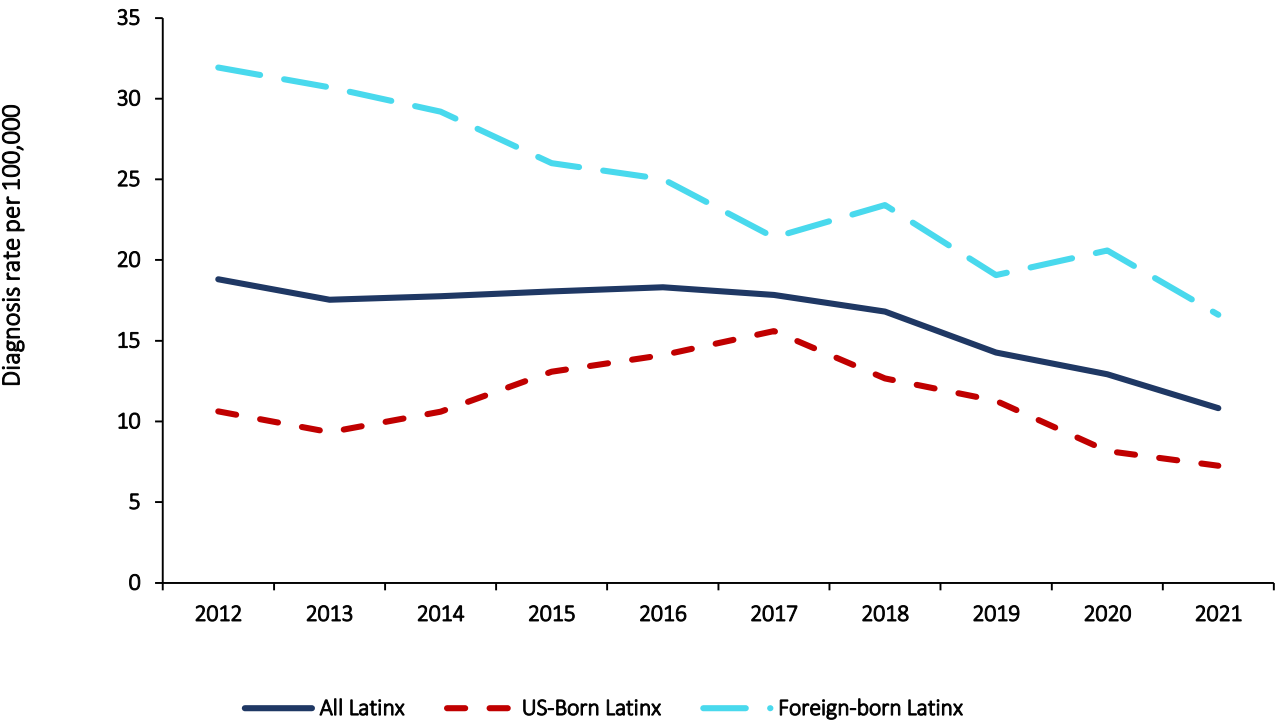
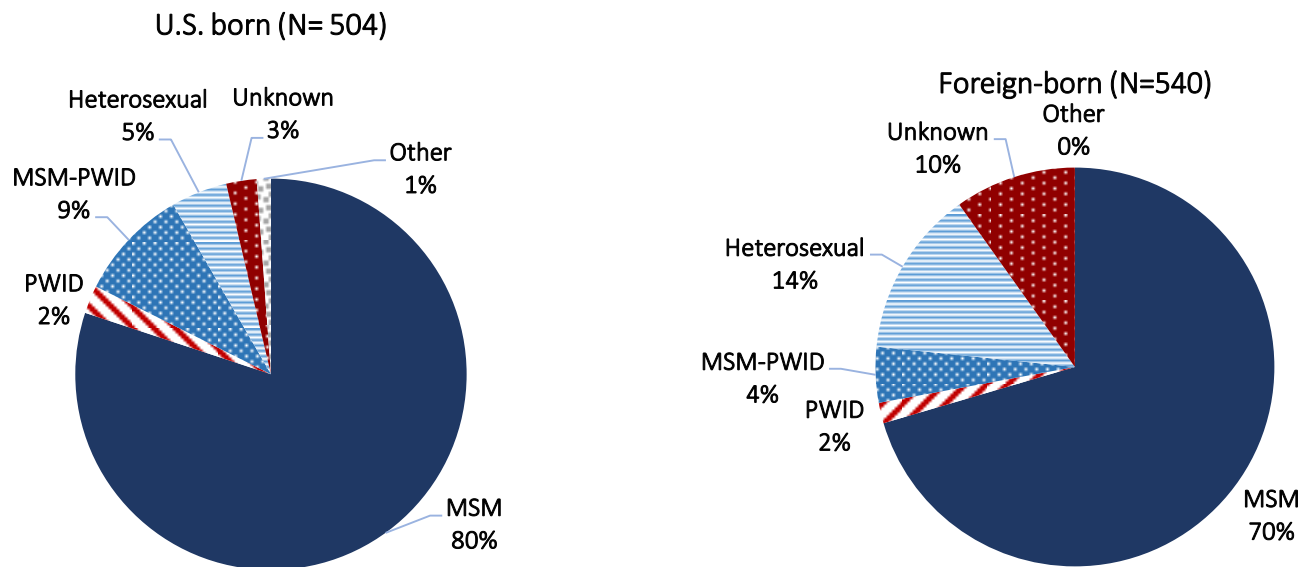


FIGURE 13-2: HIV DIAGNOSIS RATES AMONG LATINX PEOPLE BY NATIVITY, KING COUNTY, WA, 2012-2021



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

FIGURE 13-3. HIV RISK CATEGORIES AMONG LATINX PEOPLE LIVING WITH HIV BY NATIVITY^A, KING COUNTY, WA, 2021

^AU.S.-Born includes those of unknown nativity.

rolling averages to smooth annual fluctuations. 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 with HIV between 2012 and 2021, people who were U.S.-born were younger at the time of diagnosis than those who were foreign-born (52% vs. 31% under age 30 at diagnosis, respectively). Overall, 11% of Latinx people living with HIV in King County were presumed to be women. (This included both those who had female sex assigned at birth and not known to be transgender men, and transgender women). Among PLWH who were assigned female sex at birth, 29% were U.S.-born and 71% were foreign-born.

HIV TRANSMISSION RISK CATEGORY

Figure 13-3 shows HIV transmission risk categories among U.S.-born and foreign-born Latinx people living in King County in 2021. Men who have sex with men (MSM) – including MSM who inject drugs (MSM-PWID) – comprised the majority of Latinx PLWH among both U.S.-born (92%) and foreign-born (83%) Latinx people. As a standalone group, the combined risk factor of being MSM-PWID was twice as common among U.S.-born (10%) compared to foreign-born (5%) Latinx PLWH. Heterosexual exposure was the next most common risk and was three times as common among foreign-born (15%) as among U.S.-born (5%) Latinx people.

Locally and nationally, Latinx MSM are disproportionately affected by HIV. An estimated 10% of the adult MSM population in King County are Latinx,¹ but 18% of MSM newly diagnosed with HIV in 2021 were Latinx and 17% of all MSM living with HIV are Latinx. Latinx MSM comprise 79% of Latinx PLWH living in King County in 2021 and 77% of new diagnoses among Latinx people between 2012 and 2021. Among Latinx MSM living with HIV in King County in 2021, 8% also were PWID and 6% of Latinx MSM diagnosed with HIV in King County between 2012 and 2021 had a history of injection drug use.

HIV VIRAL SUPPRESSION

Among Latinx PLWH, 86% of U.S.-born PLWH and 88% of foreign-born Latinx PLWH were virally suppressed in 2021. These rates were similar to the 87% viral suppression level in King County overall (Table 13-1).

TIMING OF HIV DIAGNOSES

Among Latinx King County residents diagnosed with HIV in the past ten years (2012-2021), 87% had documented information about prior HIV testing. Of these, 46% had tested HIV negative in the prior year, which is similar to the percentage of White people with newly diagnosed HIV who tested HIV negative in the year prior to HIV diagnosis (50%). Among Latinx people diagnosed with HIV in 2012-2021 with documented information about prior HIV testing, 34% of foreign-born and 61% of U.S.-born Latinx people had tested negative in the prior year.

Among Latinx MSM diagnosed with HIV 2012-2021 with a known HIV testing history, 45% had tested HIV negative in the prior year.

Late HIV diagnosis was defined as an AIDS diagnosis within one year of an HIV diagnosis in the absence of a negative HIV test in the 2 years prior to HIV diagnosis. By this definition, 20% of Latinx people diagnosed with HIV between 2012 and 2021 were diagnosed late, including 26% of foreign-born Latinx and 11% of U.S.-born Latinx people. This compares to 15% of White PLWH and 19% of all PLWH diagnosed with HIV in the same time period.

HIV PREVENTION AND CARE INTERVENTIONS

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 Data from the annual PHSKC Seattle Pride Survey, the National HIV Behavioral Surveillance (NHBS) surveys, and the PHSKC Sexual Health Clinic are used to monitor PrEP use among MSM. Using combined data from these three sources, we estimate that approximately 71% of Latinx MSM at higher risk for HIV are currently on PrEP. This is higher than the estimates for Black MSM (57%) and white MSM (64%). The Public Health—Seattle & King County (PHSKC) Sexual Health Clinic offers prescriptions of PrEP to interested MSM and others with HIV risks with the goal of improving health equity.³

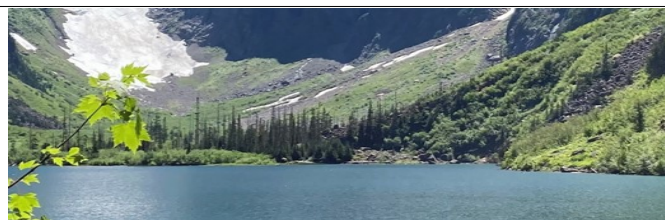
Contributed by Francis Slaughter

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HIV/AIDS Fact Sheet

Men Who Have Sex with Men (MSM)



KEY POINTS

In 2021, MSM comprised 71% of all new HIV diagnoses in King County.

Approximately 9% of all MSM in King County have diagnosed HIV infection, though HIV prevalence varies substantially by race, from 9% among white MSM to 14% and 14% among both Black and Latinx MSM.

Since 2017, the rate of new diagnoses among MSM has declined 12%.

Like overall HIV prevalence, new HIV diagnoses among MSM in King County is characterized by racial and ethnic disparities. In 2021, 18% of all new HIV diagnoses occurred in Latinx MSM, while only 10% of King County's male population is Latinx.

An estimated 89% of MSM with diagnosed HIV infection in King County are virally suppressed, which is slightly higher than the overall community viral suppression estimate of 87%.

Approximately one-in-four MSM without 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 population in the HIV epidemic. In this factsheet, MSM are defined presumptively as cisgender men who have sex with men unless otherwise specified.

In 2021, MSM, including MSM who inject drugs, accounted for 71% of all new HIV diagnoses in King County and 83% of all diagnoses where an exposure category was identified. There were 115 new HIV diagnoses among MSM in 2021. This corresponds to an estimated rate of new diagnosis among MSM of 203 per 100,000 MSM, which is a 12% decrease in the rate of new diagnoses since 2017 (**Table 14-1, Figure 14-1**).

Fifty-eight percent of new HIV diagnoses among MSM occurred in individuals who were between 20 and 34 years old, who account for only 25% of the estimated population of males in King County. Fifty-three percent of all new HIV diagnoses among MSM in 2021 occurred among non-Latinx White MSM, who comprise 60% of the male population in King County. Latinx MSM and Black MSM accounted for 18% and 13% of all new HIV diagnoses, respectively, but only 10% and 7% of the King County male population. The HIV diagnosis incidence for Black and Latinx MSM declined 32% and 27%, respectively, in the past 5 years, while the incidence for White MSM remained fairly level (**Figure 14-1**). The decline in new HIV diagnoses among Black and Latinx MSM was greatest between 2019 and 2020-2021, the period of the COVID-19 pandemic. The extent to which the decline in new diagnoses among Black and Latinx MSM reflected a true decline in infection versus a decline in diagnoses resulting from declining HIV testing in a healthcare system overwhelmed by COVID-19 is not clear. In 2021, MSM who inject drugs accounted for 16% of all new HIV diagnoses among MSM (**Figure 14-2**).

In 2021, Approximately one-in-twelve MSM (8.6%) in King County was living with HIV, although this varied by race (**Figure 14-3**). An estimated 89% of MSM with HIV were virally suppressed. (Among MSM with a viral load reported to Public Health in 2021, 95% were virally suppressed.) **Figure 14-3** presents HIV prevalence in 2021 among MSM by race/ethnicity and **Figure 14-4** compares the age breakdown of MSM diagnosed with HIV in 2021 relative to all King County men. Of note, relative to the general male population in

⁴ 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 2017 through 2021, we used the most recent three-year averages of BRFSS data to estimate the proportion of King County men aged 15 years or older who were MSM. These percentages are: 6.6% (2017), and 6.7% (2018), 6.5% (2019), 6.4% (2020), and 6.5% (2021). Prior to 2017, we had estimated 5.7% of men were MSM. For all years, we assume that the percentage of men who are MSM is consistent across age and race/ethnicity. Some of the observed decline in HIV diagnosis rates among MSM may be due to this methodologic change--which resulted in an increase in our estimate of the size of the population of MSM.

TABLE 14-1: KEY HIV METRICS FOR MEN WHO HAVE SEX WITH MEN (MSM), KING COUNTY, WA, 2021

Key Metrics	Total MSM	Black MSM ^A	Latinx MSM	White MSM ^A
Estimated number of MSM ^B in King County, 2021	61,960	4,295	6,135	36,887
HIV Prevalence, 2021				
Number living with HIV	5,322	588	885	3,172
HIV prevalence (%)	8.6%	13.7%	14.4%	8.6%
Percent of all PLWH who are MSM among each group (All PLWH, Black PLWH, Latinx PLWH, and White PLWH) ^A	74%	39%	79%	87%
HIV Incidence (new diagnoses) in 2021				
New diagnoses	115	15	21	61
Diagnoses per 100,000 MSM per year	203	403	398	181
10-year trend (% Change, 2012-2021)	58% decrease	48% decrease	47% decrease	62% decrease
Viral Suppression among HIV+ MSM ^C	89%	79%	89%	91%

PLWH: People living with HIV, MSM: Men who have sex with men.

^AFor Black and White MSM, only mono-racial non-Latinx individuals are presented.

^BMSM population is estimated as 6.5% of males age >15 in 2021.

^CIncludes cases among cisgender MSM who do not report injection drug use; viral suppression estimates are among all MSM with diagnosed HIV and is defined as plasma HIV RNA <200 copies/mL.

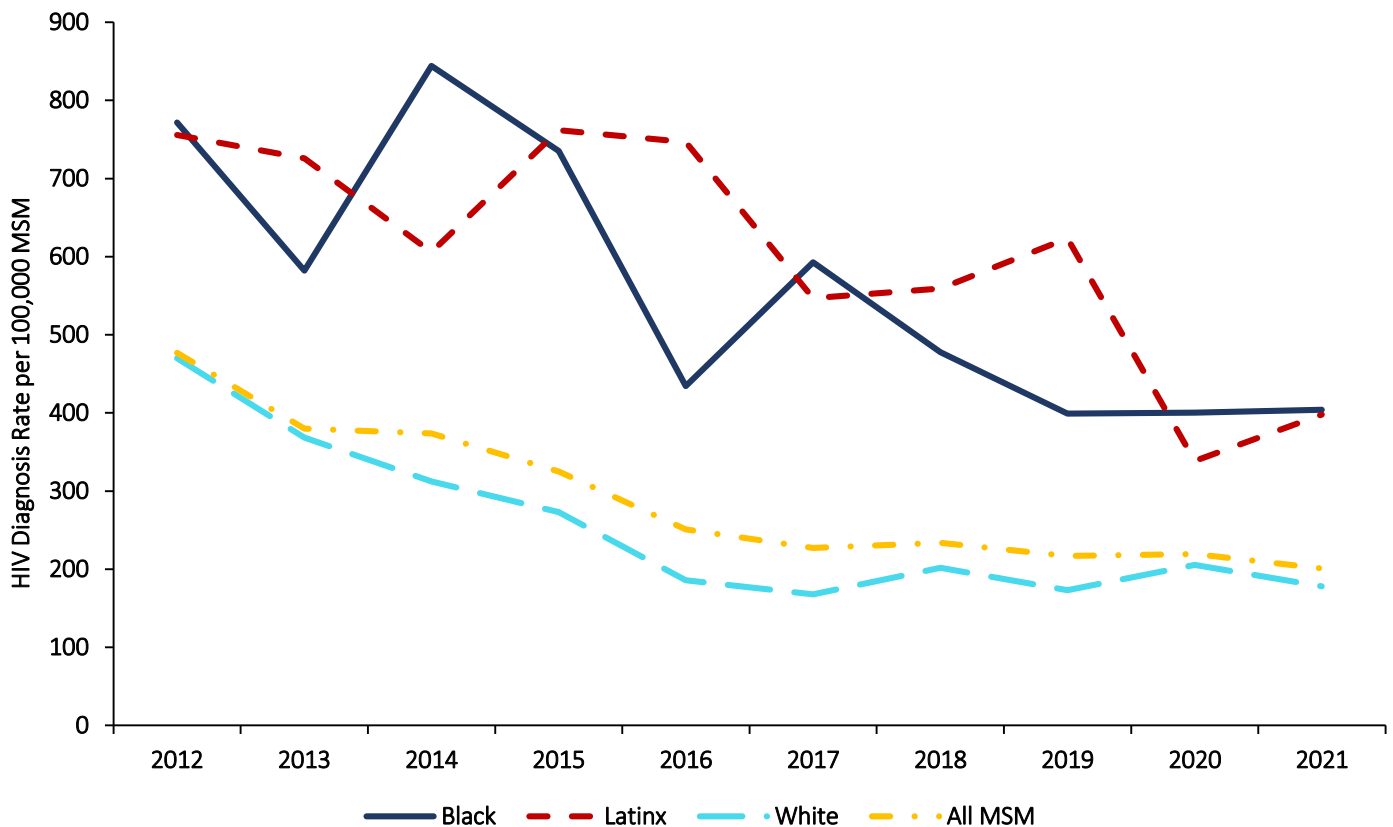
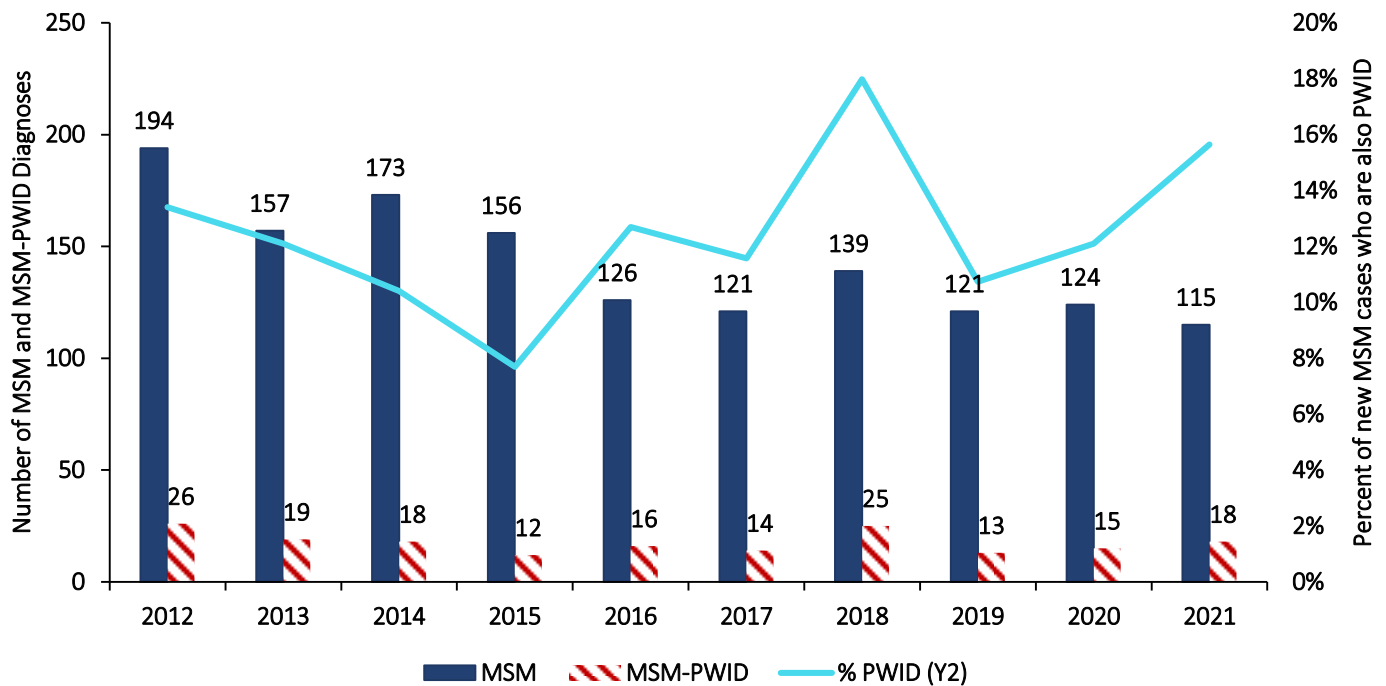
FIGURE 14-1: RATE OF NEW HIV DIAGNOSIS AMONG MEN WHO HAVE SEX WITH MEN (MSM) OVERALL AND BY SELECTED RACE/ETHNIC BACKGROUND, KING COUNTY, WA, 2012-2021

FIGURE 14-2: NUMBER OF NEW HIV DIAGNOSES 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, 2012-



King County, MSM diagnosed with HIV are more likely to be Black and Latinx and less likely to be White or Asian.

HIV PREVENTION INTERVENTIONS

HIV Testing: Public Health – Seattle & King County (PHSKC) and Washington State Department of Health (WA DOH) fund HIV testing efforts that focus on populations at higher risk of HIV. From 2013 to 2019, the number of HIV tests performed among MSM increased by 29%. However, publicly funded testing declined during the COVID-19 pandemic. In 2020, there was an almost 50% reduction (from 7,996 to 4,073 tests) in publicly funded HIV tests performed for MSM in King County, though this increased by 27% in 2021.

In 2021, the median time since last HIV negative test among newly diagnosed MSM was one year (**Figure 6-2**). Public health investigators obtained HIV testing histories for 85% of MSM diagnosed with HIV in King County in 2021 and, of these, 14% had never had a prior negative test (**Figure 6-3**). Of MSM with a negative HIV test prior to an HIV diagnosis in 2021, 71% had tested negative within two years of their HIV diagnosis.

PHSKC publishes HIV testing locations on the PHSKC website. The largest single source of new HIV diagnoses in King County is the PHSKC Sexual Health Clinic at Harborview Medical Center, which provides walk-in

services five days per week. The clinic provides care on a sliding fee scale. No patients are turned away because of an inability to pay.

Pre-Exposure Prophylaxis (PrEP): In 2022, the annual Pride survey found that approximately 64% of King County MSM respondents who were not known to be HIV-positive had **ever** taken PrEP, and that 86% of MSM at higher risk for HIV had ever taken PrEP. Higher risk was based on a recent history of gonorrhea or syphilis, methamphetamine use, condomless sex with someone known to be living with HIV, or 10 or more male anal sexual partners. Additionally, 45% of all MSM, including 76% of higher risk MSM and 23% of MSM at lower risk were **currently** using PrEP in the summer of 2022.

PHSKC and the WA DOH promote PrEP for MSM in several ways, including providing PrEP referrals via STD partner services, providing PrEP at the PHSKC Sexual Health Clinic, promoting expanded provision of PrEP through diverse healthcare organizations, maintaining a list on the PHSKC website of PrEP providers and a map of PrEP provider locations, and funding PrEP navigation and PrEP provision through community-based organizations. In 2021, the PHSKC Sexual Health Clinic initiated 329 MSM patients on PrEP in 2021 and had 666 patients actively on PrEP as of December 2021.

FIGURE 14-3: PREVALENCE OF HIV AMONG MEN WHO HAVE SEX WITH MEN (MSM) BY RACE/ETHNICITY, KING COUNTY, WA, 2021

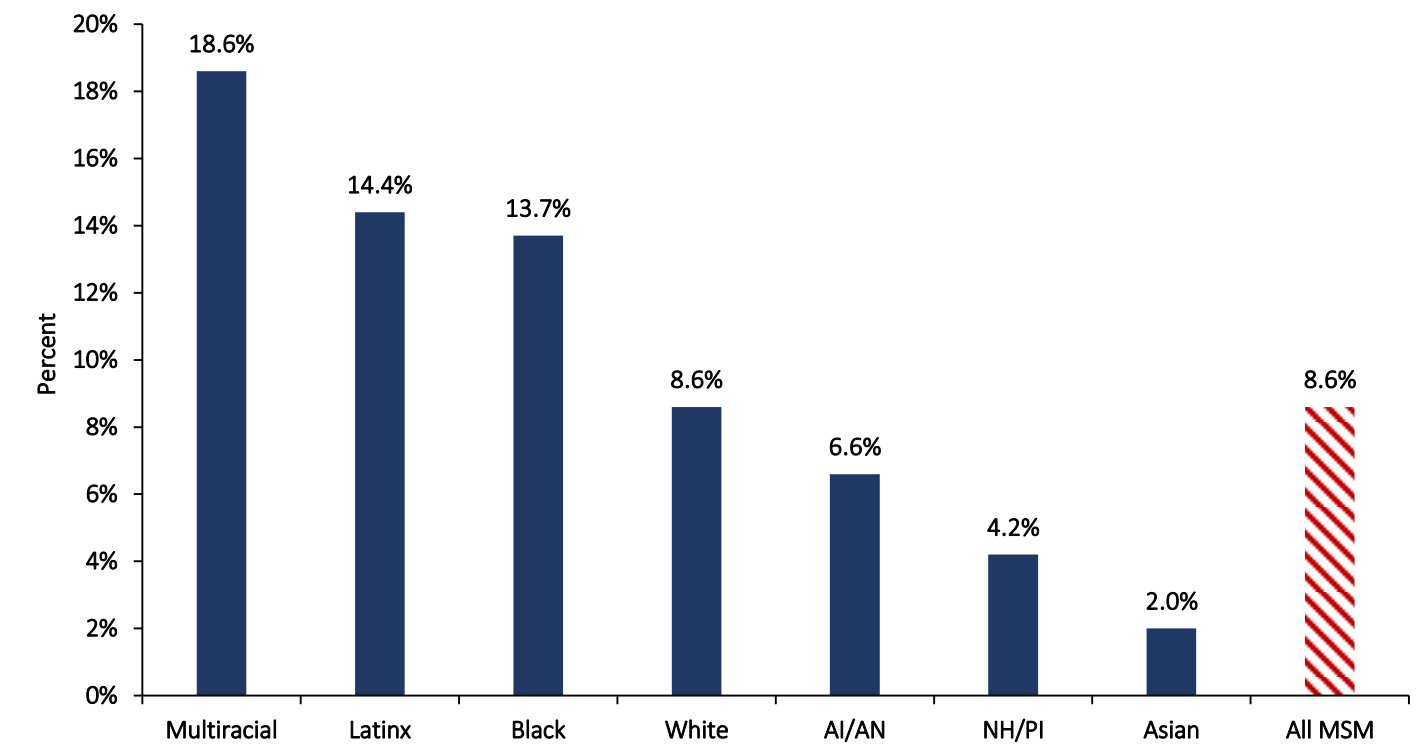
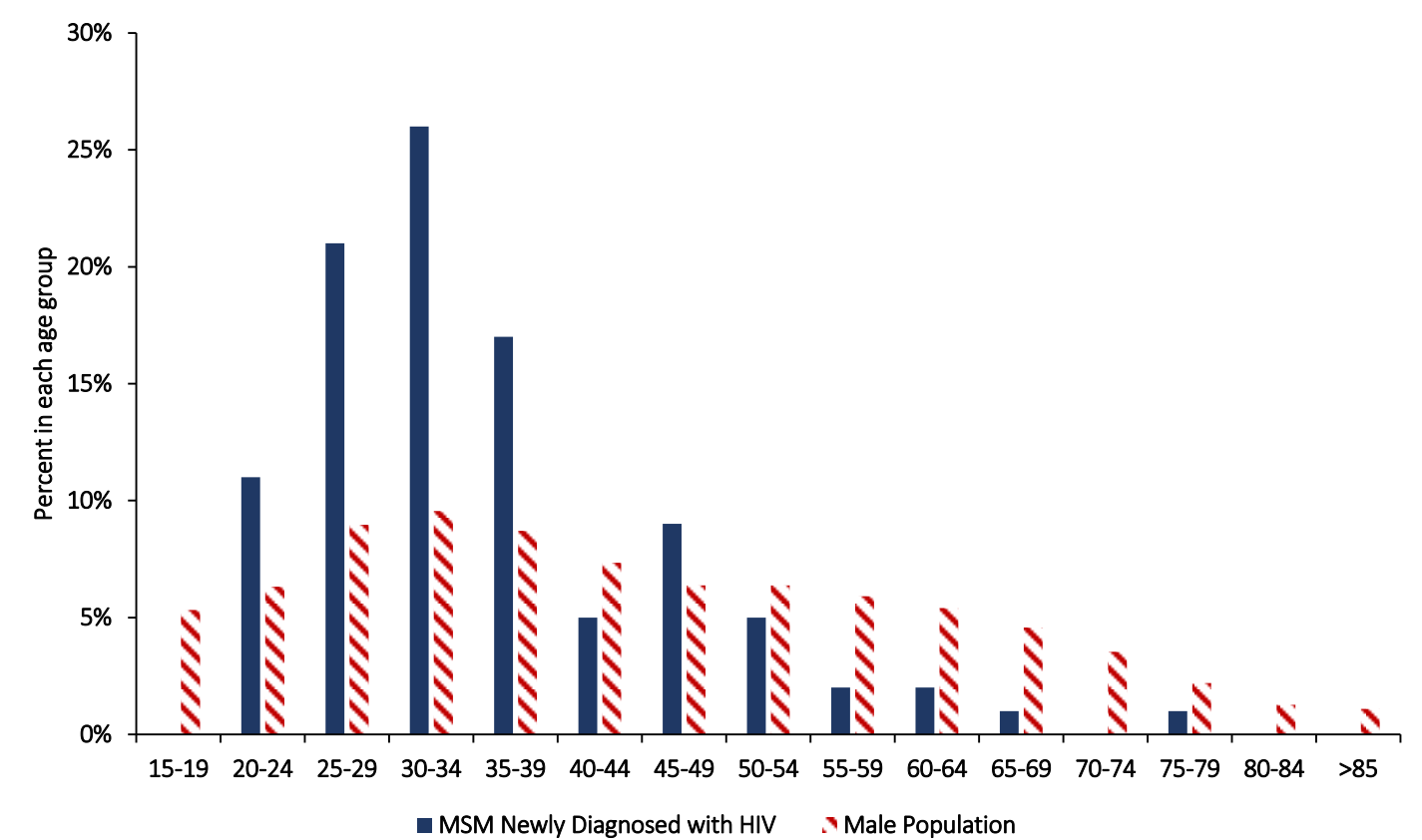


FIGURE 14-4: AGE DISTRIBUTION OF MEN WHO HAVE SEX WITH MEN (MSM) NEWLY DIAGNOSED WITH HIV VERSUS THE GENERAL MALE POPULATION, KING COUNTY, WA, 2021

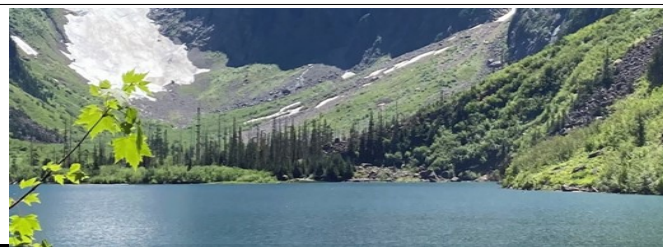


Condom distribution: In 2021, PHSKC provided 530,156 condoms at various locations throughout the County in addition to 661,248 provided by WA DOH. To increase condom distribution, the PHSKC HIV/STD Program has several innovative distribution projects. One project is the distribution of condom and lubricant variety packs (known as “The Tool Kit” – which includes 20 varieties of condoms and 1 type of lube) in the PHSKC Sexual Health Clinic. By the end of 2021, the Sexual Health Clinic distributed 424 Tool Kits, containing 8,480 condoms and 848 packets of lubricant. Other projects include increased delivery of free condoms to community-based organizations, updates to and promotion of the map of free condoms, and a community condom distribution project via condom cubes in South King County. (Additional details are also in the Pillar 3 – Prevention article.)

Contributed by Mike Barry and Francis Slaughter

HIV/AIDS Fact Sheet

People Who Inject Drugs (PWID)



KEY POINTS

The number of new HIV diagnoses among people who inject drugs (PWID), including men who have sex with men (MSM) who inject drugs (MSM-PWID), remained relatively stable from 2020 to 2021 (20 to 22 cases). King County experienced an outbreak of HIV in PWID in 2018. Incidence in 2021 is similar to that observed prior to that outbreak.

HIV prevalence among MSM-PWID approximately 12-19%, while the prevalence among MSM who inject methamphetamine is approximately 40-60%. In contrast, the prevalence of HIV among non-MSM PWID is approximately 1-4%.

About three-quarters (78%) of HIV-positive PWID were virally suppressed in 2021 compared to 87% of all people with HIV.

In 2021, syringe services programs (SSPs) in King County distributed over 8 million syringes.

OVERVIEW OF HIV

EPIDEMIOLOGY AND DRUG USE BEHAVIORS AMONG PWID

Prior to 2018, the annual number of new HIV diagnoses among people who inject drugs (PWID) was stable and low. In 2018, there was an HIV outbreak and an overall increase in HIV diagnoses among PWID, including men who have sex with men who inject drugs (MSM-PWID). MSM-PWID are typically classified as a separate category since HIV in this population is acquired through some combination of sex and injection drug use. In 2021, the number of new cases of HIV among PWID was similar to the number in 2020 in the years prior to the 2018 outbreak. Specifically, in 2021, there were four new HIV diagnoses among non-MSM PWID and 18 new HIV diagnoses among MSM-PWID (22 total HIV cases among PWID). In comparison, in 2018 there were 56 total HIV diagnoses among PWID, including 31 among non-MSM PWID and 25 among MSM-PWID.

Based on data from routine HIV surveillance, including the 2018 National HIV Behavioral Surveillance survey of PWID, we estimate that the HIV prevalence among non-MSM PWID and MSM-PWID is approximately 1-4% and 12-19%, respectively (**Table 15-1**). The subset of MSM-PWID 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 2021 survey of Public Health – Seattle & King County (PHSKC) syringe services program (SSP) clients found that the average age of PWID was 37 years and 33% were women (cis or trans); 11% were American Indian or Alaska Native, 1% were Asian, 5% were Black or African American, 10% were Latinx, and 3% were Native Hawaiian or Pacific Islander. The majority were homeless (41%) or unstably housed (27%), similar to estimates from the 2019 survey. In 2021, 47% of SSP clients reported any fentanyl use, which was a large increase from 17% in 2019 (see **Figure 15-1**). Eleven percent of PWID reported sharing a syringe in the past 3 months, which was a decline from 15% in 2019.

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 2021 there were 27,000 PWID and that 5,000 of these PWID are MSM and 22,000 are non-MSM. These calculations rely on older estimates of the proportion of the population that uses injection drugs and are likely to be imprecise.

TABLE 15-1: KEY METRICS FOR PEOPLE WHO INJECT DRUGS (PWID) IN KING COUNTY, WA, 2021

Key Metrics	PWID (non-MSM)	MSM-PWID
Estimated Number of PWID in King County, 2021	22,000	5,000
HIV Prevalence in 2021		
Number living with HIV	274	637
HIV prevalence (%)	1-4%	12-19%
Percent of all HIV cases who are PWID or MSM-PWID among all PLWH	4%	10%
HIV Diagnosis Incidence (2021)		
New diagnoses	4	18
Diagnoses per 100,000 PWID per year	19	413
10-year trend (% change, 2012-2021)	Overall 63% decrease with large increases surrounding the 2018-2019 HIV outbreak	Overall 30% decrease
Viral Suppression among HIV+ PWID^A	77%	79%

PWID = People who Inject Drugs, MSM = Men who Have Sex with Men

^AAmong all PWID with diagnosed HIV; viral suppression is defined as plasma HIV RNA <200 copies/mL. Among those with ≥ 1 viral load reported in 2021, 89% of non-MSM PWID and 87% of MSM-PWID were virally suppressed.

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 5.1 million syringes in 2021, with an additional 3.7 million syringes distributed by other local SSPs, including the People's Harm Reduction Alliance (PHRA). 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 2021, 3,904 naloxone kits were distributed, a 42% increase from 2020. Please see the Ending the HIV Epidemic Pillar 3 (Prevention) article for more information on these services.

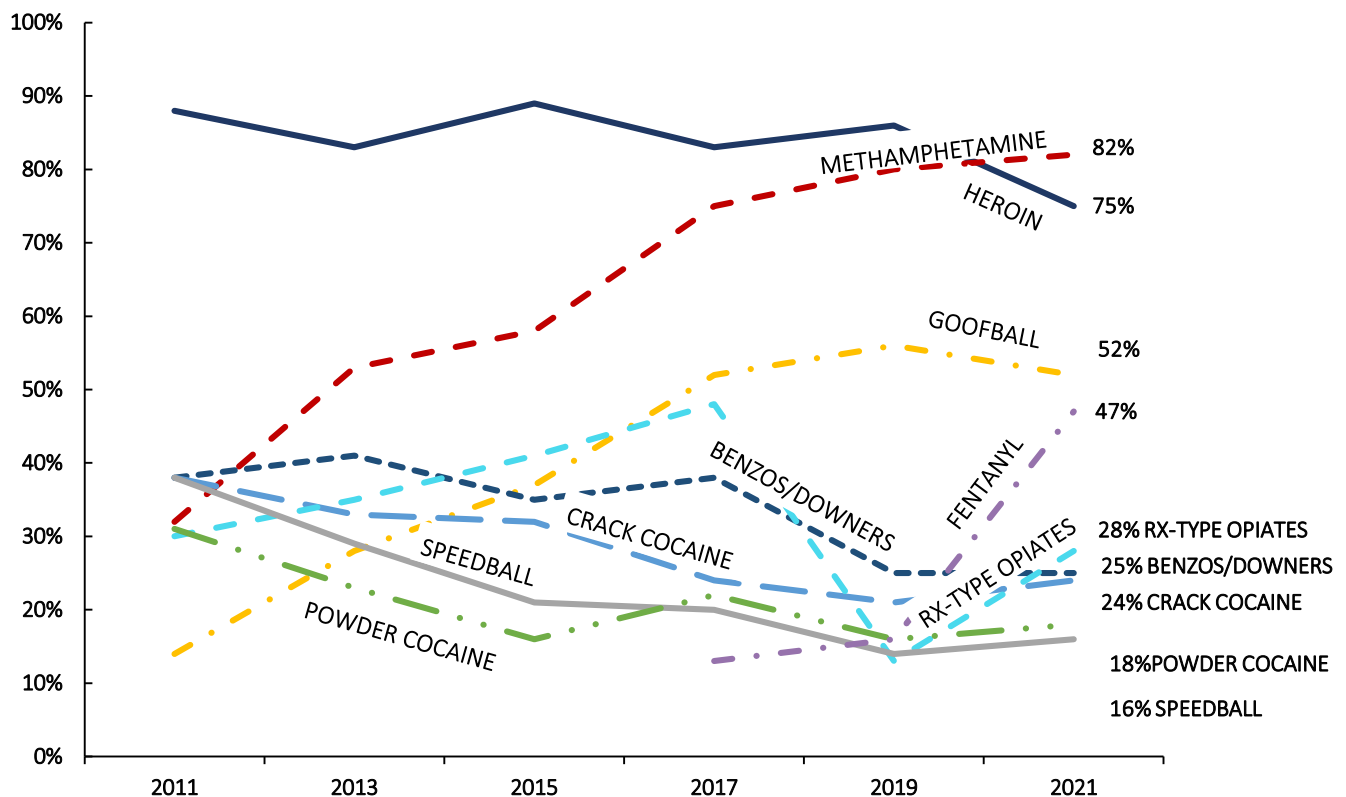
HIV Testing and Viral Suppression: HIV testing among PWID in the Seattle area declined between 2004-2015¹ but rebounded following an increase in HIV testing outreach related to the 2018 HIV outbreak among PWID. Unfortunately, the COVID-19 pandemic resulted in new disruptions in HIV testing among PWID. Data from the PHSKC SSP survey showed a decrease in HIV testing (being tested in the prior year) between 2019 and 2021 from 66% to 49%. Most HIV-positive PWID link to care and achieve viral suppression. In 2021, an estimated 78% of PWID were virally suppressed. Non-MSM PWID newly

diagnosed with HIV take significantly longer to reach virally suppression -- a median of 4.2 months for non-MSM PWID vs. 2.3 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, including the semiannual Syringe Services Survey and the every-three-year National HIV Behavioral Survey, PrEP awareness ranged from 27 to 51%, and only 1-2% of PWID report recent or current PrEP use. In 2015, PHSKC and WA DOH issued implementation guidelines for HIV pre-exposure prophylaxis (PrEP).² Currently, PHSKC and WA DOH guidelines suggest that medical providers recommend PrEP 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 PWID who exchange sex. In addition, these guidelines recommend that medical providers discuss PrEP with HIV-negative PWID (All PrEP guidelines are described in the Pillar 3: Prevention article of this report.)

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 49 SSP clients in 2021. There is currently no waitlist of methadone treatment. In 2017, King County launched the Pathways program (formerly known as Bupe Pathways),³ which seeks to provide very low barrier buprenorphine treatment co-located with the PHSKC SSP

FIGURE 15-1: TRENDS IN REPORTED DRUG USE AMONG PUBLIC HEALTH – SEATTLE & KING COUNTY SYRINGE SERVICE PROGRAM (SSP) CLIENTS, 2011-2021



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 2021, Pathways had 455 unique clients and 2,582 client visits.

Differentiated Care Options for PWID with HIV: In partnership with community collaborators, including Harborview Medical Center, PHSKC supports a system of differentiated care that provides HIV care and prevention services designed to meet the needs of people for whom traditional models of healthcare have proven ineffective. This population includes many PWID. Currently, the Max Clinic, Mod Clinic, and the SHE Clinic provide low-barrier care for patients living with HIV. Additional information about differentiated care is presented in the “Overview of the Ending the HIV Epidemic Initiative in King County” section of this report.

The **Max Clinic** is a walk-in HIV care clinic located within the PHSKC Sexual Health Clinic at Harborview Medical Center. As of August 2022, 325 patients had ever enrolled in the Max Clinic and 235 (72%) were currently enrolled. Among

people ever enrolled, an estimated 51% have injected drugs. Approximately 94% of Max patients have achieved viral suppression at least once, and at 50% were virally suppressed in 2021.

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. As of September 2021, the Mod Clinic had 213 patients; 41% reported injecting drugs in the year prior to enrollment in the clinic and 71% were virally suppressed on their most recent viral load test.

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 exchanging sex, and have substance use disorders. The SHE Clinic currently has 155 patients, the majority of whom have a substance use disorder.

Additionally, in 2021, PHSKC used EHE funding to fund

Harborview Medical Center's Madison Clinic and Aurora Commons to open a new low barrier clinic in north Seattle, the Aurora Clinic, and to expand services already available at the co-located the SHE Clinic. In the summer of 2022, EHE funded Harborview Medical Center and Catholic Community Services (CCS) to start two new low barrier clinics within CCS Engagement Center sites in South King County (Engage Health - Kent and Engage Health - Federal Way). These clinics will start seeing patients in the fall of 2022. All of these new low barrier sites will offer a full range of sexual health services, including HIV prevention services, HIV treatment, and primary care for persons who are living unhoused and have mental health and/or substance use service needs. In addition, EHE funding is expanding the availability of low barrier services at the Max Clinic and through Madison Clinic's MOD program in central Seattle.

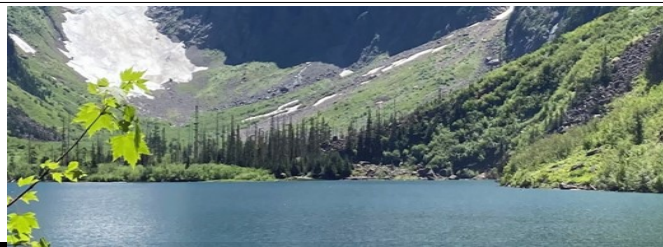
Contributed by Mike Barry, Francis Slaughter, Joe Tinsley, and Sara Glick

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HIV/AIDS Fact Sheet

Transgender and Non-binary Populations



KEY POINTS

In 2021, six transgender women and one transgender man was diagnosed with HIV. Between 2017 and 2021 there were fourteen HIV diagnoses among transgender women and two among transgender men.

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

Local data on HIV prevalence and use of prevention interventions, including PrEP, among TGNB are inconsistent, highlighting the need for better data.

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 different 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 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).

The annual PHSKC Pride survey is used to understand HIV and other health issues among TGNB populations. 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. In 2022, we implemented a hybrid model with both on-line and in-person recruitment. 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.

Some analyses sought assess HIV prevention activities among TGNB people at higher risk of HIV. Higher risk for HIV was based on a study of men who had sex with men (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 use; condomless sex with a non-monogamous partner who had HIV or did not know their status; or the diagnosis of either gonorrhea or syphilis. We acknowledge that these criteria have not been validated among TGNB people and are a proxy for increased risk. PrEP (pre-exposure prophylaxis) 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, PHSKC recommends PrEP 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.

OVERVIEW OF HIV EPIDEMIOLOGY

In 2021, six transgender women were diagnosed with HIV, and one transgender man was diagnosed with HIV. Over the five-year period of 2017-2021, 14 transgender women and two transgender men were diagnosed with HIV. At the end of 2021, there were 88 transgender people living with HIV (PLWH) in King County, representing 1% of all PLWH in King County. Among these 88 transgender PLWH, 92% were transgender women, 13% were Asian, 27% were Black, 31% were Hispanic/Latinx, 53% were White, and 7% each Pacific Islander and Native American/Alaska Native (Table 3-4). These racial/ethnicity categories are overlapping categories and will add up to more than 100%. The proportion of transgender PLWH in King County with a suppressed viral load was similar to that of all PLWH in King County (84% vs. 87%). 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 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 16-1 presents demographic and health characteristics among King County TGNB participants in the 2022 Pride Survey (n=272). Data are presented for transgender women (n=33), transgender men (n=33), and participants who reported their gender as nonbinary, genderqueer, gender non-conforming, two-spirit or other non-binary gender (referred to as non-binary [NB]) (n=218). A majority of TGNB participants were White, over 30 years old, and had some college or a four-year degree. The vast majority (91%) of all participants had health insurance. Sexual orientation differed between groups, with the majority of all TGNB participants (51%) identifying as queer. In total, seven TGNB respondents (3%) reported being HIV-positive, all of whom were non-binary persons assigned male at birth (AMAB); 10% of persons in this group were HIV-positive. Reported drug use was generally low, with between 1-4% of respondents reporting use of most specific substances in the last year. The gender of sex partners varied across

groups, with cisgender men being the most common overall (36%). 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 16-2 summarizes utilization of HIV testing, pre-exposure prophylaxis (PrEP), and STI services among 121 TGNB participants in the 2022 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. All participants (100%) reported having previously tested for HIV and 95% had heard of PrEP. Estimates of HIV testing were highest among TGNB participants at increased risk for HIV (n=14, 8% of the 165 TGNB respondents who did not report being HIV-positive), 86% of whom reported at least two HIV tests in the past two years, compared to 41-60% among gender groups irrespective of HIV risk. Estimates of STI testing in the past year were similar among gender groups, irrespective of HIV risk, at 52-62%, and were highest, at 79%, among those at increased risk.

Seventy-nine percent of TGNB persons at higher risk for HIV were using PrEP compared to 6% of TGNB people at lower risk. Among TGNB respondents who had not taken PrEP, the most common reason for not taking PrEP was the perception of being at low risk (**Table 16-2**). **Table 16-3** provides data on PrEP use among TGNB populations from four PHSKC data sources. These estimates varied widely. For example, among TGNB persons AMAB in the 2019-20 NHBS survey, only 22% were taking PrEP, while 79% of persons in that group in the 2022 Pride survey were on PrEP, and 52% of TGNB persons with gonorrhea or syphilis reported to PHSKC were on PrEP. Variance between these data sources reflects differences in the populations from which data were collected and, in some instances, imprecision in estimates related to small numbers.

SEXUAL HEALTH CLINIC UTILIZATION

Table 16-4 includes data from PHSKC Sexual Health Clinic intake forms for visits completed by TGNB patients between July 2021 through June 2022. 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, and transgender women reporting the highest (91% and 87%, respectively). While any drug use varied across groups, ≤4% reported injection drug use. Transactional sex also varied across groups (8%-19%). Three percent of AMAB

NB patients reported they had unstable housing, no other TGNB groups reported this. AMAB NB patients were also the only ones reporting living with HIV (4%).

CONCLUSION

In King County, the risk of HIV among TGNB people appears to be heterogeneous and highest among AMAB non-binary persons, although other local surveys have reported a higher HIV prevalence among transgender women. Existing surveillance systems 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, particularly among transgender women of color, and the uncertain representativeness of populations included in analyzed data limit our ability to make firm conclusions about the HIV risk and service utilization 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.

Contributed by Mike Barry, Francis Slaughter, Anna Berzkalns, Courtney Moreno, and Sara Glick

Reference

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

TABLE 16-1: CHARACTERISTICS OF TRANSGENDER & NON-BINARY 2022 PHSKC PRIDE SURVEY RESPONDENTS WHO LIVE IN KING COUNTY, WA (N=272)

Group ^A	Non-binary ^B								Total TGNB participants	
	Transgender Women		Transgender Men		N=218					
					Sex assigned at birth					
					Female		Male			
Characteristic	N	Col %	N	Col %	N	Col %	N	Col %	N	Col %
	33	100%	33	100%	141	100%	71	100%	272	100%
Row %:	12%		12%		52%		26%		100%	
Identifies with at least one other gender identity	12	36%	13	39%	N/A					
<30 years old	14	42%	16	48%	59	42%	32	45%	122	45%
Race & ethnicity ^C										
AI/AN	0	0%	0	0%	10	7%	3	4%	15	6%
Asian	2	6%	1	3%	14	10%	19	27%	36	13%
Black	2	6%	2	6%	7	5%	8	11%	19	7%
Hispanic/Latinx	3	9%	9	27%	17	12%	13	18%	40	15%
PI/NH	2	6%	0	0%	4	3%	4	6%	11	4%
White	25	76%	27	82%	112	79%	41	58%	199	73%
Education										
Up to high school	8	24%	6	18%	19	13%	8	11%	42	15%
Beyond high school, up to 4-year degree	18	55%	18	55%	71	50%	41	58%	141	52%
Beyond 4-year degree	7	21%	6	18%	49	35%	20	28%	81	30%
Income (annual)										
<\$15,000	6	18%	7	21%	23	16%	12	17%	50	18%
\$15,000-\$50,000	13	39%	13	39%	49	35%	24	34%	95	35%
>\$50,000	13	39%	9	27%	56	40%	30	42%	103	38%
Has health insurance	32	97%	29	88%	133	94%	60	85%	247	91%
Housing instability, past year	1	3%	4	12%	8	6%	4	6%	18	7%
Sex assigned at birth										
Female	2	6%	31	94%	141	100%	71	100%	169	62%
Male	30	91%	1	3%					95	35%
Intersex	0	0%	0	0%	NA				1	<1%
Don't know/unsure	1	3%	1	3%					6	2%
Sexual identity ^C										
Bisexual	10	30%	13	39%	37	26%	14	20%	73	27%
Gay	3	9%	6	18%	7	5%	28	39%	44	16%
Lesbian	10	30%	1	3%	28	20%	5	7%	41	15%
Pansexual	9	27%	9	27%	35	25%	16	23%	64	24%
Queer	16	48%	14	42%	85	60%	39	55%	140	51%
Straight	3	9%	2	6%	2	1%	2	3%	10	4%

TABLE 16-1: CHARACTERISTICS OF TRANSGENDER & NON-BINARY 2022 PHSKC PRIDE SURVEY RESPONDENTS WHO LIVE IN KING COUNTY, WA (CONT., N=272)

Group ^A	Transgender Women		Transgender Men		Non-binary ^B				Total TGNB participants	
					N=218					
					Sex assigned at birth					
					Female		Male			
Characteristic	N	Col %	N	Col %	N	Col %	N	Col %	N	Col %
	33	100%	33	100%	141	100%	71	100%	272	100%
Living with HIV	1	3%	0	0%	0	0%	7	10%	7	3%
Drug use, past year										
Injection (any drug)	0	0%	1	3%	1	1%	4	6%	6	2%
Methamphetamine	0	0%	1	3%	1	1%	2	3%	5	2%
Poppers	4	12%	2	6%	3	2%	19	27%	28	10%
Cocaine or crack cocaine	0	0%	1	3%	4	3%	4	6%	10	4%
Prescription painkillers (recreational)	1	3%	0	0%	0	0%	1	1%	2	1%
Heroin	0	0%	2	6%	2	1%	0	0%	4	1%
Sex partners, past year										
Cisgender men	11	33%	9	27%	43	30%	33	46%	97	36%
Transgender men	3	9%	5	15%	10	7%	7	10%	27	10%
Cisgender women	8	24%	6	18%	34	24%	12	17%	56	21%
Transgender women	8	24%	0	0%	5	4%	7	10%	18	7%
Nonbinary, AFAB	10	30%	6	18%	25	18%	12	17%	48	18%
Nonbinary, AMAB	6	18%	4	12%	14	10%	15	21%	39	14%
Any transactional sex, past year	1	3%	2	6%	1	1%	7	10%	10	4%
Ever tested for HIV & not HIV-positive:	25	76%	18	55%	83	59%	46	65%	165	61%
PrEP use history										
Ever ^D	5	20%	6	33%	5	6%	20	43%	34	21%
Current ^D	4	16%	4	22%	1	1%	12	26%	20	12%

TGNB: Transgender & Non-binary; **AI/AN:** American Indian & Alaska Native; **NH/PI:** Native Hawaiian & Pacific Islander; **AFAB:** assigned female at birth; **AMAB:** assigned male at birth

^ARespondents could select multiple gender identities and may be presented in more than one column; however, in the final column "Total TGNB participants," each respondent only appears once.

^B"Non-binary" refers to participants who endorsed not being cisgender and having at least one gender identity other than transgender woman or transgender man.

^CRespondents could select multiple categories for these variables; percentages may sum >100.

^DThe percentages presented in these rows use the number of respondents who were ever tested for HIV and did not report being HIV positive as the denominator.

TABLE 16-2: 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			TGNB Participants at Higher Risk for HIV, any identity ^B
	Transgender Women	Transgender Men	Nonbinary ^C	
	N=16	N=10	N=95	
Sexually transmitted infection testing, past year	52%	60%	62%	79%
Tested for HIV, ever	100%	100%	100%	100%
≥2 HIV Tests, prior 2 years	44%	60%	41%	86%
Heard of PrEP	100%	90%	97%	86%
Currently on PrEP	12%	40%	12%	79%
Barriers to PrEP, if never taken PrEP^D				
Perceive self as low risk	92%	100%	92%	
Cost concerns	0%	0%	6%	
Don't know where to get it	0%	0%	6%	
Don't know enough about it	8%	67%	11%	NA ^E
Concerns about side-effects	0%	33%	7%	
Not confident about taking a daily pill	15%	0%	7%	
Requires too many doctors' appointments	15%	0%	6%	
Concern that PrEP may interact with hormones	8%	0%	3%	

^ARespondents could select multiple gender identities and may be presented in more than one column.

^BIncludes respondents who reported any of the following in the last 12 months: ≥10 male anal sex partners; methamphetamine use; a gonorrhea diagnosis; a syphilis diagnosis; condomless anal sex with a non-monogamous partner whose HIV status is positive or unknown.

^CNonbinary refers to participants who endorsed not being cisgender and having at least one gender identity other than transgender woman or transgender man.

^DThe percentages presented in these rows uses the number of respondents who have never used PrEP and who did not report being HIV-positive as the denominator.

^E100% of those at higher risk for HIV reported ever using PrEP.

TABLE 16-3. PREP USE AMONG TRANSGENDER & NON-BINARY (TGNB) PEOPLE WHO REPORTED A NEGATIVE OR UNKNOWN HIV STATUS, KING COUNTY, WA, 2020-2022

Data Source	Population	PrEP Use
PHSKC STI Surveillance and Partner Services Data 2020-2021	TGNB gonorrhea and syphilis cases who reported sex with cisgender men or transgender men (N=136)	52% currently on PrEP
	Transgender women (N=73)	49% currently on PrEP
	Transgender men (N=21)	43% currently on PrEP
	Nonbinary people (N=42)	62% currently on PrEP
PHSKC Sexual Health Clinic, 2021 ^{A,B}	Visits of TGNB patients who reported sex with cisgender men in the past year (N=229)	41% currently on PrEP
2022 Pride Survey	TGNB respondents who reported anal or vaginal/front hole sex in the past year	
	Transgender women (N=16)	12% currently on PrEP
	Transgender men (N=10)	40% currently on PrEP
	Nonbinary people (N=95)	12% currently on PrEP
	Those at higher risk of HIV acquisition (N=14)	79% currently on PrEP
NHBS Survey of Transgender Women and Nonbinary People who Were Assigned Male at Birth (AMAB), 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 last year
	Transgender women and AMAB non-binary people who met criteria for being at higher risk of HIV ^C (N=52)	22% used PrEP in the last year

^AData presented are from visits, not unique individuals; individual patients may be represented more than once.

^BData are based on self-report.

^CIncludes respondents who reported any of the following in the last 12 months: ≥ 10 male anal sex partners; methamphetamine use; a gonorrhea diagnosis; a syphilis diagnosis; condomless anal sex with a non-monogamous partner whose HIV status is positive or unknown.

TABLE 16-4: HARBORVIEW SEXUAL HEALTH CLINIC VISITS AMONG TRANSGENDER AND NONBINARY PATIENTS, JULY 2021-JUNE 2022^{A,B}

	Assigned Male at Birth		Assigned Female at Birth	
	Trans women N=69	Nonbinary N=184	Trans men N=34	Nonbinary N=62
Ever tested for HIV	87%	91%	79%	76%
Diagnosed with HIV ^C	0%	4%	0%	0%
Unstable Housing ^D	0%	3%	0%	0%
Transactional Sex ^D	19%	8%	9%	16%
Injection Drug Use ^D	4%	2%	3%	2%
Any Drug Use ^{D,E}	19%	31%	24%	26%
STI Diagnosis ^{D,F}	32%	34%	21%	11%

^AData presented are from visits, not unique individuals; individual patients may be represented more than once.

^BData are based on self-report.

^CThe percentages presented in these rows uses the number of respondents who were ever tested for HIV as the denominator.

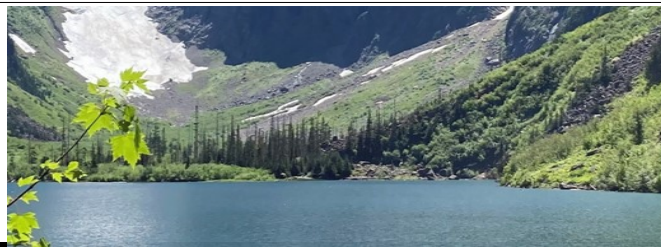
^DIn the year preceding visit date.

^EIncludes methamphetamine, cocaine, crack, heroin, or other opiates.

^FSexually-transmitted infection (includes syphilis, gonorrhea, and chlamydia).

HIV/AIDS Fact Sheet

Women



KEY POINTS

Of 163 new HIV diagnoses in 2021, 22 (13%) were among cisgender women, and 6 (4%) among transgender women. Twelve (55%) of the 22 cases of HIV diagnosed among cisgender women in 2021 were in women born outside of the U.S. The incidence of HIV diagnoses among women in King County is 2.0 per 100,000.

Among the 7,160 people living with HIV (PLWH) in King County in 2021, there were 944 cisgender women (13%) and 81 transgender women (1%). Fifty-seven percent of cisgender women living with diagnosed HIV in King County were born outside of the

INTRODUCTION

This fact sheet focuses on HIV incidence and clinical outcomes among women, including both cisgender and transgender women. Historically, HIV surveillance has tended to emphasize sex assigned at birth. Although PHSKC has been attempting to collect better data on gender *identity*, 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 includes some people with another gender identity (e.g., transgender men, non-binary people assigned female sex at birth). 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.

OVERVIEW OF HIV EPIDEMIOLOGY AMONG WOMEN

HIV disproportionately affects American Indian/Alaska Native, Black, and Latinx women. About 25% of female King County residents are foreign-born, while over half (55%) of women living with HIV in King County are foreign-born, and among foreign-born women living with HIV, 75% are foreign-born Black. A total of 65 U.S.-born Black women in King County were diagnosed with HIV between 2017 and 2021. This represents an incidence of 38.0 per 100,000; the incidence of HIV diagnosis among white women during this time period was only 1.5 per 100,000. Due to census data being only available according to sex assigned at birth, rates and prevalence are presented for female persons according to birth sex (**Tables 17-1 and 17-2**).

At the end of 2021, 1,025 (14%) of the 7,160 people living with HIV (PLWH) in King County were women, including 944 cisgender women and 81 transgender women. In 2021, there were 28 new diagnoses of HIV among women living in King County; of these, 22 were cisgender women and 6 were transwomen. The HIV diagnosis rate for persons assigned female sex at birth was 2.0 cases per 100,000 in 2021 and 2.5 per 100,000 for 2017-2021 (**Tables 17-1 and 17.2**). This compares to an overall HIV diagnosis incidence of 7.1 per 100,000 residents, 12.3 per 100,000 among men, and 196 per 100,000 among men who have sex with men (MSM) in 2021. The diagnosis rate among women decreased 40% from 2012 to 2021. Of note within that period was an increase in diagnoses between 2016 to 2018 associated with an outbreak of HIV among persons living unhoused and persons who inject drugs (PWID) in north Seattle and new diagnoses continued the overall trend of declining incidence from 2018 through 2021 after the resolution of that north Seattle outbreak (**Figures 4-1 and 4-5**).

¹Of 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 17-1: KEY HIV METRICS FOR WOMEN, KING COUNTY, WA, 2021

	Cisgender Women Total	Foreign-born Cisgender Women	U.S.-born Cisgender Women	Transgender women
Estimated Number of Women^A in King County, 2021	1,141,795	277,456	864,339	Unknown
HIV Prevalence in 2021				
Number of women living with HIV	944	542	402	81
HIV prevalence (%)	0.08%	0.20%	0.05%	Unknown
Percent of all HIV cases who are women among all people living with HIV in 2021 ^B	13%	31%	8%	1%
HIV Incidence (new diagnoses) in 2021^C				
New diagnoses	22	12	10	6
2021 diagnosis incidence rate per 100,000 ^E	2.0	4.7	1.2	Unknown
Trends (2012-2021) ^E	40% decrease	56% decrease	24% decrease	Unknown
Viral Suppression among HIV+ Women^F	86%	89%	81%	83%

^AFor the purposes of this fact sheet, unless otherwise specified women exclude people transgender men. Please see the Gender Identity and HIV fact sheet for additional details regarding transgender men and women.

^BThe prevalent percentages are as follows: percent presumed cisgender women among all PLWH— stratified by foreign-born and U.S.-born and percent; percent transgender women among all PLWH

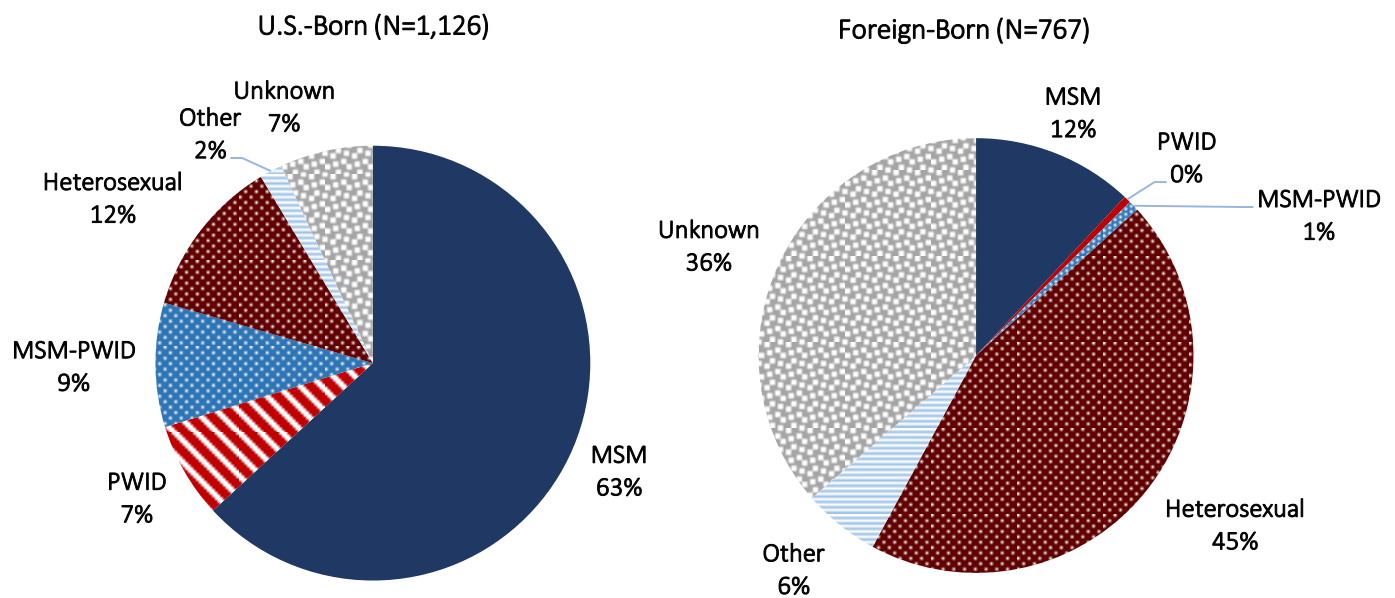
^CDiagnoses among individuals reporting a prior diagnosis more than a year earlier or while residing in another country or state are excluded.

^DDiagnosis incidence rate is based on sex assigned at birth due to the lack of population data for transgender people.

^ETrends for women (aggregate, U.S.-born and foreign-born) are based on a percent change in the rates for women per 100,000 from 2012 to 2021. For these trends, women are defined as people assigned female sex at birth.

^FAmong all women with diagnosed HIV infection. Viral suppression defined as plasma HIV RNA < 200 copies/mL. Viral suppression in 2021 includes (a) PLWH diagnosed in the last quarter of 2021 who achieved viral suppression in the first quarter of 2022 and (b) those with NO viral load (VL) reported in 2021 and suppressed at both their last VL in 2020 and first VL in 2022 (through June).

FIGURE 17-1. HIV TRANSMISSION RISK CATEGORIES AMONG WOMEN LIVING WITH HIV BY NATIVITY, KING COUNTY, WA 2021



^ATransgender women's HIV risks include: 78% who had sex with men, 21% who had sex with men and also used injection drugs and 1% with an unknown risk category.

TABLE 17-2: CHARACTERISTICS OF WOMEN RECENTLY DIAGNOSED WITH HIV 2017-2021 AND LIVING WITH HIV IN 2021, AND HIV PREVALENCE AND DIAGNOSIS INCIDENCE IN KING COUNTY, 2021^A

Characteristic		HIV diagnoses in the past 5 years (2017-2021) No. (Col %)	Women living with HIV at year-end 2021 No. (Col %)	Prevalence of diagnosed HIV at year-end 2021 (per 100,000)	King County residents assigned female at birth, 2021 No. (Col %)	Average diagnosis incidence rate (2017-2021) per 100,000
Total	All women	155 (100%)	1025 (100%)	Unknown	Unknown	Unknown
	Cisgender Women ^B	141 (91%)	944 (92%)	Unknown	Unknown	Unknown
	Transgender Women ^B	14 (10%)	81(8%)	Unknown	Unknown	Unknown
Total	Female sex at birth	143 (100%)	951	83.3	1,141,795 (100%)	2.5
Nativity	Foreign-born	66 (46%)	544 (57%)	198.5	274,031 (24%)	4.7
	U.S.-born (includes unknown nativity)	77 (54%)	407 (43%)	46.9	867,764 (76%)	1.8
Race/Ethnicity^B	Asian	6 (4%)	37 (4%)	15.9	232,109 (20%)	0.5
	Black	65 (45%)	542 (57%)	715.4	75,767 (7%)	17.2
	<i>Foreign-born Black</i>	<i>47 (33%)</i>	<i>410 (43%)</i>	<i>1639.8</i>	<i>25,003 (2%)</i>	<i>38.0</i>
	<i>U.S.-born Black</i>	<i>18 (13%)</i>	<i>132 (14%)</i>	<i>260.0</i>	<i>50,764 (4%)</i>	<i>7.1</i>
	Hispanic/Latina/x	15 (10%)	96 (10%)	75.9	126,429 (11%)	2.7
	<i>Foreign-born Hispanic/Latina/x</i>	<i>9 (6%)</i>	<i>68 (7%)</i>	<i>141.5</i>	<i>48,043 (4%)</i>	<i>4.2</i>
	<i>U.S.-born Hispanic/Latina/x</i>	<i>6 (4%)</i>	<i>28 (3%)</i>	<i>35.7</i>	<i>78,386 (6%)</i>	<i>1.7</i>
	American Indian/Alaska Native	5 (34%)	13 (1%)	217.9	5,966 (1%)	14.5
	Pacific Islander	0 (--)	2 (<1%)	20.1	9,956 (1%)	--
	White	47 (33%)	214 (23%)	34.7	615,882 (54%)	1.5
	Multiracial	5 (3%)	47 (5%)	62.1	75,686 (7%)	1.8
HIV risk category	People who inject drugs	31 (22%)	107 (11%)	Undefined	Unknown	Unknown
	Heterosexual/ sex with men ^C	76 (53%)	594 (62%)	Undefined	Unknown	Unknown
	Other, including pediatric	2 (1%)	60 (6%)	Undefined	Unknown	Unknown
	Unknown	34 (24%)	190 (20%)	Undefined	Unknown	Unknown
Age^D	< 20	4 (3%)	18 (2%)	7.3	246,794 (22%)	0.3
	20-29	33 (23%)	61 (6%)	35.4	172,337 (15%)	3.8
	30-39	34 (24%)	169(18%)	87.6	192,936 (17%)	3.5
	40-49	28 (20%)	271 (28%)	179.9	150,612 (13%)	3.7
	50-59	29 (20%)	251 (26%)	184.3	136,707 (12%)	4.3
	60+	15 (10%)	180 (19%)	74.3	242,409 (21%)	1.2

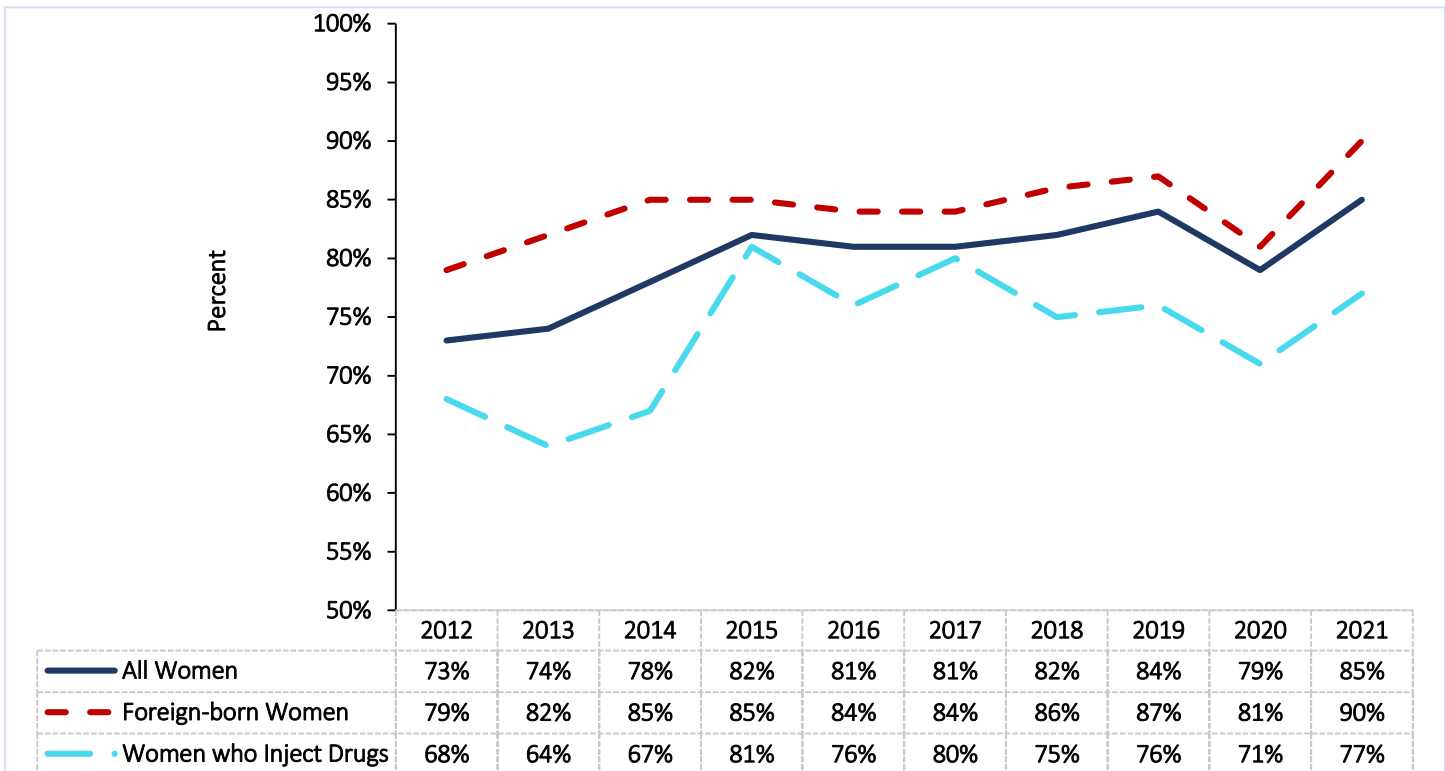
^AKing County population data are available for people assigned female sex at birth. Population sizes for transgender people are not available. Thus, most of the data within this table, including prevalence and rates per 100,000, are for people assigned female sex at birth. Elsewhere in this fact sheet, unless otherwise specified, women include transgender women and 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.

^BHIV 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.

^CBecause here we are including people assigned female sex at birth, this category includes both cisgender women and transgender men who have sex with men.

^DAge refers to age at HIV diagnosis for newly diagnosed people and age in 2021 for people living with HIV.

FIGURE 17-2: VIRAL SUPPRESSION AMONG WOMEN LIVING WITH HIV, KING COUNTY, WA, 2012-2021



HIV RISK CATEGORY

Figure 17-1 shows the distribution of HIV risk categories among U.S.-born and foreign-born women living in King County in 2021. Individuals with an unknown risk factor comprised 28% of foreign-born women and 9% of U.S.-born women. Heterosexual risk is the predominant risk factor for both foreign-born (61%) and U.S.-born women (53%). Injection drug use was frequently reported by U.S.-born women (22%) and rarely by foreign-born women (1%).

HIV VIRAL SUPPRESSION

Viral suppression among all women living with HIV gradually increased between 2012 and 2021, with 85% of all women being virally suppressed in 2021 (**Figure 17-2**). (A transient decline in viral suppression in 2020 concurrent with the COVID-19 pandemic likely reflects decreased viral load monitoring as healthcare organizations decreased in-person medical care.) Foreign born women generally have higher viral suppression, and PWID women lower viral suppression, than all women living with HIV.⁵

HIV DIAGNOSES

Among 155 female King County residents diagnosed with HIV in the past five years (2017 to 2021), 29 (19%) reported a last negative HIV test within the prior year. Excluding those women missing data on testing history (n = 41), 26% had tested in the prior year. U.S.-born women were more likely to have a negative HIV test within a year of diagnosis (34%) relative to foreign-born women (10%). In the past five years, 49% of foreign-born women never had a negative HIV test prior to their HIV diagnosis, relative to 18% of U.S.-born women.

Late HIV diagnosis was defined as an AIDS diagnosis within one year of an HIV diagnosis in the absence of any HIV testing in the 2 years prior to first testing HIV positive. Twenty-five percent of women diagnosed with HIV between 2017 and 2021 were diagnosed late, including 42% of foreign-born women and 10% of U.S.-born women. This estimate for foreign-born women excludes women diagnosed with HIV prior to entering the U.S. Of the 69 foreign-born women diagnosed with HIV between 2017 and 2021, date of U.S. arrival was available for 27 (39%) women. The time between arrival

⁵As done throughout the report (1) people living with HIV (PLWH), individuals with no laboratory results for 12 months or longer without any evidence of a relocation were considered out of care; and (2) viral suppression in 2021 includes (a) PLWH diagnosed in the last quarter of 2021 who achieved viral suppression in the first quarter of 2022 and (b) those with NO viral load (VL) reported in 2021 and suppressed at both their last VL in 2020 and first VL in 2022 (through June).

in the U.S. and HIV diagnosis ranged from 31 days to 49 years, with a median of 2.6 years (interquartile range 1.1 years to 9.8 years).

Five-year average diagnosis incidence per 100,000 women were calculated when population sizes were available (**Table 17-2**). The largest risks of HIV were seen among foreign-born Black women (38.0 diagnoses per 100,000), Black women overall (17.2 per 100,000), and American Indian/Alaska Native women (14.5 per 100,000).

Contributed by Susan Buskin, Francis Slaughter and Mike Barry